



Franklin Boulevard

Corridor Access and
Alternative Development
Mobility Strategy

Adopted: August 2016

City of Gastonia in association with the
City of Lowell, Gaston-Cleveland-Lincoln Metropolitan Planning
Organization

Executive Summary

The Franklin Boulevard Corridor Access and Alternative Development Mobility Strategy provides a comprehensive understanding of the operational and capacity improvements necessary along Franklin Boulevard and the interconnecting streets within the study area to accommodate existing and anticipated future growth and economic vitality within the study area for the Cities of Gastonia and Lowell. The study also identifies an implementation plan for these cities within the current financial confines of the current transportation funding climate. The study provides a blueprint for a coordinated approach to defining a transportation network capable of supporting the Cities' visions of multi-modal corridors that support economic vitality, are attractive, and maintain or enhance quality of life attributes residents, business owners, and visitors of the corridor have come to expect.

Study Overview

A transportation plan can fall short of its potential due to ineffective communication of its vision, process, outcome, and recommendations. Documentation of the Franklin Boulevard Corridor Access and Alternative Development Mobility Strategy weaves the guiding statements throughout the description of the existing conditions, explanation of impacts, and narrative of recommendations. The report consists of two elements – Community Characteristics and Recommendation Framework. Each element is a concise representation of the subject matter. The report intentionally uses graphics where possible to enhance readability and effectively communicate the material. The result should be a series of defined actions leading to an integrated multimodal transportation system that efficiently move people to, from, and within the Franklin Boulevard corridor.

At its core this study evaluates the mobility needs of Franklin Boulevard, Cox Road and S. Main Street and determines interim and long term strategic approaches to improve mobility in the network. As with any study, the Franklin Boulevard Corridor Access and Alternative Development and Mobility Strategy will need to be revisited as the future unfolds, when projects are implemented and new information becomes available.

The purpose and need of the *Franklin Boulevard Corridor Access and Alternative Development Mobility Strategy* is to:

- 1) Identify mobility issues;
- 2) Separate fact from perception;
- 3) Develop coordinated transportation solutions that protect what makes these communities great.

The report will serve as a beneficial tool to the Cities of Gastonia and Lowell, the Gaston-Cleveland-Lincoln Metropolitan Planning Organization and the North Carolina Department of Transportation (NCDOT) in their discussions with residents, land owners, and potential developers as they convey future plans and projects for the Franklin Boulevard corridor. This study provides a strategic approach to phases of corridor improvements and lays the groundwork for the cities and NCDOT to initiate design elements, identify potential right-of-way needs, pursue funding sources, as well as recognize realistic stages of implementation. On a much broader scale, the study will ultimately be used as a planning tool by the cities and NCDOT to manage growth and assess the transportation network impacts created by sub-regional or county level traffic demand influences internally and/or externally to the study area.

Growth within the corridor has been very dynamic over the past twenty years in terms of residential development, the presence of retail along the corridors of Franklin Boulevard and Cox Road, Caromount Medical Center, schools and well as increases in traffic stemming from the areas role in serving as a community within the Charlotte Metropolitan area. This study considered planned and approved growth both from within the regional travel demand model as well as the potential future development and build out of the Lineberger property. The comprehensive approach to the development of future traffic projections was necessary due to travel pattern behaviors, the anticipated cumulative impact on intersection operations, and the ability to capture the operational benefits of the proposed improvements to the study area.

As a result of the field reviews, traffic analyses, policy review, and discussions with the Cities, project stakeholders, technical steering committee members, public workshops, public information meetings, and NCDOT, recommendations for improvements have been identified within the study area to include; operational and capacity improvements as well as bike and pedestrian improvements, and public transportation improvements within the study area, that primarily relieve congestion through capacity enhancements, access management strategies, and the encouragement or accommodation of alternative transportation modes. The recommendations were based on the desire to safely and efficiently address future internal and external traffic growth associated with the key study area components.

The transportation strategy for the *Franklin Boulevard Corridor Access and Alternative Development Mobility Strategy* responds to existing and projected traffic while respecting the integrity of existing places. The strategy builds on a foundation of community mobility through the addition of roadway capacity along major corridors while enhancing connectivity from existing and future development. Efforts were made to improve the quality and safety of walking and bicycling environments, including a network of bicycle friendly roads that work in

conjunction with a series of future multiuse trails and greenways to provide enhanced accessibility to destinations in the community. The strategy outlines three sets of overlapping transportation recommendations—Interim and Long-term Operational and Roadway and Active Transportation (Bicycle and Pedestrian). It focuses on strategies that offer a balanced approach to transportation in response to the communities' mobility issues.

Interim recommendations are those that are intended to be implemented within two years to seven years. These improvements typically cost less than longer term improvements. The Interim improvements include, but are not limited to the following:

Cox Road/Armstrong Park Road at US 29/74

- Move EB stop bar and median westward to allow for NB and SB concurrent left turns
- Allow SB protected left-turns and NB protected-permissive left turns
- Optimize splits

S. Main Street/Redbud Drive at US 29/74

- SB protected-permissive left-turns
- Implement an AM peak hour double-cycle (network cycle length at 90 seconds, intersection cycle length is 180 seconds)
- Optimize splits

Armstrong Park Road at Armstrong Park Drive/Gardner Park Drive

- Allow EB and WB protected-permissive left-turns
- Optimize cycle length and splits

Cox Road at I-85 SB Ramp

- Add SB right-turn lane (80' between Brixx southern drive and stop bar, or 150' between Brixx northern drive and stop bar)- note that sidewalk would be at back of curb
- Optimize splits

Cox Road at I-85 NB Ramp

- Restripe exclusive EB left-turn lane to EB left-through-right
- Optimize splits

S. Main Street at I-85 NB Ramp

- Restripe (and add pavement/minimize concrete median) for a two-lane WB approach with exclusive left-turn lane and shared left-right lane
- Optimize splits (150 seconds cycle length for AM peak, 90 seconds cycle length for PM and Sat)

S. Main Street at I-85 SB Ramp

- Restripe (and add pavement/minimize concrete median) for a two-lane WB approach with exclusive left-turn lane and shared left-right lane
- Optimize splits (90 seconds cycle length) all peaks

The approach to the **long term recommendations** is one that develops an access strategy for the study area as a whole rather than focusing on an individual interchange or intersection.

The strategy looks to build upon improved access and mobility working as a system rather than individual corridors. This allows for corridors to be retooled to work in better harmony with the surrounding community, while others take on a completely different role than what was originally envisioned. As the recommendations shown on the following pages are implemented, staff should reassess the impacts and determine whether additional improvements are needed.

The long term improvements are broken into two groups. The first group focuses on the implementation of a connector road through the Franklin Square development. The other focuses on individual projects within the study area. Combined with the interim year improvements, these recommendations create a comprehensive access and mobility strategy for the study area.

Specific individual projects include the following:

- A Franklin Square Parallel Connector
- B Redbud Drive and Armstrong Park Road Reversible Lane
- C Hospital Drive
- D Lineberger Road Interchange
- E Exit 22 Connector Boulevard
- F Exit 21 Interchange
- G Cox Road at Franklin Boulevard Intersection
- H Redbud Drive Connector
- I S. Main Street
- J 3rd Street Extension
- K W. 1st Street at Main Street Intersection
- L W. 1st Street

The Franklin Boulevard Corridor Access and Alternatives Development Mobility Strategy began with the intent to collect, refine and communicate a mobility strategy for the study area. This plan represents the contribution of the Cities of Gastonia and Lowell, technical staffs at GCL MPO and NCDOT, and local staffs in these communities. For successful implementation it will require partnerships among government entities, stakeholders, private developers and the people that live and work within the communities that make up the study area.

The next key step in the planning process is to determine how the recommended improvements will be implemented. The City of Gastonia, City of Lowell, GCL MPO, and

NCDOT officials will need to determine implementation strategies as well as establish project priorities. Implementation strategies to consider include seeking and identifying funding streams, both public and private, to construct improvements. There are several potential public programs that may assist with funding projects. At the federal level there are earmarks, National Highway System funds, bridge funds, Regional Surface Transportation Program (RSTP) funds, Highway Safety Improvement Program (HSIP) funds, and Transportation Alternatives Program (TAP) funds, to name a few.

At the state level there is the NCDOT Strategic Transportation Investments (STI) program which is intended to fund project more efficiently and effectively to enhance the state's infrastructure through three project funds 1) Division Needs, 2) Regional Needs, and 3) Statewide Mobility. Through the new Strategic Mobility Formula, projects are ranked based on metrics and combined with local input to rank projects over a 10 year period.

At the local level, the Cities of Gastonia and Lowell are members of the Gaston Cleveland Lincoln Metropolitan Planning Organization (GCLMPO) which can assist local planning efforts by providing services and guidance on funding strategies/coordination with NCDOT. Private funds may be realized through rezoning action and proffer contributions, as well as dedication of right-of-way. All the referenced funding programs and strategies require some portion of commitment and/or match at the local level but serve as a means for communities to increase the effectiveness of their budgetary dollars toward priority projects. All of these programs should be considered for each recommended improvement as outlined in the report. It is recommended that proposed improvements be prioritized into projects with both City and NCDOT input. Each project should be thoroughly evaluated then identified for priority order, time frame from implementation, and potential funding sources.

Local partnerships can take many forms, but in this case it represents an opportunity to leverage that fact that the projects discussed in this study are located in an area of change and growth. The communities of Gastonia and Lowell should continue to foster their relationships with the GCLMPO, NCDOT, and FHWA as they work towards implementation of the recommendations contained within this study.

Introduction

Protecting the mobility of almost 78,000 people - 74,000 in Gastonia and 4,000 in Lowell - in communities located along the I-85 corridor is difficult. Understanding that these communities are located just west of the largest city in North Carolina and are beginning to feel the pressures of a neighboring community, brings to light a challenge that requires developing a strategy based on proved planning concepts and tested engineering principles. The Franklin Boulevard Corridor Access and Alternative Development Mobility Strategy blends the needs of motorists, bicyclists, pedestrians and emergency service providers into a plan for residents and visitors, all while respecting the history and amenities that give these communities their charm and unique personality.

The Franklin Boulevard Corridor Access and Alternative Development Mobility Strategy is the blueprint for transportation alternative improvements and the foundation upon which future transportation decisions will be based. The plan responds to existing challenges, and anticipated future needs, and also prepares the community to accommodate future growth. The plan will guide the communities of Gastonia and Lowell as well as the Gaston Cleveland Lincoln Metropolitan Planning Organization (GCLMPO) to accommodate future growth and changes in the roadway network. This study will guide future city projects, small area plans, capital projects, and the implementation of the North Carolina Department of Transportation (NCDOT) Strategic Prioritization program. At its core this study evaluates the mobility needs of Franklin Boulevard, Cox Road and S. Main Street and determines interim and long term strategic approaches to improve mobility in the network. As with any study, the Franklin Boulevard Corridor Access and Alternative Development and Mobility Strategy will need to be revisited as the future unfolds when projects are implemented and new information becomes available.

*Why study the Franklin
Boulevard Corridor?*



Both communities are impacted by the growth of Charlotte, growing on their own, and responding to the changes within their corporate limits, the county, and the region. A city's transportation strategy is crucial when dealing with existing congestion and preparing for future growth and emerging challenges such as traffic congestion, changes in land use, and economic sustainability. This mobility strategy establishes a blueprint and documents the transportation needs facing the study area. It also establishes a set of strategies that address the existing and projected transportation needs in the interim and long term buildout of the study area. As the foundational document for the study area, this study sets a course of action for future initiatives to work in unison toward a common goal for mobility in the study

area. It also serves as a guide for other city plans, capital projects, regulations, and programs, all of which affect the community in large or small ways.

Purpose and Need

The purpose of the *Franklin Boulevard Corridor Access and Alternative Development Mobility Strategy* is to:

- 1) Identify mobility issues;
- 2) Separate fact from perception;
- 3) Develop coordinated transportation solutions that protect what makes these communities great.

The planning process for this study delves into issues identified during the stakeholder and community outreach. The underlying need for the plan is based on these outcomes and is expressed in the recommendations discussed later in this report. More importantly, it develops a foundation for which the through lane widening of I-85 should be evaluated.

The ultimate design for the strategic corridors and intersections must incorporate the principles of complete streets and blend the needs of non-motorized users with the mobility of the roadway.

What is in the Study

The *Franklin Boulevard Corridor Access and Alternative Development Mobility Strategy* is designed to be a readable, functional document that will outline the Cities' transportation priorities and guide the Cities' future growth and development. This plan is organized into six chapters.

- Chapter 1 | Starting Point: Provides a foundation for understanding the plan, how it was developed and how it will be used.
- Chapter 2 | Existing Conditions: Describes the conditions of the study area roadways, intersections, and the operations for these elements.
- Chapter 3 | Community Vision: Describes how community input yielded a vision and set of community themes that percolate throughout the recommendations.
- Chapter 4 | Transportation Alternatives: Graphically depicts alternatives for potential improvements, both short and long term, for the study area.
- Chapter 5 | Next Steps: Identifies and prioritizes the necessary plans, programs, policies, and projects to fulfill the community's vision.

How the Study should be Implemented

Adopting the *Franklin Boulevard Corridor Access and Alternative Development Mobility Strategy* is the first step toward shaping the Cities' future, and implementing the study requires

a combination of short- and long-term actions. Some of the short-term actions include minor adjustment to turn lane storage lengths, intersection timings, and corridor timings. Long-term actions include new connector streets, intersection and interchange modifications, and grade separations. More importantly, this study should serve as the starting point for the NCDOT TIP project I-5719 which will widen I-85 to an eight lane section as well as improve the existing interchanges within the study area through operational and infrastructure improvements.

When the Study should be Updated

Even though the Franklin Boulevard Corridor Access and Alternative Development Mobility Strategy is intended as a longer term guide, the study will work best if used as a living document that is periodically revisited and updated to address new challenges and changing circumstances.

How the Cities Use the Study

As a blueprint for staff and elected officials, the *Franklin Boulevard Corridor Access and Alternative Development Mobility Strategy* is designed as a reference document to guide transportation strategies, land use decisions and public investment choices. It's anticipated to be used in the following ways:

- City Council: To inform decisions as land use proposals are evaluated without restricting the ability to adapt to changes in the market and community preferences.
- City Staff: To align department policies, budget decisions, and incremental decisions with the community's long-term vision.
- Boards and Commissions: To clarify the community's vision and encourage consistency as decisions are made.

How Others Use this Study

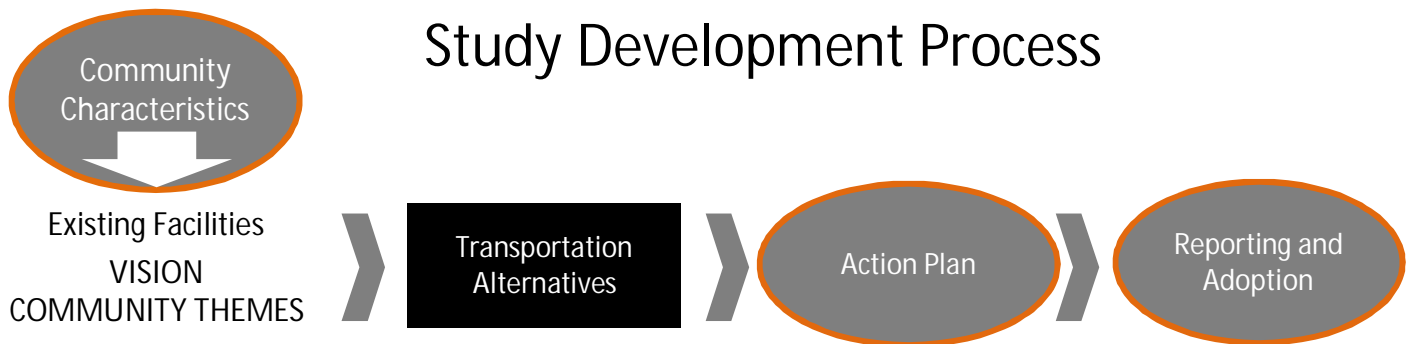
The *Franklin Boulevard Corridor Access and Alternative Development Mobility Strategy* is intentionally broad and far reaching. It is designed to be used by a variety of groups and individuals with diverse interests in both Cities' and their future:

- Businesses: To identify where the Cities' are targeting growth and investment and where development decisions may be streamlined.
- Residents: To understand future land use and transportation objectives and policies and how quality of life could be affected.
- Decision Makers: To foster ongoing dialogue among community leaders that maintains forward progress toward common goals.
- Development Community: To guide future development and redevelopment within the study area.
- Agencies: To align agency goals and strategies with the Cities' vision and priorities.

The Process

The *Franklin Boulevard Corridor Access and Alternative Development Mobility Strategy* was initiated to create a transportation strategy that best positions the communities of Gastonia and Lowell to achieve success against a set of metrics that are clear, relatable, and important to city leaders and residents. The underlying philosophy is based on the belief that planning should be done by community leaders, citizens, and stakeholders. Participants not only should value the process and support the outcome but also have a clear understanding of how to execute and achieve desired results.

The *Franklin Boulevard Corridor Access and Alternative Development Mobility Strategy* followed an intuitive process, as illustrated on the following page, to arrive at a blueprint for the future. The first phase documented existing conditions and identified the vision and community themes introduced in the pages that follow. The plan development phase balanced technical analysis with design elements. Once the short and long-term improvements were set, the action plan identified a phased set of improvements for implementation. The entire process is communicated and memorialized in this report.



The Communities

The City of Gastonia is located approximately 20 miles west of Charlotte, is the government seat in Gaston County and is the second largest satellite city of the Charlotte area. The City of Lowell is a located approximately halfway between the City of Gastonia and the South Fork of the Catawba River. Lowell is a suburb of both Gastonia and Charlotte and is one of the smallest communities in Gaston County. Both Gastonia and Lowell benefit from their proximity and relative ease of access to the region's core and surrounding activity centers. They both enjoy relatively good access to major interstates (I-85 and I-485) and thoroughfares (US 74) in the region today, and in the case of Gastonia, potentially an additional crossing of the Catawba River.

But there is more to Gastonia and Lowell than their proximity to Charlotte and access to I-85. Both of these Cities boast an appealing downtown surrounded by historic neighborhoods, an abundance of city and county government activities, a growing industrial base, and a healthcare network that attracts people from well beyond the city's borders. A deep dive into the Cities' demographic trends showed that both Gastonia and Lowell truly are moving forward, and this motion occurs with the backdrop of knowing they are...

