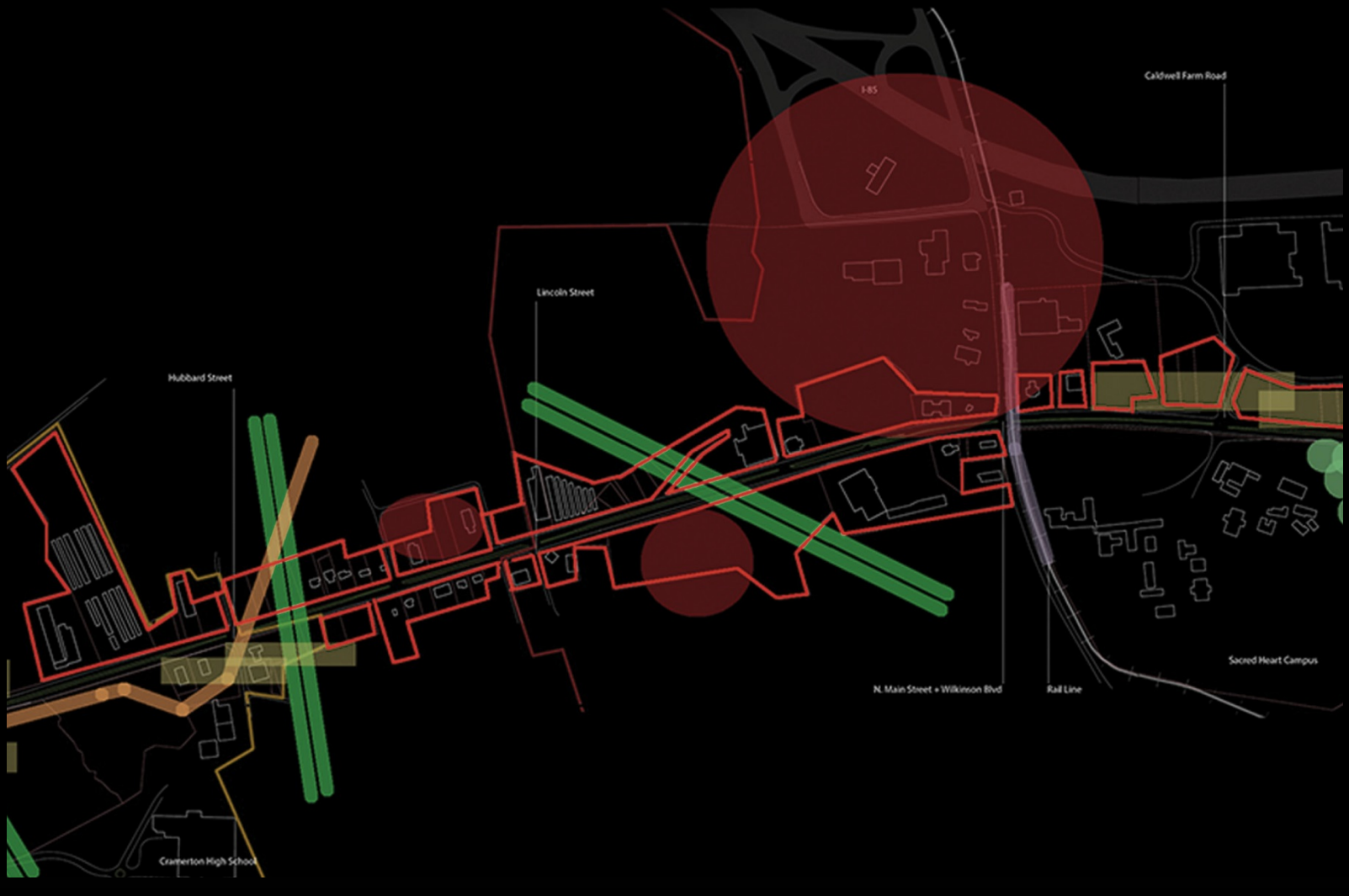
BUILD A BETTER BOULEVARD

THE WILKINSON BOULEVARD CORRIDOR STUDY

Prepared for the City of Belmont and the Towns of Cramerton and McAdenville

SUBMITTED: 22 January 2015



ACKNOWLEDGEMENTS

The many participants on the Wilkinson Boulevard Corridor Study represent a broad group of progressive thinkers and practitioners, professional and non-professional, with a passion for improving their communities. Working in collaboration with Local and State Government representatives, stake holders, technical specialists and the public, they assessed opportunities and constraints and tested creative approaches for the future re-development of Wilkinson Boulevard and the immediate transportation corridor it is a part of.

The consultant team wishes to thank the following individuals, groups, and organizations for their participation:

Stakeholders Group from Belmont:

- Regina Moody, Holy Angels
- Jim Townsend, Sisters of Mercy
- Brother Anthony Swoford, Southern Benedictine Society
- Dr. Joe Keith, Gaston College
- Tammy Cato, Cato Mobile Home Park
- Gerald Handy, Handy Lube
- Bjorn Hansen, Gaston Cleveland Lincoln MPO
- David Keilson, NCDOT Division 12
- Leland Jackson, Belmont Planning and Zoning Board
- Richard Turner, Belmont City Council

Stakeholders Group from Cramerton:

- Demetrios Koutsoupias; Town of Cramerton Commissioner; Georgio's Restaurant
- Wil Neumann, Hawkeye Photogrpahy
- Ken Parrot, Bedgood Outdoor Advertising
- Dave Charzewski, Wilkinson Blvd. Property Owner
- Tom Hauss, Wilkinson Blvd. Property Owner
- Julian Rauch, Wilkinson Blvd. Property Owner

Other Acknowledgements:

- Mayor Charlie Martin and Belmont City Council
- Mayor Ronnie Worley and Cramerton Board of Commissioners

- Mayor Farrell Buchanan and McAdenville Town Council
- Gaston Cleveland Lincoln MPO
- NCDOT Division 12

Two, two-day workshops were held in Cramerton Town Hall to gather information and listen to commentary and discussions pertaining to the perception, current use and desired outcomes for the Boulevard.

A total of three presentations were given, the first to kick-off the Study, a second to update all participants on findings and direction and a final to showcase the work produced and explain the recommendations prepared.

In addition to the Workshops and presentations two internet based outreach tools were used during the study. A dedicated website BuildaBetterBoulevard.com and a Facebook page by the same name were created to share work in progress and receive public input and commentary. The workshops and online presence proved very effective for a project as complex as the Wilkinson Boulevard Corridor Study. The collaborative and open process has fostered an understanding of the design issues and allowed all parties to work together to achieve a comprehensive vision taking into account the intricacies inherent to strategic planning.

The Study and its precise list of interventions and recommendations provides a sound foundation with which the Municipalities of Belmont, Cramerton and McAdenville can establish a unified vision for the redevelopment of Wilkinson Blvd and promote the details of the vision through the planning and funding cycles of their local MPO and State DOT for implementation.

THE CONSULTANT TEAM

Metrocology LLC www.metrocology.com

Led by Partner Demetri Baches, AICP, CNU-A, Metrocology is a Strategic Planning, Urban Design and Development consultancy. Metrocology offers government agencies, private sector and not-for-profit clients a comprehensively managed suite of services focused on the planning and development needs of small towns and cities. These s ervices engage a community across the full spectrum of civic interests, from economic and environmental to social and cultural. Through his work at Metrocology, Demetri has developed expertise in how these interests can be aligned, through the visioning and positioning of development opportunities, to increase a community's quality of life. The processes and practices required to recognize and implement Full Spectrum Community Development are the basis for his upcoming book *Top Tier Towns: The Six Habits of Highly Successful Communities*.

Hall Planning & Engineering, Inc. www.hpe-inc.com

Led by President Richard A. (Rick) Hall, P.E, CNU, HPE is a multimodal transportation planning and engineering firm practicing across the entire spectrum of the transportation profession. The thrust of HPE's work is the vital interface between transport ation planning and community design, which is the land-use and mobility interface. The results are innovative thoroughfare designs that are multimodal and context sensitive. Under Rick's leadership, HPE's work has informed the profession's rethinking of transportation planning and has helped to redefine, at the national level, the standards and definitions used by the Federal Highway Administration, (FHWA), the Institute of Transportation Engineers (ITE), and the American Association of State Highway and Transportation Officials (AASHTO).

The Civic Hub www.thecivichub.com

Led by Mallory Baches, AICP, LEED-AP, CNU-A, The Civic Hub is a civic development and community engagement consultancy. The Civic Hub works with individuals, groups, and entire communities to create a shared investment in their common future. The Civic Hub partners with initiated planning projects to provide integrative community softwa re visioning and development strategies, along with clear paths for public implementation. As Founder and Director, Mallory focuses the firm's work on a bespoken approach to the human side of community prosperity, providing local social capital with the connection, education, and communication tools needed to help the community thrive. Using her background in collaborative planning processes, Mallory serves at the intersection of urban design and community development, connecting design projects with the citizens that will ultimately utilize those designs.

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EXECUTIVE SUMMARY

The Study uses context, historical analysis and present-day observations to explain the reasoning behind three groups of interventions, each with a set of recommendations. Taken together they represent the vision and action plan for redeveloping the Wilkinson Boulevard Corridor. A summary of each intervention and the recommendations that establish the overall vision is provided here.

Management

1m- Traffic Management systems, i.e.: adaptive signal system, or similar signal phasing update.

2m- NCDOT electronic information signs along I-85 and Wilkinson Blvd.

3m- Written and approved protocol between Highway Patrol, Police, and NCDOT to coordinate traffic management during exceptional conditions (accidents, Christmas Lights)

Policy

4p- Alternate Parallel system (East and West McAdenville Road, and East and West Catawba Street)

5p- Interstate I-85 Interchange redesigns to single point signal configuration

6p- Multi-way design for Park Street between the new East McAdenville Road signal and Wilkinson Blvd.

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9p- Comprehensive Plan and Zoning Updates

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12d- Plan for the Catawba/McAdenville Road intersection showing new turn lanes and sidewalk/landscape/paver treatment.

13d- Plan for the Park Street intersection showing new turn lanes and sidewalk/landscape/paver treatment.

14d- Plan for N. Main Street intersection showing new turn lanes and sidewalk/landscape/paver treatment.

15d- Plan for the Lakewood Road intersection showing new turn lanes and sidewalk/landscape/paver treatment.

16d- Plan for the Market St/Wesleyan Road intersection showing new turn lanes and sidewalk/landscape/paver treatment.

I – THE RIGHT TIME AND THE CORRECT APPROACH

Is it premature for the Catawba River communities of Belmont, Cramerton and McAdenville to consider physical improvements to Wilkinson Boulevard aimed at improving its appearance as well as the redevelopment potential of adjacent properties? After analyzing the data, collecting input from property and business owners, residents, elected officials, professional transportation planners and assessing half a year's worth of in-the-field observations, this study concludes that without a comprehensive approach to visioning and planning the transportation network around Wilkinson Boulevard and I-85, no serious proposals for improving the appearance of Wilkinson Blvd itself can be made. Therefore, this Study seeks an early, comprehensive strategy for identifying and improving the road and highway system within and immediately beyond the study area that ensures a functioning transportation Corridor for residents and commuters alike. The various proposals weave together a series of immediate and long range interventions to spur more robust local and State level discussions among the relevant bodies charged with prioritizing, funding and building roads and highways. By doing so the recommended improvements to the Boulevard itself can be timely, impactful, and cost effective when implemented.

By approaching the analysis in this manner we believe the Study has addressed the question about the timeliness of physical improvements to Wilkinson Boulevard. The aspects of the question that warrant a "yes" are most certainly *management* and *policy* based and take into account the regional level changes impacting the three communities. The one aspect of the question warranting a "pause" is *design* based and is dependent on understanding local travel patterns that are still evolving, which is common in the early days of what is the beginning of a long-term growth cycle for eastern Gaston and western Mecklenburg counties. Both considerations are influenced by the unique setting of Belmont, Cramerton and McAdenville, which will impact the population growth, real estate development and the origin and destination of new trips generated within these communities in the coming years.

Belmont, Cramerton and McAdenville are located on the only large-scale peninsula in the Charlotte region, along the western most of five urbanizing corridors radiating from central Charlotte. The uniqueness of the geography and the topography of the land that Wilkinson Blvd crosses has a significant impact on the road system within the Corridor and the potential improvements that can be made to the Boulevard itself. Therefore, the study's recommendations must anticipate; 1) the level of Wilkinson Blvd rebuilding that may be necessary in the coming years, and 2) what interventions can be implemented that will remain in place long enough to make a difference as the Boulevard and the western corridor are re-developed.

To do so, this Study classifies recommendations to improve Wilkinson Blvd into three categories: 1- **management,** 2- **policy** and 3- **design**. Each consists of interventions

assigned by priority. Taken together and over time, the interventions are structured to improve the appearance and performance of Wilkinson Blvd in effectively planned phases to avoid costly reconstruction, or removal of earlier investments as new conditions may warrant. *Management* recommendations address upgrades to traffic signalization operations and police and fire rescue incident management protocols. *Policy* recommendations address improving Corridor functionality including parallel and alternate roads, upgrades to I-85 access, signage and land-use. *Design* recommendations address the physical changes proposed to Wilkinson Blvd. itself. These include lane widths, landscape enhancements, pedestrian and bicycling improvements, driveway cuts and intersection rebuilding.

Wilkinson East Bound from above Park Street Intersection

To facilitate the ongoing coordination required to implement the report

recommendations, a Matrix of Recommended Projects has been prepared for incorporation into the Gaston-Cleveland-Lincoln MPO and NCDOT plan programs. These are:

CTP: Comprehensive Transportation Plan. This is the fiscally unconstrained list of transportation needs in a given area. Getting on this list as a "needed improvement" matters to the "mainstreaming" of a project in the funding process.

MTP: Metropolitan Transportation Plan. This is the 25 year fiscally unconstrained project list for the MPO. It is a federal requirement and is not binding to the NCDOT and as such is more a vision and policy document for the MPO.

STIP: Statewide Transportation Improvement Program. This is the short-term (4-10 year) list of projects expected to be implemented in the near future.

Each recommendation has been itemized into an individual, stand-alone Project, defined by scope, benefit, timeframe, sponsor, next steps, impacts, and procedure (see Appendix A).

To provide the interventions meaning, the three categories are prefaced by an analysis of the study area's **context**.

II- CONTEXT IS EVERYTHING

All too often proposal requests for "Corridor Studies" are written with the intent of selecting cosmetic upgrades to beautify strip commercial development along streets and highways. The resulting studies end up focusing on "unattractive" landscape elements. However, most of these lay beyond the Right Of Way (R-O-W) leaving those interventions that can be made within the R-O-W to reset the existing image as best as possible in hopes that the long-term redevelopment of private property will take a cue from the facility upgrades and ultimately improve the character of the corridor itself.

Typical American Highway Commercial Corridor

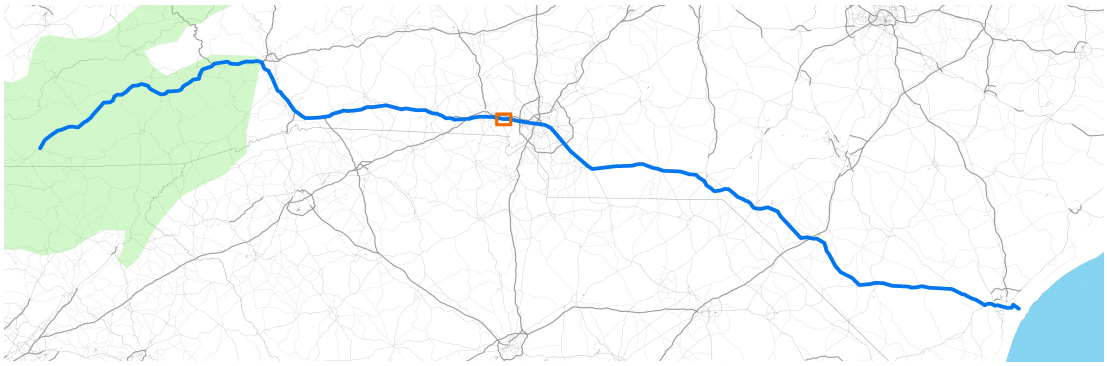
Widening sidewalks, burying overhead utilities, planting new landscape, installing new and improved street furniture and lighting are standard proposals. These are important *and* costly. For example, to fully makeover a single intersection with new landscape, hardscape, lighting/mast arms, traffic signals and signage can easily cost upwards of $1,000,000 or more, and this assumes all improvements can be made within the existing R-O-W. Even minimal property purchases can significantly increase the cost. It would be reassuring to know that once paid for and constructed, such improvements would last long enough to make a difference toward improving the image of Wilkinson Boulevard in Belmont, Cramerton and McAdenville.

A Concept Design for Wesleyan and Market Street Intersection at Wilkinson Blvd. in Cramerton and McAdenville.

For this reason, more effective corridor studies take into account not only the various design changes that can be made, but also the context in which they are made. Two sets of fundamentals must be analyzed to properly design a robust and attractive road, or highway corridor: 1) *Site/Situation + Transportation Engineering* requirements, which dictate the appearance of a thoroughfare's physical design and its role in handling local and regional traffic; and 2) *Real Estate Development + Zoning Policy*, which generate the actual traffic patterns and dictate the character of the corridor that the road or highway serves. Understanding and accommodating (even changing when possible) these underlying fundamentals are what permit the many possible combinations of *Management*, *Policy* and *Design* recommendations to succeed. Such diversity yields the staying power necessary to establish a new image and enhance both traffic performance and development opportunities.

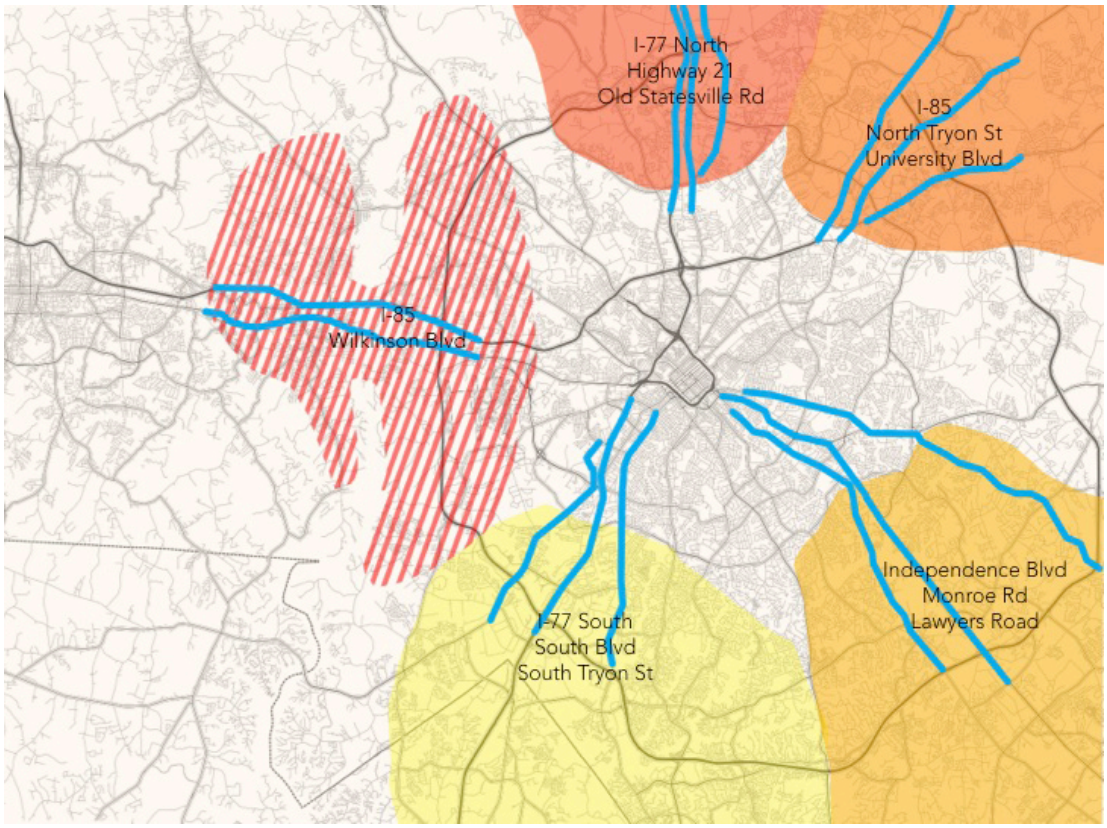
IIa) Fundamentals: Site + Situation & Engineering – Location is Everything

The Wilkinson Blvd Corridor reaches across the State of North Carolina from Wrightsville Beach in the east to Asheville in the west. It is called different names as it runs from beach to mountain, including a couple within Gaston County itself. The official designation for the entire system is US Highway 74.



US Highway 74 in North Carolina

This study is a subpart of a regional arterial network for metropolitan Charlotte, located along the western most of five corridors radiating outward from downtown.



Western Corridor, red hatched area

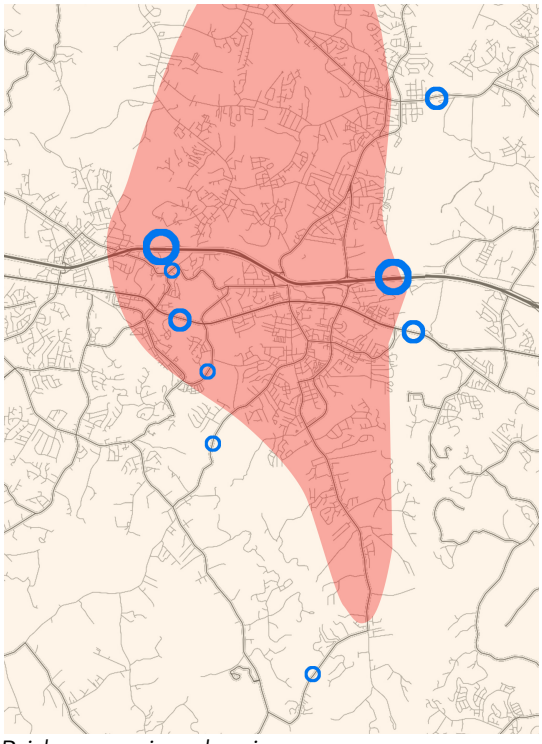
Within this corridor it is one of two thoroughfares, the second being Interstate 85. Wilkinson Boulevard was built by William Cook Wilkinson in the 1920's to connect two mills he owned in Gaston County with his bank in downtown Charlotte.

Between the Catawba and South Fork Rivers Wilkinson Blvd crosses the only peninsula in the metropolitan area as it parallels Interstate 85. The Study area consists of 4.2 miles of highway and five key intersections, two of which provide direct access to Interstate 85. The context is unique and informs much about the Corridors past and present. It also offers insights into the changes that will occur in the future.

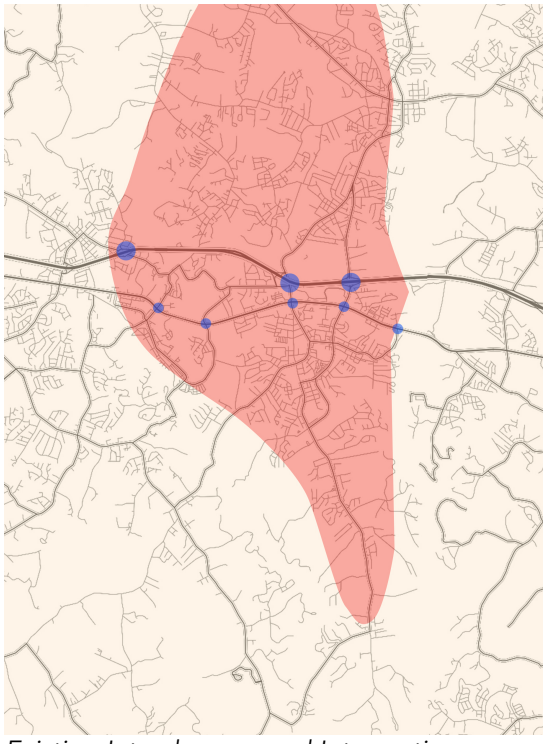
Metropolitan Context: The Peninsula (blue outline) and regional thoroughfare network

The most obvious impact of the geography is on the transportation network of the three communities. Belmont's, Cramerton's and McAdenville's street networks are detached from the majority of the metropolitan Charlotte population by a combination of rivers and the topography of ravines and slopes they create to the east and west. Streets, roads and interstates diminish in eastern Gaston County to four Catawba River crossings providing 19 lanes of access for the 1,000,000 people in Mecklenburg County east of the Catawba River. On the western side of the peninsula streets and roads diminish to six South Fork River crossings providing 18 lanes of access for the 170,000 people west of the South Fork River. This restricted access is further reduced by the close proximity of most river crossings within a narrow corridor that accounts for only 4.5 miles of the nearly 25 miles of river frontage along the Peninsula and containing 31

out of the 33 total lanes available. I-85 accounts for almost one third of the available lanes and nearly 85% of the total traffic counts.



Bridge crossings by size



Existing Interchanges and Intersections

Commuting patterns between Gaston County and the rest of the Charlotte Metropolitan area reflect these constraints. Gaston County is the third-most populous county of the ten counties that make up Metropolitan Charlotte, after Mecklenburg and York, but ranks fourth out of the five corridors in daily commuting into Mecklenburg County.

Current commuting patterns show the impacts of the study area's geography and topography:

73,549 – South + Southeast Corridors

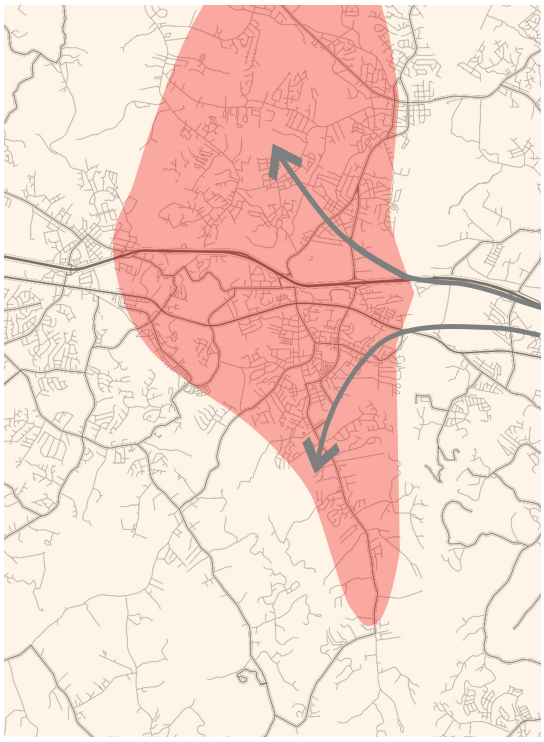
44,799 – North + Northeast Corridors

34,685 – West Corridor

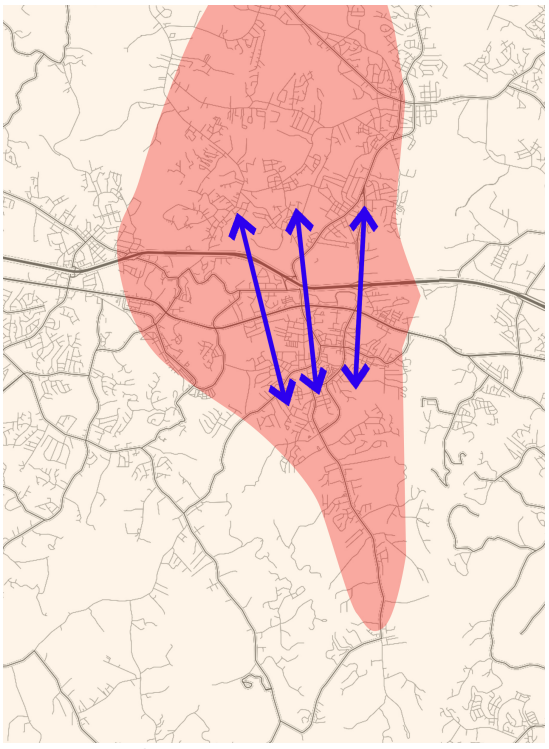
To the north, I-85 itself creates a third "river" type barrier from the perspective of restricting access. Only four roads currently cross over I-85 to link Belmont, Cramerton, and McAdenville to areas north of the Interstate. Three of these, Main Street in McAdenville, N. Main in Belmont and Park Street in Belmont permit access onto I-85, providing a total of eight lanes. Hickory Grove Road, the fourth road, currently crosses over I-85 without interchange access. However, unlike the two rivers that serve to impede traffic flow, I-85 encourages traffic flow by providing connectivity to the regional Charlotte transportation network. Therefore, its capacity to handle traffic is critical to adequate traffic flow and traffic access for the peninsula and Wilkinson Boulevard, *(see Section 3B, Single Point Urban Intersections for Park St and N. Main).*

To the south, a fourth barrier that impedes traffic flow in the same way the rivers do is the Norfolk Southern Rail line, which parallels Wilkinson Blvd to its south across the entire peninsula. Only eight crossing occur from Market Street in Cramerton to the Catawba River in Belmont. They are widely spaced and serve to funnel all traffic south of the tracks onto a select set of streets and roads that connect north to intersect with Wilkinson and I-85. This network pattern insures that the handful of intersections within the Study area along Wilkinson Blvd will experience significant congestion as growth occurs.

The topography of the peninsula creates additional unique transportation patterns. The land along the periphery, on both sides of the Catawba and South Fork consists of many fingered valleys and ravines as creek beds drain into the two rivers. The road system follows the high points and terminates as it approaches the rivers. Most access across the valleys and ravines, in the north and south direction, occur at a substantial distance from the actual rivers banks, averaging three quarters of a mile or more on either side of both rivers. On the peninsula itself only one continuous north-south road currently exists, South Point Road. This topography and road network it has shaped is crucial to understanding the pattern of development and commuting for Belmont, Cramerton and McAdenville as it exists today and how it will be in the future. While the corridor and Wilkinson Blvd traverse the peninsula in an east-west direction, the predominant direction of growth will be north-south, following routes which provide access to the greatest land area unobstructed by barriers. This tendency has already become apparent and is reflected by increased average daily traffic (ADT) counts for the north-south roads that intersect with Wilkinson. These intersections will become increasingly congested as population and development moves into eastern Gaston County from the east and over time, from the north and south.



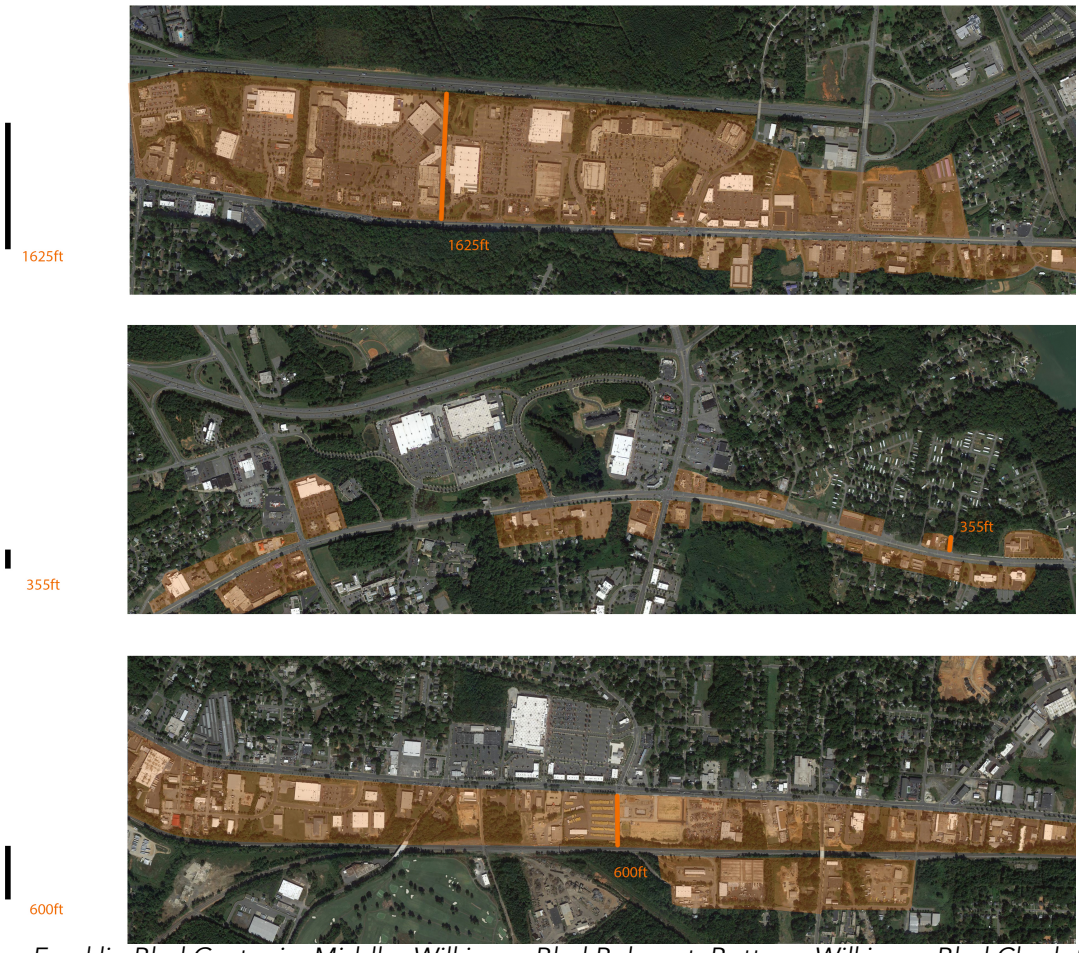
Growth



Direction of largest increases in travel

Just as the topography dictates travel patterns for commuters, funneling traffic into the largest land catchments, so too does topography dictate the character of development along Wilkinson Boulevard. The land is rolling, punctuated by steep creek beds that drain into either the Catawba, or South Fork Rivers. Along significant lengths of the Boulevard, the developable depth of land is quite shallow.

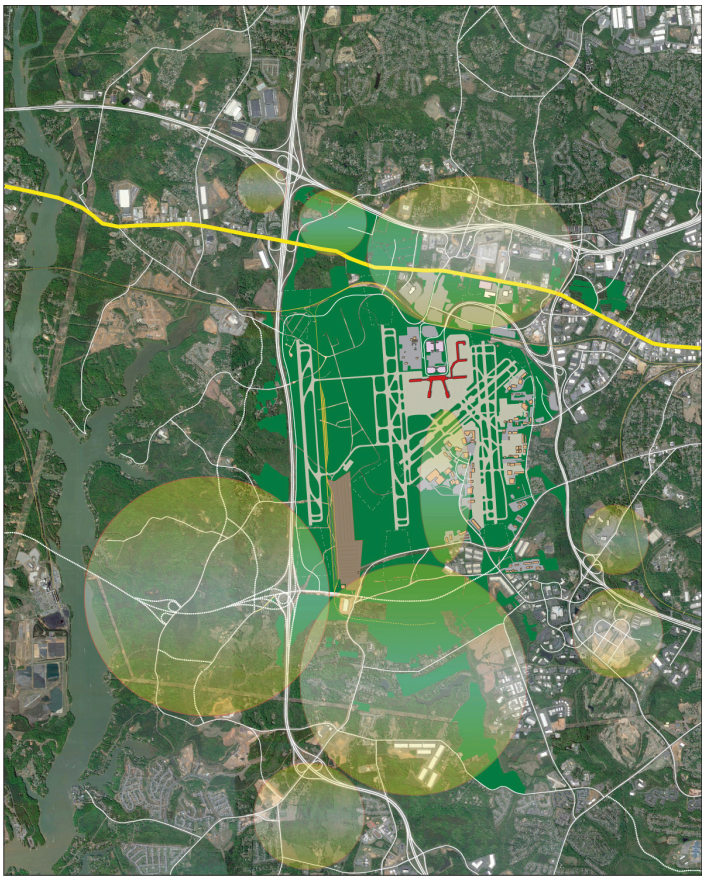
For example, many of the existing properties to the west of Catawba Street and to the east of Park Street are less than 200 ft in depth. In some areas steep drops and rises in the topography abut directly onto Wilkinson Blvd ROW. The typical strip commercial corridor has property depths ranging from 300 to 1,500 ft. This is the case for Wilkinson Blvd. along its heavily developed portions in both Gastonia and Charlotte. The narrow depth of most of the existing properties and the grade changes, both rising and falling, immediately beyond the fronting properties makes new construction difficult without significant property assembly. In addition to topography, the peninsula is crossed by utility infrastructure in the form of power lines and buried gas line easements. The western side of Wilkinson just to the east of the South Fork River, running up to and past the Lakewood intersection, is hemmed in by such infrastructure.



Top -Franklin Blvd Gastonia, Middle -Wilkinson Blvd Belmont, Bottom -Wilkinson Blvd Charlotte

The remaining properties fronting along Wilkinson are impacted from a lack of drive- by traffic. As the data have shown the ADT for Wilkinson Blvd, between the South Fork and Catawba Rivers have decreased steadily over the last 25 years. The current ADT hovers around 16,000 per day, well below a design capacity of between 50,000 and 60,000 ADT for a six-lane divided highway. While the traffic on Wilkinson has decreased over time, the ADT's for many of the roads that cross the Boulevard running north/south along the Peninsula have increased. Park and Main Street now handle more cars per day than Wilkinson, and do so with fewer lanes, (*see Appendix E*). It is not surprising that what new construction has occurred has clustered around the intersections where retailers seek out the most vehicular accessible and visible properties for development. As the latest growth cycle takes aim on eastern Gaston County, the pressure to redevelop at Main and Park Streets will result in a densification of the existing suburban development into mixed-use development. With redevelopment will come the need to rebuild the actual intersections as well, adding sufficient through lane capacity and turn lane capacity as commuters increase travel demands north and south along the Peninsula. This will also become the case for Lakewood Drive, East Catawba, and Market Streets.

Along with geography and topography, NCDOT standards also influence the physical appearance of thoroughfares. Arterial streets and highways typically require wider lane widths, median separation of oncoming traffic, wider curb radii, driveway access limitations and signalized intersection spacing of at least half a mile. These requirements reinforce a more dispersed development pattern that results from controlling access points and their spacing across greater distances. As Wilkinson Blvd is rebuilt in the coming decades these standards will interact with the geography and topography of the peninsula it crosses to shape how the Boulevard will function. Several of the standards will improve the traffic flow and capacity of Wilkinson Blvd. These are driveway access limitations, properly spaced signalized intersections and median separation with restricted left turn movements. However, a couple of the standards can negate the benefits accrued by these. Wide lane widths and large curb radii encourage speeding and less careful driving, resulting in increased accident rates. They also discourage pedestrian crossings at key intersections.

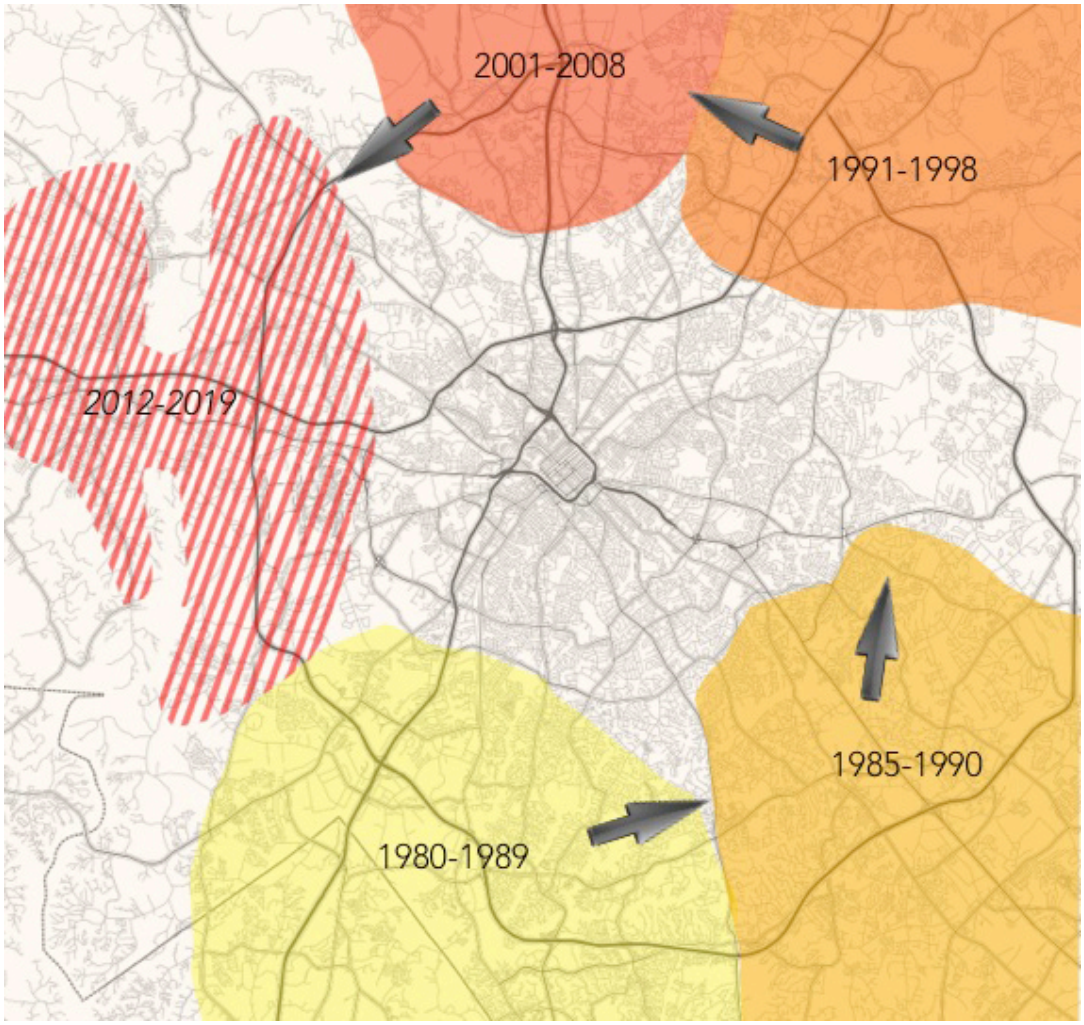


Base Airport Plan Prepared by Gallis & Associates

At the macro level the combined Wilkinson Blvd / I-85 corridor represents the last of the five corridors within metropolitan Charlotte to experience rapid growth and development. This is about to change. The completion of I-485, the expansion of Charlotte Douglas International Airport, and the new Intermodal Rail Yards will spur the development of thousands of acres of greenfield properties in western Mecklenburg County. Belmont, Cramerton, McAdenville, as well as Mt Holly, will benefit from proximity to all of these major employment generators. For historical precedent one need only look at the towns and cities along the other four corridors that have already experienced rapid growth to understand the impacts on transportation and development.

IIb) Fundamentals: Real Estate Development + Zoning - A Brief History of Traffic

From the 1980's onward metropolitan Charlotte has experienced cycles of robust expansion that typically last five to 10 years, followed by slow growth periods ranging from three to six years. The growth that propelled the City into the top 20 metropolitan areas in the United States began in the early 1980's. At that time the southern side of Charlotte was the beneficiary. The I-77, South Tryon, South Blvd Corridor into Pineville and the Independence Blvd, Monroe Road corridor into Matthews, transformed once rural undeveloped land into suburban bedroom neighborhoods. Traffic patterns changed significantly as two lane roads were widened to four lane streets and the first segments of I-485 began to open. By 1990, as growth began to slow, the extent of development had reached into northern Union and York Counties in South Carolina.