- diverse communities
- in the path of growth
- more than bedroom communities
- poised for change

Plan Philosophy

As multimodal issues are evaluated, local decision-makers can't lose focus that in most cases they are trying to protect what they have today. In other words, the geography of Gastonia and Lowell, in combination with limited funding, mean new interchanges or connector roads will be challenging. It also means major infrastructure recommendations must be reinforced through analysis and supported by the community. The philosophy of the Franklin Boulevard Corridor Access and Alternative Development Mobility Strategy is to protect and enhance what exists today by making strategic decisions that provide transportation choices. The underlying progression of this philosophy is Planning, Design, and Construction.

As with any transportation plan, implementation is the key to success. Developing a strategic plan rooted in engineering principles lays the groundwork for future infrastructure needs that can be evaluated against competing priorities and programmed for funding. This study provides direction regarding priority, implementable solutions that improve safety, minimizing additional traffic congestion, and enhancing aesthetics.

The plan philosophy has been translated into a process structured to evaluate alternatives with a planning, design, and construction perspective. While some plans may sit on the shelf because they are unrealistic, the Franklin Boulevard Corridor Access and Alternative Development Mobility Strategy is conceived to go beyond planning by including engineering and design expressed in conceptual drawings for key focus areas.

Guiding Principles

The following guiding principles represent five interrelated value statements that add depth and vision representing some of the most significant content generated during the early phases of the project. These guiding statements were developed based on conversations with each of the communities, technical staff, stakeholder interviews, and elected officials.

Integrated | Blend previous planning efforts with new analysis and purposeful community involvement to create realistic and implementable solutions.

Community-based | Establish an understanding of the communities' needs and achieve informed consent through active and transparent outreach.

Choice | Connect homes, businesses, and other key destinations with facilities designed for motorists, pedestrians, and bicyclists.

Identity | Foster a sense of place tied to livability and community character with a focus on enhancing gateways, critical intersections, and key corridors.

Safety | Promote safe travel and enhance the sense of comfort for using and interacting with different travel modes.

Study Overview

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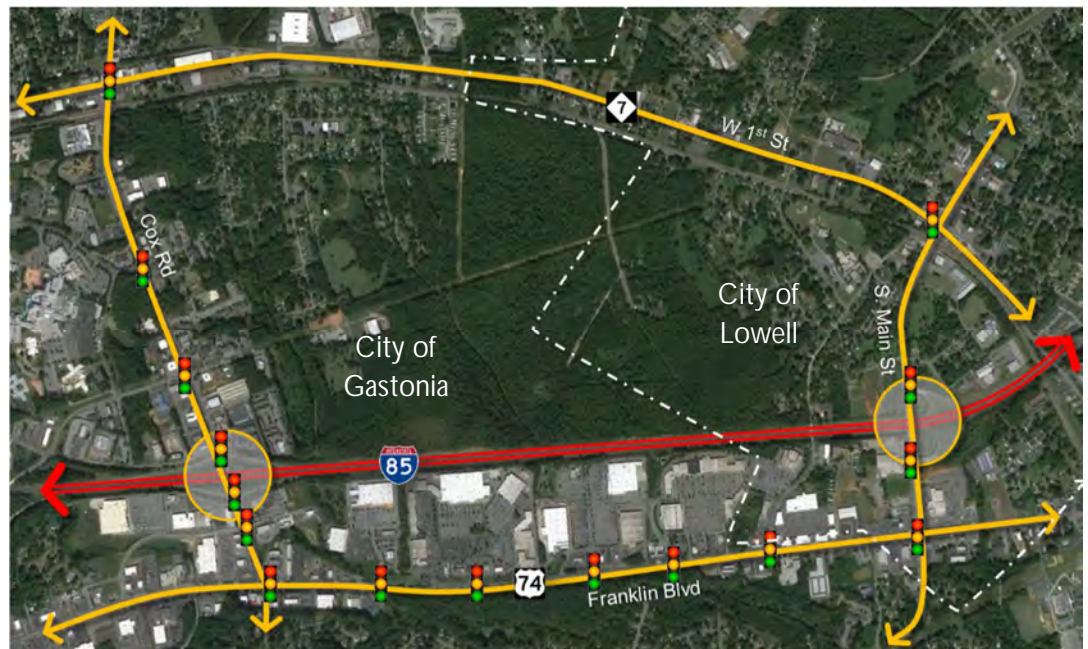
Franklin Boulevard

Study Area

The study area for the *Franklin Boulevard Corridor Access and Alternative Development Strategy* consists of 18 existing intersections, all signalized with the exception of S. Main Street and Crausby Avenue. The graphic shown below depicts the intersections within the study



The signalized intersections within the study area are shown in the graphic below.



Introduction

The Franklin Boulevard area, comprised of both of the communities of Gastonia and Lowell, has experienced a lot of change over the last 15-20 years. Rapid growth and the steady buildout of Franklin Square has shifted the dynamics of the community and has raised concerns associated with land use, urban design, natural resource protection, and the function of the area’s transportation network. This chapter describes the existing context of the study area. Combined with feedback received during various outreach activities, the existing context helped shape the recommendations in this plan.

Existing Conditions – Chapter Overview

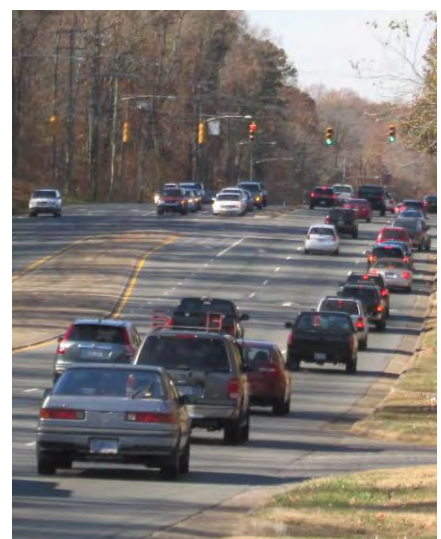
This Chapter provides a set of facts and figures related to growth, development, constraints, traffic and safety. The chapter concludes with a collection of maps that reflect the environmental and transportation land uses of the study area. The following topics are covered in this chapter:

Built & Natural Conditions

Transportation Characteristics

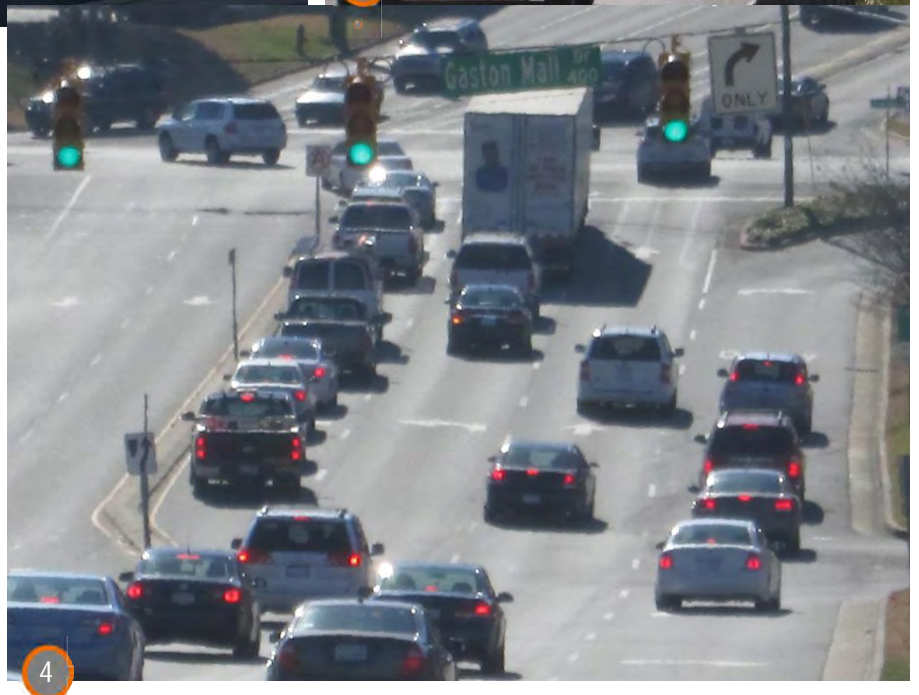
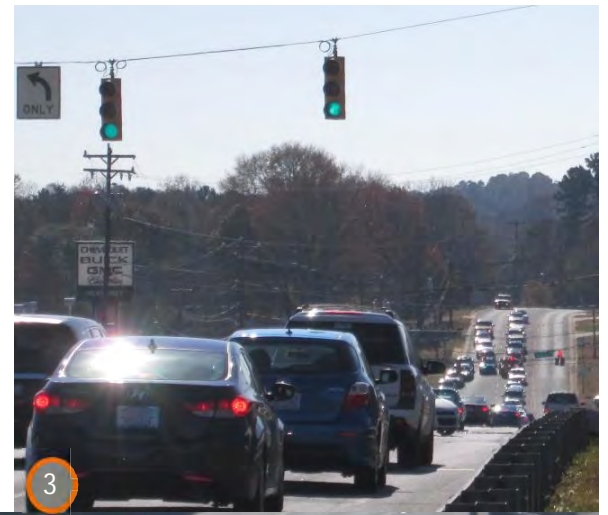
Safety

Future Conditions



Peak hour congestion along
Franklin Boulevard

Franklin Boulevard



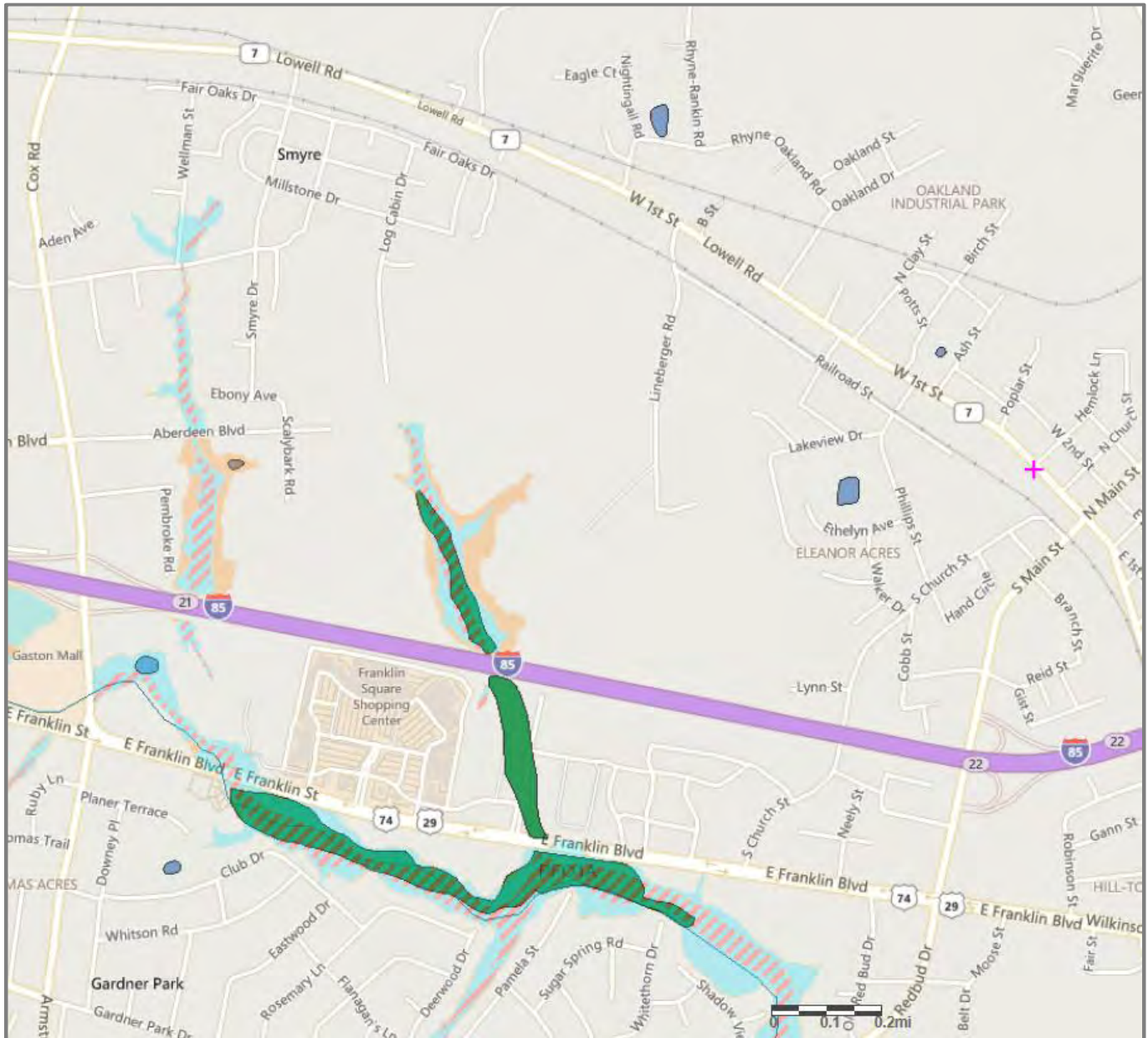
Peak Hour Observations

1. Cox Road towards I-85
2. Cox Road towards Franklin Boulevard (US 74) - north
3. S. Main Street towards Franklin Boulevard (US 74) - south
4. Cox Road at Franklin Boulevard (US 74)

Franklin Boulevard

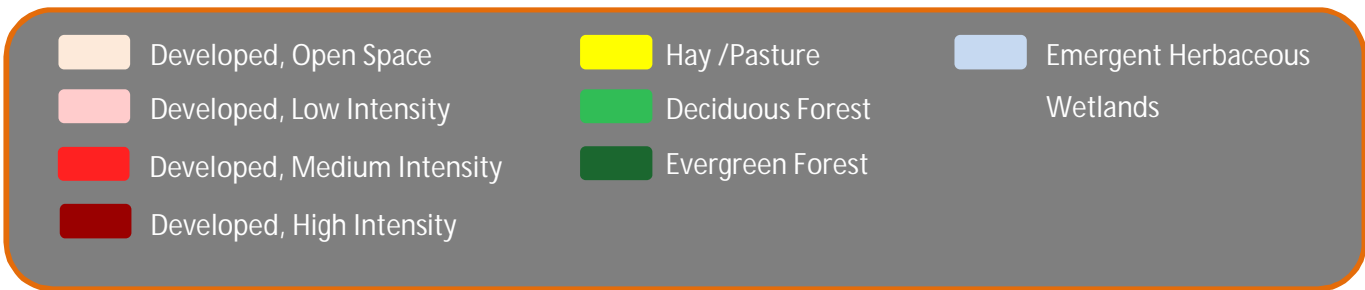
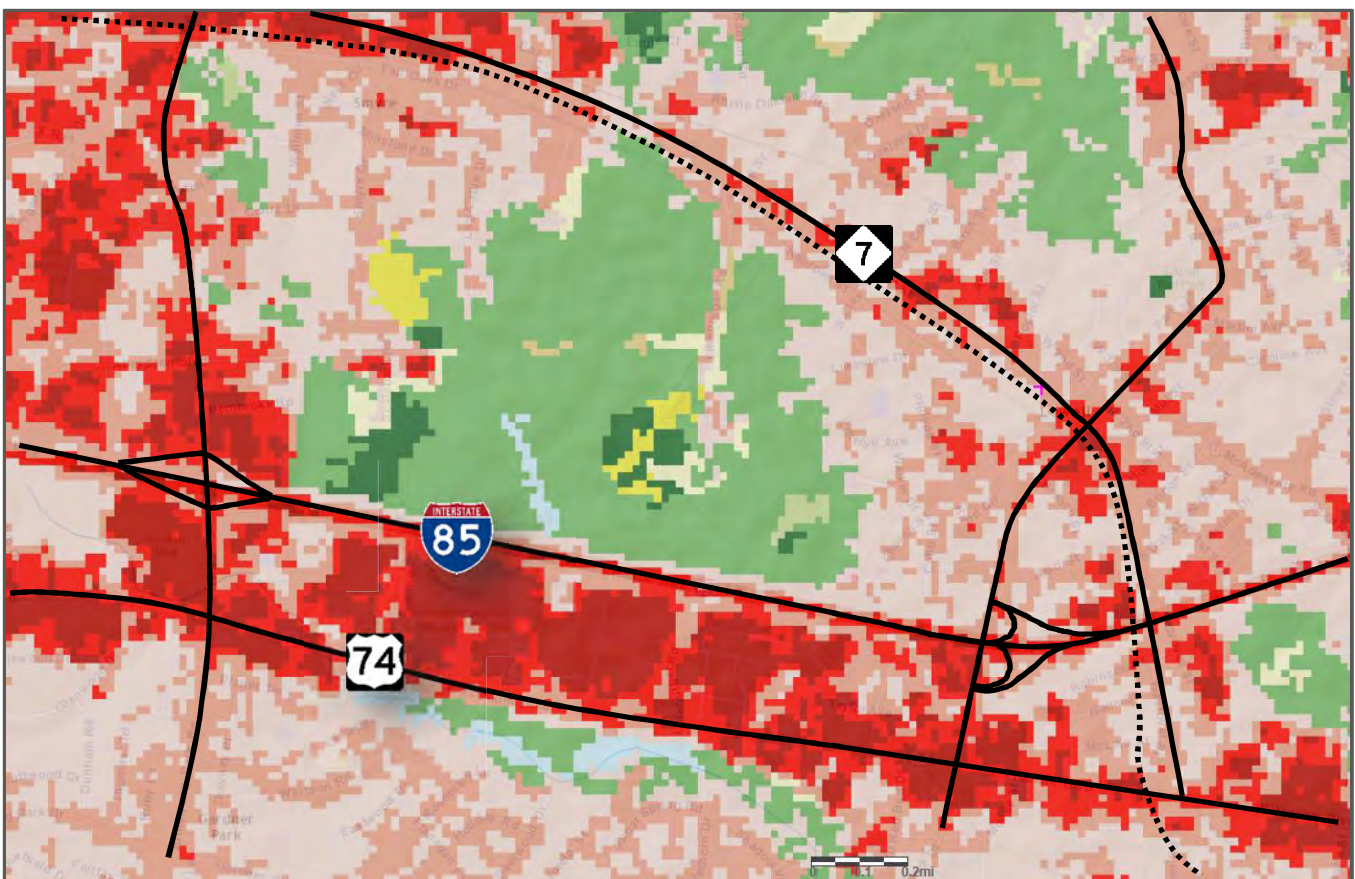
Natural Resources

The Cities of Gastonia and Lowell have long stressed the importance of protecting and enhancing the natural systems that give identity to its quality of life. Within the study area, as well as within each city, there are an abundance of natural resources present. Considering the urban context of the study area, there are significant natural resources present. The image below, provided by NEPAAssist, provides a depiction of streams, wetlands, and flood zones present in the study area.