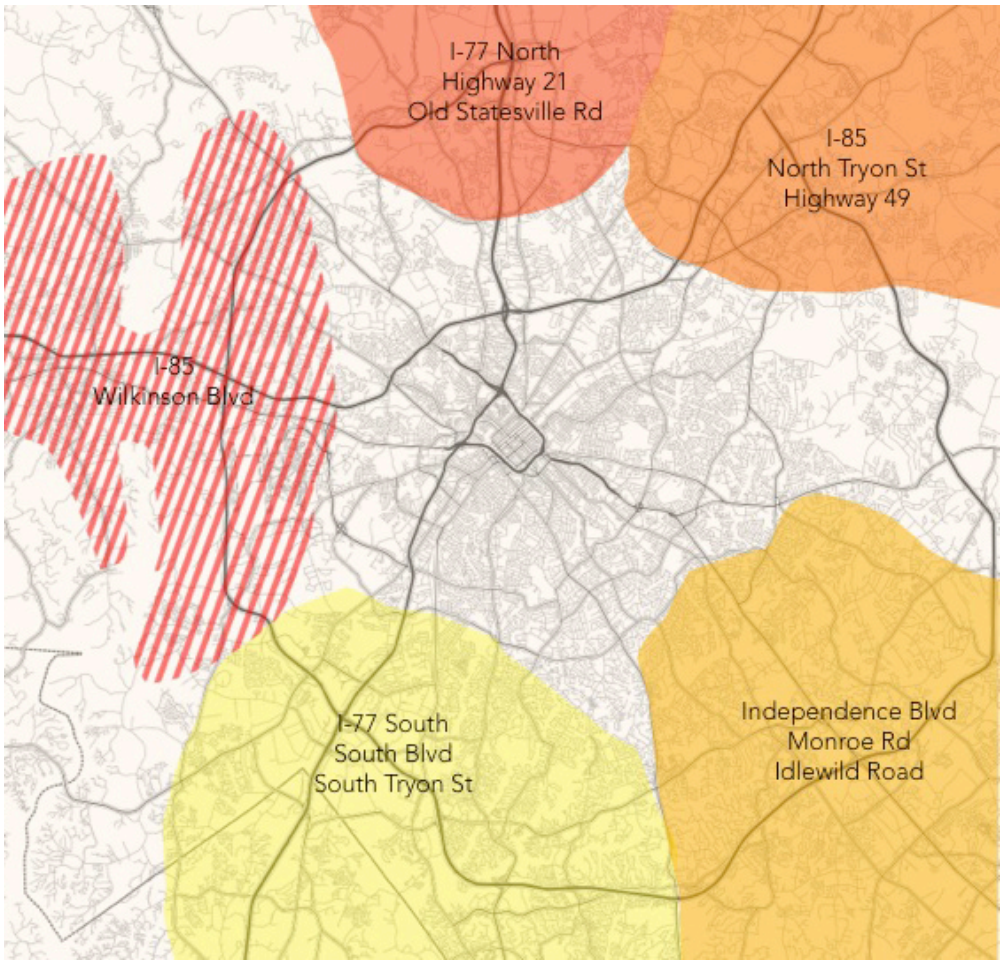
Wheel of Fortune – Charlotte Growth Cycles.

The mid to late 1990's witnessed the next cycle of growth as development continued in the south, but also took hold in the northeast part of Charlotte. What is today the

University City area matured in the 1990's in conjunction with the opening of new sections of I-485, investment in the University Research Park and expansion of UNC Charlotte's campus. By 2001 urban growth stretched into southern Cabarrus County.

The most recent decade of growth was in full swing by 2003. It re-ignited in the south and northwest, but also included the northern I-77, Statesville Road corridor, especially the communities of Davidson, Cornelius, and Huntersville. By the time the economy cooled, in the run-up to the Great Recession of 2008-2011, development had expanded quickly around Lake Norman and southern Iredell County in Mooresville.

As the national and local economies have begun to rebound as of 2013-2014 the next cycle of growth will set a path westward, along the I-85, Wilkinson Blvd Corridor. What does this mean for Belmont, Cramerton and McAdenville? An analysis of the type of development for each of the previous cycles offers clues that can help to determine what the impact of the next several years of growth will mean for eastern Gaston County.

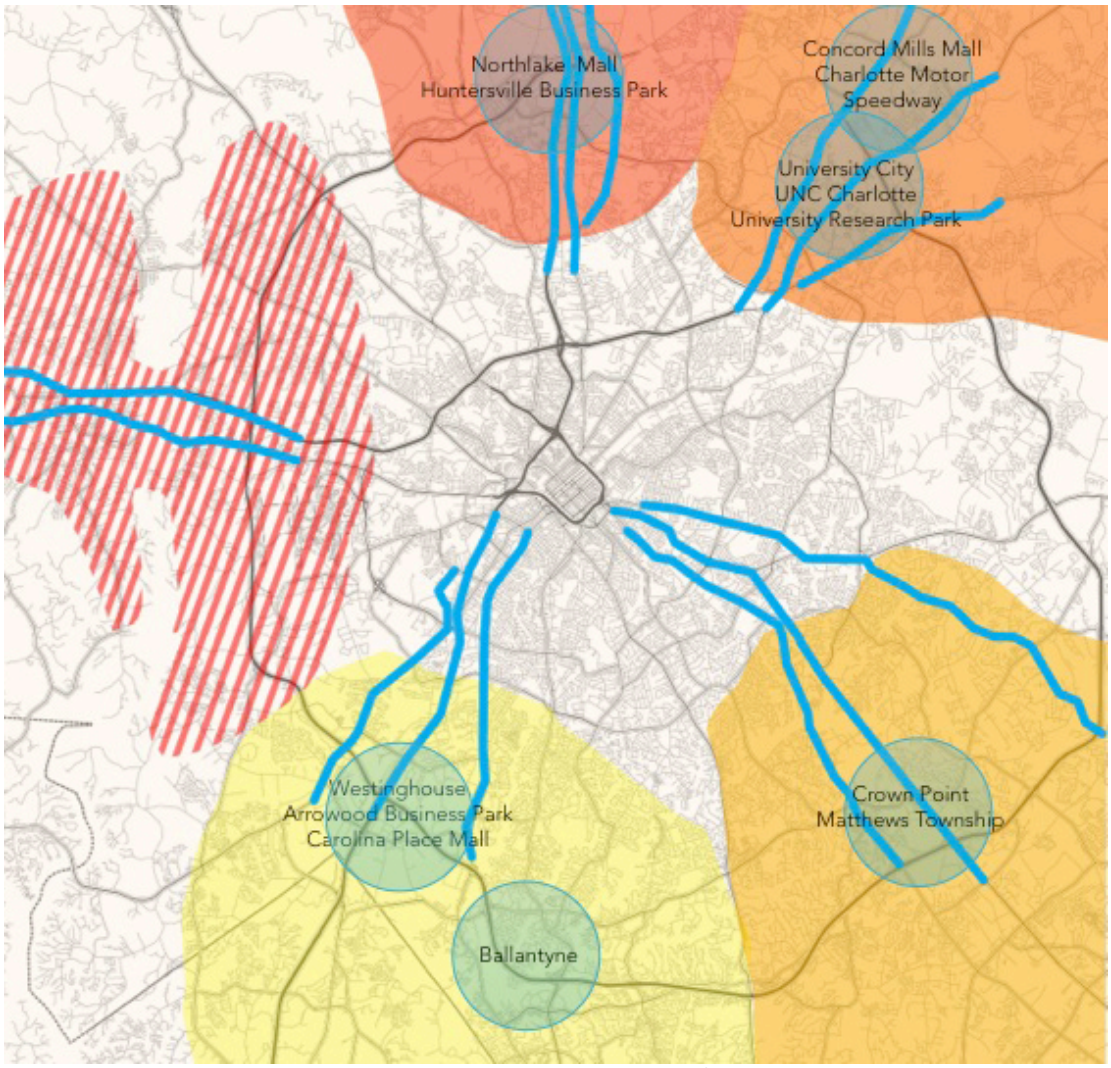


Western Corridor (red hatched) poised for current cycle

As the cycles of growth have occurred along the five corridors radiating from central Charlotte the character of development and the design of roads along them have evolved. In the early 1980's development involved single use product, exclusively low density, suburban and car dependent. Mall and "power center" development were the dominant retail product types. Carolina Mall in Pineville and the neighboring large format strip shopping centers illustrate this well. Accompanying these retail centers were office parks and residential subdivisions that can be seen dotting the suburban landscape across the large wedge of southeast Charlotte between and along the I-77/South Tryon/South Boulevard, and Independence Boulevard/Monroe Road Corridors. These types of developments generated predominantly a suburb to center city commuting pattern, but also began the suburb-to-suburb commuting pattern. The additional traffic required an update of the east and west street connection system across south Charlotte as people began to work as well as shop outside the center city in larger numbers. The era of suburban intersection rebuilding began. Park Road and Sharon Road West, Highway 51 and Rea Road, Highway 51 and Providence Road, Fairview Road and Providence Road, Sardis Road and Rama Road, Tyvola and South Blvd, just to name a handful, were reconstructed to add multiple dedicated left and right turn lanes, additional through lanes, pedestrian cross walks, and phased traffic signal systems.

As the 1990's growth cycle took hold the development type had changed, responding to a greater desire for mixed-use product. This coincided with a new generation of zoning ordinances, first adopted by Belmont, which encouraged pedestrian oriented development. A handful of retail and commercial centers began to incorporate residential developments at various densities to take advantage of the new zoning and value created by more sophisticated projects. University City was the first regional attempt at providing this type of development at the large scale, and although malls such as NorthLake and office parks like University Research Park continued to be built, there was the start of a significant push to develop employment, shopping, and residential uses in closer proximity and more integrated than before.

This trend strengthened the cross suburban commuting patterns begun in the 1980s. Intersection rebuilding continued as did the re-alignment and extension of existing roads to connect suburban- to-suburban locations more efficiently. Rea Road, Ballantyne Commons Parkway, Harris Boulevard, Johnston Road, Fairview Road and Colony Road became major multi-lane suburban connectors. Reconstruction of various road intersections with the region's interstates also began in earnest in the late 90s. Built mostly in the early 70s and 80s their designs were rural in nature, with expansive off ramps, clover leafs and inefficient intersections with the crossing road. Single point signalized interchanges, diverging diamond interchanges, and roundabouts were built and planned for many major road intersections along I-77, I-85, and I-485.



Development nodes encircling Charlotte at same distance from downtown as Study Area

These reduced land consumption and increase traffic capacity appropriate for the urbanized character along these corridors.

The growth cycle of the 2000s firmly established the rediscovery of city and town centers. Every community along the new I-485 outer belt and downtown Charlotte and its immediate surrounding neighborhoods experienced a resurgence of redevelopment and new development. Many of the zoning ordinances that had been created in the 1990s were now implemented and helped to guide a change in the pattern of growth. Davidson and Cornelius exemplify this shift in development practice. Even suburban centers across metropolitan Charlotte such as Southpark began to redevelop with new mixed-use projects. The momentum behind this change in development pattern is exemplified by the introduction of light rail transit in Charlotte, along the first of the corridors to experience rapid growth, I-77/South Boulvard/South Tryon. Each of the remaining four corridors has a transit line planned. The I-85, Wilkinson Blvd Corridor

includes a Norfolk Southern freight rail line along which future passenger rail can be introduced into Gaston County. The line runs parallel to and only a quarter mile in some instances from Wilkinson Blvd and extends from downtown Gastonia, past Charlotte Douglas International Airport and into downtown Charlotte where the State plans to develop Gateway Station a passenger rail and transit hub.

The current growth cycle began in 2012-2013. The development patterns are even more mixed use and town/city center oriented. A recent review of the 40 largest commercial projects in the Southeast compiled by Construction Market Data shows that almost half fall into these categories. (Real Estate Forum online, www.globest.com, 3 Trends Dominate Southeast, Oct 29, 2014). This is important for the following reason. As development and growth take hold in eastern Gaston County and western Mecklenburg County, the need to travel long distances (greater than five miles) for work, shopping and recreation will be reduced within the total commuting population and shorter trips (less than five miles) will increase. Access to the peninsula, heading east and west, is limited by the number of crossings and total number of lanes available at the two river crossings. This is not the case to the north and northwest, and to a limited degree to the south. New development will locate in these areas and generate a larger percentage increase in origin and destination trips north and south of Wilkinson Boulevard than east to west on Wilkinson Boulevard. These changes in commuting patterns will impact the intersections along the Boulevard, which will require upgrading to handle the new volumes and direction of traffic flow.

IIc) Fundamentals: Wilkinson Today - A Tale of Two Boulevards

During the course of the public outreach initiative the Team discovered two clear and distinctly different sets of opinions about traffic, safety and development concerning Wilkinson Blvd. They can be summarized as: 1) Congested, Ugly and in need of Development Restrictions; or 2) Fast Moving, Ugly and in need of Development Incentives. The persistent nature of these two observations posed a fascinating contradiction of which the Study team sought to make sense. Setting aside the almost universal agreement on the "appearance" of the Boulevard, we dove deeper into the opposing views. Our findings were presented on the "Build-a-Better-Boulevard" webpage set up as part of the Study's public outreach component.

1- Traffic: Congestion vs Safety

The Study found that the comments and observations concerning "what" people think of Wilkinson Blvd fall into two diametrically opposing camps. Some argued that cars travel too fast on the boulevard, making it dangerous to drive and difficult to access via turns. Many argued that the traffic is so bad, that back-ups and waiting at signals have become so common they feel more lanes should be added to get traffic moving.

Whose statements are accurate? As is almost always the case, all of them are. It just takes a bit of detective work and data collection to figure out the "where-and-when" side of the story.

The Study looked at Wilkinson Boulevard from the beginning of 2014. Drone video was filmed and observations made by car and by foot during weekends, weekdays, rush hour, and mid day. Efforts were also made to observe traffic during different weather conditions. Accidents on I-85 impact Wilkinson Boulevard with three such events occurring over the course of the year. One additional "unique" event that impacts traffic is the annual Christmas light show in McAdenville. The Study looked at how pedestrian needs are handled and what impact the increased demand had on the function of the Wesleyan/Market Street interesction. We have also reviewed the data in the form of traffic counts provided by the Gaston-Cleveland-Lincoln MPO, the State of North Carolina and the Charlotte DOT, *(see Appendix E).*

The data show the average daily traffic counts on Wilkinson Boulevard have declined steadily over the past 10 years. In fact they have been declining for over 20 years, although complaints about congestion on the boulevard began far more recently. Wilkinson currently handles approximately 16,000 to 17,000 cars per day along the four-mile stretch within the Study area. A reasonable question would be whether the decline has anything to do with the recent recession. According to the data the answer is "no". The decline was occurring during the development boom before the recession as well.

But how can that be? More people live in the immediate area than before, and there have been a few large developments, such as Montcross. Other nearby stretches of Wilkinson, in Gastonia and on the Charlotte side of the Catawba River, handle more daily trips, upwards of 30,000. For streets with similar lane counts and divided highway design, it is not uncommon to reach counts of 70,000 average daily trips.

Why are there fewer cars on this stretch of Wilkinson and why has there been a steady decline? When all the data are examined, it appears that the surrounding network of streets, roads, and Interstate 85 handle traffic differently than they once did. The reasons for this have much to do with where people are now living and where businesses are now locating.

The data show that, as traffic heads east out of Gastonia toward Charlotte, the car count on Wilkinson steadily diminishes. This is particularly the case at the intersections of north-south streets that have interchanges with I-85 such as New Hope Road, Cox Road, and S. Main Street. Drivers are turning off Wilkinson to access homes and businesses that make up Gastonia, and for those traveling on to Charlotte, the route of choice has become I-85. The same is true for drivers heading west out of Charlotte toward Gastonia. By the time traffic has reached Little Rock Road, Billy Graham Parkway

and I-485, most drivers have turned off Wilkinson to businesses and homes in Charlotte, or have opted to use I-85 to continue west. This is reflected by the significant increase in average daily trips along I-85 since 2000, increasing from around 100,000 to over 130,000 at the Catawba River crossing.

Other streets and roads that have experienced increased traffic counts are those north-south connections along the peninsula between the South Fork and Catawba rivers. Park Street, Lakewood Drive, and N. Main Street have seen increased traffic. In fact, N. Main handles as many cars just to the north and south of its intersection with Wilkinson as does Wilkinson, 16,000 vehicles per day as of 2013. Park now handles upwards of 27,000 vehicles a day, 10,000 vehicles more than Wilkinson where it crosses the Boulevard. It is becoming clear that the prevailing vehicular movements in the Belmont, Cramerton, and McAdenville area have become more north south as population has increased along the Catawba River.

For cars heading east or west, the preferred choice has clearly become I-85. This correlates well with observations on the ground. While almost all the property between Market Street to the west and Catawba Street to the east is and has been zoned highway commercial for decades, most new development over the past 20 years has occurred in close proximity to just a few intersections: Lakewood Drive, Park Street and N. Main Street. Business owners along Wilkinson Boulevard away from these intersections have confirmed that the traffic flow has changed and that the steady volume of vehicles that used to be present throughout the day no longer exists. Traffic now bunches up during the morning and evening rush, leaving few vehicles traveling at other times. This is apparent in the closing of some businesses along Wilkinson Boulevard that are beyond the reach of intersections and the many tracts of land that have remained undeveloped for decades. As discussed earlier, parcel size does play a role in the lack of development and is also a contributing factor to the lack of activity between intersections.

The comments from people concerned with speeding and dangerous driving now begin to make more sense. After all, how can a road perceived to be congested, also encourage fast driving? The answer is that Wilkinson Boulevard itself is not congested. At six wide lanes with a median it offers people a rather quick way to access minor trips to and from the north-south system of streets and I-85. During most of the day the boulevard is literally quite empty, as witnessed by the drone videos and on the ground observations. Traffic flows at speeds above the posted limit. Those who use the Boulevard during the day to run quick, short distance trips, are subjected to the fast moving cars and perceive it to be dangerous.

So what about the congestion side of the story? If we look carefully at where congestion is occurring and what the data tabulations tell us about the direction of the traffic at these points, an interesting clue comes to light. The intersections with

Wilkinson Boulevard at Park and N. Main streets handle more traffic than in the past, as drivers shop the various stores, travel north-south, and access I-85. Even though this is the case, the timing of the signals at the intersections still give preference to through traffic on Wilkinson. In other words, turning off of Wilkinson onto either Park and N. Main, turning off of Park and N. Main onto Wilkinson, or traveling through these intersections to cross Wilkinson on these streets is given less signal priority than for drivers traveling straight through on Wilkinson.

In many instances the difference in signal timing is extreme. The average green for north-south turns onto Wilkinson and for drivers looking to access north-south turns to leave Wilkinson is 19 seconds. The average red for these same movements is 1:15 minutes. These times were collected at 8:30am and 5:30pm on Wednesday, August 27 using three separate observations. Similar data were collected for Wilkinson Boulevard and N. Main Street with slightly higher delays for non-Wilkinson movements. Right on red from N. Main onto Wilkinson is not allowed *(see Appendix B).*

The observations confirm that there is congestion, but mostly for those who are looking to access other streets from Wilkinson, or to get onto Wilkinson from those same streets. The back up from the left turn lanes as a result of the current signal timing causes cars to stack into the through lanes on Wilkinson Boulevard, slowing traffic during the two rush hour periods. This also may explain the terrible back-ups and traffic paralysis that happens when an accident on I-85 closes lanes and forces drivers to detour onto this stretch of Wilkinson Boulevard in the study area.

The discussions concerning traffic, congestion and safety led to discussions concerning development. Here too, diametrically opposing opinions surfaced. For those that felt Wilkinson traffic was too fast and dangerous the main concern was that the "lack of traffic" was a negative economic factor and that the municipalities should incentivize, through accommodative zoning, more development. The result would be more traffic. For those that felt that traffic was congested the main concern was not enough capacity along the boulevard. Elimination of curb cuts and more lanes were seen as solutions.

2- Traffic: Capacity vs Development

The Streets and Roads of towns and cities were originally built to serve multiple functions.

First and foremost, streets and roads served to provide residents and visitors a way to find homes and business. This was their initial and primary function: to establish addresses around which people organized and located the daily needs of life. As more streets and roads were added they became the framework around which additional homes and business were built, creating the neighborhoods and downtowns of our towns and cities.

Second, this system of streets and roads came to serve as the public realm of the community, the shared open space everyone used in their daily lives. Before the car became the primary means of transportation, streets and roads were a jumble of many modes of travel and a setting for many pastimes. In fact, most people today would be surprised to learn that streets and roads were treated more as the public extension of their homes and businesses than as a place to carry traffic.

Drexel Blvd, Chicago circa 1873, shared public realm and transportation space

The car, a relative newcomer to the public space of towns and cities, was initially seen as an intruder into the culture and commerce of these outdoor spaces. Finally, in larger towns and cities, as cars began to push out other means of travel and non-transportation uses, some Streets and Roads began to carry vehicular traffic through and across the community over greater distance, eventually taking on their current role as the traffic arteries we all know well.

The need to carry "traffic" longer distances ended the first two functions of streets and roads and helped to usher in the segregated and "zoned" patterns of our communities, beginning in the years after World War II. It's hard to imagine today, looking at the shoulders and corridors along most of the streets and roads built since the late 1940's,

that these spaces used to be the predominant "open space" in most communities. People lived much of their outdoor lives along streets and roads- just ask anyone over 60 years of age. Before the war, streets and roads were contextually planned and purposefully built with ample sidewalks and/or landscaping, pedestrian-scaled widths and easy access to adjoining destinations for people on foot and transit. They were "shared space" by design, busy and bustling places serving many different needs, for a while even including the newly arrived car. As cars became the predominant mode of transportation in towns and cities, and as zoning developed to cater more to the requirements of car accessibility, roads and streets were forced to adapt.

This adaptation is reflected in the way streets and roads are now built, and how transportation engineers view their designs. No longer is context the main determinant of design. Instead, efficient motor vehicle movement is now the primary function of any street or road, with capacity determined by the number of vehicles that can travel in a given period of time. The complexity of a system that developed over thousands of years has, in the past half-century, been completely reduced to reflect a hierarchy of simple attributes.

Transportation engineering modeling generally uses three classifications of thoroughfare: arterials, collectors and locals. In North Carolina this system is more precisely classified into freeways, expressways, boulevards, and major and minor roads. Traffic flow, especially through or around potential points of congestion, is the main driver of street and road design. The underlying goal for these designs is safety, and as a result, every new road -- whether in the country, the suburbs, or the city -- has similar design features. The methodical nature of these standards is what has led to the generic look of much of our communities. This has begun to change recently with the advent of Context Sensitive Design principles. Traffic flow and safety are well intentioned. However, once safety is accounted for, there is confusion as to what the streets and roads in our communities are suppose to actually do for residents and visitors. Are they there to encourage development, or to provide efficient and congestion free commuting. This confusion is especially apparent in Belmont when Wilkinson Boulevard is the topic of discussion, as witnessed by the public input at workshops over the course of the Study and from discussions on the Build a Better Boulevard Facebook page.