Built Environment

The perception most held of the Franklin Boulevard corridor and surrounding areas within the study area is that it is built out. While this perception is true for the section of the study area on the north side of Franklin Boulevard, the vast majority of the study area, including the northern section of Cox Road and NC 7, are developed in a manner that trends towards a lower density. The area north of I-85 known, as the Lineberger property, is largely undeveloped and consists of evergreen and mixed forested land. The map below indicates the land cover of the study area.



Transportation Characteristics

The natural resources of any community are an important component that gives life to the community. In many ways, the transportation network serves as the backbone for the community connecting the many land uses and areas of the community. Understanding the roadway and active transportation (bike and pedestrian) facilities currently serving the study area is critical in the development of this mobility strategy.

Corridor Profiles

The main corridors within the study area are Franklin Boulevard (US 74), Cox Road, Armstrong Park, S. Main Street, Redbud Drive, and Lowell Road/W. 1st Street (NC 7). Corridor Characteristics are summarized below.

- 1 Franklin Blvd | 50 mph
6 lane divided
- 2 Cox Rd | 35 mph
5-8 lane undivided
- 3 Lowell Rd/Ozark Av | 35 mph
4 lane undivided
- 4 S. Main St | 35 mph
5 lane undivided
- 5 Redbud Dr | 35 mph
3 lane undivided
- 6 Armstrong Park Rd | 35 mph
3 lane undivided



Franklin Boulevard (US 29/74) is a principal arterial with a posted speed limit of 45 mph to the west of Cox Road and 50 mph throughout the remainder of the study area. The corridor runs east/west and has the following recorded 2012 NCDOT AADT volumes:

- West of Cox Road: 20,000 vpd
- East of Cox Road: 32,000 vpd
- East of S. Church Street: 19,000 vpd
- West of S. Main Street: 19,000 vpd
- East of S. Main Street: 20,000 vpd

Cox Road is a principal arterial with a posted speed limit of 35 mph throughout the study area. The corridor runs north/south and has the following recorded 2014 NCDOT Average Annual Daily Traffic (AADT) volumes, reported in vehicles per day (vpd):

- North of Lowell Road (NC 7): 11,000 vpd
- South of Lowell Road (NC 7): 11,000 vpd
- North of I-85: 25,000 vpd
- South of I-85: 31,000 vpd
- South of Franklin Boulevard: 20,000 vpd

Lowell Road/Ozark Ave (NC 7) is a principal arterial with a posted speed limit of 35 mph in the vicinity of its intersection with Cox Road. It has a 2011 NCDOT AADT of 11,000 vpd and 7,200 vpd to the west and east of Cox Road respectively.

W. 1st Street is a principal arterial to the west of S. Main Street and a minor arterial to the east of S. Main Street. It has a posted speed limit of 20 mph in the vicinity of its intersection with S. Main Street. It has a 2012 NCDOT AADT of 7,700 vpd to the west of S. Main Street and 4,000 vpd to the east of S. Main Street.

S. Main Street is a principal arterial with a posted speed limit of 20 mph north of its intersection with W. 1st Street and a minor arterial with a posted speed limit of 35 mph throughout the remainder of the study area. The corridor runs north/south and has the following recorded 2014 NCDOT AADT volumes:

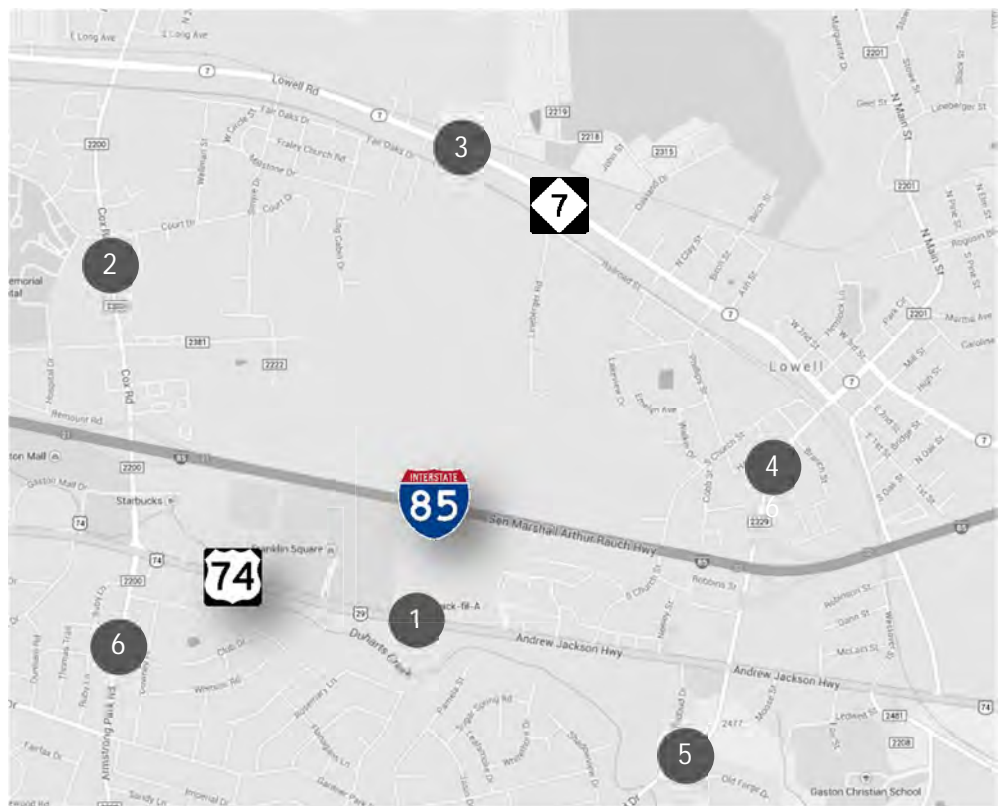
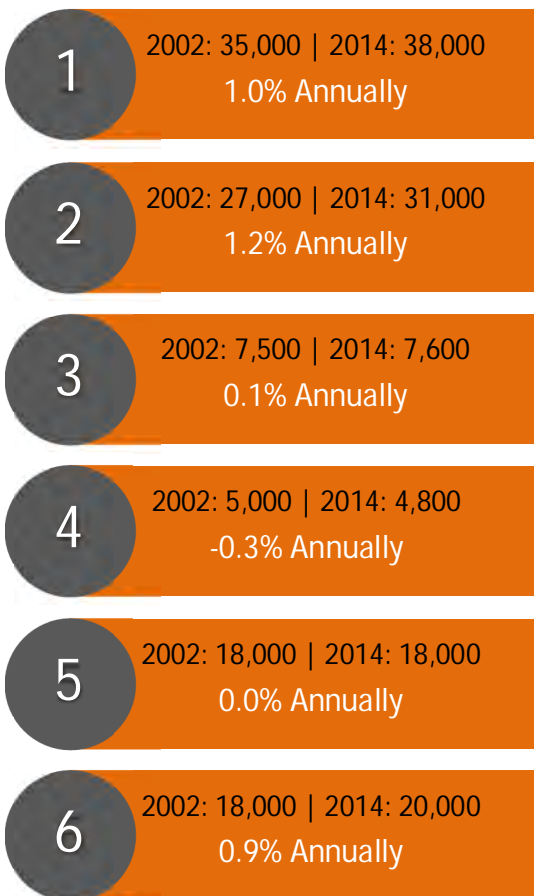
- North of W. 1st Street: 10,000 vpd
- South of W. 1st Street: 7,500 vpd
- North of I-85: 4,800 vpd
- North of Franklin Boulevard: 24,000 vpd
- South of Franklin Boulevard: 18,000 vpd

Franklin Boulevard

Armstrong Park Drive is a minor arterial with a posted speed limit of 35 mph in the vicinity of its intersection with Armstrong Park Road. It has a 2014 NCDOT AADT of 20,000 vpd south of the intersection with Franklin Boulevard and 12,000 vpd south of the intersection of Armstrong Park Road.

Rebud Drive is a minor arterial with a posted speed limit in the vicinity of its intersection with Franklin Boulevard. It has a 2014 NCDOT AADT of 18,000 vpd south of the intersection with Franklin Boulevard.

Traffic volume growth patterns are summarized below for each of the corridors.

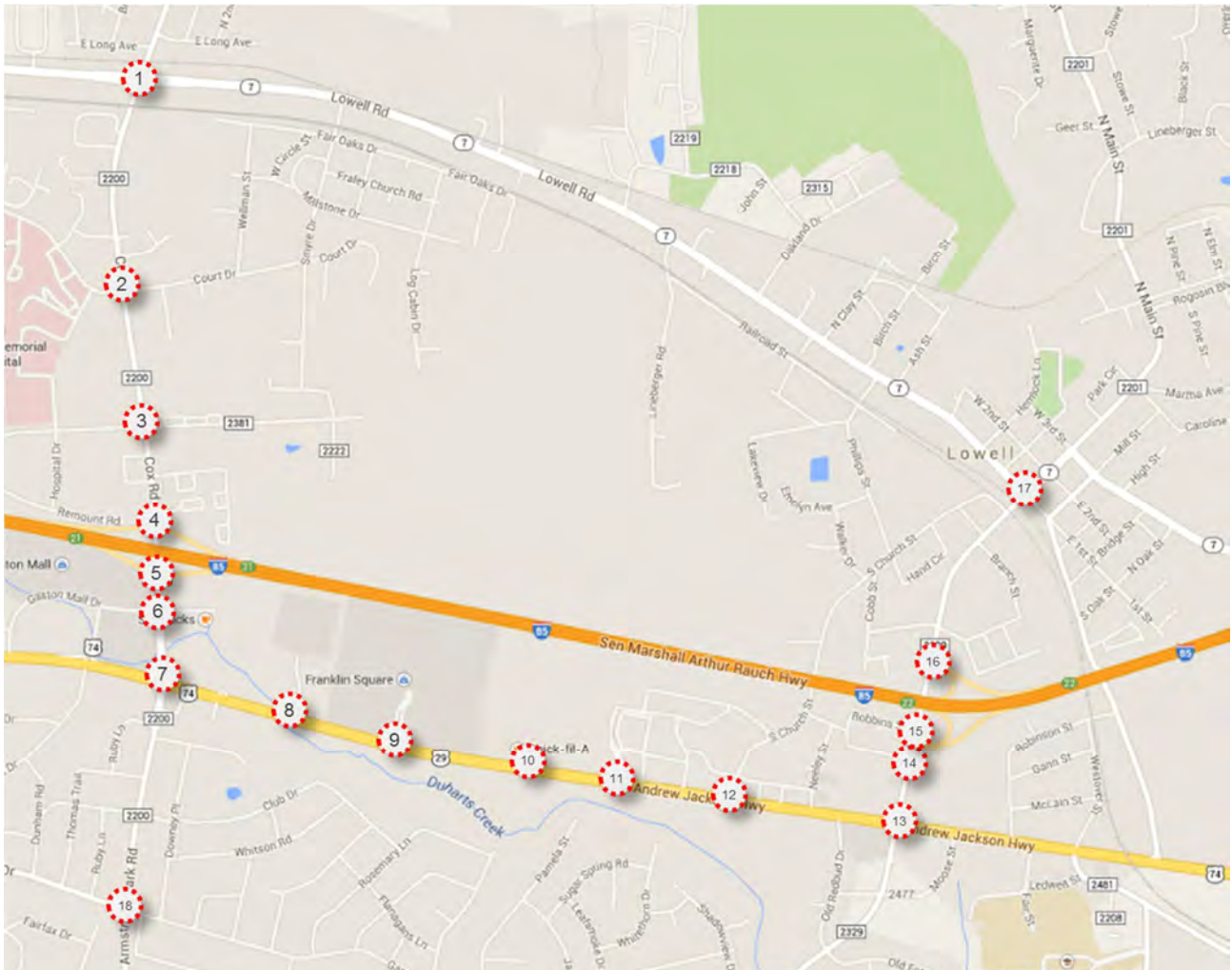


Between 2002 and 2012...
The Cox Road corridor saw the highest growth within the study area at 1.2% annually.

Franklin Boulevard

Traffic Counts

The basic data used to analyze the performance of both signalized and unsignalized intersections are turning movement counts. These counts simply shows where traffic travels once it enters the intersection. For example, does traffic traveling north on Armstrong Park Drive continue on to Cox Road or turn left or right onto Franklin Boulevard? The study area consists of 18 intersections and considered operations for both the AM, PM and Saturday peak hour periods. The study area is depicted below.



- | | |
|--|--|
| 1 – Cox Road at Lowell Road (NC 7) | 10 – Sam’s Club Driveway at US 29/74 |
| 2 – Cox Road at Court Drive | 11 – Lineberger Road at US 29/74 |
| 3 – Cox Road at Aberdeen Boulevard | 12 – S. Church Street at US 29/74 |
| 4 – Cox Road at I-85 SB Ramp | 13 – Redbud Drive/S. Main Street at US 29/74 |
| 5 – Cox Road at I-85 NB Ramp | 14 – S. Main Street at Crausby Avenue |
| 6 – Cox Road at Gaston Mall Drive | 15 – S. Main Street at I-85 NB Ramps |
| 7 – Cox Road/Armstrong Park Road at US 29/74 | 16 – S. Main Street at I-85 SB Ramps |
| 8 – Home Depot Driveway at US 29/74 | 17 – S. Main Street at W. 1 st Street |
| 9 – Franklin Square Driveway at US 29/74 | 18 – Armstrong Park Road at Armstrong Park Drive |

Franklin Boulevard

System Counts throughout the study area were provided by the City of Gastonia for Sunday, September 21, 2014 through Saturday, September 27, 2014. These counts were used to determine the AM, PM, and Saturday peak hours. Due to the size of the study area, this methodology was used to improve the efficiency of data collection. The system counts are graphically depicted below.

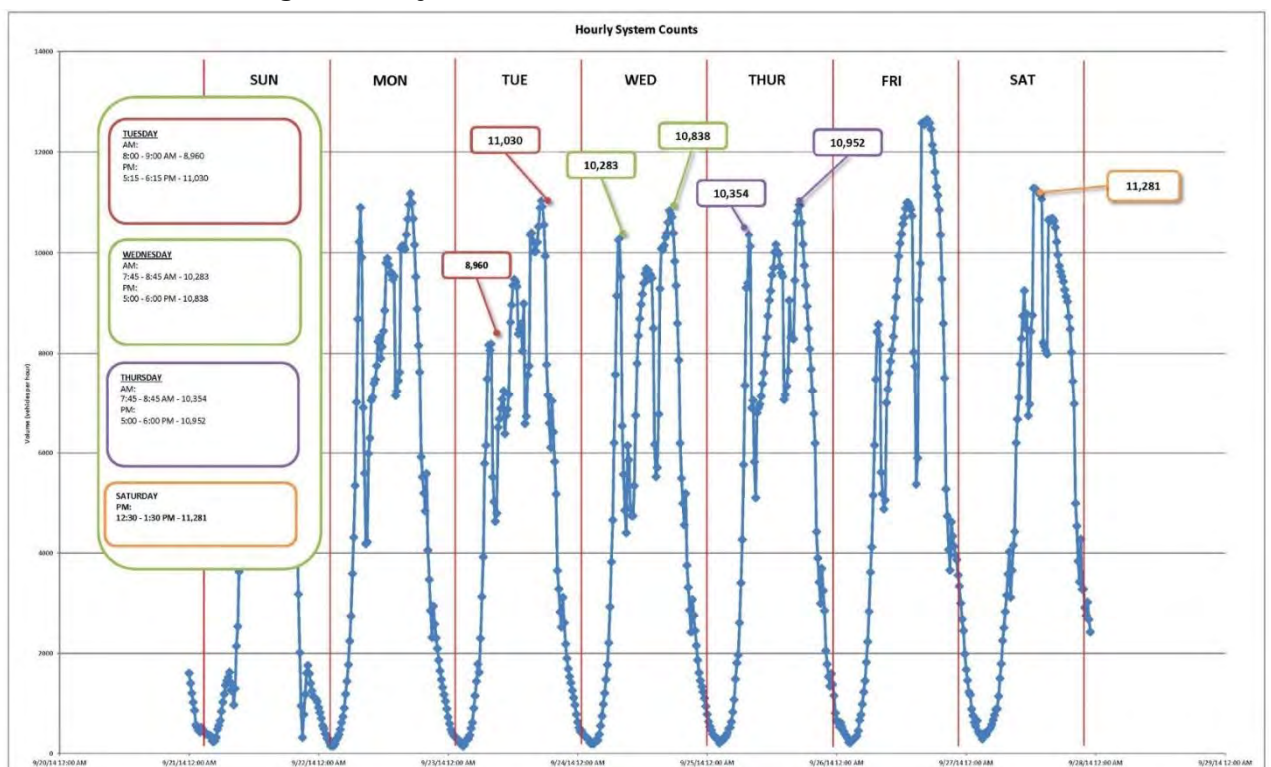
Based on this preliminary analysis, traffic counts were performed by National Data & Surveying Services (NDS) at the following times:

- AM: Thursday, October 30, 2014, 7:30 AM – 8:45 PM
- PM: Thursday, October 30, 2014, 5:00 PM – 6:00 PM
- Saturday: Saturday, November 8, 2014, 12:30-1:30 PM

During the AM peak hour, an hour and fifteen minutes of data were collected, per instruction by the City. Based on these counts, it was determined that the AM peak hour occurs from 7:30 AM – 8:30 AM.

Volume balancing was performed between I-85 and US 29/74 along Cox Road and Main Street/Redbud Drive. The eastbound lanes of US 29/74 were also balanced. North of I-85 and the westbound lanes of US 29/74 were not balanced due to the number of driveways and spacing between intersections.

U-turn volumes were only included in locations where designated U-turn lanes exist. Due to the analysis methodology Synchro employs, including U-turns at other locations results in an over-estimation of intersection delay. While these movements do exist, they are not expected to significantly impact intersection operations and not including them was considered a better representation of the existing roadway conditions.



Latent Demand Adjustments

Latent demand can be categorized as travel that is desired, but unrealized. In other words, trips that roadway users desire to make, but instead choose to use another route because they perceive the cost (delay/congestion) to be too high. To get an accurate assessment of traffic we need to understand not only what the intersection can process, but also the demand placed on the intersection.

Based on conversations with stakeholder and community groups, it was determined that many roadway users are avoiding the critical intersections of the study area to avoid existing congestion. This is indicative of latent demand, and therefore existing volumes were increased. This increase better represents the true demand on the roadway, especially on Cox Road and S. Main Street/Redbud Drive between I-85 and US 29/74. These sections of roadway are heavily traveled, and often avoided, because they connect the City to I-85 and the surrounding metropolitan areas.

The following field observations demonstrate latent demand present along Franklin Boulevard.



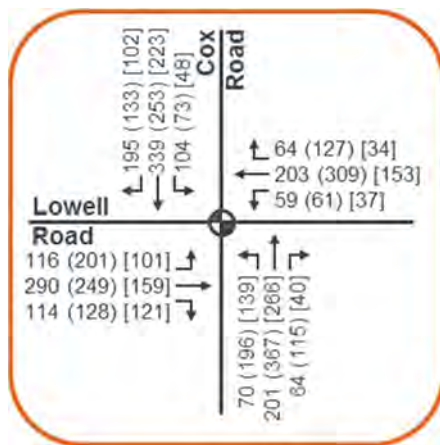
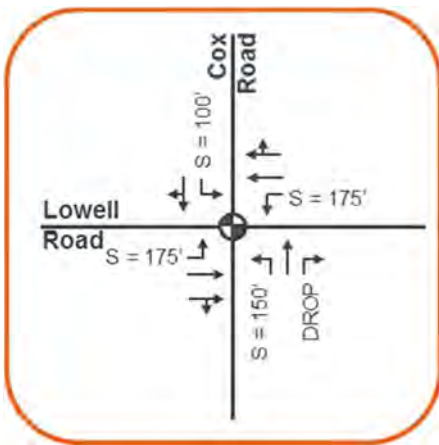
Observation of one phase of the cycle – 11 cars processed in the outside lane

This becomes a concern when demand is not processed throughout the peak hour



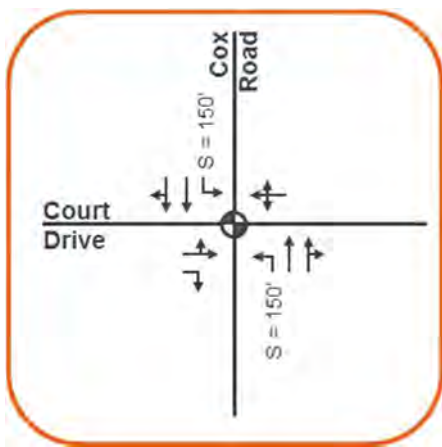
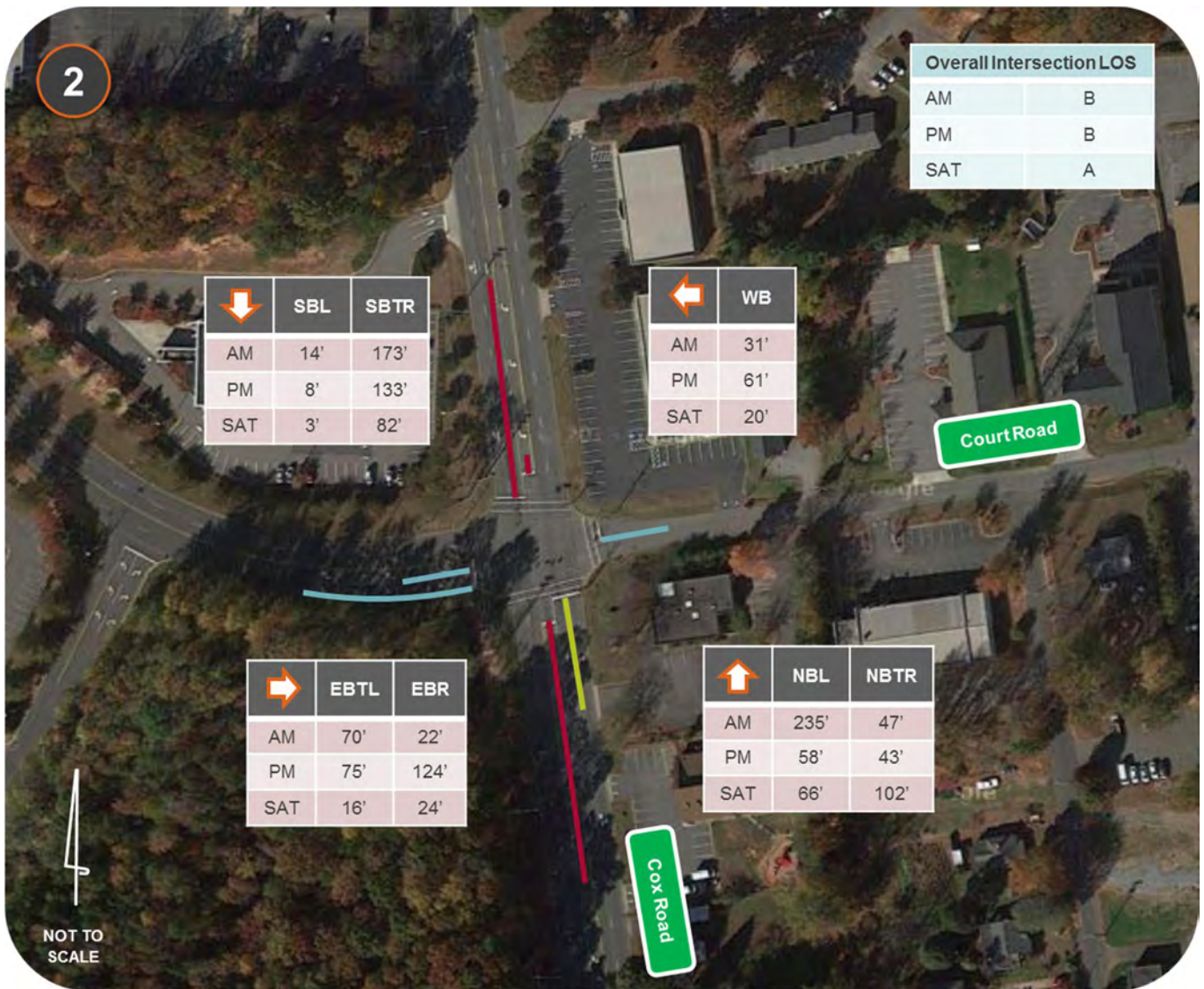
The graphics on the following pages depict the existing laneage, traffic volumes, intersection operations and queues.

Franklin Boulevard



Note: Maximum Synchro 95th Percentile queue shown graphically for the corresponding peak hour
 # - 95th percentile volume exceeds capacity, queue may be longer
 m - Volume for 95th percentile queue is metered by upstream signal

Franklin Boulevard

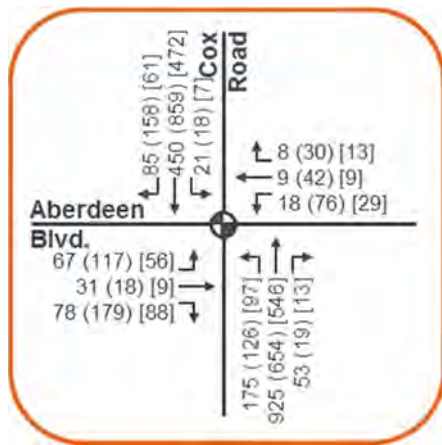
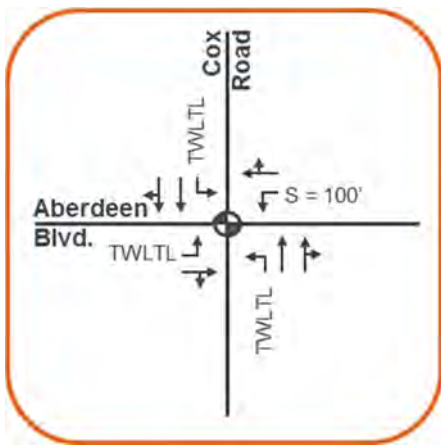


Legend

- Turning Movement
- ⊕ Existing Traffic Signal
- XX AM Traffic Volume
- (XX) PM Traffic Volume
- [XX] SAT Traffic Volume
- Red line AM Queue
- Blue line PM Queue
- Yellow line Saturday Queue

Note: Maximum Synchro 95th Percentile queue shown graphically for the corresponding peak hour
 # - 95th percentile volume exceeds capacity, queue may be longer
 m - Volume for 95th percentile queue is metered by upstream signal

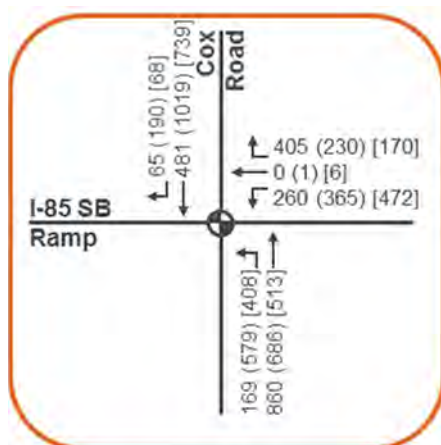
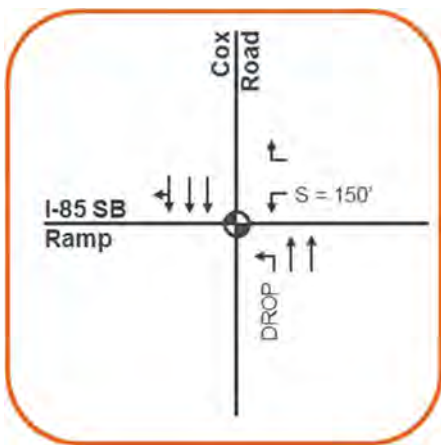
Franklin Boulevard



Legend

- Turning Movement
- ⊕ Existing Traffic Signal
- XX AM Traffic Volume
- (XX) PM Traffic Volume
- [XX] SAT Traffic Volume
- AM Queue
- PM Queue
- Saturday Queue

Franklin Boulevard



Legend

- Turning Movement
- ⊙ Existing Traffic Signal
- XX AM Traffic Volume
- (XX) PM Traffic Volume
- [XX] SAT Traffic Volume
- Red line AM Queue
- Blue line PM Queue
- Green line Saturday Queue

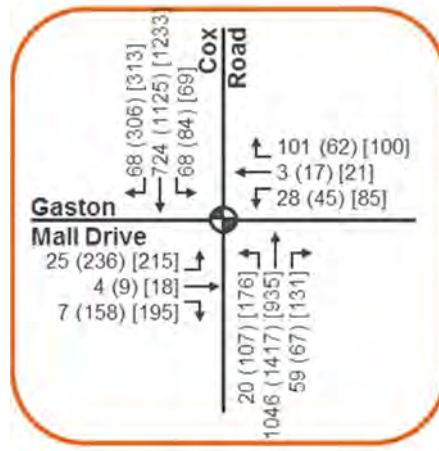
Franklin Boulevard



Legend

- Turning Movement
- ⊙ Existing Traffic Signal
- XX AM Traffic Volume
- (XX) PM Traffic Volume
- [XX] SAT Traffic Volume
- AM Queue
- PM Queue
- Saturday Queue

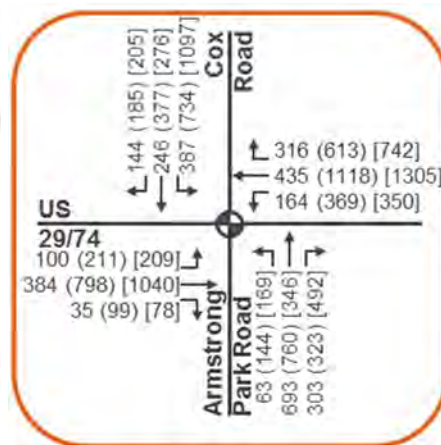
Franklin Boulevard



Legend

- Turning Movement
- ⊕ Existing Traffic Signal
- XX AM Traffic Volume
- (XX) PM Traffic Volume
- [XX] SAT Traffic Volume
- Red line AM Queue
- Blue line PM Queue
- Green line Saturday Queue

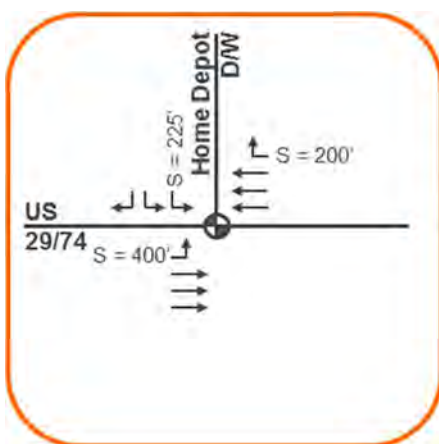
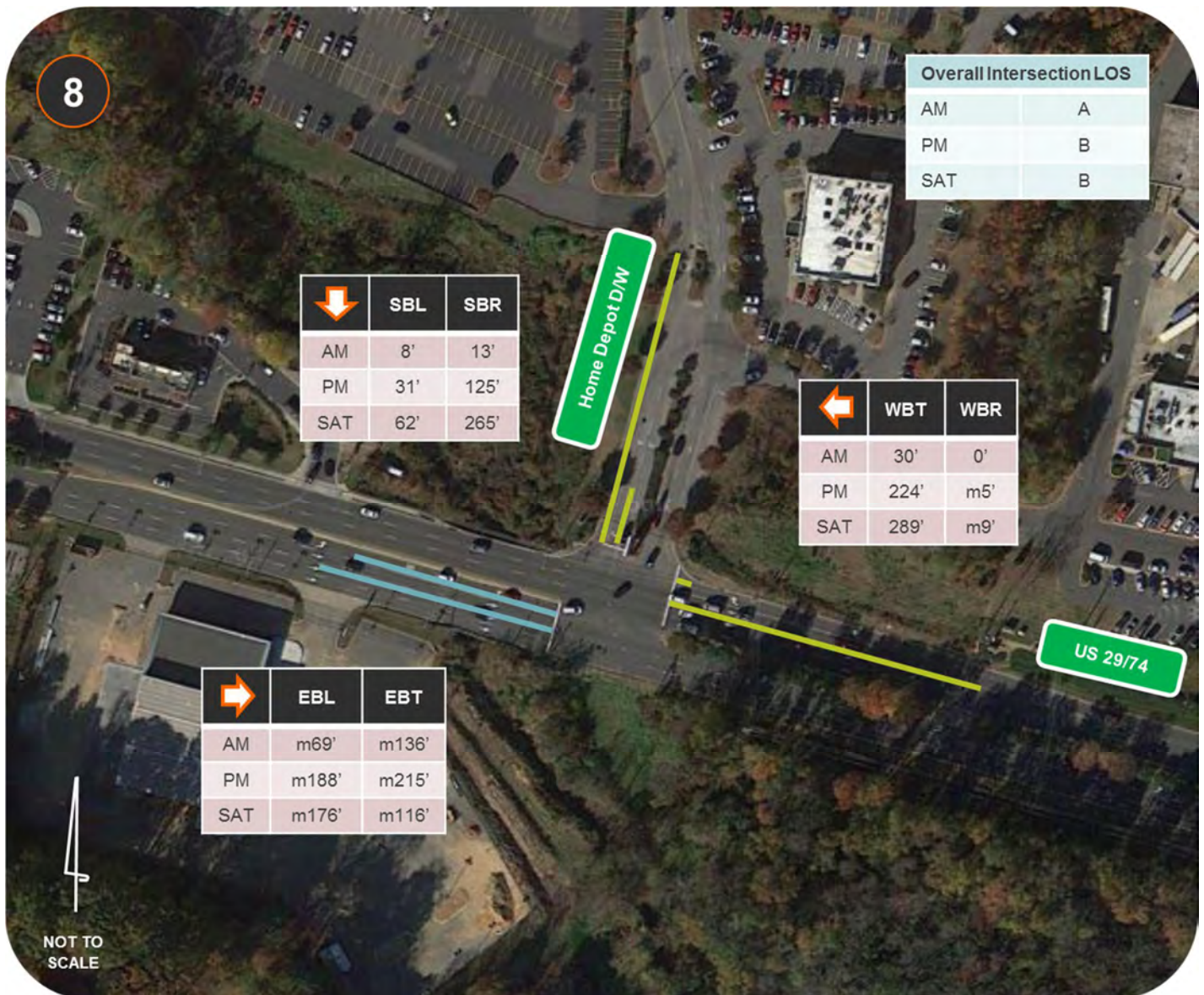
Franklin Boulevard



Legend

- Turning Movement
- ⊙ Existing Traffic Signal
- XX AM Traffic Volume
- (XX) PM Traffic Volume
- [XX] SAT Traffic Volume
- AM Queue
- PM Queue
- Saturday Queue

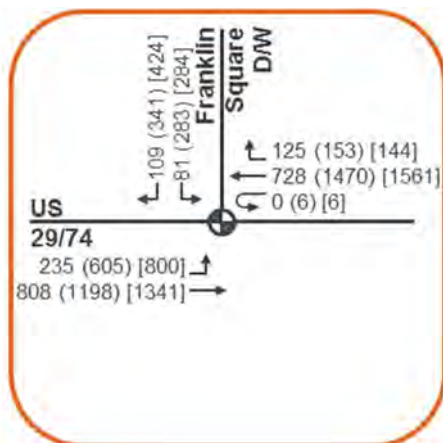
Franklin Boulevard



Legend

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- XX AM Traffic Volume
- (XX) PM Traffic Volume
- [XX] SAT Traffic Volume
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- Blue line PM Queue
- Green line Saturday Queue