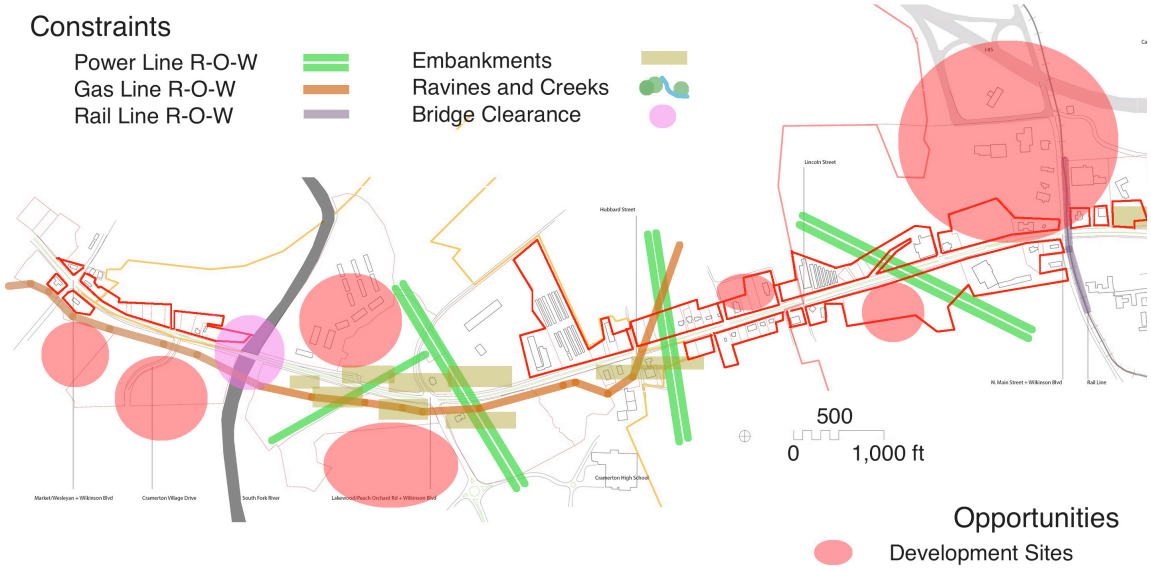
A boulevard, by definition, is a thoroughfare that carries traffic across a community. A boulevard is one of many dozens of thoroughfare types that have developed over the hundreds of years of town and city history. It represents one of the more modern on the list and is a response to the need to travel across larger urban areas relatively efficiently, without needing to stop often. Yet as originally designed, the boulevards of history accomplished this while also managing to provide wonderful accessibility and high quality of life to the residences and businesses that located along them. Even today, in Europe, where the boulevard was first conceived, they are some of the most

photographed and visited places by tourists. Unfortunately, in the past half-century, primarily in the United States, urban boulevards have typically been stripped of their multi-use complexity, only serving to funnel traffic through a community to other destinations.

Champs Elysees, Paris France

This raises the obvious question of "through to where"? If "through traffic" is the main goal, then the ideal boulevard would function more like the even newer interstate system, with no disruptions and limited access points controlled by interchanges. To support this restricted access design intent, changes to zoning would also need to be made, restricting growth along boulevards. In theory this is the case for Interstates; they are not designed to encourage development either. Each new development creates the need for access points and the congestion that follows, a scenario that defeats the purpose of building an interstate to begin with.

However, observations show that streets and roads and even interstates are great generators of development in populated areas, especially when they also carry high traffic volumes. One only needs to look at the Charlotte Outerbelt or the Atlanta Perimeter to see the folly in the idea that urban interstates can simply "bypass" congestion. Not yet completed and after a generation of construction costing well over a billion dollars, Charlotte's Outerbelt is already being rebuilt to accommodate the growth and development it has attracted. The experience of other metropolitan areas shows that such "rebuilding" will continue unabated for decades to come and at the cost of more billions.



Constraints Analysis of Wilkinson Boulevard, Cramerton to N. Main St., Belmont

Returning to Wilkinson Boulevard, if this corridor is supposed to carry traffic through to other places, what happens to Belmont, Cramerton and McAdenville? Are these communities the unfortunate obstacles in the flow of vehicles trying to travel between Charlotte and Gastonia? Or instead, is everyone else made to suffer delays in their commute on Wilkinson Boulevard because of what a great places Belmont, Cramerton and McAdenville are and want to continue to be?

Arguments for both alternatives were raised during the Study. Some wanted to see more development along Wilkinson and an increase in traffic along the corridor because they see the gradual decline of businesses as a drawback to the image and economy of the area. Others want to take the design of the Boulevard in the direction of a limited access highway, reducing the opportunities for businesses to locate along the corridor in order to maintain speed and flow of traffic across the communities.

Just as with the debate concerning traffic congestion and speed, both alternatives have a place in the future of Wilkinson Boulevard. The data show that the existing traffic counts are much lower on Wilkinson than its design capacity. The data show that the largest increases in ADT counts are occurring on the north-south thoroughfares crossing Wilkinson Boulevard. It is at these intersections where most of the new business development along the corridor has occurred. The areas where businesses seem to struggle are further away from these intersections. The existing intersections are evenly spaced, and there are few relative to the length of the corridor, so that even during peak hours traffic can flow through Belmont, Cramerton and McAdenville. Given their faster growth and similar traffic counts, the north-south thoroughfares have become and will continue to be prime frontage for investment and development.

Constraints Analysis of Wilkinson Boulevard, N. Main St., Belmont, to Catawba River Bridge

In addition to traffic counts, the available land and its potential for property assembly, is also greater on the north-south thoroughfares than what is available along Wilkinson Boulevard. The depth and size of most properties, the topography associated with creeks and drainage areas, and the adjoining rights-of-way and easements make most of the Wilkinson Boulevard corridor difficult to build along. Property assembly takes time and can be costly, which is one reason development has been limited to date. As growth pressures increase, land assembly will begin to make economic sense. When initiated, these new projects will take advantage of the larger parcels, developing away from the immediate Wilkinson Boulevard frontage, internalizing commercial and residential mixed-use development within their sites and leaving the frontage along Wilkinson for landscaping and buffering. This pattern of development also requires fewer driveway access points. This can already be witnessed in Cramerton at the new South Fork Village Apartments, as well as projects on the drawing boards immediately surrounding this new development.

Comprehensive plan updates and zoning changes should be put in place to facilitate this market-driven change, complimenting the beautification of Wilkinson Boulevard proposed by the aesthetic recommendations of the Study. Doing so will also promote better traffic management. By concentrating busy commercial hubs at the major intersections, vehicular trips accessing them can use I-85, Wilkinson Boulevard, and the north-south thoroughfares themselves. With additional zoning changes, these new projects will be designed to promote a park-once-and-walk environment, reducing total car trips along the corridor.

By reducing the need for Wilkinson Boulevard to be a continuous business corridor for the Peninsula's communities, the Boulevard itself can be freed to serve as a regional

connector. New business development can be focused at intersections along the corridor and more importantly in the downtowns of Belmont, Cramerton and McAdenville. This would also allow for the beautification of Wilkinson, creating the better community image sought after by residents as a gateway to the peninsula communities.

III – RECOMMENDATIONS: MEASURE TWICE AND CUT ONCE

The recommendations in this Study enable new design and operational strategies to improve mobility and safety within the three communities and along Wilkinson Boulevard. Motor vehicle speed and overall volumes are key aspects of this evaluation with greater emphasis on design and posted speed where walkers and cyclists are expected. The recommendations are listed such that their impacts on the Corridor and Wilkinson Boulevard can be timed to coordinate with and take advantage of each successive intervention. It should be the aim of any proper plan to build upon the benefits offered by the improvements it recommends. Therefore, proper considerations must be made to ensure the scale and timing of each intervention self reinforces the next to avoid wasting increasingly finite tax dollars and valuable economic growth.

Present demand was reviewed with attention to interaction between Wilkinson and the crossing side arterials. Interaction with I-85 is also a significant issue. Traffic volumes and speed were studied to determine the safety and comfort of all users of the road systems. Initial feedback determined pedestrian and bicycle travel modes are of increasing interest in the community.

Tasks included the following:

Data Review and Analysis – site conditions were studied via mapping and photography and drawings.

Site Visit – a site visit was undertaken to see existing conditions and proposed plans. Discussions were held regarding potential short term and longer term solutions in the corridor.

Community Design Analysis – as an initial task, conceptual review of overall community design and vision was undertaken. These issues of urban design and context are primary for all considerations regarding circulation, speed and congestion.

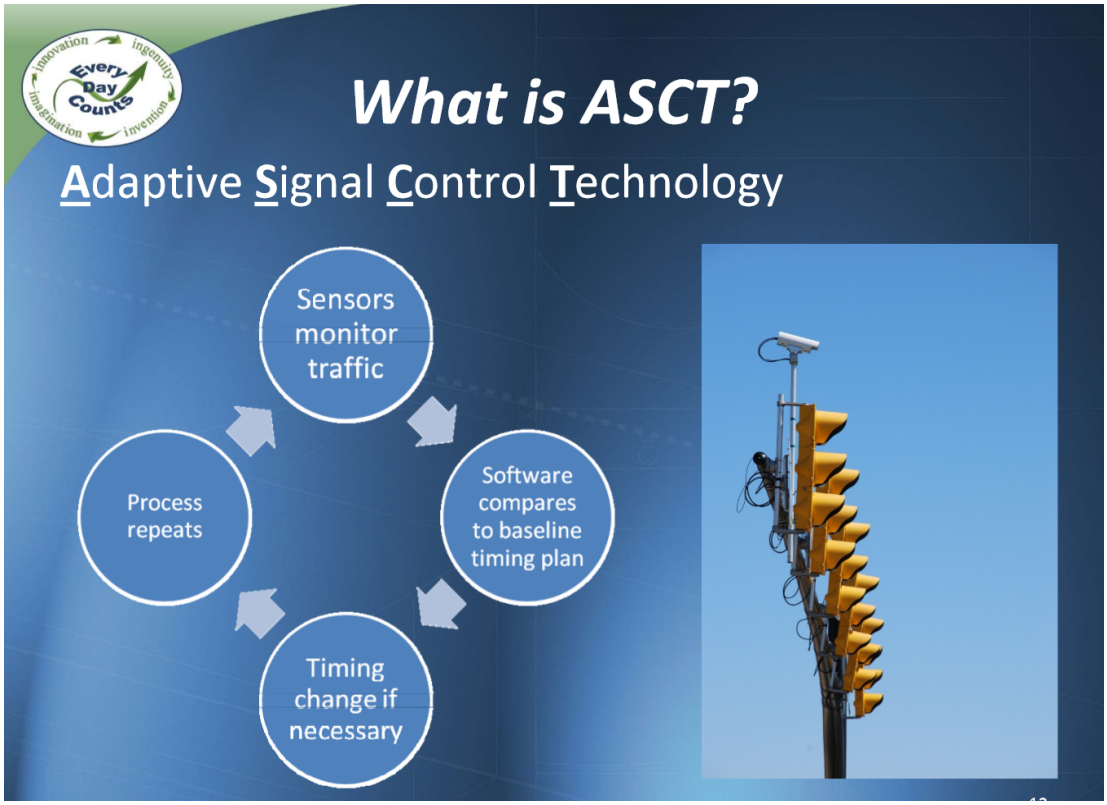
Report – Presentation of recommendations that summarize consensus solutions after workshops, field review and team discussion.

Conceptual level design issues and alternatives are discussed. Detailed Level of Service (LOS) and operational analysis are reserved for the future studies, which will be necessary to implement the recommendations of this report.

IIIa) Management: Employing New Technologies and Fine-tuning the Traditional

The Study proposes two traffic management recommendations for improving traffic flows along the Wilkinson Corridor.

m1- New Traffic Management Technologies – Optimize signal operations through state of the art signal management systems. The most promising is the Adaptive Signal System, which adjusts signal phase order and duration based on real time measured traffic demand. The second generation, In-Sync version of this new technology is well suited to Wilkinson Boulevard application based on frequent wide variations of demand from rerouted I-85 emergency traffic and seasonal variation. Basic description of the system follows.



The FHWA Office of Operations, describes the basic steps in adaptive control. From the same presentation, the table below compares the two operations approaches. One, describes passively reacting to traffic patterns and applying last century methods to develop controller settings. The more proactive approach, Adaptive Control, involves second by second data collection to augment the initial settings and create real time adaption of the timing plans. It allows the critical signal maintenance tasks to focus where they are most needed.

Regarding detector failures, for example, where the sensor fails to provide information to the controller, conventional controllers set the green phase for that lane group to the maximum time. While this prevents an early termination of a given phase, the long green times hold up all other approaches that could use that valuable time. The In-

Sync procedure would respond to a detector failure by providing a solution based on the latest 30 days of traffic measurement stored in its memory. This provides much better service than a maximum setting for the faulty detection.

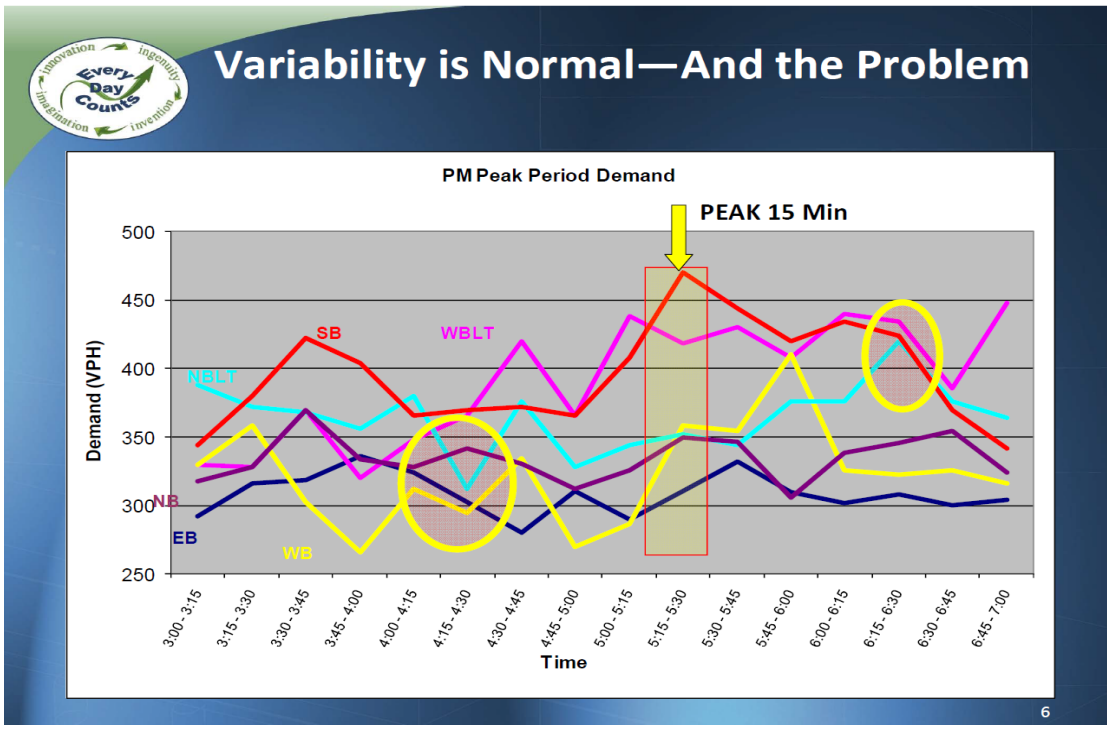
Adaptive Signal Control in the Operations & Maintenance Mode

Reactive	Proactive
•Manual Data Collection	•Active Monitoring of Traffic and Delay - Continuous
•Offline Analysis & Modeling	•Adjustment - Real Time
•Travel Time Studies	•Maintenance Critical
•Citizen Complaints	•Reporting
•Detector Failures	

FHWA Office of Operations – Resource Center

Conventional operating procedure involves field data collection of traffic demand data, tabulated by 15 minute periods for selected days. These days are often selected based on the availability of inexpensive labor, such as summer help by interns. Timing plans are then synthetically modeled and optimized to serve both routine and special periods. Daily, weekly and seasonal patterns are developed, at significant expense, by trained staff and inserted into the signal controllers. When completed and operational, the assumption is that traffic demand variations will follow past patterns, existing at the time of original data collection. For many locations this is not the case. As with many fields of endeavor, predicting the future is a difficult task.

Adaptive Signal Control Technology [ASCT] helps by adjusting these initial timing patterns. Real time data collection, second by second, can detect deviations from the traffic pattern measured manually, up to several years earlier. For example, great flexibility is introduced by allowing the signal controller to switch away from serving an approach that is void of waiting traffic. The green time can then be dynamically switched to serve the approach with the greatest volume and longest observed delay. Delay is observed in each separate lane of the intersection. Then timing decisions are delegated to the on-site controller. The ability to *adapt* to the best timing sequence and duration from measured real time conditions is the main strength of the second generation of ASCT. Fewer motorists wait at red signal phases with no other traffic moving through the intersection, a condition that is not only frustrating, but encourages violation of the red phase [red light running].



Change in traffic counts on approaching lanes at one intersection over a 4-hour period

The In-Sync technology is the only second generation ASCT implementation. The In-Sync technology delivers Digital vs. Analogue selection of timing phases. In other words, as with an analogue television, one had to pass through every channel to change from Ch 3 to Ch 12. Digital TV allows a direct switch from 3 to 12. Digital signal equipment allows the controller to adapt from the initial sequence of phases to the approach that needs relief.

The In-Sync system advantages are well suited to a Wilkinson Boulevard application based on the following conditions:

- Frequent, wide variations of traffic demand
    - from rerouted I-85 emergency traffic
    - from seasonal variation, such as Christmas festivals
- Long periods of under capacity operation
- Long Arterial corridor character vs. tight grid of streets

An increasing number of installed signal installations provides a significant history and experience. One study shows a 22 percent reduction in crashes with installed systems. Example locations and contacts are listed below to highlight several places with In-Sync systems installed and for some, their relative maintenance costs:

- Pinellas County, FL
    - Ken Jacobs, Signal Operations Manager, 727.464.8922

kjacobs@co.pinellas.fl.us

Ken calculated InSync annual maintenance costs at $533 per year per intersection. If video detection is previously in place, Ken suggests costs are more like $385 per year per intersection.

- Columbia County, GA
    - Glen Bollinger, past Traffic Engineer (706) 821-1077 *[now works for the City of Augusta];*

      gbollinger@augustaga.gov
    - Tony Williams, Signal Supervisor, 706.868.3356.

      twilliams@columbiacountyga.gov

      Glen assembled InSync annual maintenance costs last year; his estimate was approximately $600 per year per intersection; Glen and Tony stated that staff did not need to do much; that InSync did most of the monitoring and adjustment and freed staff to work on other critical tasks that could not be accomplished before.
- City of Little Rock, AR
    - Bill Henry, Lead Traffic Engineer, 501.379.1816

      bhenry@littlerock.org

      Bill has installed InSync and continues to deploy at additional signal locations.
- Town of Mt. Pleasant, SC
    - Brad Morrison, Director, Transportation Department, (843) 856-3080 bmorrison@tompsc.com

      Brad is pleased with InSync performance in the Town of Mount Pleasant, SC.

We recommend installation of the In-Sync system or Adaptive Signal Control for all Wilkinson Bulevard intersections in the study area.

m2- Traditional Traffic Management Technologies – In the next decade the widening of I-85 will begin in eastern Gaston County. The Team has witnessed several traffic incidents over the course of preparing the Study that diverted traffic off I-85 onto Wilkinson Boulevard. The widening project will increase the number of "similar" events in the future as motorists opt off of I-85 to avoid delays due to construction. A comprehensive management program needs to be developed, by the State Highway Patrol, local Police and the NCDOT, to mitigate the congestion that will result. Under the watchful eye of the Metrolina Regional Transportation Management Center (MRTMC), North Carolina Department of Transportation operates Incident Management

No overhead dynamic message signs or fiber optic cable for camera equipment exists between mile marker 15.3 at Jenkins Road near Gastonia on the west, to the wayside park near mile marker 28, I-85 eastbound, near the Catawba River, in Mecklenburg County

Assistance Patrol (IMAP) vehicles, which patrol the Interstate 85 corridor during and just after daylight hours. These specialized vehicles are able to provide minor services for motorists with vehicle problems. Due to limited funding, however, the sections of I-85 between the Catawba River and Belmont are not currently served with the familiar yellow IMAP vehicles.

m3- Local Agency approved Protocols for unique and extraordinary events. The larger Incident Management program, involving coordination among emergency management officials at local and state levels, should be a major player in each recommendation proposed here. The pre-knowledge regarding chain of command and communication responsibility is vital during the emergencies that will occur over time. A written and approved set of Protocols should be developed and adopted to insure smooth operations and deployment of assets during crisis events. Both Intelligent Transportation (IT) systems with overhead dynamic message signs and routine communication channels should be included in any future policy and design thinking. At this time, a gap in the ITS system exists within the eastern portion Gaston County. According to Tim Kirk, the Regional ITS Engineer with MRTMC, no overhead dynamic message signs or fiber optic cable for camera equipment exists between mile marker 15.3 at Jenkins Road near Gastonia on the west, to the wayside park near mile marker 28,I-85 eastbound at the Catawba River, in Mecklenburg County. This gap should be closed with installation of fiber optic connected cameras and dynamic message signs at multiple locations in eastern Gaston County. This added data collection and control would assist smoother operation of the Wilkinson corridor in the future.

IIIb) Policy: Thinking Comprehensively - A More Robust Corridor Strategy

Mobility provided by the current Wilkinson Boulevard Corridor and adjacent streets and roads was formed in the Auto Age of the 20th Century. Central to all policy was

movement of motor vehicles to the exclusion of other modes. Since many basic transportation assumptions have recently changed, including the rebirth of walking and bicycling as valid travel modes, these renewed mobility concepts must be woven into the existing network to yield cost effective service for all area citizens. The Study proposes four Policy recommendations to align planning, funding and construction to better serve current and emerging area needs:

p4- Parallel Networks – Develop a system of roadways that parallel Wilkinson to provide alternative routes (East and West McAdenville Road, and East and West Catawba Street) to improve peak period circulation in the entire corridor.