Franklin Boulevard



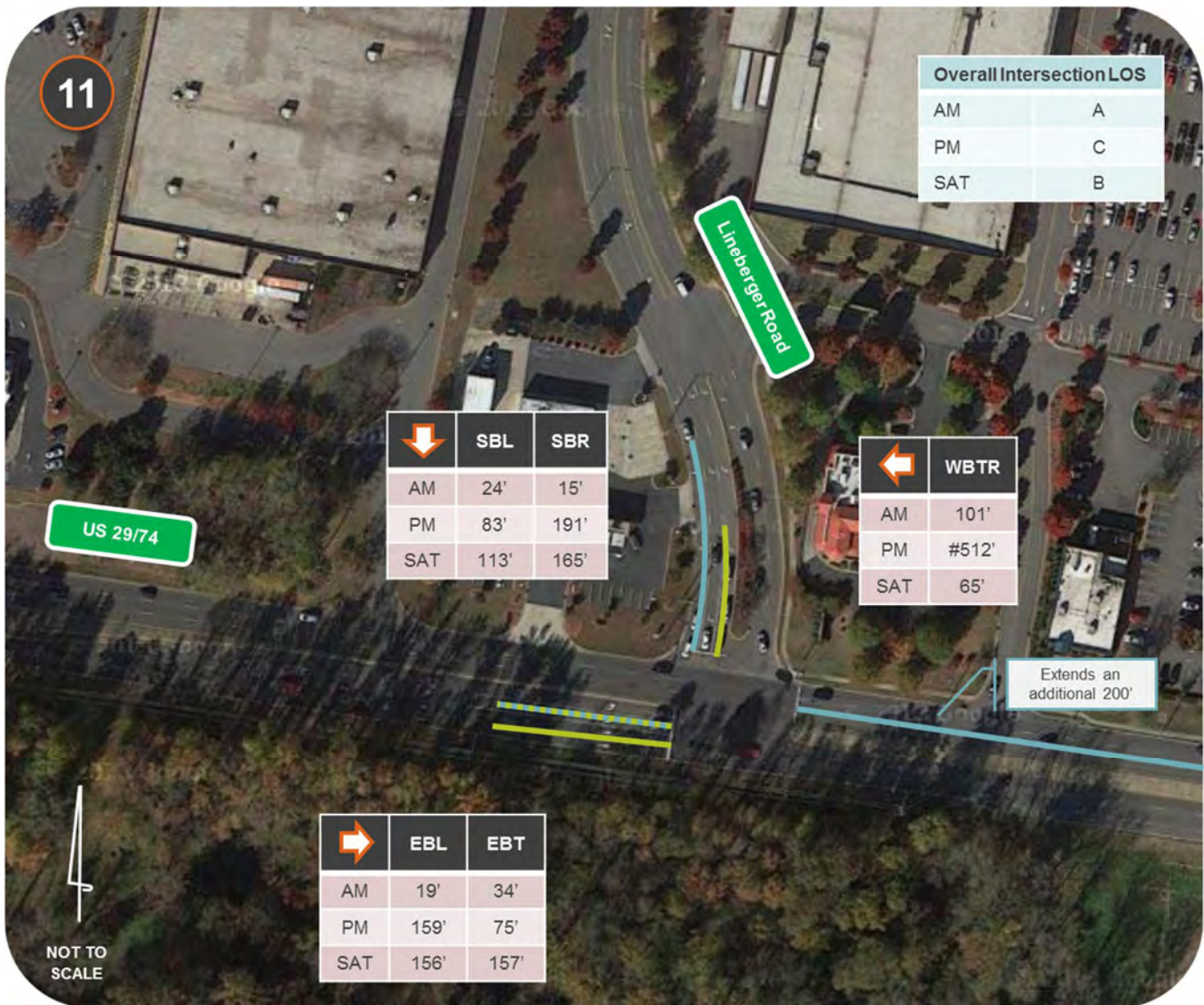
Legend

- Turning Movement
- ⊕ Existing Traffic Signal
- XX AM Traffic Volume
- (XX) PM Traffic Volume
- [XX] SAT Traffic Volume
- AM Queue
- PM Queue
- Saturday Queue

Franklin Boulevard



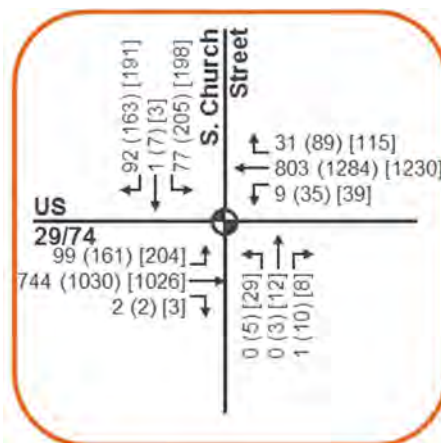
Franklin Boulevard



Legend

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- ⊙ Existing Traffic Signal
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- (XX) PM Traffic Volume
- [XX] SAT Traffic Volume
- Red line AM Queue
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Franklin Boulevard



Legend

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- XX AM Traffic Volume
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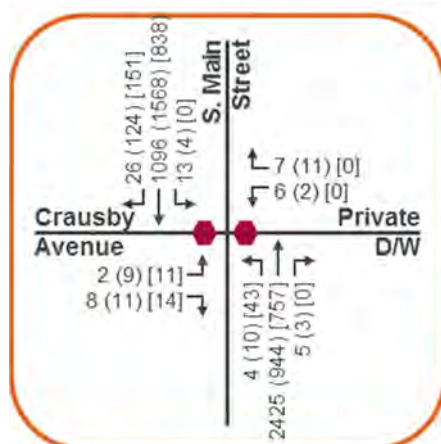
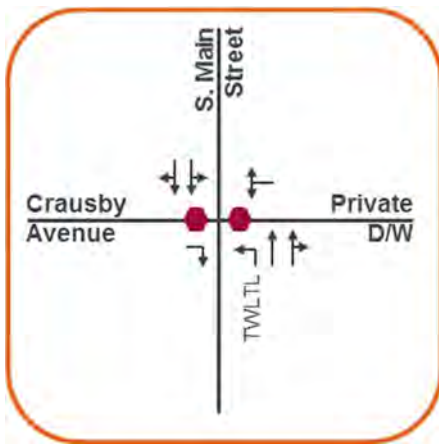
Franklin Boulevard



Legend

- Turning Movement
- ⊙ Existing Traffic Signal
- XX AM Traffic Volume
- (XX) PM Traffic Volume
- [XX] SAT Traffic Volume
- Red Line AM Queue
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- Green Line Saturday Queue

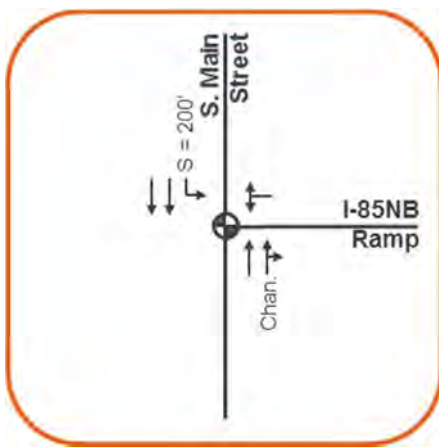
Franklin Boulevard



Legend

- Turning Movement
- ⊙ Existing Traffic Signal
- XX AM Traffic Volume
- (XX) PM Traffic Volume
- [XX] SAT Traffic Volume
- Red line AM Queue
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- Green line Saturday Queue

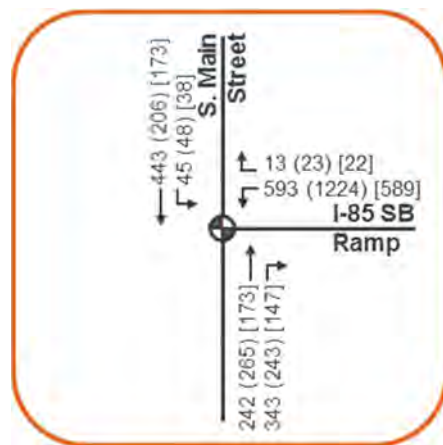
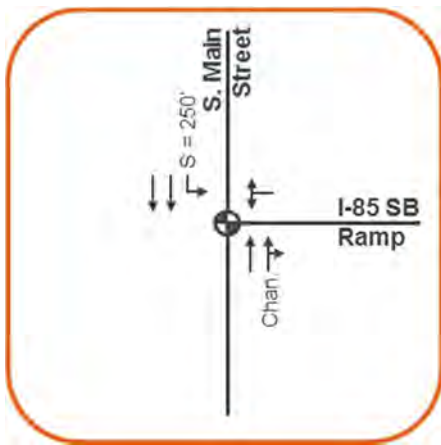
Franklin Boulevard



Legend

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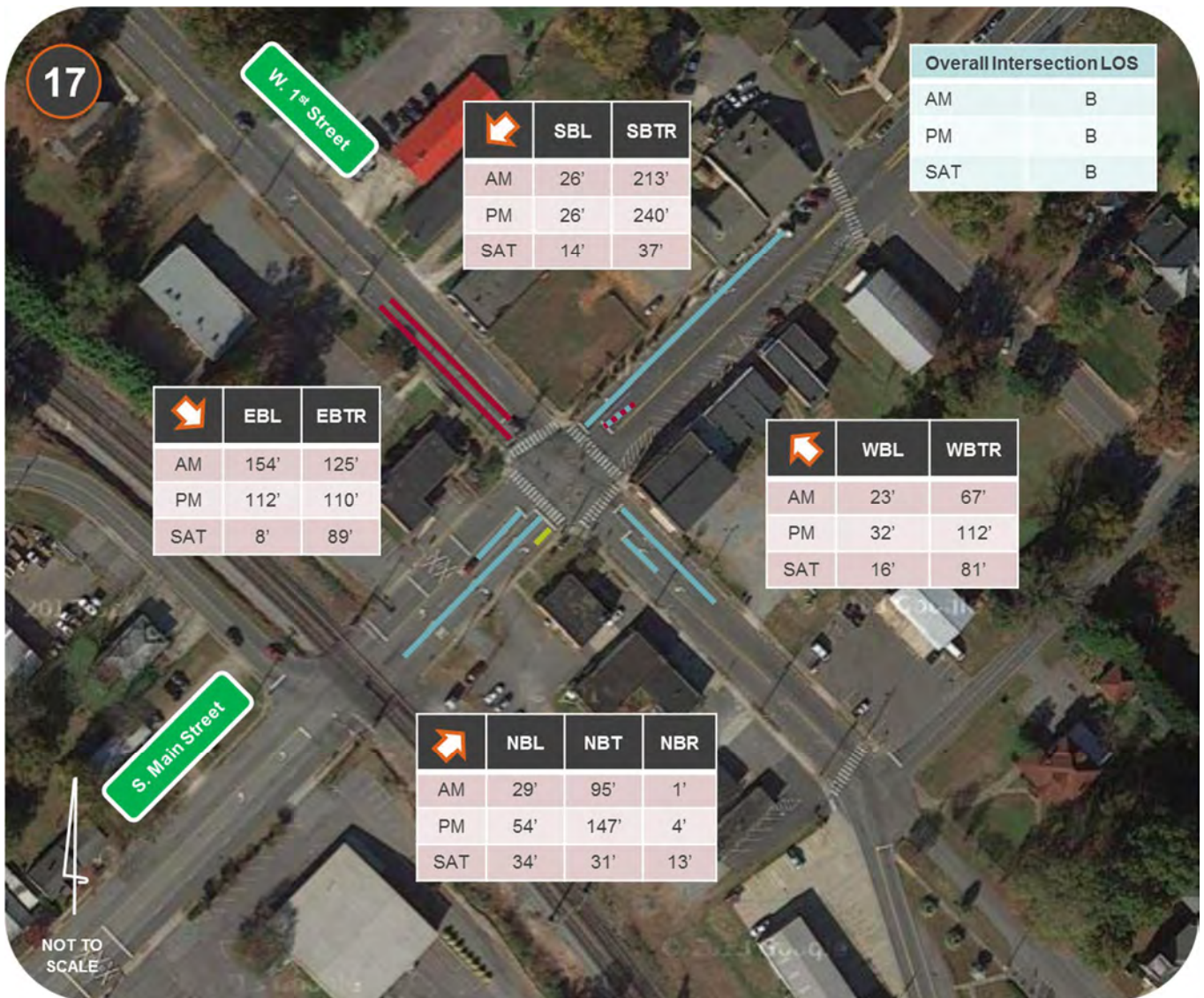
Franklin Boulevard



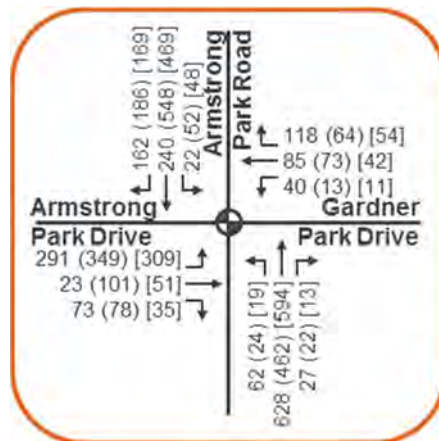
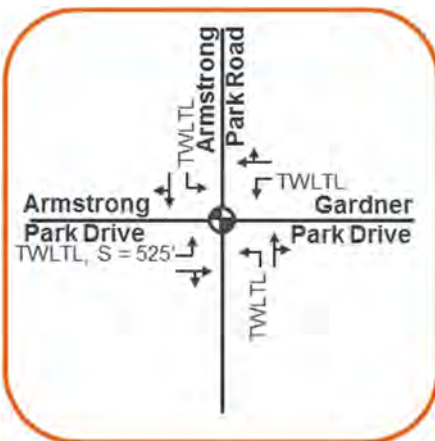
Legend

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- Existing Traffic Signal
- XX AM Traffic Volume
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- [XX] SAT Traffic Volume
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- PM Queue
- Saturday Queue

Franklin Boulevard



Franklin Boulevard



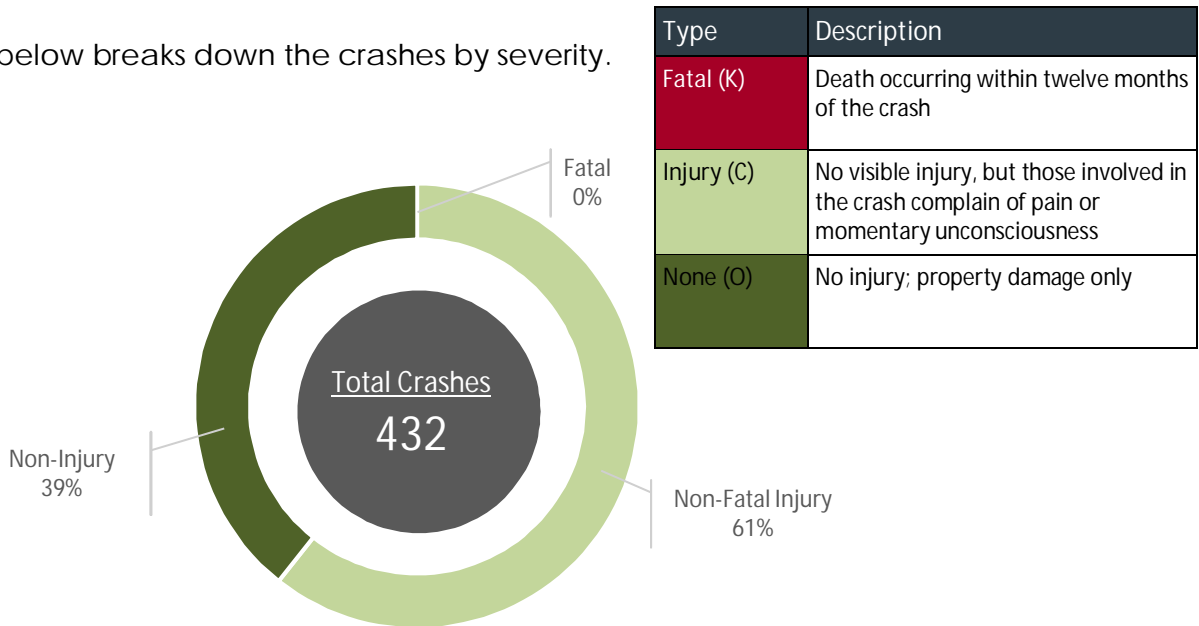
Legend

- Turning Movement
- ⊙ Existing Traffic Signal
- XX AM Traffic Volume
- (XX) PM Traffic Volume
- [XX] SAT Traffic Volume
- AM Queue
- PM Queue
- Saturday Queue

Safety

NCDOT keeps records of crashes that occur on state-maintained roadway, with every crash being classified by the worst injury occurring as a result of the incident. For the three year period from September 1, 2011 to August 31, 2014, 432 crashes occurred in the study area.

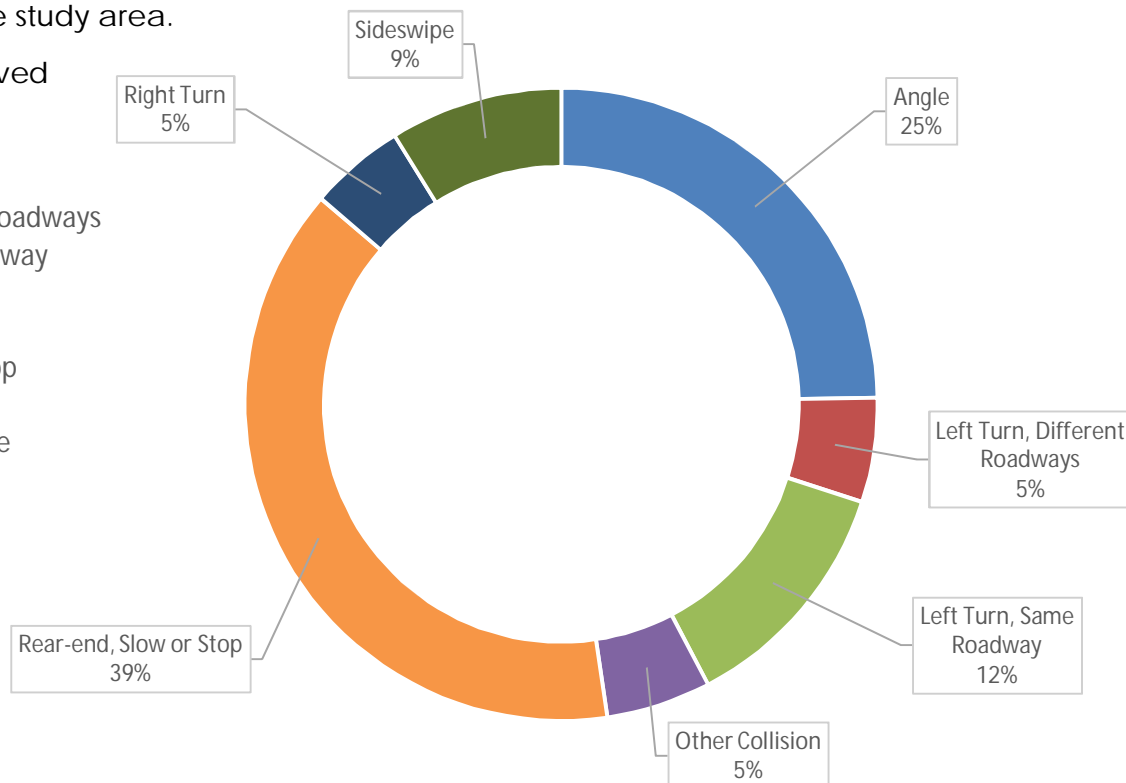
The chart below breaks down the crashes by severity.



The frequency of each incident type was plotted to determine what kinds of crashes were occurring throughout the study area.

The incident types observed included:

- Angle
- Left Turn, Different Roadways
- Left Turn, Same Roadway
- Other Collision
- Pedestrian
- Rear-end, Slow or Stop
- Right Turn
- Railroad/Train, Engine
- Sideswipe

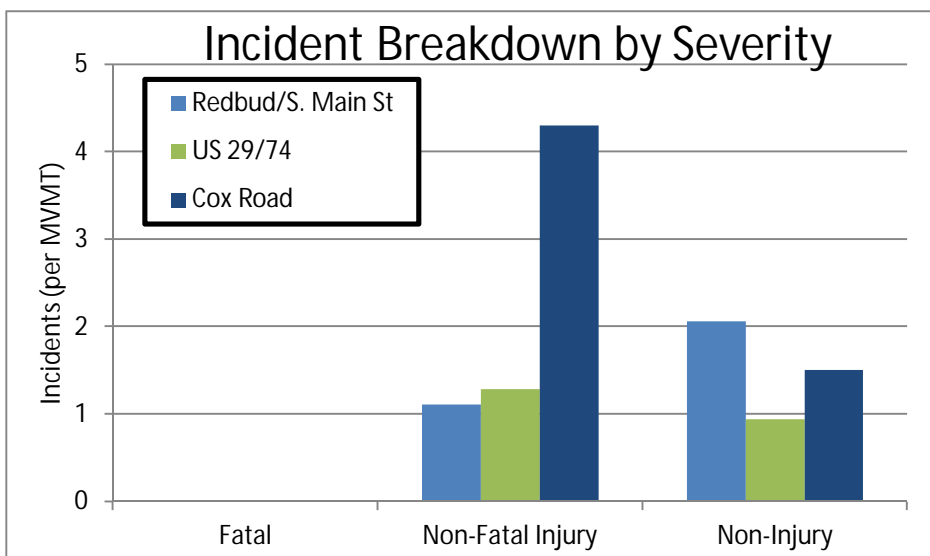
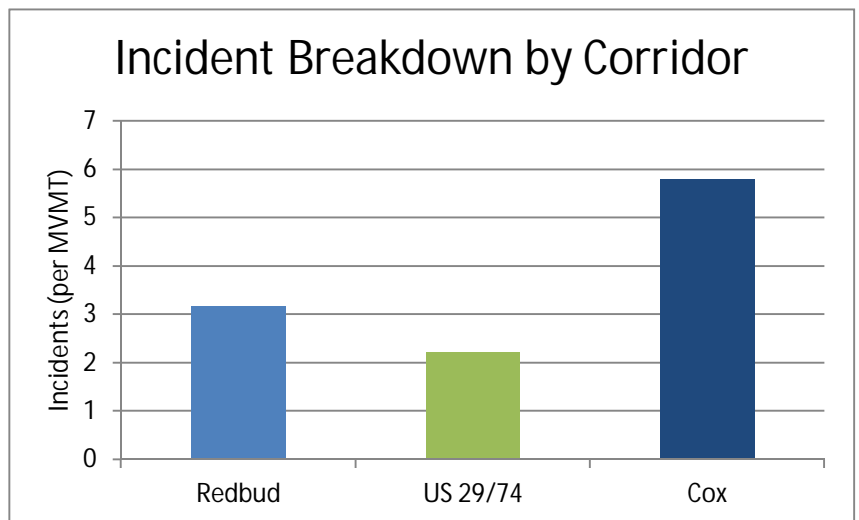


Analysis of this data was performed for the following corridors:

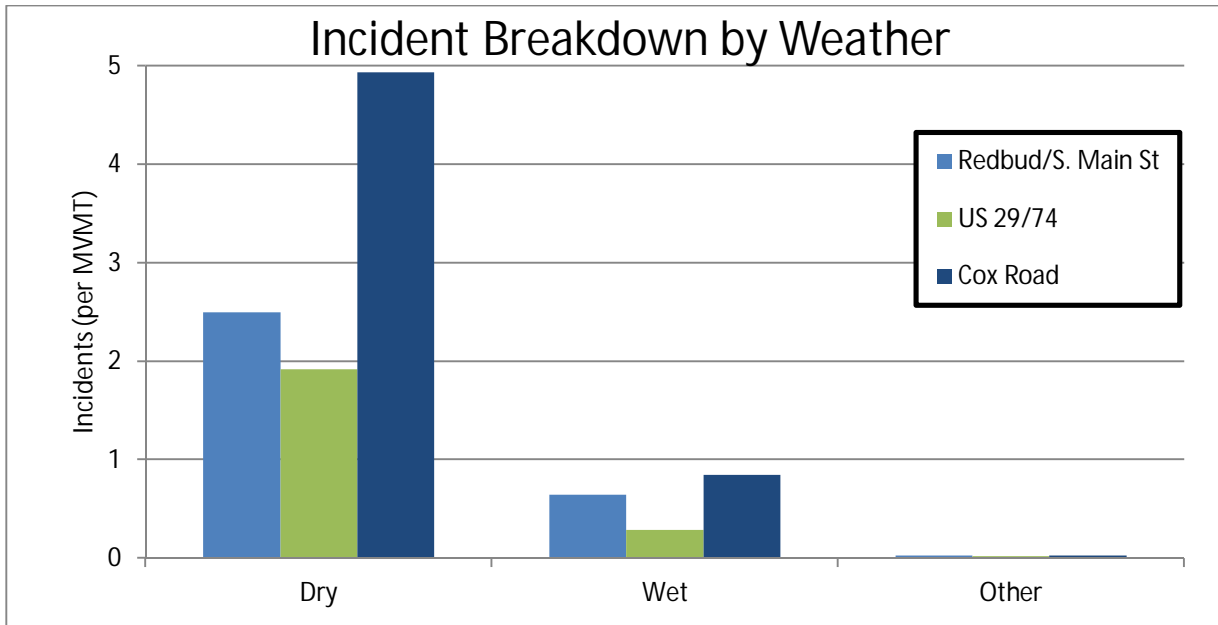
- S. Main Street/Redbud Drive; from 500 ft before NC 7 to 500 ft past US 29/74
- US 29/74; from Cox Road to S. Main Street/Redbud Drive
- Cox Road; from Gardner Park Drive/Armstrong Park Drive to NC 7

The incident types, severity, and weather conditions for incidents along these corridors were analyzed and results can be seen in the subsequent sections. Crash data was normalized based on vehicle miles traveled (VMT). Using this methodology considers the volume, length, and geometrics of the roadway, while determining a quantitative rating of crash frequency. This approach prevents the skew caused by high traffic roadways, and helps better illustrate safety issues on local or low volume roads.

The total number of incidents along each corridor can be seen to the right. It should be noted that for incident severity and subsequent incident weather analysis, the data was normalized according to the number of millions of vehicle miles traveled (MMVT) along each corridor.



The severity of incidents along each corridor are shown to the left.



The weather conditions associated with the incidents along each corridor can be seen above. For the study area the majority of the incidents occur during dry conditions, indicating that weather was not a factor in the incidents.

Based on the crash data above, the critical area intersections, from a safety perspective, were identified. These intersections were the eight (8) locations that recorded the most incidents over the three year period. Listed from the most to the fewest incidents, these intersections are:

- S. Main Street/Redbud Drive at US 29/74
- Cox Road/Armstrong Park Road at US 29/74
- Cox Road at Gaston Mall Drive
- Cox Road at I-85 NB Ramp
- S. Main Street at Crausby Avenue
- Cox Road at Court Road
- Cox Road at Aberdeen Boulevard
- Franklin Square Driveway at US 29/74

Each location was analyzed to determine crash frequency by month, year, time of day, day of the week, and crash type. The highest frequency in each category can be seen below.

Franklin Boulevard

Intersection	Number	Month	Year	Time of Day	Day of the Week	Crash Type
S. Main Street/Redbud Drive at US 29/74 -	53	May November	2013	4:00 PM- 5:00 PM	Monday	Rear End, Slow or Stop
Cox Road/Armstrong Park Road at US 29/74	48	March October	2013	3:00 PM- 4:00 PM	Monday Saturday	Angle
Cox Road at Gaston Mall Drive	40	November	2013	12:00 PM- 1:00 PM	Thursday Friday	Angle Rear End, Slow or Stop
Cox Road at I-85 NB Ramp	34	December	2012	5:00 PM- 6:00 PM	Thursday	Left Turn, Same Roadway
S. Main Street at Crausby Avenue	22	June November December	2012	6:00 PM- 7:00 PM	Thursday	Rear End, Slow or Stop
Cox Road at Court Road	15	June	2014	12:00 PM- 1:00PM	Monday	Angle Left Turn, Same Roadway
Cox Road at Aberdeen Boulevard	13	December	2012	8:00 AM- 9:00 AM 5:00 PM- 6:00 PM	Monday	Angle Left Turn, Same Roadway
Franklin Square Driveway at US 29/74	11	May June August October	2013	4:00 PM- 5:00 PM	Saturday	Rear End, Slow or Stop

Future Conditions

The following projects are currently listed in the NCDOT State Transportation Improvement Program (STIP) and the Gaston-Cleveland-Lincoln Metropolitan Planning Organization (GCLMPO) 2040 Metropolitan Transportation Plan (MTP).

I-85 Widening (I-5719)

This project is listed in the NCDOT STIP and involves the widening of I-85 to eight lanes between US 321 and NC 273. This project is currently scheduled for right-of-way (ROW) and utility acquisition in fiscal year (FY) 2022. This project is to be coordinated with the Cox Road Interchange (I-5713).

Cox Road Interchange (I-5713)

This project is listed in the NCDOT STIP and would fund the improvement of the Cox Road at I-85 interchange. It is listed as funded for ROW acquisition in FY 2017 and construction in FY 2018. This project is to be coordinated with the I-85 widening (I-5719) and planning/design is to be performed by the division.

I-85 ITS (I-5869)

The installation of Intelligent Transportation System (ITS) improvements along I-85, between Main Street (Exit 22) and Sam Wilson Road (Exit 29), is included in the NCDOT STIP. This project is scheduled for construction in FY 2024. Although the extents of this project just touch the study area, it is unknown at this time if there may be impacts to the Main Street at I-85 interchange.

Gastonia CCTV Cameras (C-5186)

This project is listed in the NCDOT STIP and consists of the installation of six (6) additional CCTV cameras to the existing Computerized Signal System (Project U-4736). Of those six locations, one is within the study area of this project. The intersection of the Sam's Club Driveway at US 29/74 will be included in the future CCTV camera network. With the installation of a camera at this location, traffic will be able to be monitored at this intersection, and at adjacent intersections along US 29/74. This project is already underway and is funded for construction in FY 2015.

Pedestrian Sidewalks

The construction of sidewalks is listed as unfunded in the GCLMPO 2040 MTP. They are proposed at the following locations:

- US 29/74; the north side of the road between Cox Road and Gastonia City Limits
- Main Street; one side from Lowell City Limit to Tower Road

In the NCDOT STIP, the construction of the US 29/74 sidewalks are listed as funded for preliminary engineering and ROW acquisition in FY 2015, with construction in FY 2016.

US 29/74 Widening

This project is listed in the GCLMPO 2040 MTP as a highway project to be complete in the horizon year period 2016-2025. It includes widening of the westbound direction of US 29/74 from three to four lanes between Cox Road and S. Church Street. The City of Gastonia has an agreement with the current property owners on the south side of the US 29/74 to complete this project with the development of the property.

For the outcomes of the Franklin Boulevard Corridor Access and Alternative Development Mobility Strategy to reflect community values and be implementable, a community engagement process was created to generate information equal in value to technical data. The process resulted in residents, business owners and others joining the technical steering committee and staffs from both communities to create a vision, explore alternative futures, and select preferred strategies for transportation improvements. It was important to create a process that allowed participants to understand why decision were made and the effect of those decisions as the plan took shape.

Community Vision – Chapter Overview

This chapter summarizes the initial outreach events designed to understand the issues, needs, and desires for the communities of Gastonia and Lowell. These events included community visioning workshops on March 16th and 30th, 2015 within the two communities. Additional community outreach efforts include stakeholder interviews and an online questionnaire. Once initial recommendations had been developed they were shared with members of the communities for feedback relative to consistency with the visioning process.



Scenes from the March 16th and 30th
Community Workshops

Community Outreach

An inclusive process that involved residents, business owners, staff, elected officials and other stakeholders was critical in the creation of the Franklin Boulevard Corridor Access and Alternative Development Mobility Strategy. The process tapped into the intimate knowledge of these groups through a variety of outreach events. Special consideration was given to reaching a balanced cross-section of the community with the intent to accomplish several objectives:

- Engaging key community leaders
- Sequencing engagement activities to build ongoing participation
- Offering decision and/or influence opportunities for citizens
- Ensuring representation from those that understand and cherish the heritage of the community
- Using the engagement process to raise awareness of the project and of planning in general.



Two community meetings were held for each community within the study area. The Gastonia meeting was held on March 16th, 2015 and the Lowell meeting was held on March 30th, 2015. At each of the community meetings, the project team provided an introduction to the planning process associated with the study and briefed the attendees on the activities scheduled for the meeting. Each activity was facilitated with the purpose of identifying priority issues and concerns from community members. On the subsequent pages, the outreach activities utilized as well as the feedback received are discussed.

One Word

The One Word Activity captured existing sentiments and future hopes about Gastonia and Lowell. Participants were asked to write down one word that came to mind about their HOPES and another word that described their FEARS. This exercise provided a quick snapshot of the participant's current perception of the community, including issues that needed to be addressed and resources that should be leveraged. The FEAR questions helped the project team understand the participant's desire for the future. In some cases, the vision question also revealed what the participants feel is the reality for the community if change does not occur. The word cloud images, below, highlight the thoughts of the participants.

Gastonia Community Hopes and Fears

Hopes

- Ease Congestion
- Safety
- Pedestrian and Bicycle Facilities
- Alleviate Congestion

Fears

- Increases in Congestion
- Negative Impacts to Neighborhood and Property Values
- Connection of Residential Streets to Franklin Blvd.

Lowell Community Hopes and Fears

Hopes

- Mixed Use Development
- Greenspace/Gateway to the City
- More Pedestrian Friendly Intersections
- Thriving Business Community

Fears

- No Development
- Poor/Over Development
- Congestion
- No Action from this Plan

Priority Pyramid

Participants were given a blank pyramid with a corresponding set of stickers that represent each of the planning themes. Participants were challenged to select the themes that they deem most important and effectively “build” their pyramid of priorities. Completed pyramids were collected and placed on the wall grouped by priority. The result of this exercise was an expression clearly visible to all participants. This allowed for a contrast between individual responses and group responses where trade-offs are examined.

The themes compared in the exercise are shown below.



This exercise allowed participants to prioritize a preliminary list of planning themes. Each panel member received a game board displaying a pyramid and six placards representing a theme. They were challenged to select the themes they deemed most important, followed by two secondary themes, and three tertiary themes. The project team then collected the game boards and grouped them by each pyramid’s top priority for the entire panel to view and discuss.

City of Gastonia

City of Lowell



Visual Preference Survey

Community meeting participants were offered an opportunity to weigh in on the design and priority elements of transportation systems planning. Each participant was provided voting cards that allowed them the ability to “vote” for their preference to certain design themes such as lighting, street design, pedestrian facilities, crosswalks, signalized intersections, intersection treatments, landscaping and public art. The outcome of the VPS is the more detailed information regarding specific design choices and multimodal choices that can be summarized and considered when identifying and evaluating projects.

The themes presented in the VPS are detailed to the right.

The VPS survey is summarized on the following pages along with the participant’s top preference from the symposium exercise.

- Cross Sections
- Intersection Treatments
- Signalized Intersections
- Lighting
- User Profile – Pedestrians
- User Profile – Bicycles
- Bicycle Facilities
- Pedestrian Facilities
- Pedestrian Safety
- Crosswalks
- Landscaping

Franklin Boulevard

Cross Sections

A



B



C



D



C

B

Franklin Boulevard

Corridor Access and Alternative
Development Mobility Strategy

Intersection Treatments



Franklin Boulevard

Signalized Intersections



Franklin Boulevard

Lighting

A



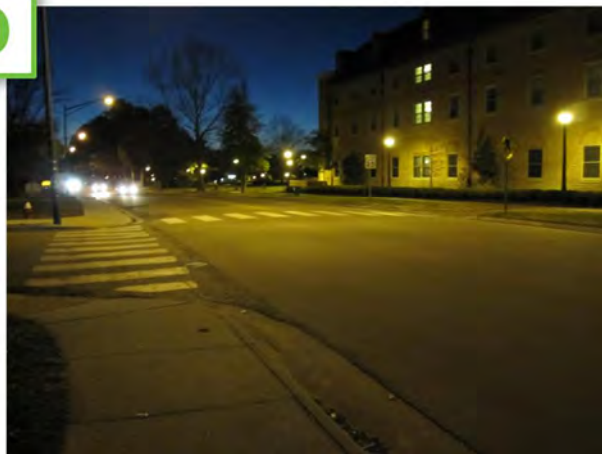
B



C



D



A

C

Franklin Boulevard

User Profile - Bicyclists

A



B



C



D



C

C

Franklin Boulevard

User Profile - Pedestrians

A



B



C



D



C

D

Franklin Boulevard

Bicycle Facilities

A



B



C



D



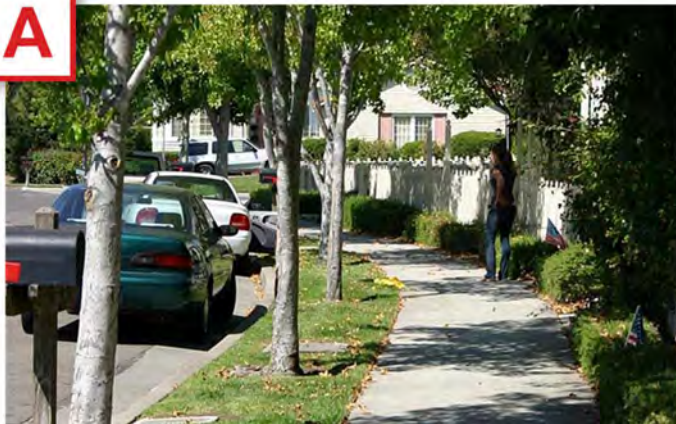
D

C

Franklin Boulevard

Pedestrian Facilities

A



B



C



D



C

A

Franklin Boulevard

Pedestrian Safety

A



B



C



D



D

C

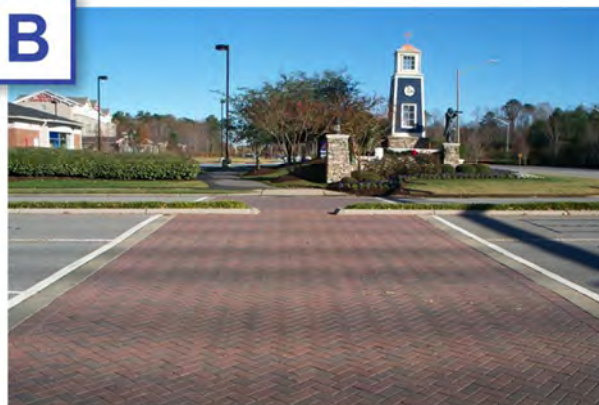
Franklin Boulevard

Crosswalks

A



B



C



D



C

C

Franklin Boulevard

Landscaping

A



B



C



D



B

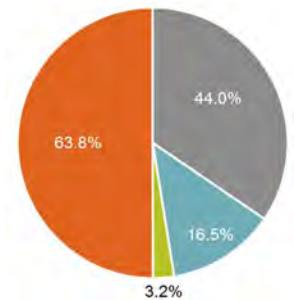
B

Questionnaire

A questionnaire was created to mirror the visioning and fact-finding exercises conducted during the community meetings. The questionnaire was distributed online to gather information on issues, needs and desires. The online questionnaire was developed to reach those residents that could not attend the public meetings. Information gathered through the online questionnaire was supplemented with feedback gathered in the community meetings. More than 200 people participated in the online questionnaire. The results are summarized in the pages that follow.