Since the area grid emerged from old rural roads connecting towns and villages, a very coarse network exists. As increasing development occurred, little planning was in place to generate the finer network needed to serve circulation in peak times. Caldwell Farm Road and Hawley Road form a secondary network providing access to Lowe's and Walmart between Wilkinson and I-85. This is one example of "completing the grid."

Eastern route of Parallel Rd system in orange from Catawba River to N. Main St in Belmont. Wilkinson Blvd and I-85 in blue.

Corridors most suited to fulfill this grid enhancement form an extension of Caldwell and Hawley. McAdenville Road could be extended, in a more direct alignment, starting at the North Main Street and Caldwell Farm Road intersection. Major enhancements at this intersection should include new mast arms, sidewalks and landscaping. Continuing

to the west, a new alignment along the existing powerline easement should be strongly considered to provide a connection to McAdenville with fewer curves.

Western route of Parallel Rd system in orange from Cramerton and McAdenville to N. Main St in Belmont. Wilkinson Blvd and I-85 in blue.

This Study recommends to improve the McAdenville corridor from N. Main to McAdenville with signal enhancements and new alignments to help relieve east/west congestion during peak times. To the east of Park Street, Browntown Road should also be improved to aid in east/west, peak period circulation. In addition to a signal at its Wilkinson intersection, Browntown Road should connect to a new street, which would extend eastward eventually connecting with existing Riverview Avenue to meet with Wilkinson Blvd. The intersection of Catawba Street at Wilkinson Blvd near the Bridge would begin the parallel roadway system at the eastern side of the corridor study area. One branch of this system should occur at the Riverview Avenue/Catawba intersection. Riverview would be renamed and re-aligned to extend westward, eventually connecting to Browntown Road. Catawba would continue on a new alignment from Riverview to Browntown to complete an additional grid. The new road system would be renamed East McAdenville Road.

p5- Interstate Interchange Redesign - Redesign I-85, exits 27 and 26, to single point urban interchanges (SPUI's) at Park and Main

i) Park Street Interchange

Based on projected volumes and age of design, a redesign of the interchange is in order. Safety and efficiency, as stated by NCDOT, are top considerations.

Typical Single Point Urban Intersection Interchange – SPUI, Brookshire Blvd and I-85 Charlotte

The Main Street commercial area between Wilkinson and I-85 is prime for redevelopment as a walkable, mixed-use node. It has central location, optimum topography, access to both major arterials and is adjacent to the secondary, parallel arterial intended to create additional grid network paths in the area.

To create optimal interchange operation and facilitate walking and cycling in this commercial node, a single point urban interchange is proposed at Park Street and Beatty Drive. The single point design would allow the intersection to be placed at the centerline of I-85 and simplify the two diamond interchange signals now operating with 780 feet between them. At other Single Point Urban Interchange (SPUI) locations in Charlotte, such as Brookshire Blvd., stop bars for through movements are separated by 230 feet and left turn lanes by 280 feet of separation. This allows the next signal for side street operations *(See Parallel Networks)* to be located much closer to the Interstate thus helping the commercial grid circulation.

ii) N. Main Street Interchange

The I-85 interchange at Main Street and Belmont/Mt. Holly Road is much more complex than the one at Park Street. At the time of design, the rail line adjacent to Main Street was active. This prevented construction of a standard diamond interchange. Active freeway ramps cannot cross active rail lines. This forced construction to occur west of the rail line. The resulting interchange design includes right on and right off ramps to access I-85. The arterial connections at McAdenville Road to the south and Belmont/Mt. Holly Road to the east are highly inefficient. Eastbound I-85 traffic wishing to exit and travel north must drive an additional 2,000 feet due to original avoidance of the rail crossing. Similarly, McAdenvile Road drivers wishing to travel west on I-85 must drive the same excessive 2,000 feet. The same diversion occurs for the southbound Belmont to eastbound I-85 movement and others.

Another unfortunate side effect of the rail-constrained access is the sequence of westbound I-85 features encountered by drivers wanting to exit. If one is taking Exit 26 westbound, the experience includes a lane drop, a central barrier with no shoulder, a right hand curve, an overpass bridge with limited width and visibility and a hard right exit ramp. This creates a challenging series of features for drivers, especially under inclement and dark conditions. Crashes are reported to occur here frequently by emergency personnel.

A redesign of the interchange could yield a single point diamond or traditional diamond if a new central roadway crossed I-85 west of the current bridge structure. This new four lane arterial would connect at McAdenville Road where the south ramps currently terminate, and continue north from the new crossing to meet Belmont/Mt. Holly Road north of the existing north ramp termini. The more efficient circulation and parallel nature of the crossing streets would reduce congestion and move the interchange away from the negative westbound features noted above.

The Study proposes rebuilding Exit 26 with new crossing arterial, four lane road to create a single point or standard diamond interchange with less curvature involved in standard exit maneuvers. VMT would also decrease dramatically for area drivers accessing I-85. Each single vehicle trip traversing the extra 2,000 foot section today creates over 1/3 mile of unnecessary travel, i.e., 1,000 trips yield 37.9 extra vehicle miles of travel. N. Main Street would be relocated to the west, aligning with the new interchange. The new route would diverge from the current alignment at the existing entrance to Belmont Abbey College. From here, heading south the new road would veer west to cross I-85 at the location of the existing on and off ramps, following the eastbound I-85 access lanes to their current intersection with McAdenville Road. The new road would continue through the signalized intersection into the existing shopping center to the rear of the property and veer back to the east, following the rear of the commercial properties as they abut existing residential neighborhoods. The new road

would re-align with N Main St just north of the intersection with Wilkinson Boulevard, *(see Policy Item#4, Relocation of Main Street).*

iii. New Exit 24 and rebuilding of existing Exit 23. To complement and support the parallel system proposed by the Study an additional exit will be required on I-85. Currently Hickory Grove Rd crosses at Mile Marker 24 without access to I-85. As part of the future Belmont/Mt Holly bypass the Study proposes upgrading the Hickory Grove to a four-lane road with a full SPUI at the current I-85 crossing. Hickory Grove Rd would connect through to Lakewood Rd to crossing the proposed West McAdenville Rd parallel route, Wilkinson Blvd, and the proposed West Catawba Rd parallel route, before continuing on down the peninsula.

p6- Rebuild Park Street into a Multiway Boulevard – Design a Multiway Boulevard between Wilkinson Blvd and the new East McAdenville Road to upgrade the commercial access and encourage denser redevelopment of adjoining properties. Contemporary commercial centers have very focused goals: facilitate customer arrival by motor vehicle, select a site along a busy arterial and manage costs to yield profitability. Obviously meeting local and state environmental requirements and maintaining the site to a certain level of appearance are also important.

Emerging centers are broadening these goals to include access by pedestrian and bicycle travel modes. A greater mix of land uses, including residential, is also proving quite profitable to developers and more financially resilient to the tax base of municipalities. The centers located east and west of Park Street have great potential to become multi-modal by introducing a redesign of Park into a Multiway Boulevard. The prime benefit of this traditional and newly emerging design, is excellent walkability at the edges and high capacity motor vehicle movement in the center lanes. The Multiway brings walkability and vehicle mobility together. Most other facility types separate these qualities achieving either great walkability (Main Street), or great motor vehicle mobility (freeway).

The multiway boulevard design simultaneously permits substantial volumes of through traffic at its center, while encouraging the commercial, street-front development pattern appropriate for viable, walkable community design. The central lanes and access lanes are separated by generous side medians. The concept and operating characteristics of multiway boulevards are described most fully by Allen Jacobs, Elizabeth McDonald and Yodan Rofè in "The Boulevard Book" and also in the ITE/CNU Recommended Practice "Designing Walkable Urban Thoroughfares," Chapter 6. Multiway boulevards have a strong history and are increasing in number. Older examples were built at the end of the 19th century in New York (Eastern Parkway and Ocean Parkway as several of the best old examples) and new multiway boulevards exist in San Francisco (Octavia Boulevard) and Chico, California as well as other locations in the United States.

Typical Multi-way Section

The generic section and plan of a multiway boulevard is four or six lanes. A center median can be provided, however, right-of-way needs for the other elements usually eliminate the center median. The center lanes serve the traditional function of an arterial street – to move longer automobile trips safely through an area. These center lanes are considered the "vehicular realm" and design considerations on these lanes place priority with the through movement of motor vehicles, as with contemporary suburban arterial design. Pedestrians are encouraged to cross the center lanes by specifying vehicle speeds managed in the 30-35 mph range.

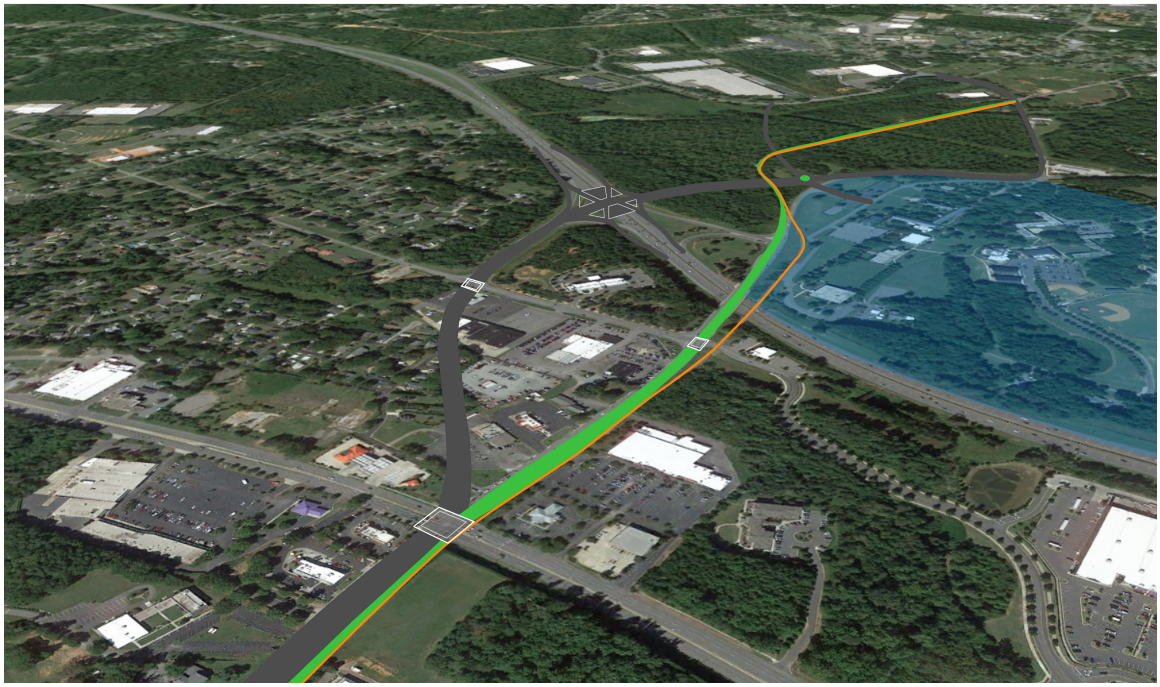
On either side of the central through lanes of this hypothetical multi-way are wide park-like medians with street trees and shared-use paths/sidewalks. At the edge, a single one-way access lane provides access to the on street parking. A wide sidewalk and street-front development completes the boulevard's pedestrian realm. The entire area from the edge of the central lanes to the building faces, provide pedestrian comfort and a real sense of place where pedestrians are very comfortable. The one-way vehicle access lane is designed for speeds of 15 mph. Within the pedestrian realm, design considerations place priority on pedestrian mobility. Table 1 summarizes the functional elements of the proposed Multi-way Boulevard.

Table 1 - Multiway Boulevard Functional Elements

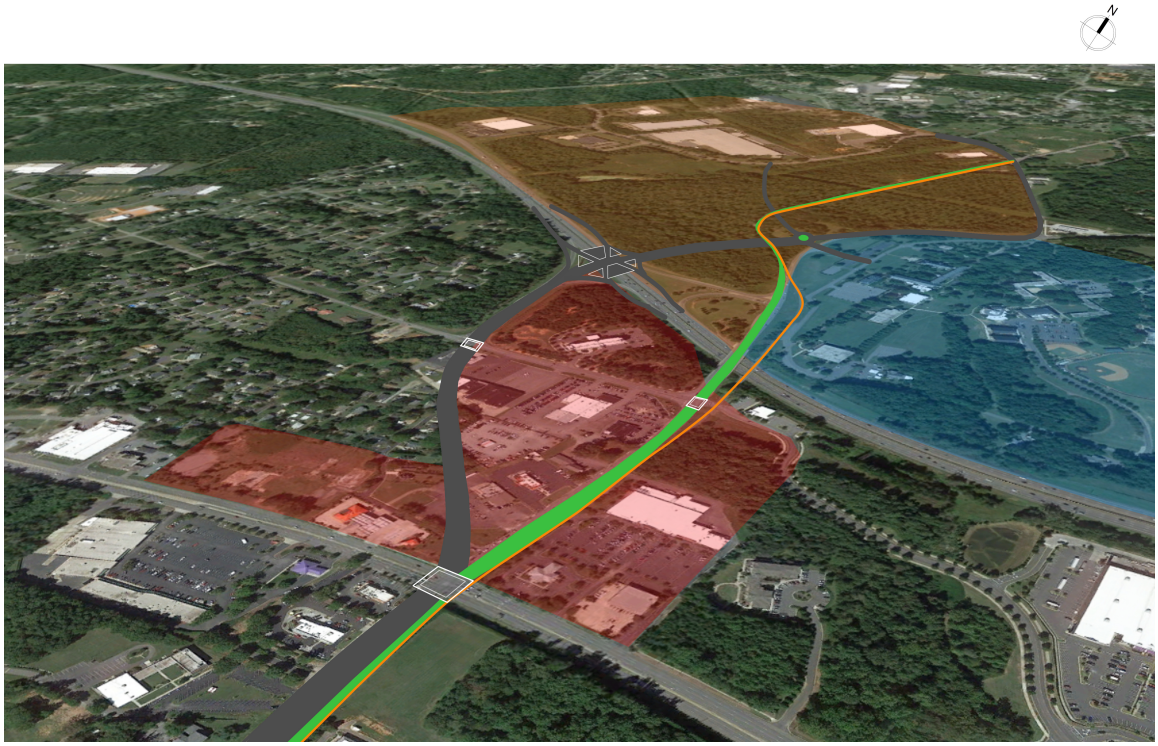
1.	Central Lanes	Provide traffic through movement, allowing longer trips to pass through the area. They also bring potential customers within viewing distance of the shops and storefronts along the edge.
2.	Side Medians	Park-like medians establish the beginning of the pedestrian realm. Planted rows of trees provide enclosure, helping manage the central lane thoroughfare speeds. Medians also provide shade and protection for pedestrians, cyclists and space for transit stops. The shared-use path allows bicycling, roller-blading, and strolling, with ample benches and lighting.
3.	Access Lanes	The narrow one-way access lanes serve vital on-street parking. They parallel the central lanes and can provide some circulation between elements of the street network, however this function is minor. They provide a quiet, pedestrian friendly street for the storefronts facing the Boulevard. Total curb face to curb face width will not exceed 18 feet.
4.	Wide Sidewalk	Allows pedestrian traffic to circulate freely between the storefronts and buildings along the median park and crossing areas. Sidewalks greater than 10 feet provide necessary space for pedestrian mobility, shopping and outdoor dining. Street trees and other plantings also greatly enhance the spaces.
5.	Store fronts	Provide economic viability. Development located adjacent to the sidewalks is accessible via all modes. The storefronts also send a clear message that this is an inviting place for people, a message that is not possible to convey with conventional arterial design.

p7- Relocation of N. Main Street. - The newly formed Alliance for Growth, sponsored by the Greater Gaston Development Corporation, in its findings issued in *Poised to Prosper, December 15, 2014,* highlights the lack of "fully serviced and certified sites" available for economic development. The re-alignment of N. Main St. would instantly provide the most visible and highest accessible block of land in the greatest location the County has to offer. Fronting Wilkinson Boulevard with direct access to I-85 via exit 26, the site is less than five minutes to I-485, 15 minutes to the airport door to door, twenty minutes to downtown Charlotte and almost the same to UNCC. At approximately 30+ acres the reassembled properties also have all utilities available.

Relocated N Main Street to align with new SPUI at exit 26



Old N Main St alignment would become a dedicated green promenade for cyclist, joggers and pedestrians connecting Belmont Abbey campus with Belmont.



Relocated Main Street at left, with Thread Trail (green) and Rail line (orange). Combined Commercial Center, Corporate Campus (red), Belmont Abbey College (blue), and Commerce Park (orange).

p8- Square Back Access – Where possible at key Wilkinson intersections, design new elements of a box street pattern to relieve congestion at the main signals. Candidates for Square Back Access include Park Street, Main Street and Lakewood intersections.

Over time, as rural roads grow into urban networks, development has already occurred in each intersection quadrant, preventing economical construction of a good street grid or network. One obvious benefit of a network is dispersal of traffic loading, especially during peak periods.

To provide some degree of traffic congestion relief to major intersections, a set of "square back" streets can be implemented. Square backs consist of two lane streets that frame the quadrant of a major intersection, such as Wilkinson and any major cross street. The square back street provides access to land in its quadrant of the intersection. Drivers may choose an easy right turn onto a square back street, followed by a crossing of the other arterial, and finally, a left at the next square back street to reach a site in the far quadrant. Exiting the site, one can turn right on the square back, cross the side arterial, turn right again on the next leg and then turns left onto the arterial used for initial access. The congestion and wait associated with long signal cycles is avoided for the path described.

Proposed Square Back Access plan for Lakewood Intersection in Cramerton NC

p9- Comprehensive Plan and Zoning Updates – The Study proposes revisions to the Comprehensive Plans of all three communities. The revisions would establish municipal policy to encourage concentration of development at the 5 intersections and the assembly of properties between the intersections into larger blocks of land to encourage development "off" the Boulevard, facing inward to each respective development site. Wilkinson Boulevard is currently zoned Highway Commercial along most of its length within Belmont. In Cramerton the zoning is a mix of Traditional Neighborhood, Multi-family, and Highway Commercial. The Study recommends revising the existing zoning to match what the real estate market has already shown to be the most viable development pattern. The proposed zoning along the entire corridor would be similar to Cramerton's, but with additional considerations added to clearly address the desire to concentrate commercial development at key intersections while promoting mixed-use, but more residential based development between intersections. The following zoning revisions are proposed:

1- Require minimum parcel depth and usable acreage, or a combination of the two in order to receive development permits. In exceptional conditions a minimum length of frontage can supersede lot depth and total usable acreage.

2- Allow no new driveway cuts along Wilkinson Blvd for existing properties less than the minimum parcel depth and usable acreage standards proposed in Item 1.

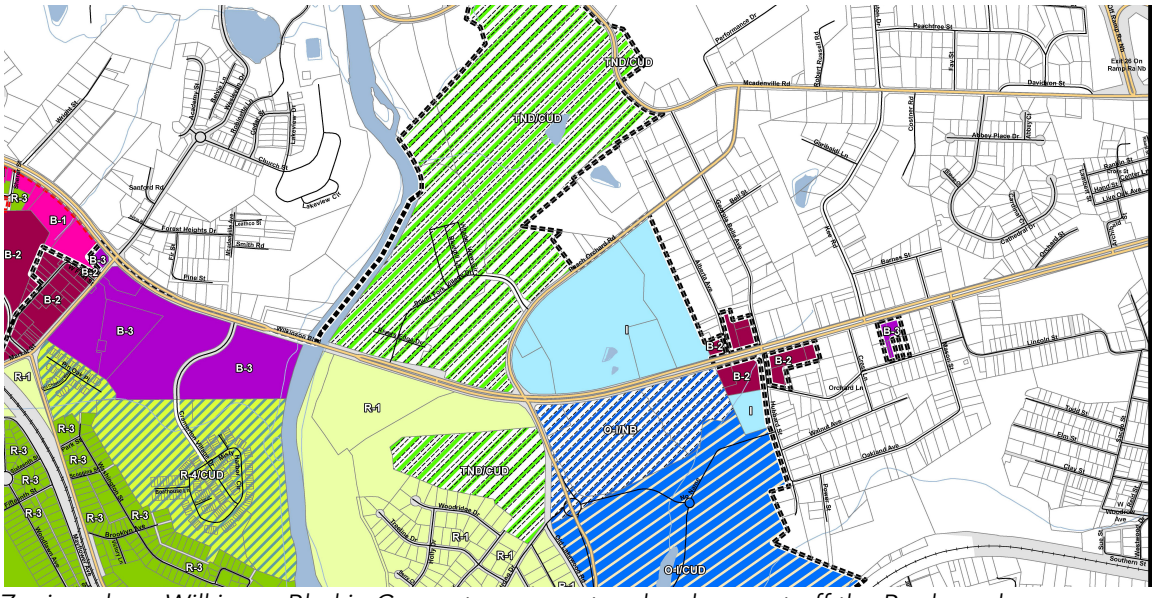
3- Between the five intersections studied, approximately 1,300 feet either side of each intersection, rezone existing Highway Commercial to TND, BC-D and IC-D.

   a) Revise the setback, sidewalk and buffer/landscape planting standards for the three Districts to compliment the sidewalk, cycling, and landscape ways to be built within the ROW either side of Wilkinson Blvd's travel lanes. (see #5, Gateway Overlay Zoning District)

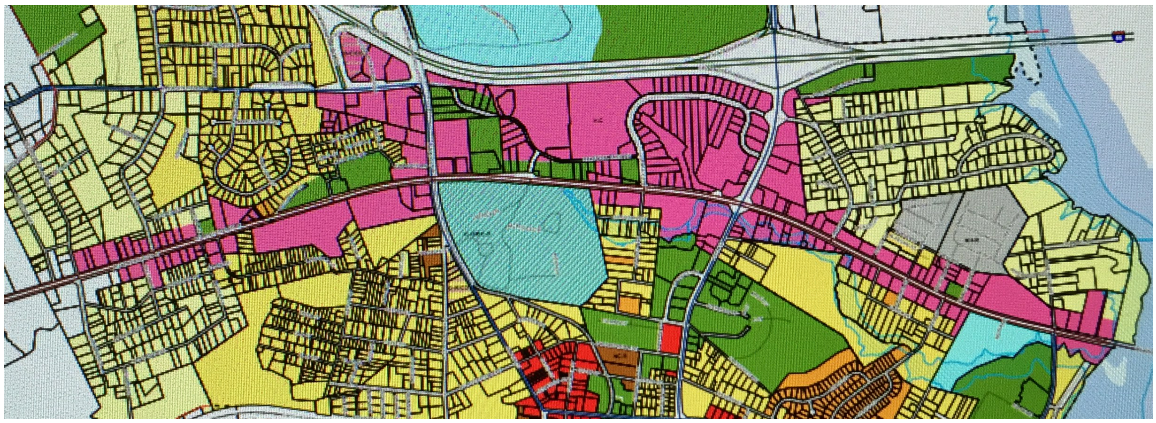
   b) Require adjacent developments to provide internal access to via drives and streets to parking and internal circulation systems.

4- Revise existing sign ordinance to allow electronic signage, non-flashing and single message phasing, along the Blvd within Highway Commercial District zoned properties only.

5- The current Belmont zoning provides for a landscape and sidewalk buffer along all Highway Commercial zoned property. The impact of this provision can be seen in the handful of new projects that have been developed since its adoption. The Study recommends creating a Gateway Overlay Zoning District. The Overlay would coordinate the landscape requirements along land immediately adjacent to Wilkinson Boulevard under all Zoning Classifications to a depth of 15 feet. Lawns, walls, planted landscape and hardscape options would be specified to complement the new landscape within the Blvd ROW. No buildings or parking could be located within the setback. Properties within 600 feet, either side of the intersections of Park Street, N. Main Street and Wesleyan/Market St would be exempt.



Zoning along Wilkinson Blvd in Cramerton promotes development off the Boulevard



Zoning along Wilkinson Blvd in Belmont promotes strip development along the Boulevard

3c) Design

The Study divided Wilkinson Boulevard into seven components. These components make up the five intersections assigned by the Scope of Services for the Study, a typical Section for Wilkinson Boulevard between the intersections and the bridge replacements. The seven components are:

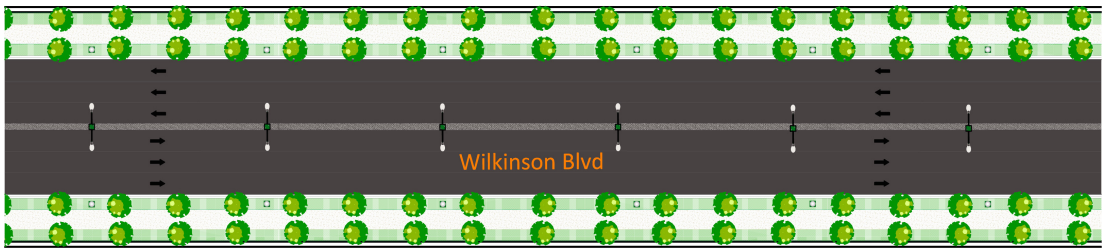
d10 - Catawba and South Fork Rivers bridge replacements
d11 - Wilkinson Boulevard Typical Sections
d12 - East Catawba Street and the new East McAdenville Road Intersection
d13 - Park Street Intersection
d14 - N Main Street Intersection
d15 - Lakewood Road Intersection
d16 - New West Catawba Street and West McAdenville Road Intersection

The Policy recommendations will impact the design of each of the intersections listed above. New through lanes and dedicated dual left turn lanes will increase the physical area occupied by roadway for each intersection substantially. A street intersection is simultaneously an expeditor of traffic flow and a creator of traffic congestion. Intersections dictate the capacity of a road. The following is a list of recommended improvements by intersection.

<u>d10- Catawba and South Fork Rivers Bridge Replacements</u>

This Study recommends replacing both River crossings. While structurally safe the bridges are obsolete in terms of their design. Replacements should facilitate the addition of cycle and pedestrian connectivity with proposed river parks and open space systems on both sides of the two rivers. To do so in a manner that reinforces the park systems and encourages their use, the width of the bridges should allow for up to six lanes of traffic whether, or not the full six lanes are provided for.

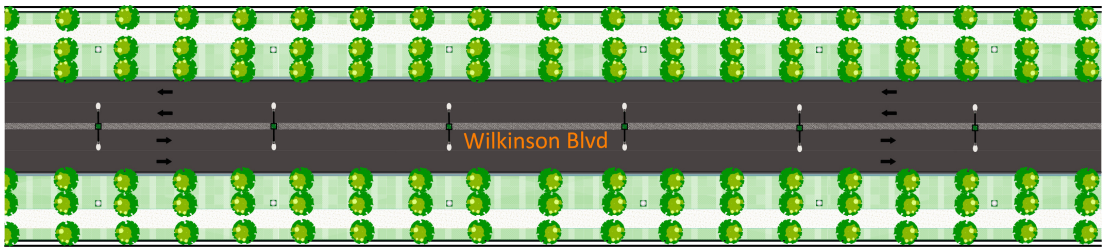
The six-lane option over the South Fork River would be 100 feet in width consisting of four lanes, each 10.5 feet, two truck lanes each 11 feet and a median of four feet separating oncoming traffic. Running along the outside of the travel lanes would be 16 feet of bicycle and pedestrian way, planted with a double row of trees, appropriate to the bridge structure and design.



Six-lane bridge section

Six-lane bridge cross section

The four-lane option over the Catawba River would also be 100 feet in width and have similar lane and median dimensions, however, the total number of lanes would be four. The extra width would be allocated to the bicycle and pedestrian way, widening them to 26.5 feet each. Should future ADT volumes require additional lanes they can be added using the extra width assigned to cyclists and pedestrians.



Four-lane bridge section

Four-land bridge cross section

d11 - Wilkinson Boulevard Section

Between the intersections described above Wilkinson Boulevard maintains a fairly constant six-lane, median separated section. The median averages 15 feet. The eastbound and westbound curb-to-curb widths average 35 feet, making the total paved road section, on average 85 feet. The individual lanes run anywhere from 10.5 feet to 12 feet. The total ROW is 100 feet. The bridges over the Catawba and South Fork Rivers are 40 feet curb-to-curb with no sidewalks and were built over 80 years ago (1933 over the Catawba River and 1926 over the South Fork River). Of the entire 4.2-mile length of Wilkinson Boulevard within the Study area there are 2,304 feet of sidewalk, or 5% of the total length. There are currently 157 curb cuts and road intersections (including the five described in detail within this study) along the Boulevard. Many of these consist of driveway and parking aprons with direct access to the Boulevard. The amount of curb-less frontage from adjacent properties makes up approximately 50% of

the Boulevard's length. There are 18 official and unofficial left turn opportunities within the Study area, not including the intersections described in detail.

To establish a better image, encourage redevelopment were practical and maintain the function and capacity of Wilkinson Boulevard the study proposes the following:

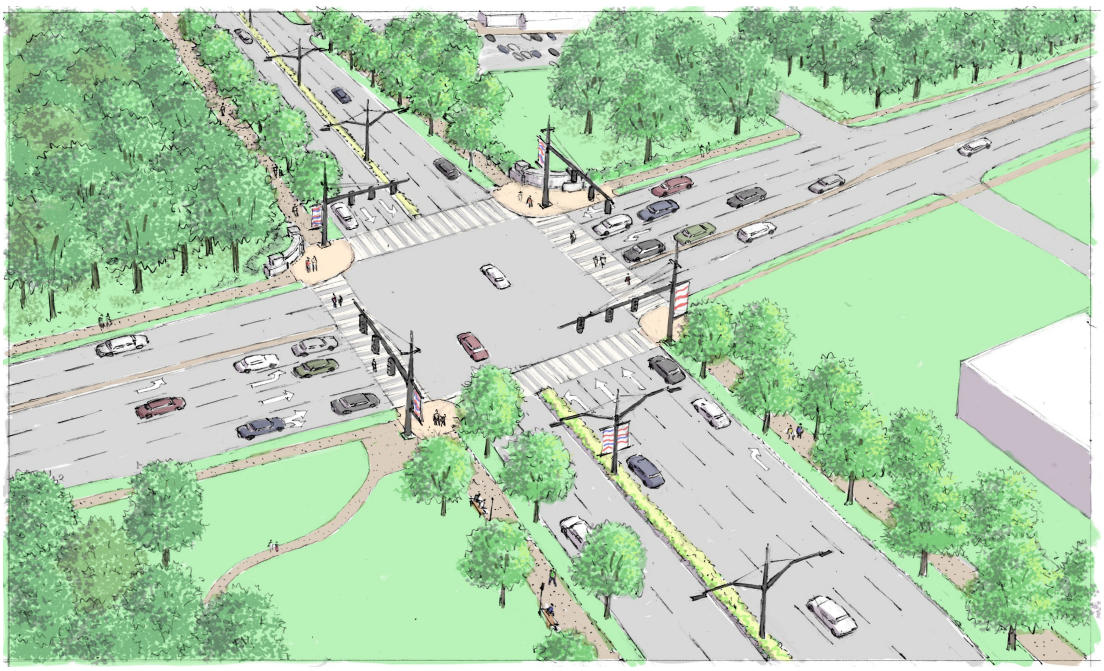
1- Maintaining the current number of lanes (6), but reducing the lane widths to 10.5 feet with the central lane in each direction at 11 feet for truck traffic. The approximately ¾ mile section between the intersections of Lakewood Drive and Wesleyan/Market that is currently four lanes with a short stretch of five lanes on the westbound approach to Market/Wesleyan would remain as is, except that the third westbound lane would be eliminated.
2- Reducing the median width from 15 feet to 5 feet.
3- Dividing the 33 feet remaining within the existing ROW to provide a new 16.5 feet wide landscaped, pedestrian and bicycling facility on either side of Wilkinson Boulevard. The Study proposes a min 10 feet walking and cycling path to make it eligible for federal funding, paved, with the remaining width planted with two rows of trees, and lit with pedestrian-scaled poles and lighting.
4- Replace both bridges with the identical section proposed for Wilkinson Boulevard, however the Study recommends striping for four lanes instead of six. The extra 20 feet would be divided equally and added to the landscaped, pedestrian, cycling facility on either side of each bridge. Both bridges are considered structurally sound, but functionally obsolete. They therefore are not likely to be replaced in the immediate future due to a lack of congestion on the corridor to justify such an investment.
5- Eliminating the "unofficial" left turn opportunities and reduce some of the official ones with the placement of a taller median with selected left turn locations. These locations should be determined based on opportunities for Square Back access points to support congestion relief at the five major intersections.

Typical Section, Wilkinson Blvd.

Typical Section, left turn lane, Wilkinson Blvd.

Rendering showing Wilkinson Improvements between East Catawba and Park Street.

d12 - East Catawba and new East McAdenville Intersection

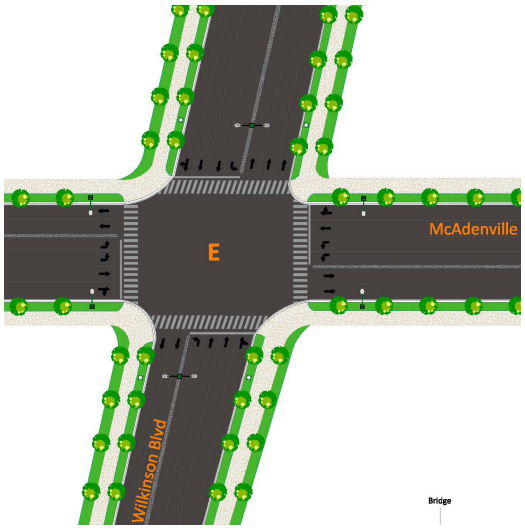


The proposed parallel network will have its eastern start and finish at this intersection. For westbound traffic entering Gaston County, Wilkinson Boulevard will widen to

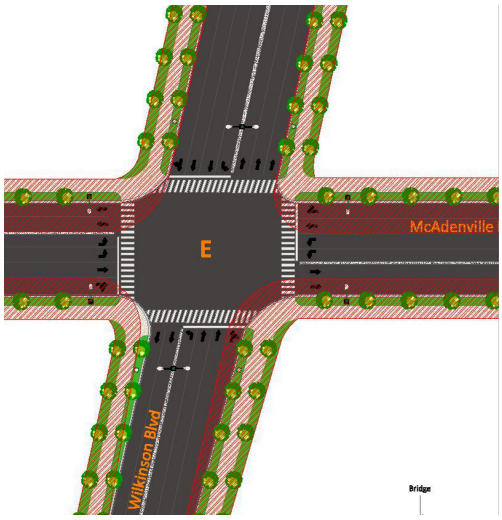
accommodate a dedicated left turn lane which would be increased in length to 500 feet, and one additional through lane bringing the total lanes to three. The far right lane will also serve as a right turn lane onto the new East McAdenville Road (part of the parallel system). The existing curb radius will be decreased to 15 feet.

The new East McAdenville Road will meet with Wilkinson Boulevard with an entirely new configuration of lanes. Currently Hazeline Ave, as the road is called, meets Wilkinson Boulevard with one lane north and one lane south, both flaring as they approach the intersection allowing through movements to be unobstructed by turning movements. However, their current width also encourages illegal rolling through stop signs. A landscaped median approximately 55 feet in length separates oncoming traffic flows. The recommended section would accommodate two through lanes in either direction. The southbound, far right lane would also allow right turns onto westbound Wilkinson Boulevard. Two dedicated left turn lanes would be provided for turning movements onto eastbound Wilkinson Boulevard. The pattern would be replicated on the south side of Wilkinson for East McAdenville Road, with the dual dedicated left turn lanes reversed to access westbound Wilkinson Boulevard. All lanes are proposed to be 10 feet. Both East Catawba and East McAdenville would have a median separating oncoming traffic, (see Appendix H). Existing curb radius will be decreased to 15 feet.

Eastbound Wilkinson approaching the intersection will keep the same lane configurations, but the two outside lanes will become dedicated left and right turn only lanes, leaving two through lanes to continue eastbound. The dedicated left turn lane will be increased in length to 500 feet. Across the intersection Wilkinson Boulevard will be two lanes to match the existing and proposed two-lane section for eastbound traffic across the Catawba River Bridge into Mecklenburg County. Existing curb radius will be decreased to 15 feet.

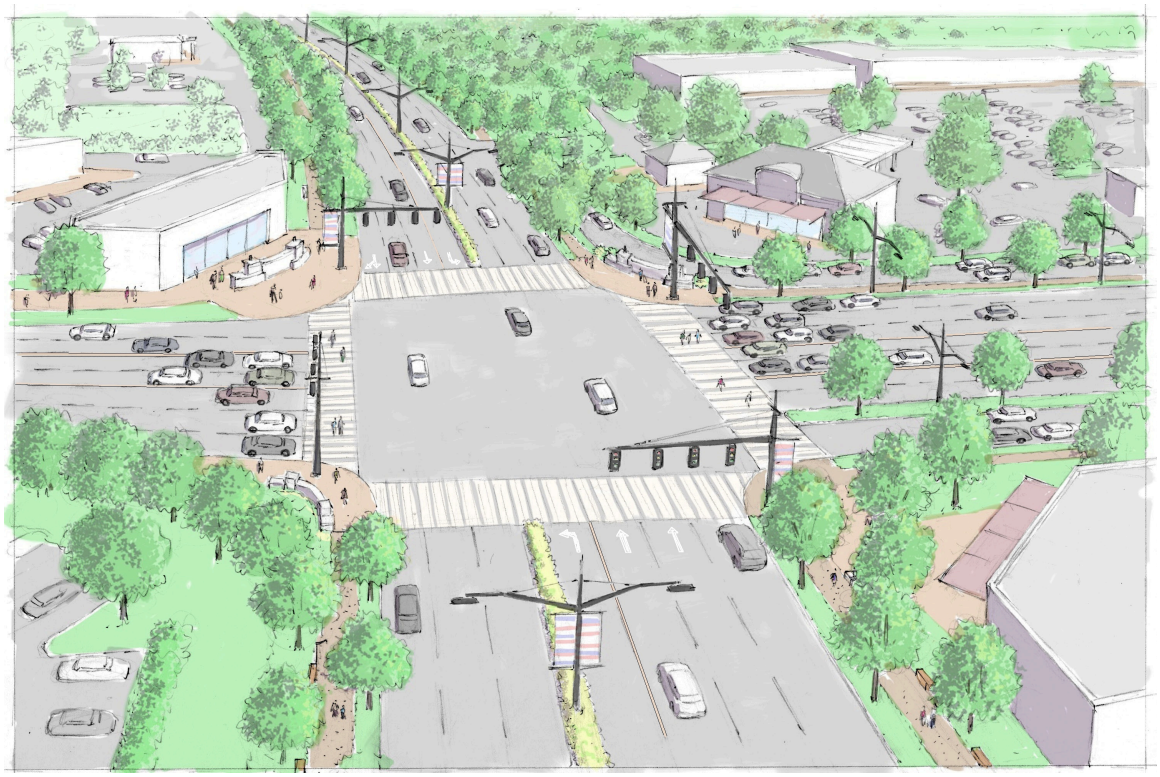


Intersection Diagram



ROW purchase in red hatch

d13 - Park Street Intersection



Westbound Wilkinson will have the same configuration of lanes at the approach to Park Street, however, the lane widths for the two outside through lanes will be reduced to 10.5 feet with the center lane at 11 feet. The existing dedicated left turn lane will be extended in length from the current 200 feet to 600 feet. The far right lane curb radius will be decreased to 15 feet.

The greatest change to existing conditions will occur for Park Street north of Wilkinson Boulevard. Here the multi-way design (see Multi-way) will meet the intersection with a total of 9 lanes and 3 medians. The northbound direction will consist of two through lanes and one local lane that would also provide for parallel parking. A median would separate the two through moving traffic lanes from the one local traffic lane. All curb cuts for property access would be from the local traffic lane. Selected curb breaks would permit local traffic to merge with the through traffic lanes. The curb radius would be decreased to 15 feet.

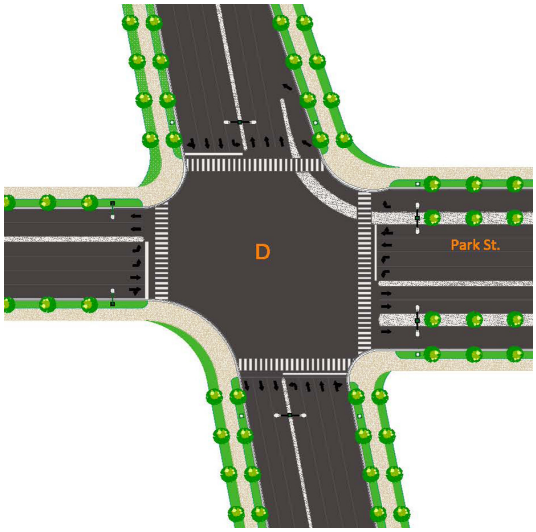
Southbound traffic on Park would have two through lanes, two dedicated left turn lanes and one local lane with parallel parking. A median would separate the local lane from the two through lanes in the same manner as northbound Park Street. The southbound local lane would continue as a dedicated right turn lane only, merging onto westbound Wilkinson Boulevard. The curb radius would be decreased to 15 feet (see Appendix H).

Westbound Wilkinson traffic would continue through the intersection with three lanes at 10.5 feet, 11 feet and 10.5 feet plus one additional merging lane for the local lane turning off Park Street. The curb radius would be decreased to 15 feet.

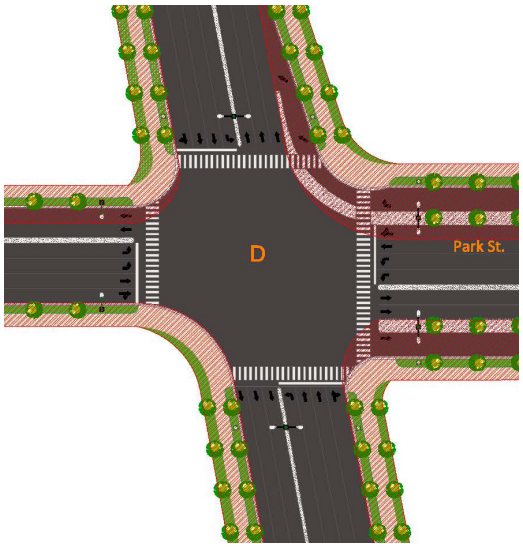
Eastbound Wilkinson's section would remain the same with new lane widths to match the proposed configuration of 10.5 feet, 11 feet, and 10.5 feet. The existing dedicated left turn lane onto northbound Park Street would be extended to 600 feet. The curb radius would be decreased to 15 feet.

Park Street to the south of Wilkinson Boulevard would match the through lane configuration of Park Street north of the intersection, minus the two local lanes and associated parallel parking. Oncoming traffic flows would be separated by a median. Two dedicated left turn lanes would be provided for movement from northbound Park Street to westbound Wilkinson Boulevard. Here the curb radius would be determined by the intersection alignment and through lane trajectory, (see Appendix H).