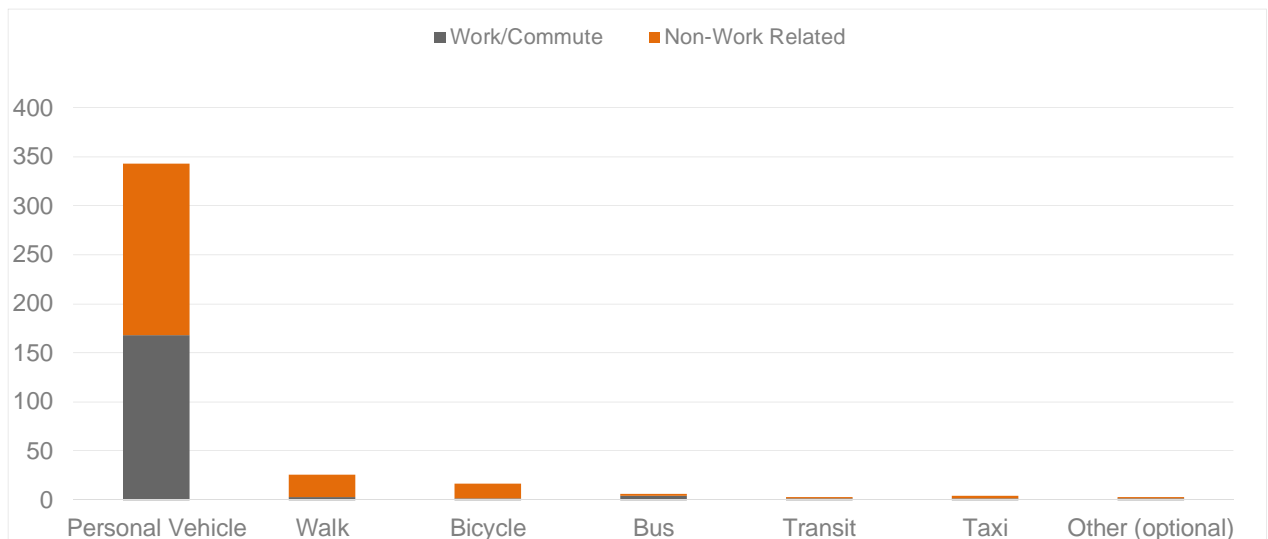
What is your role in the study area? (check all that apply)

Answer Options	Response Percent	Response Count
Resident (live in the study area)	44.0%	96
Employee (work in the study area)	16.5%	36
Business Owner (own a business in the study area)	3.2%	7
Commuter (travel through the study area)	63.8%	139



What types of transportation do you use? (check all that apply)

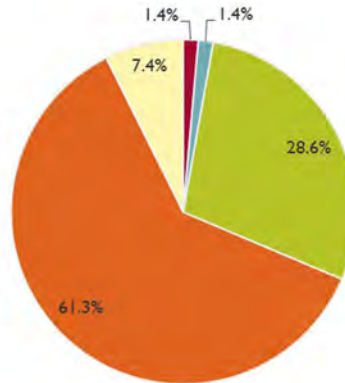
Answer Options	Work/Commute	Non-Work Related	Response Count
Personal Vehicle	168	175	219
Walk	3	23	26
Bicycle	2	15	17
Bus	4	2	6
Transit	2	1	3
Taxi	2	2	4
Other (optional)	2	1	3
Other (please specify)			4



Franklin Boulevard

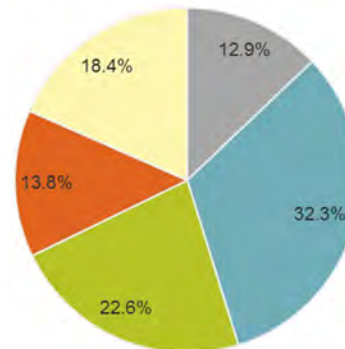
In the last five years, traffic in the study area has gotten...

Answer Options	Response Percent	Response Count
much better.	1.4%	3
somewhat better.	1.4%	3
somewhat worse.	28.6%	62
much worse.	61.3%	133
I don't know.	7.4%	16



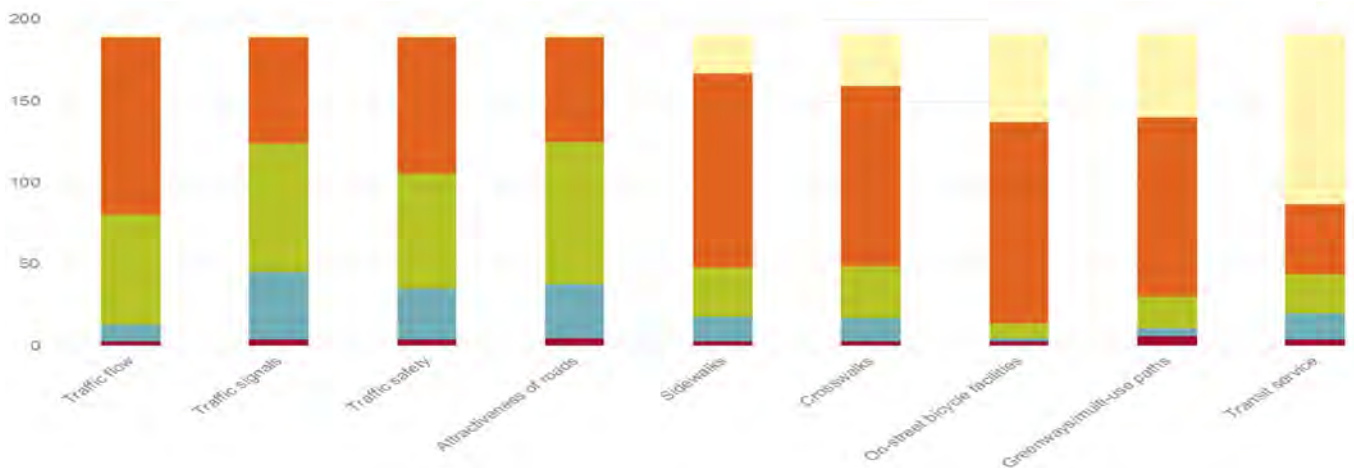
In the last five years, the types of land uses and building design have gotten...

Answer Options	Response Percent	Response Count
much better.	12.9%	28
somewhat better.	32.3%	70
somewhat worse.	22.6%	49
much worse.	13.8%	30
I don't know.	18.4%	40



Overall, how would you rate the following pieces of the transportation network in the study area?

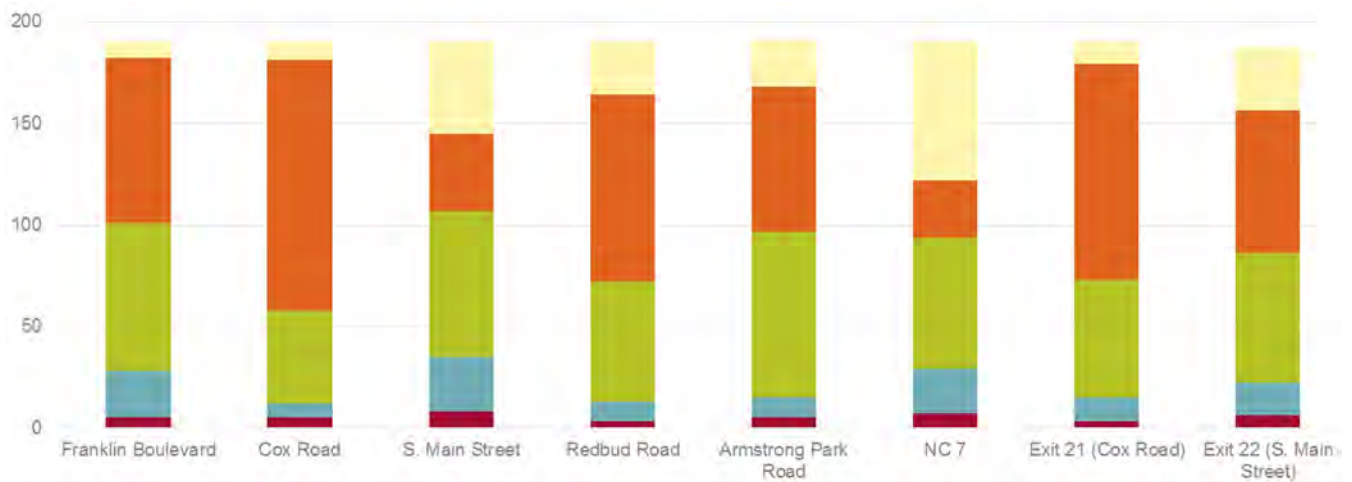
Answer Options	Excellent	Good	Fair	Poor	Don't Know	Response Count
Traffic flow	3	10	68	108	2	191
Traffic signals	4	41	79	65	2	191
Traffic safety	4	31	71	83	2	191
Attractiveness of roads	5	33	87	64	2	191
Sidewalks	3	15	30	119	24	191
Crosswalks	3	14	32	110	32	191
On-street bicycle facilities	3	2	9	123	54	191
Greenways/multi-use paths	6	5	19	110	51	191
Transit service	4	16	24	43	104	191



Franklin Boulevard

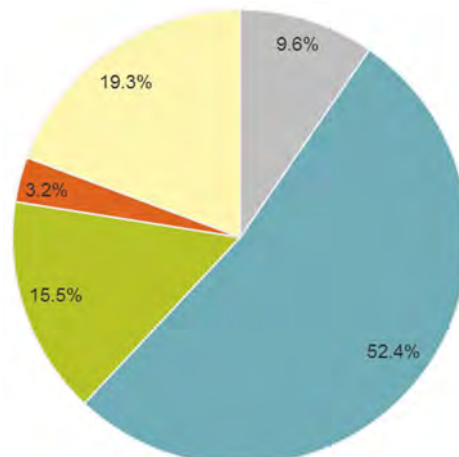
How well do you think the transportation system along the following roads and interchanges meet the needs of the community?

Answer Options	Very Well	Well	Somewhat Well	Not Well	Don't Know	Response Count
Franklin Boulevard	5	23	73	81	8	190
Cox Road	5	7	46	123	9	190
S. Main Street	8	27	72	38	45	190
Redbud Road	3	10	59	92	26	190
Armstrong Park Road	5	10	82	71	23	191
NC 7	7	22	65	28	68	190
Exit 21 (Cox Road)	3	12	58	106	11	190
Exit 22 (S. Main Street)	6	16	64	70	31	187



When does the Cox Road/Franklin Boulevard intersection experience the worst traffic congestion?

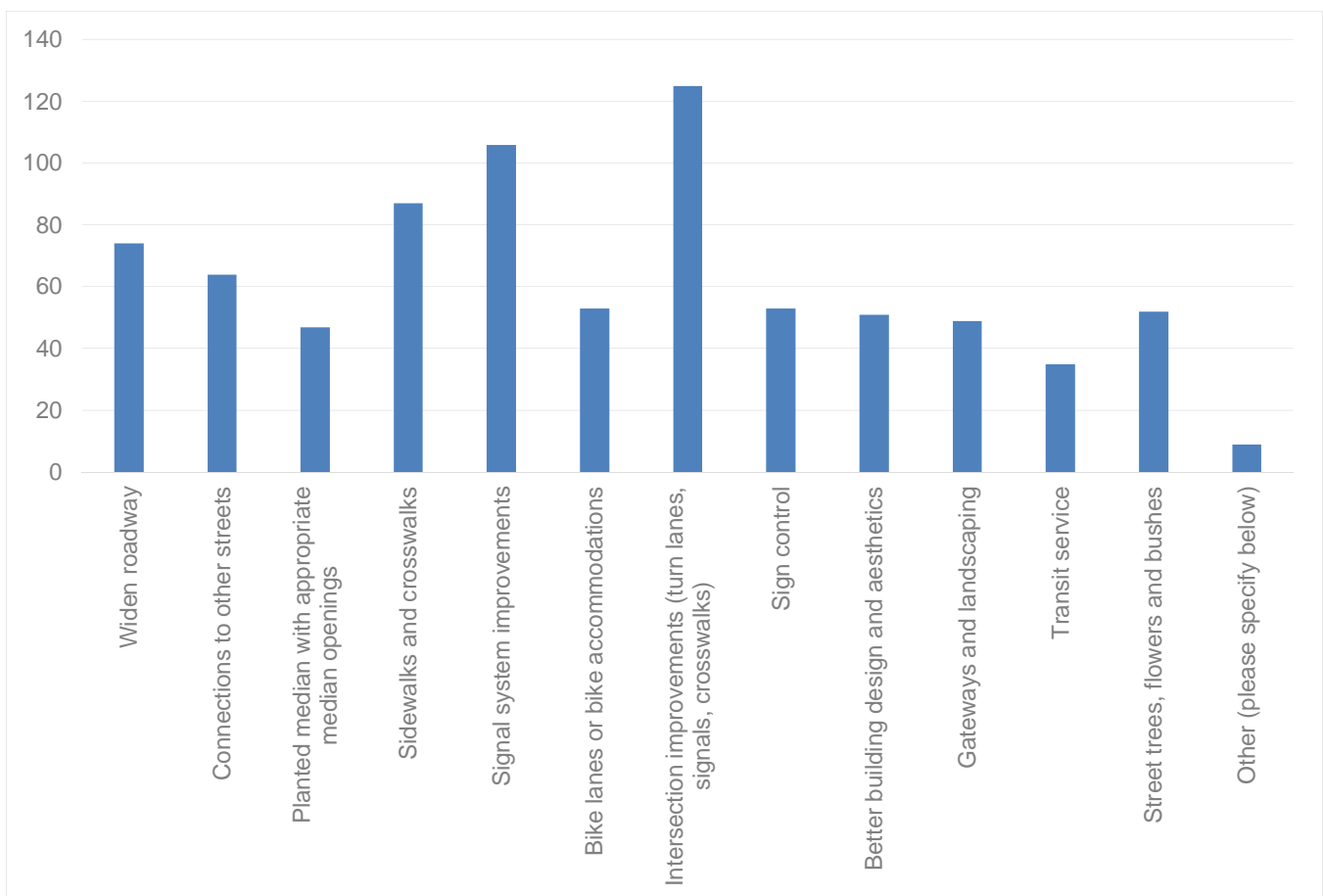
Answer Options	Response Percent	Response Count
Weekday mornings	9.6%	18
Weekday evenings	52.4%	98
Saturdays	15.5%	29
Don't know	3.2%	6
Other (please specify)	19.3%	36



Franklin Boulevard

What is needed along Franklin Boulevard? (check all that apply)

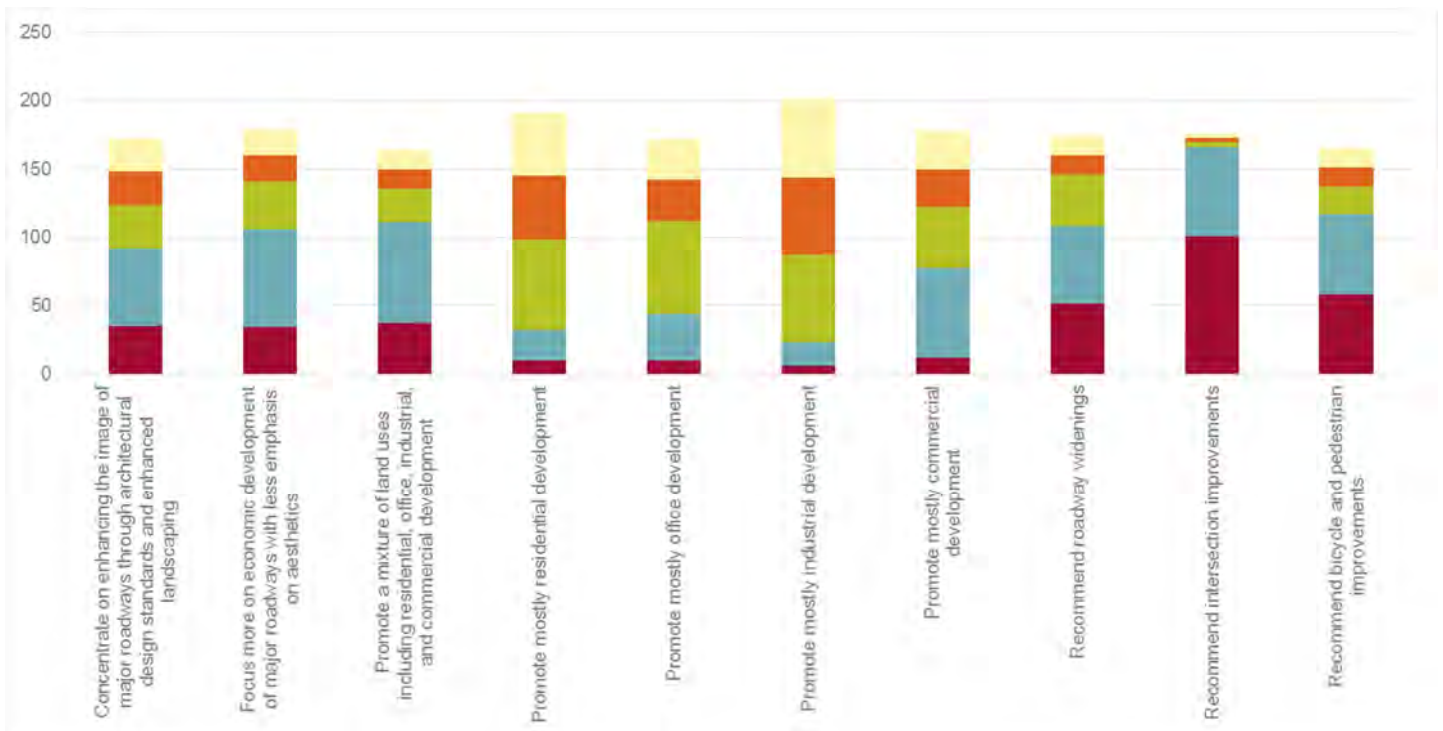
Answer Options	Franklin Boulevard
Widen roadway	74
Connections to other streets	64
Planted median with appropriate median openings	47
Sidewalks and crosswalks	87
Signal system improvements	106
Bike lanes or bike accommodations	53
Intersection improvements (turn lanes, signals, crosswalks)	125
Sign control	53
Better building design and aesthetics	51
Gateways and landscaping	49
Transit service	35
Street trees, flowers and bushes	52