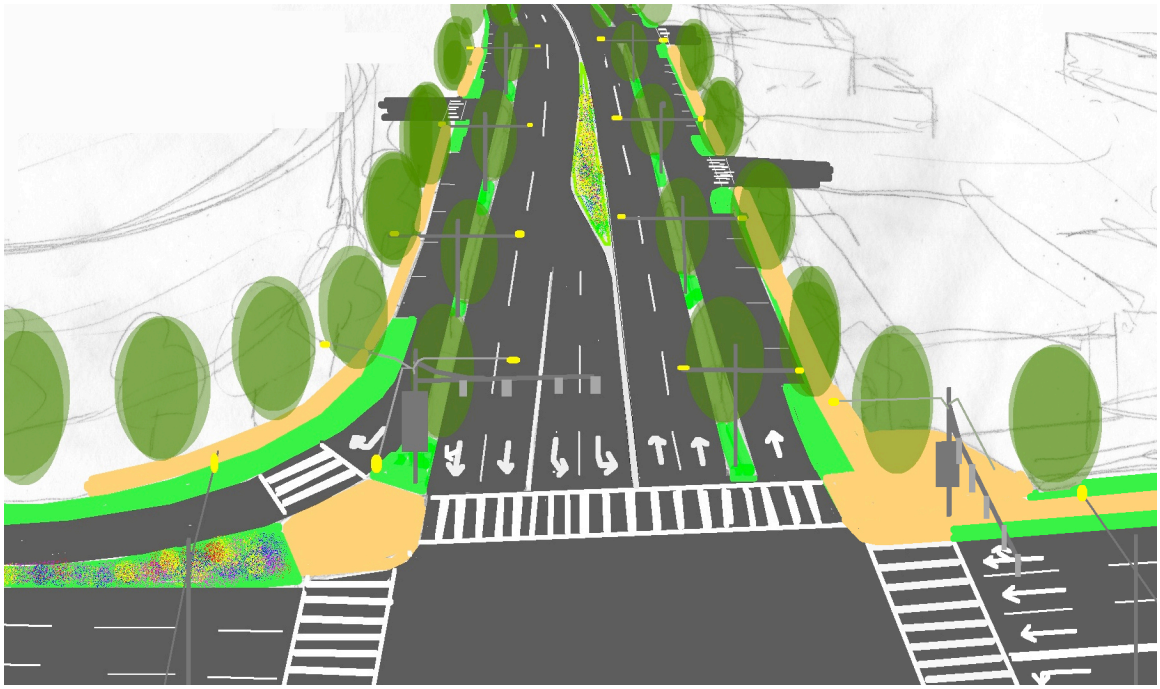
Eastbound Wilkinson would continue past Park Street with the three-lane configuration at 10.5 feet, 11 feet, and 10.5 feet.



Intersection Diagram



ROW purchase in red hatch



Park Street Multi-Way lane configurations

Park Street Multi-Way Illustration

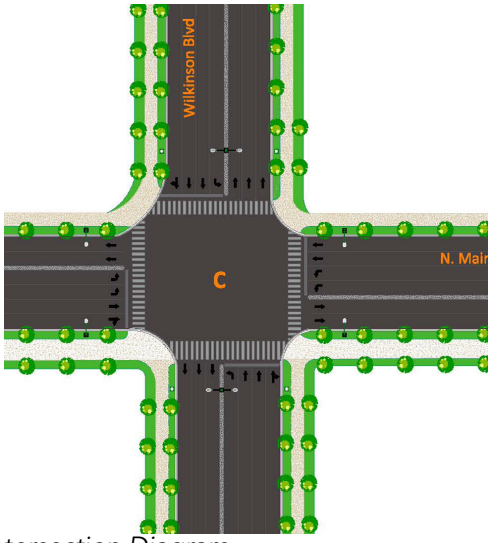
d14 - N. Main Street Intersection

The existing rail line/thread trail will cause all improvements to the N Main Street intersection to occur on the west side of the intersection. This will require the purchase or partial purchase of the Bojangle's and McDonalds properties. Westbound Wilkinson will maintain the current lane configuration, with a dedicated left turn lane onto southbound N Main Street. The current length of this lane is over 900 feet measured to the point along Wilkinson where the lane begins to separate from the through lanes. The study recommends this be reduced to 700 feet. The curb radius would be decreased to 15 feet. The three through lanes would continue across the intersection to the west with the middle lane at 11 feet and the two outside lanes at 10.5 feet.

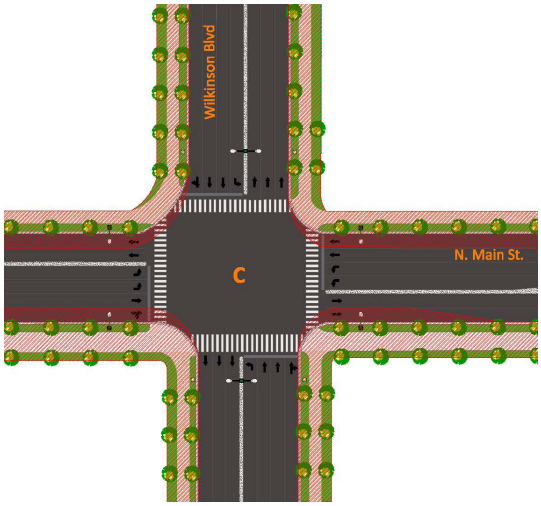
Northbound N. Main Street would approach the intersection with two dedicated left turn lanes and two through lanes. Right on red would be permitted. The two through lanes would continue across the intersection northbound. A median would be built separating oncoming southbound lanes.

Southbound N Main Street would have two dedicated left turn lanes and two through lanes on its approach to Wilkinson Boulevard. The two through lanes would continue across the intersection, (see Appendix H).

Eastbound Wilkinson would keep the same section that currently exists. The dedicated left turn lane onto northbound N Main Street would be lengthened to 500 feet.



Intersection Diagram



ROW purchase in red hatch

d15 - Lakewood Road Intersection

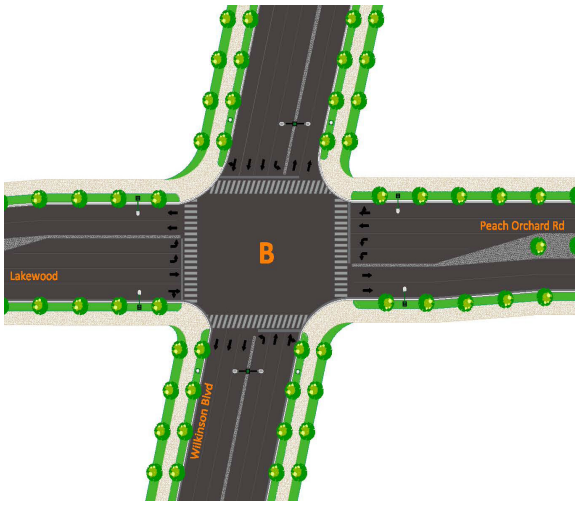
Westbound Wilkinson Boulevard would maintain the same section that currently exists. The dedicated left turn lane would be extended in length to 600 feet. Two through lanes would continue across the intersection.

Northbound Lakewood would be widened to two lanes and separated from southbound traffic by a median on the north side of the intersection. To the south the existing cross-section would be kept, however, the dedicated right turn lane would become a through lane as well, providing two through lanes across the intersection for northbound Lakewood traffic.

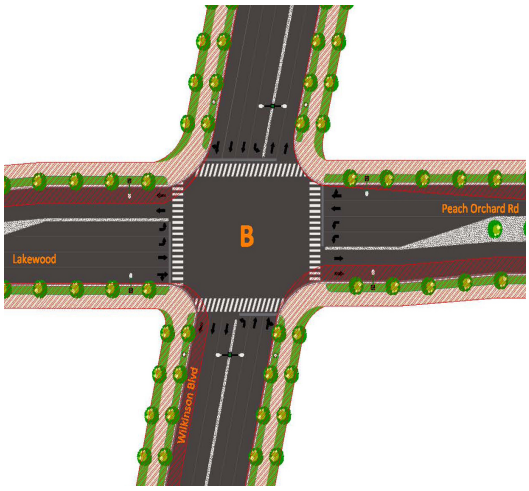
Eastbound Wilkinson Boulevard would keep the same cross-section that currently exists. The dedicated left turn lane would be extended in length to 500 feet. The dedicated right turn lane would be made a through lane to match the widened section of Wilkinson that would consist of three lanes in the eastbound direction beyond the intersection.

Southbound Lakewood would be widened to two lanes on the approach to Wilkinson Boulevard. Two dedicated left turn lanes would be added for eastbound Wilkinson Boulevard traffic. Lakewood to the south of the intersection would be widened to two lanes from the current single lane, (see Appendix H).

Where road alignments and topography permit the curb radii would be reduced to 15 feet.



Intersection Diagram



ROW purchase in red hatch

d16 - New West Catawba Street and new West McAdenville Road Intersection (Market and Wesleyan Intersection)

Westbound Wilkinson Boulevard will keep the same section on either side of the intersection with Market and Wesleyan.

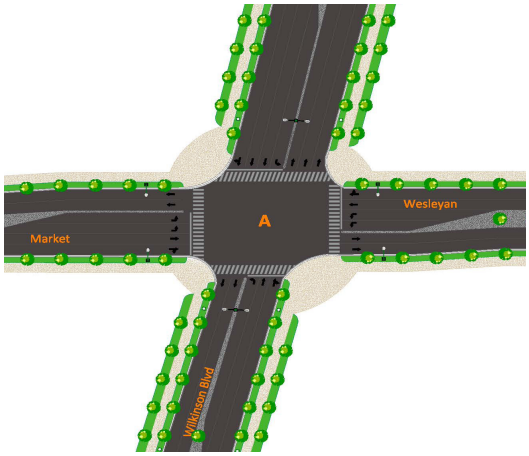
Northbound Wesleyan, renamed West McAdenville Road as part of the parallel system proposed by this Study, would be striped to accommodate two through lanes. Currently the width of pavement for this section is sufficient for two lanes, but is marked as one wide lane, with space to pull to the right to enter adjacent businesses. A median would separate oncoming southbound traffic. The curb radius would be decreased to 15 feet.

Southbound traffic would approach the intersection with Wilkinson Boulevard and have two new dedicated left turn lanes and two through lanes. The curb radius would be decreased to 15 feet.

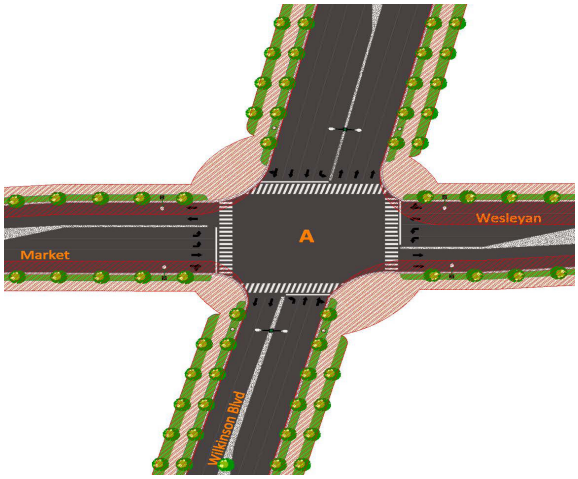
Market Street to the south of the intersection would be renamed West Catawba Street as part of the parallel system proposed by this Study. It would provide two dedicated left turn lanes onto westbound Wilkinson Boulevard, two through lanes southbound and

two through lanes northbound. The curb radius would be decreased to 15 feet, (see Appendix H).

Eastbound Wilkinson Boulevard would maintain the same section except that the far right lane would become a dedicated right turn only. Two through lanes would continue across the intersection to match the two lanes currently existing. The curb radius would be decreased to 15 feet.



Intersection Diagram



ROW purchase in red hatch

4 – CONCLUSION: SOLUTIONS THROUGH INFORMED OBSERVATIONS

The Wilkinson Boulevard Corridor Study began as an analysis of how to transform the Boulevard into an attractive gateway for the Catawba River peninsula communities of Belmont, Cramerton and McAdenville. During the course of review and study it was quickly determined that Wilkinson Blvd needed not only a new look, but also a strategic plan and that such a plan should be the first step to ultimately re-envision Wilkinson Blvd's appearance. Without one, the improvements to make the corridor more attractive would be short lived.

Therefore, the emphasis of the Report focused on a comprehensive approach to planning Wilkinson Boulevard and the surrounding transportation network. Two conditions beyond the immediate state of Wilkinson Blvd's appearance will dictate when and to what extent improvements to the transportation network and the Boulevard can be best made. These are geography and growth.

Informed observations reveal the unique geography of the study area limits the connectivity of the thoroughfare system along the peninsula restricting the opportunities for alternative routes to disperse car trips. Existing intersections will be relied upon to handle increased traffic demands as growth occurs. Growth from Charlotte will radically change the commuting patterns and volumes within and around the Corridor. Without a comprehensive approach to traffic planning the unique geography of the three communities would stifle growth and development opportunities long before they could generate increased incomes and jobs for local residents. Belmont, Cramerton and McAdenville would be subject to the many of the negative aspects of metropolitan living while loosing out on the positive ones.

That future will inevitably be one were more people live in Eastern Gaston County and because of the Catawba River will also conduct most of their daily car trips close to home. Over time, even a significant amount of people commuting to work will not need to cross the Catawba into Charlotte. As this happens there will be significant increases in traffic volumes along now rural roads, north and south crossing Wilkinson Blvd and I-85. A full study of needed transportation improvements for Eastern Gaston County is beyond the scope of this Study, but is imperative and should be commissioned immediately.

This Study starts the strategic planning conversation by recommending three sets of interventions. Each intervention prioritizes a set of proposals for making the Wilkinson Blvd. Corridor more robust.

a) Management

1- Traffic Management systems, i.e.: adaptive signal system, policy for McAdenville Christmas Lights, I-85 accidents.

2- NCDOT dynamic message information signs and remote cameras along I-85 and Wilkinson Blvd.
3- Written and approved Highway Patrol, Police, and NCDOT coordination plan for traffic management during exceptional conditions.

b) Policy

4- Alternate Parallel system (East and West McAdenville Road, and East and West Catawba Street)
5- Interstate I-85 Interchange redesigns to single point signal configuration and relocation of N Main Street, north of Wilkinson intersection, to align with new interchange proposed immediately west of existing I-85 exit 26.
6- Multi-way design for Park Street between the new East McAdenville Road signal and Wilkinson Blvd.
7- Box out system for Park Street intersection, Main Street intersection, Lakewood Intersection.
8- Comprehensive Plan and Zoning updates to encourage development at existing intersections and the assembly of larger properties between intersections on Wilkinson to provide for development opportunities "off" Boulevard.

c) Design

9- Wilkinson Blvd Section: six 10.5 foot travel lanes, one 4 foot planted center median with lighting, two 16 foot landscaped shoulders with bike and sidewalk facilities and pedestrian scaled lighting

a) Catawba River Bridge Replacement (4 lanes, ROW – 100 feet)
b) South Fork River Bridge Replacement (6 lanes, ROW – 100 feet)

10- Plan for the Catawba/McAdenville Road intersection showing new turn lanes and sidewalk/landscape/paver treatment.
11- Plan for the Park Street intersection showing new turn lanes and sidewalk/landscape/paver treatment.
12- Plan for the Main Street intersection showing new turn lanes and sidewalk/landscape/paver treatment and relocated single point intersection/interchange with I-85
13- Plan for the Lakewood Road intersection showing new turn lanes and sidewalk/landscape/paver treatment and future grade separated interchange, once Lakewood Rd turns into the north-south bypass.
14- Plan for the Market St/Wesleyan Road intersection showing new turn lanes and sidewalk/landscape/paver treatment.

The three sets of interventions would allow the rebuilding of the intersections described by the report to also include the decorative elements needed to set the image and character of Belmont, Cramerton and McAdenville. Constructing these improvements would be most cost effective and have long term impacts if coordinated with capacity and functional purposes. The study grouped the various recommendations for each set

of interventions into identifiable "projects" to be incorporated within the Gaston-Cleveland-Lincoln MPO's Metropolitan Transportation Plan (MTP) and the Statewide Transportation Improvement Program (STIP).

Improvement of the balance of the Boulevard, between the key intersections could begin sooner. Within the current ROW there is ample room for landscaping both sides of the Blvd when the existing median is narrowed along with four of the six lanes. Federal grants for pedestrian and cycle facilities can be sought after to help shoulder the cost of constructing the necessary improvements. Coupled with a Comprehensive Plan revision that encourages property assembly and some modifications to the existing zoning that already establishes landscape and sidewalk requirements for Highway Commercial, the Wilkinson Boulevard Corridor can become an attractive gateway for Belmont, Cramerton, McAdenville and eastern Gaston County.

V – APPENDICES

APPENDIX A
Gaston-Cleveland-Lincoln Metropolitan Planning Organization
Wilkinson Corridor Project Recommendations Matrix

Project	Benefit by Type	Timeframe	Sponsor (who administers the project?)	Next Steps	Impact on Existing Plans or Proposed Projects	Submit as Project in SPOT 4.0?
Parallel road system	Traffic flow, land use	As development occurs	Municipalities	Incorporate in CTP	None	No
"Square back" system for Park, Main, Lakewood intersections	Traffic flow, land use	As development occurs	Municipalities	Incorporate in CTP	None	No
Adaptive signal system along Wilkinson Blvd	Traffic flow	Near-term (by 2020)	NCDOT	Confirm sponsorship and maintenance requirements	Yes- I-85 widening and diversion traffic	Yes
I-85 interchange at Exit 26	Traffic flow	Concurrent with I-85 widening (mid-2020s)	NCDOT	Incorporate in CTP	Yes- I-85 widening	No
Deploy Intelligent Transportation System along I-85	Traffic flow	Mid-term (by 2025)	NCDOT	Consider ranking in SPOT 4.0, if necessary	Yes- I-85 widening	Yes
Multi-way design for Park Street btw E. McAdenville and Wilkinson	Non-motorized users, property owners	Mid-term (by 2025)	NCDOT	Incorporate in CTP and submit in SPOT 4.0	None	Yes
Wilkinson Blvd modified typical cross section	Non-motorized users, property owners	Mid-term (by 2025)	Municipalities	Confirm municipal interest, NCDOT concerns, and costs	None	No
Catawba/ McAdenville Road intersection improvements	Traffic flow, land use	Mid-term (by 2025)	NCDOT	Confirm scope and submit in SPOT 4.0	None	Yes
Park Street intersection improvements	Traffic flow, land use	Mid-term (by 2025)	NCDOT	Confirm scope and submit in SPOT 4.0	None	Yes
Lakewood intersection improvements	Traffic flow, land use	Mid-term (by 2025)	NCDOT	Confirm scope and submit in SPOT 4.0	None	Yes
Market/Wesleyan intersection improvements	Traffic flow, land use	Mid-term (by 2025)	NCDOT	Confirm scope and submit in SPOT 4.0	None	Yes
Replacing two bridges along Wilkinson Blvd	Non-motorized users	Long-term (after 2025)	NCDOT	Incorporate in CTP	Yes- Wilkinson Blvd modified cross section	No
Relocated N. Main Street intersection improvements	Traffic flow, land use	Long-term (after 2025)	NCDOT	Incorporate in CTP	Yes- I-85 widening	No
N. Main Street intersection improvements	Traffic flow, land use	Long-term (after 2025)	NCDOT	Incorporate in CTP	None	Yes

APPENDIX B

Wilkinson Boulevard Intersections Signal Phasing Analysis

Signal Phase Timing for Wilkinson Boulevard Intersections

8:30am	**Tuesday, December 23**	Green Phase 1	Red Phase 1	Green Phase 2	Red Phase 2	Green Phase 3	Red Phase 3	Average Green	Average Red
*Intersection of **Park** and **Wilkinson***									
Park	**Right turn lane:**	0:24	1:10	0:29	1:10	0:21	1:11	0:25	1:10
	Left turn lane:	0:16	1:21	0:09	1:10	0:07	1:30	0:10	1:20
Wilkinson	**Straight through lanes:**	0:31	1:22	0:27	1:01	0:28	1:21	0:29	1:15
	Left turn lane:	0:10	1:26	0:09	1:30	0:16	1:37	0:12	1:31
*Intersection of **Main** and **Wilkinson***									
Main	**Right turn lane:**	0:41	1:28	0:31	1:37	0:30	1:35	0:34	1:33
	Left turn lane:	0:08	2:02	0:11	1:59	0:11	1:48	0:10	1:56
Wilkinson	**Straight through lanes:**	0:32	1:06	0:32	0:54	0:37	0:53	0:34	0:58
	Left turn lane:	0:11	1:33	0:11	1:27	0:08	1:30	0:10	1:30

5:30pm	**Tuesday, December 23**	Green Phase 1	Red Phase 1	Green Phase 2	Red Phase 2	Green Phase 3	Red Phase 3	Average Green	Average Red
*Intersection of **Park** and **Wilkinson***									
Park	**Right turn lane:**	0:34	1:53	0:33	1:52	0:35	1:54	0:34	1:53
	Left turn lane:	0:17	2:10	0:14	2:12	0:16	2:11	0:16	2:11
Wilkinson	**Straight through lanes:**	0:44	1:44	0:43	1:45	0:42	1:43	0:43	1:44
	Left turn lane:	0:24	2:03	0:23	2:03	0:24	2:02	0:24	2:02
*Intersection of **Main** and **Wilkinson***									
Main	**Right turn lane:**	0:55	1:39	0:47	1:37	0:50	1:33	0:51	1:36
	Left turn lane:	0:07	2:18	0:23	2:06	0:20	2:10	0:17	2:11
Wilkinson	**Straight through lanes:**	0:42	1:44	0:42	1:47	0:42	1:44	0:42	1:45

APPENDIX C
Build a Better Boulevard Facebook Posts and Comments

Original Poster (Date) [Type of post]	Post	Left a Comment	Comment(s)
John Love (8/6) [General post]	Concerned about traffic conditions on Hwy 74, especially focused on events (Accident on I-85, McAdenville Christmas lights, football games at Stuart Cramer High School, etc.) Adding right turn lanes to get off of and on to Hwy 74.	Angela Bridges Maynard Scot Hughes	Great idea! Maybe finding a way to synchronize the lights so traffic doesn't stop at every single light.
Scot Hughes (8/6) [General post]	Economic development, especially new business and restaurants to replace / fill older, unoccupied buildings.		
C Jane Nix (8/6)	Lives in Cramerton Village Town homes - has difficulties to get out of neighborhood safely (can only turn left, high traffic volumes).		
David Ostetler (8/6) [Comment on photos of boulevard]	Thinks that bike lanes would be underutilized compared to current demands on traffic lanes.		
Neena Moore (8/6) [Comment on opening presentation]	Would like to see a Birkdale-style development pattern, where people walk around with shops and restaurants.		
Angela Bridges Maynard (8/6) [Comment on City of Belmont page]	Congestion is more important to address than eye sores		
Jay Jones (8/6) [Comment on City of Belmont page]	Traffic cutting through from Hwy 74 to Burger King in Cramerton - people turning across double yellow lines (one person lost her life because of this)		
Ann Warren Caldwell (8/6) [Comment on City of Belmont page]	Interstate overflow; beautify the corridor		
Joy Clark Long (8/6) [Comment on City of	Grass is growing into the street		

Belmont page]			
Dan Cloniger (8/6) [Comment on City of Belmont page]	Left turn light into Lowes / Wal-Mart at Holy Angels is currently a flashing yellow light (can create 3-5 minute wait times)		
Paula Wick (8/6) [Comment on City of Belmont page]	Weeds and litter		
Drema Zambory Simonds (8/6) [Comment on City of Belmont page]	Walking signals		
Carol Abernathy (8/6) [Comment on City of Belmont page]	Would like to volunteer to help clean it up. Medians with trees and perennials; widening the left turn lane at Walgreens (coming from the I-485 end of Wilkinson and turning left onto Park Street) and removing some of the median that is currently there		
Allison Etheredge (8/6) [Comment on City of Belmont page]	Left a very lengthy comment, bullet points below: - Two to four story buildings with sidewalks and street lighting - Benches to sit - Places to gather - Foliage to soften the landscape - Parking lots located behind the buildings - "Daily" shopping venues		
Johnny Rodriguez (8/6) [Comment on City of Belmont page]	Would participate in a clean up / mowing / trimming. Suggests a community paint day to reface business fronts.		
Jake Justice (8/6) [2 comments on City of Belmont page]	Fix the medians so that they all look like the ones in front of Dales at the Hwy 74 bridge. More attractive nighttime lighting.		
Jerry Adams (8/6) [Comment on City of Belmont page]	Sloan St. needs curbs and storm drains.		
Craig Bell (8/6) [Comment on City of Belmont page]	The Belmont Bottleneck (2 lane bridge over Lake Wylie and the left turning lane onto Catawba Street) needs to be addressed. Longer		

	turning lanes on Hwy 74 at Main St. and Park St. The two lanes through Cramerton needs to be widened to three. Natural landscaping added in the medians. Remove abandoned buildings.		
Frank Coniglio (8/10) [Comment on City of Belmont page]	Busted up concrete and weed infested center median should be removed to widen the road or at least fixed up. Sidewalks from the new school to Bojangles.		
Kevin Jenkins Plonk (8/7) [Comment on opening presentation event]	The turnaround at the new South Fork Village apartments is too narrow and unsafe.		
Ronnie Bryant (8/18) [Common post]	Carolina Thread Trail plans? Sidewalks, backstreets, and trails. Goat Island Phase II Pedestrian Bridges = great. Areas of concern: South Fork Village on Wilkerson. South Fork River Goat Island to McAdenville, Belmont to Belmont Abbey, Stuart Cramer High School Carolina Thread Trail, Under South Fork River Bridge, Under River Bridge at Cramerton from Riverside Park.		
Roger Hudson (8/24) [Common post]	Number one need = replacement of the bridge over the Catawba. No lanes should be taken away. Adding a bike lane is fine, but not at the expense of the commuters.		
David Hostetler (8/25) [Common post]	Removing heavily used traffic lanes to install recreational bike lanes is a bad idea. Please consider that the area is growing and access is essential to quality of life. I support bike lanes elsewhere, but this isn't worth the sacrifice.	Brian Scott Anderson 5 likes	Exactly! Wil Neumann, Wendy Greene Hostetler, Sandy Lopez, Brian Scott Anderson, Tyson Cook
Jackie Leigh Smith (8/25) [Comment on City of Belmont page]	Wish I had seen this earlier. Would love to have been there. How can I find out when the next one is if there is? And how do I get the info from the meetings if I'm not able to be there?		
Lisa Harper	Tear down the Patel run motels on		

(8/25) [Comment on City of Belmont page]	blvd behind Walgreens.		
Tracie Kees Henry (8/25) [Comment on City of Belmont page]	We cannot reduce the amount of lanes.		
Chad Nelson (9/4) [Comment on "Wilkinson Boulevard at Catawba Street" video]	These are neat! Any plans to shoot these at say 8AM and 5:45PMish on a weekday?	John Love	Traffic patterns from an aerial view would be nice to see at peak times.
Tyson Cook (9/5) [Common post]	...agree with Dave H. There is no way to get from any community to another without driving a car. Literally. There is no sidewalk, greenway, multi-use lane from Cramerton to Belmont to Mt. Holly to McAdenville... It's insane! We definitely need a "no car" alternative!		
Scot Hughes (9/11) [Comment on link to "Future" page]	People turn right from N Main onto Wilkinson ALL the time! They are just not following the rules! There is nothing wrong with the speed limit, people just need to yield properly when turning or not turn at all!		
Van Hawking (9/18) [Common post]	Is there another Two Rivers bicycle ride scheduled?		
Charles Newt Hicks (10/7) [Common post, with picture]	CRAMERTON CROSS RD. NO LEFT TURN EAST OF BURGER KING TO GO TO FOOD LION. RIGHT TURN MUST TURN RIGHT AT CROSS RD GOING EAST. FIX IT.		
Roger Hudson (1/12) [Common post]	Who is discussing the new development - hundreds (thousands?) of new apartments going up along Wilkinson in Belmont and Cramerton? Increased development (old South Fork Mill property), etc.... traffic is decreasing? Driving it several times a day - I say no. And if your data IS accurate - it certainly won't remain so with thousands of new people moving here.		

APPENDIX D
Wilkinson Boulevard Corridor Stakeholder Meeting - Zone 1
August 25, 2014 - 9:00am

Handy Lube:

- Median is in disrepair.
- Kudzu and kudzu bugs (attracted to white paint, including vehicles) - increased maintenance is helping to mitigate issues somewhat.
- The median in the middle of Wilkinson causes customers to either have to make a u-turn or hop the median.
- Left turn lanes back up in the morning.
- Should go ahead and do any pipe work in area along with burying power lines (if that happens).
- Steady flow of vehicles back in 1996 - now, 30-45 seconds of zero vehicles (traffic flow has visibly decreased over the years).

Holy Angels:

- Safety is a major issue.
- Traffic makes entrance and exit difficult / unsafe.
- Gaston County gateway is not aesthetically pleasing.
- No way to cross Wilkinson safely as a pedestrian.
- Traffic signal timing makes turning onto and off of the Boulevard difficult.
- Light rail down the middle of the boulevard? [+1]
- Median is ugly and people walk on it.
- Charlotte-Metro development will eventually come towards Belmont.
- To garner economic development and new jobs, the aesthetics and amenities must be present (essentially competing with other areas around Charlotte).
- Quality of life.

I-85 Traffic Overflow onto Wilkinson:

- Worse during the summer.
- Speed is a serious issue.
- Motorcycles behaving unsafely.
- Can back up on Wilkinson to the Catawba.

Belmont City Council (all comments posed as a private citizen, rather than a representation of the Council's views):

- Issue of design or enforcement?
- Belmont Abbey exit also has accident issues.
- Burying the power lines would be an aesthetic improvement. [+1]
- Altering signalization could help flow significantly.

APPENDIX D, Continued

- Concerned about removing any lanes of traffic (the parkway is not being built; I-85 to be widened in the next ~6 years - construction could create significant traffic diversion) - visited East Boulevard in Charlotte to see similar effects.
- NCDOT will not pay for lane removal (cost could come down onto City of Belmont).

Metropolitan Planning Organization:

- Design speeds based on turn radii, lane width, shoulders, etc.
- Aesthetic can influence drivers' behaviors.
- Design speed and posted speed do not necessarily match (design speed will be higher than posted).
- State conducts maintenance much less frequently than local stakeholder wants (creates inconsistencies along corridor).
- Poor signalization can cut capacity significantly.

Gaston County Department of Health:

- Turning off of Wilkinson onto Main on bike tour - driver drove through red light right past cyclists (who has right of way?).
- Evening accidents on I-85 at Exit 23 (McAdenville / Lowell) causes severe detours (NC 27 through Stanley and Mt. Holly) rather than using Wilkinson.
- Health impact study for Charlotte light rail (~6lb loss).

Sisters of Mercy:

- In front of Mercy Place (2.3 acre undeveloped parcel), the Sisters had been maintaining grass between sidewalk and road (150 stretch) - NCDOT's responsibility --> told not to cut it; has overgrown since; have resumed cutting at own expense)
- (As private citizen) Railroad has been unused for 50-60 years, local stakeholders wanted it converted to a rail trail / greenway --> state replied no, said that they wanted to retain the right to still use it as a railroad --> then, compromised that the railroad track could be restored (costing millions to taxpayers) and the greenway would be alongside the track - seems like a waste of taxpayer dollars & resources (NCDOT own 50 foot right of way, but not the land --> covering the railroad tracks would cause the land to revert to the previous owners [land currently on easement]).

City of Belmont Planning:

- Main & Wilkinson intersection light timing disparity is a concern.
- How do we get people healthier? (active transportation).

APPENDIX E
Wilkinson Boulevard Corridor Stakeholder Meeting - Zones 2
August 25, 2014 - 1:00pm

Timberlake resident:

- Small road between CVS and the church is used as a cut-through (to avoid Park & Wilkinson intersection).
- Driver behavior changing to cut around traffic, median. [+1]
- More North-South roads.

Cramerton Town Planner:

- Did not make any comments.

Belmont City Planner:

- Driveways entering Hwy 74 present traffic hazards.
- Sidewalks could make corridor walkable.
- Bridges present concern for pedestrians.
- Likes the area around the bank, CVS, Walgreens, etc. given development pattern.
- Roads are not designed for increased cut-through traffic.
- Should steer traffic where you want it to go, not where it is convenient at the moment.
- Commuters do not bring money in to the area - should push them on I-85. [+1]

Dean of Gaston College, Kimbrell Campus:

- Aesthetics (consistency along corridor) - landscaping (median and street sides), sidewalks, building curb appeal. [+1]
- 8:00 & 5:00 traffic is a concern.
- I-85 accident overflow (~once a month).
- Bridges are only 2 lanes.
- Few pedestrians because it is dangerous (and those that do, walk down the median).

Land owner, business owner:

- Did not make any comments.

Cramer Mountain resident:

- Consistent architectural approach is needed.
- Incentive to improve facades against some kind of standard.
- Traffic seems to flow well.
- Planted center median and rows of trees along roads.
- Unsure Wilkinson could ever become a walkable corridor.

- No traffic leads to more speeding.

Land owner (20 acres south of Wilkinson Boulevard behind the bank):

- Did not make any comments.

Cramerton Commissioner, business owner:

- Identity, of individual towns / downtowns (Cramerton, McAdenville, Belmont).
- Crosswalks need to be made safer.
- Make it easier to get from the boulevard to the town (signage, i.e. Mt. Pleasant, raised crosswalks).
- Gas pipeline presents an obstacle.

Business owner, land-owner:

- Speed limit of 55 makes walking a serious concern (decrease to 45?).
- Extended corridor does not seem to be walkable - developments off of the road could be better (thinks some sectors would remain unwalkable).
- Economic development will change the aesthetics (no sewer is a serious obstacle).
- Making it more developed will increase traffic count.
- Downtown Belmont is a success because people want to do business, conduct their lives within their own community.
- Not enough shops, restaurants, etc. to keep people here.
- Encourage people to go onto side roads.

Business owner (billboards along Wilkinson):

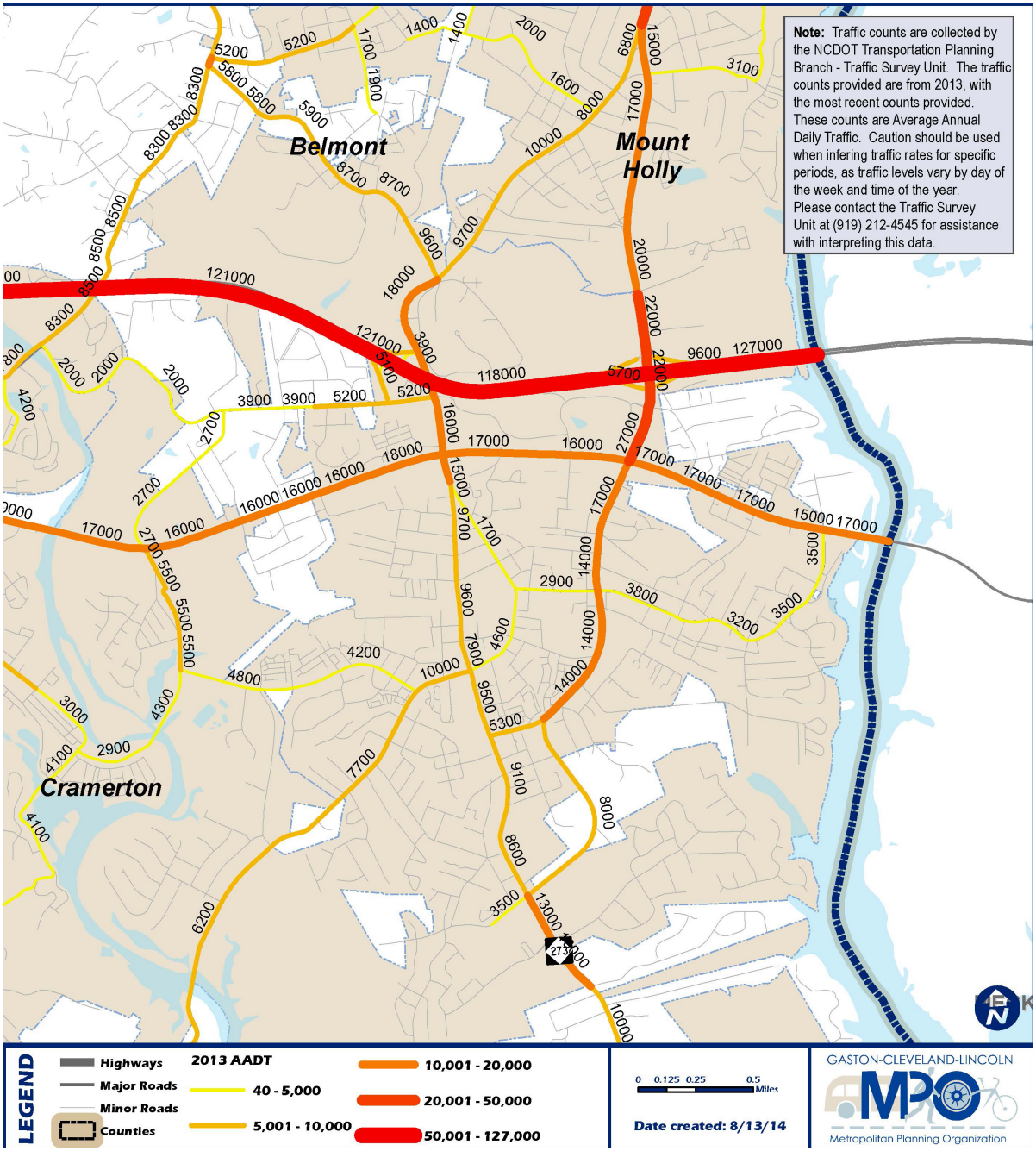
- Cutting from 6 lanes to 4 lanes would prohibit future growth.
- Bridges need to be fixed / replaced - would increase traffic on Wilkinson (should make bridges 6 lanes).
- Minimal right-of-way to alter / access.
- We should not change too much from where we are today.

Belmont Abbey Monastery:

- Did not make any comments.

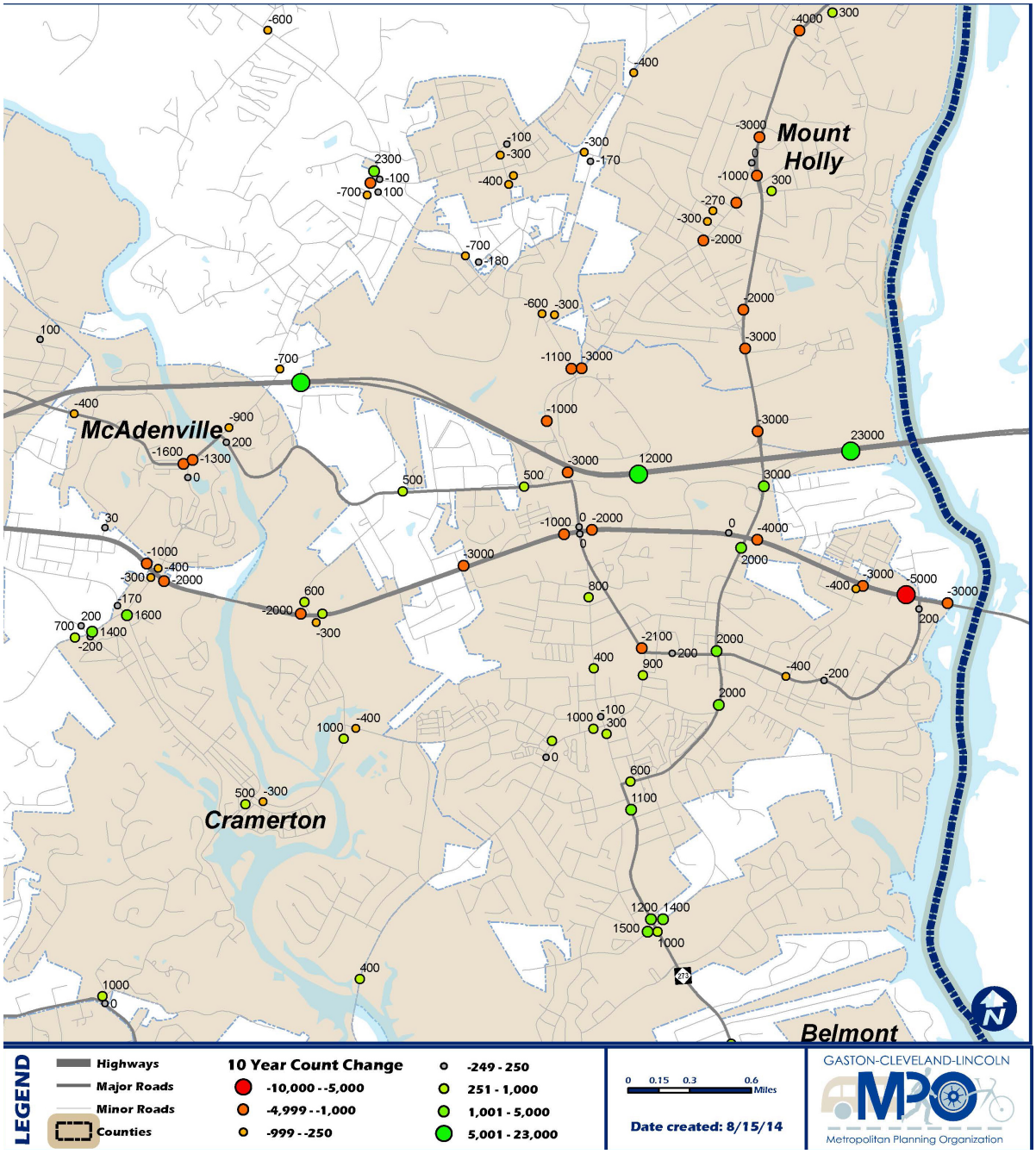
APPENDIX F

Eastern Gaston County 2013 Average Annual Daily Traffic Counts



APPENDIX G

Eastern Gaston County Ten Year Changes in Average Annual Daily Traffic Counts



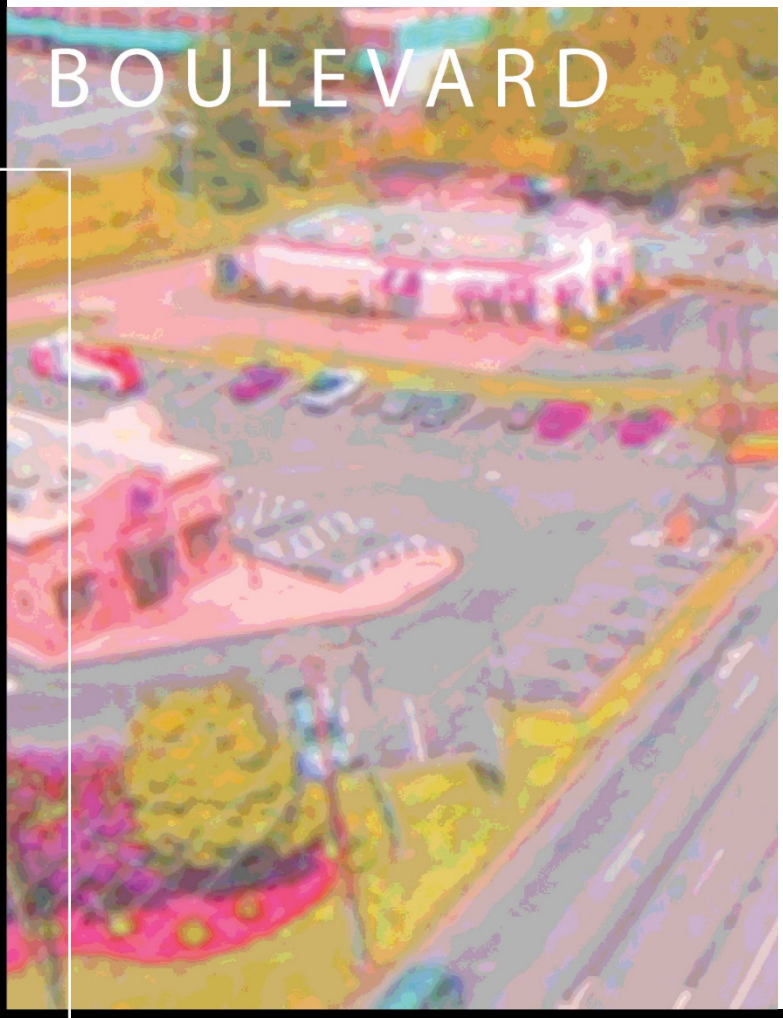
APPENDIX H
Street Cross Sections for North/South Thoroughfares

Typical Cross Section for Catawba St and Hazeline Ave (New East McAdenville Rd), Lakewood Drive, and Market St and Wesleyan St, (New West Catawba St and new West McAdenville Rd)

Park Street Multi-way Cross-Section

N. Main Street Cross-Section

BUILD A BETTER BOULEVARD



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