Franklin Boulevard

In your opinion, the Franklin Boulevard Corridor Plan should:

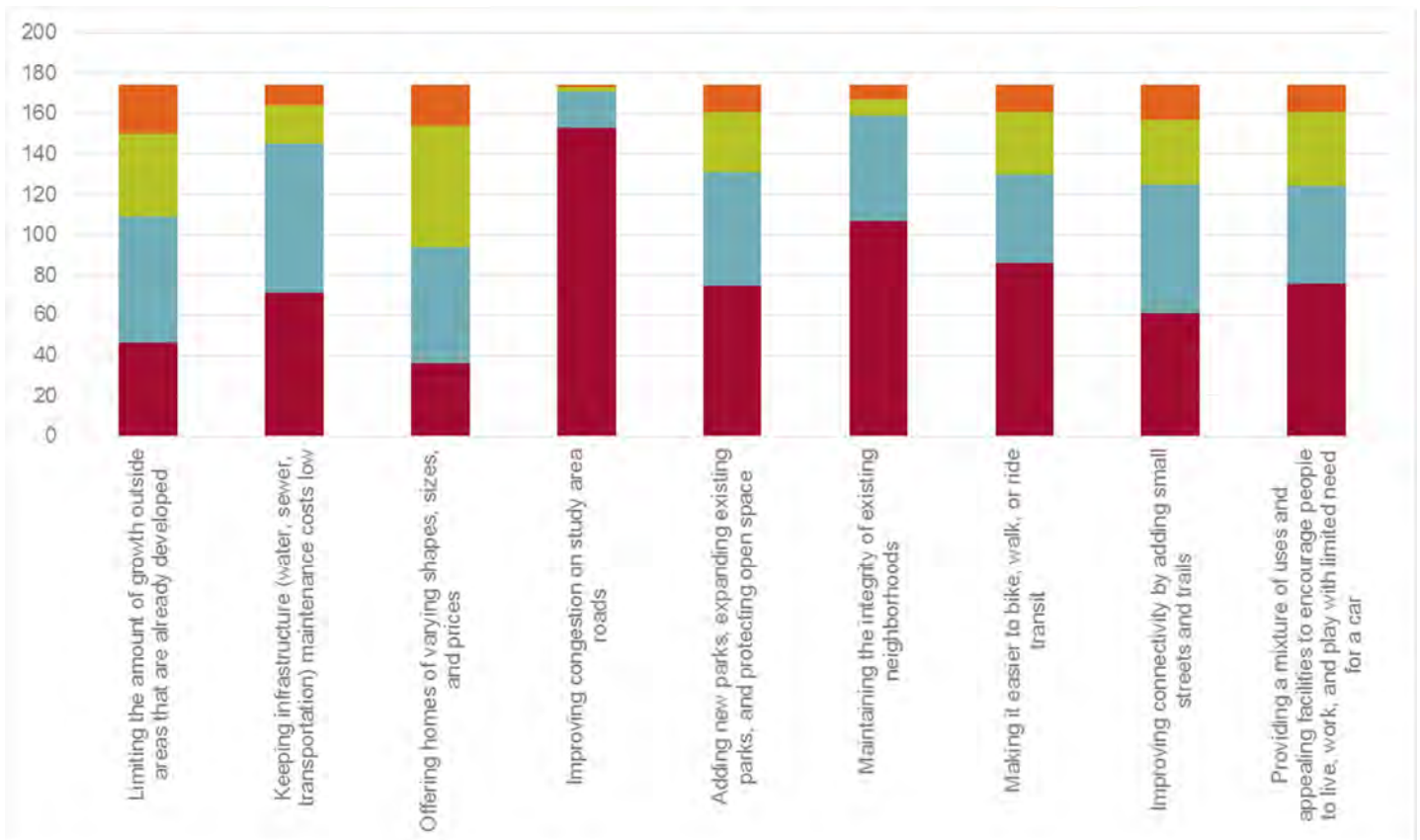
Answer Options	Strongly Agree	Agree	Disagree	Strongly Disagree	No Opinion
Concentrate on enhancing the image of major roadways through architectural design standards and enhanced landscaping	35	57	32	24	33
Focus more on economic development of major roadways with less emphasis on aesthetics	34	72	35	19	21
Promote a mixture of land uses including residential, office, industrial, and commercial development	37	74	25	14	31
Promote mostly residential development	10	22	67	46	36
Promote mostly office development	10	34	68	30	39
Promote mostly industrial development	6	17	64	57	37
Promote mostly commercial development	12	65	45	28	31
Recommend roadway widenings	51	57	38	14	21
Recommend intersection improvements	101	65	4	3	8
Recommend bicycle and pedestrian improvements	58	59	20	14	30



Franklin Boulevard

With regard to the study area, how important are the following objectives to you?

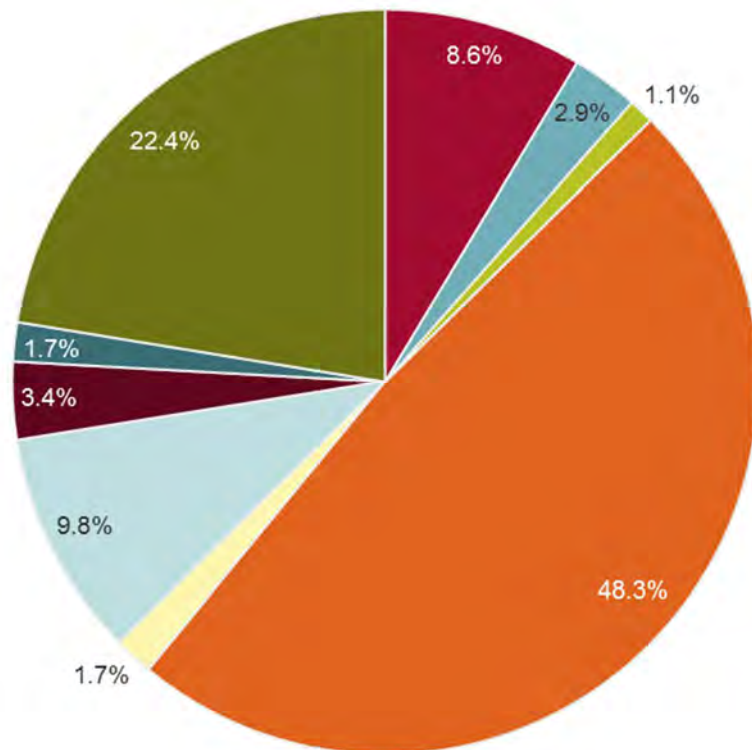
Answer Options	Very Important	Somewhat Important	Not Important	No Opinion
Limiting the amount of growth outside areas that are already developed	46	63	41	24
Keeping infrastructure (water, sewer, transportation) maintenance costs low	71	74	19	10
Offering homes of varying shapes, sizes, and prices	36	58	60	20
Improving congestion on study area roads	153	18	2	1
Adding new parks, expanding existing parks, and protecting open space	75	56	30	13
Maintaining the integrity of existing neighborhoods	107	52	8	7
Making it easier to bike, walk, or ride transit	86	44	31	13
Improving connectivity by adding small streets and trails	61	64	32	17
Providing a mixture of uses and appealing facilities to encourage people to live, work, and play with limited need for a car	76	48	37	13



Franklin Boulevard

Which of the objectives listed in the previous question are most important to you?
(check one)

Answer Options	Response Percent	Response Count
Limiting the amount of growth outside areas that are already developed	8.6%	15
Keeping infrastructure (water, sewer, transportation) maintenance costs low	2.9%	5
Offering homes of varying shapes, sizes, and prices	1.1%	2
Improving congestion on study area roads	48.3%	84
Adding new parks, expanding existing parks, and protecting open space	1.7%	3
Maintaining the integrity of existing neighborhoods	9.8%	17
Making it easier to bike, walk, or ride transit	3.4%	6
Improving connectivity by adding small streets and trails	1.7%	3
Providing a mixture of uses and appealing facilities to encourage people to live, work, and play with limited need for a car	22.4%	39



Stakeholder Interviews

Based on discussions with the City of Gastonia, the following stakeholder groups were identified. These stakeholders includes:

- Gaston County Schools
- Gaston Memorial Hospital
- Franklin Square Development
- Lineberger Property
- Local private developers within Gastonia

Interviews with the key representatives of each of these groups were performed. These interviews were utilized to determine the issues observed throughout the study area, concerns over future development, and potential areas for improvement. After these discussions, several key themes were identified as priority items for consideration in the development of recommendations, including:

- Improved Connectivity throughout the study area
- Reduced Congestion around I-85 interchanges
- Increased Diversity in Future Development
- Improved Signing and Lane Designations
- Improve connectivity to the hospital
- Congestion along Cox Road has reached a point that the hospital and schools are making conscious routing decisions to avoid the intersection

Lineberger Property

Situated just north of I-85, the Lineberger property is approximately 300 acres and to date has remained one of the largest undeveloped properties located along the I-85 corridor west of Charlotte. The lack of development is not a result of planning. Several master plans have been developed over the years depicting a variety of land uses for the property. With each masterplan, the one item that has been left for future consideration is access and has been one of the main reasons why the property has remained undeveloped.

Transportation, more importantly access and land use are the two main engines that drive the development of a property. Currently the Lineberger property can be accessed from the north on W 1st St (NC 7), to the west via Aberdeen Road and from the east via S. Church Street. From the south, I-85 serves as a barrier restricting access to Franklin Square. However, a future extension of Lineberger Road would provide access from the south to the property.

For this analysis, a developmental master plan was created. This master plan was developed to estimate the future trip generation potential of the property rather than an exercise in land use. This exercise also allowed for the evaluation of possible access scenarios. A summary of the land uses considered is shown along with a graphical depiction of the master plan.



This masterplan has the potential to develop 4,434 AM peak hour trips, 7,694 PM peak hour trips and 6,190 Saturday peak hour trips. This information along with future year forecasts was used to develop the transportation recommendations in Chapter 4.

For many residents and commuters in Gastonia and Lowell, the congestion these communities have experienced over the last 10-20 years is most evident on the communities' roadway network. The challenges facing the community are not limited to vehicles on the road. Throughout the planning process, the communities noted the need for improved bicycle and pedestrian amenities. The transportation strategy for the study area represents a balanced approach serving all travel modes.

This strategy is a partnership by the City of Gastonia, City of Lowell, and the Gaston-Cleveland-Lincoln Metropolitan Planning Organization, which is responsible for transportation improvements throughout the region.

The recommendations for the *Franklin Boulevard Corridor Access and Alternative Development Mobility Strategy* are the result of community involvement, staff engagement, stakeholder interviews, public input, analysis and comprehensive planning and transportation engineering.

Specifically, this chapter communicates a plan to improve safety and mobility of the existing streets and addresses the design of key roadway intersections. Specific recommendations have been made including: roadway typical sections, intersection designs, and connector roads.

The community played an integral part during the planning process. Their local knowledge offered a collective insight that if overlooked, could have potentially minimized the success of the study. Using this insight, the consultant team developed alternatives that addressed the issues the community raised.

The following pages offer an overview of the recommendations both in the interim and long term.

Transportation Strategy – Chapter Overview

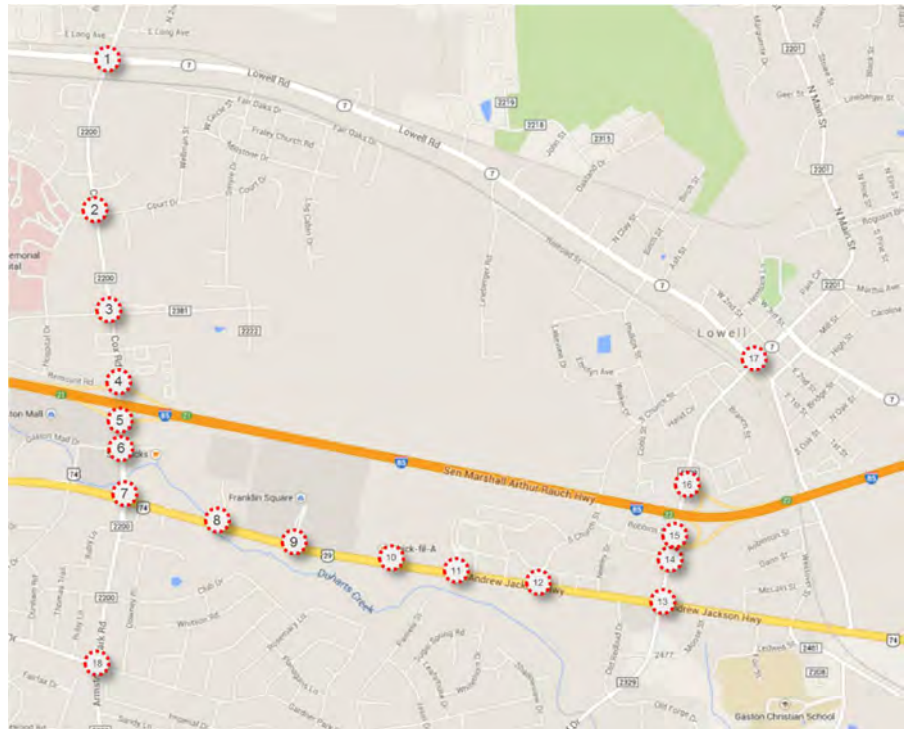
The transportation strategy for the *Franklin Boulevard Corridor Access and Alternative Development Mobility Strategy* responds to existing and projected traffic while respecting the integrity of existing places. The strategy builds on a foundation of community mobility through the addition of roadway capacity along major corridors while enhancing connectivity from existing and future development. Efforts were made to improve the quality and safety of walking and bicycling environments, including a network of bicycle friendly roads that work in conjunction with a series of future multiuse trails and greenways to provide enhanced accessibility to destinations in the community.

This chapter outlines three sets of overlapping transportation recommendations—Interim and Long-term Roadway, Bicycle and Pedestrian. It focuses on strategies that offer a balanced approach to transportation in response to the communities.

Interim Recommendations

The approach to the interim recommendations is one that focuses attention on locations where safety and mobility can be enhanced with lower cost than higher priority projects. As the recommendations shown on the following pages are implemented, staff should reassess the impacts and whether the long-term recommendations on the pages that follow still address a need or the best use of limited resources.

The numbered interim recommendations on the following page correspond with the study area intersection map shown to the right.



Interim recommendations are improvements that can be defined as improvements that can be accomplished with minimal cost/construction that will have a benefit to the overall or approach operations at the intersection.

For the purposes of this analysis, two different mitigation groups were developed. These groups, as shown below, categorize intersections on a basis of need and thereby provide the municipalities a prioritization of the interim improvements for implementation. The intersections in most need are categorized in Group A and should become a top priority for improvement in the near term.

- Group A:** LOS E or worse for all peaks
- Group B:** LOS E or worse in one or more

Group A – Overall LOS E or worse in ALL Peak Hour Periods

7. Cox Road/Armstrong Park Road at US 29/74

NB and SB approaches are currently operating with split phasing. Assuming that the reason for the split phasing is that concurrent left turns will not fit geometrically, and that the EB approach stop bar and median could be pushed back to allow for concurrent NB and SB left turns, the overall intersection operations could be improved with the following physical and operational changes:

- Move EB stop bar and median westward to allow for NB and SB concurrent left turns
- SB protected left-turns and NB protected-permissive left turns
- Optimize splits

Condition	Existing	Improved	Decrease in Overall Delay	% Reduction
AM peak hour	F (85.9)	E (69.9)	16 s	18.6%
PM peak hour	F (164.1)	F (119.4)	44.7 s	27.2%
Saturday	F (181.9)	F (168.8)	13.1 s	7.2%

13. S. Main Street/Redbud Drive at US 29/74

NB and SB left turns are currently operating with protected-only phasing. Assuming that the reason for the protected phasing is that sight distance for the NB approach only, the overall intersection operations could be improved with the following operational changes:

- SB protected-permissive left-turns
- AM peak double-cycle (network cycle length at 90 seconds, intersection cycle length is 180 seconds)
- Optimize splits

Condition	Existing	Improved	Decrease in Overall Delay	% Reduction
AM peak hour	F (330.9)	F (218.8)	112.1 s	33.9%
PM peak hour	F (245.5)	F (209.3)	36.2 s	14.7%
Saturday	F (80.9)	E (77.2)	3.7 s	4.6%

18. Armstrong Park Road at Armstrong Park Drive/Gardner Park Drive

The EB and WB approaches are currently operating with split phasing. There does not appear to be laneage or sight distance issues on either approach. Assuming the split phasing can be removed, the overall intersection operations could be improved with the following physical and operational changes:

- EB and WB protected-permissive left-turns
- Optimize cycle length and splits

Condition	Existing	Improved	Decrease in Overall Delay	% Reduction
AM peak hour	F (96.0)	D (47.0)	49.0 s	51.0%
PM peak hour	F (166.9)	E (56.2)	110.7 s	66.3%
Saturday	E (67.4)	D (36.2)	31.2 s	46.3%

Group B – Overall LOS E or worse in at least one Peak Hour Period

4. Cox Road at I-85 SB Ramp

The overall intersection operations could be improved with the following physical and operational changes:

- Add SB right-turn lane (80' between Brix southern drive and stop bar, or 150' between Brix northern drive and stop bar)- note that sidewalk would be at back of curb
- Optimize splits

Condition	Existing	Improved	Decrease in Overall Delay	% Reduction
AM peak hour	C (34.3)	C (28.7)	5.6 s	16.3%
PM peak hour	F (91.4)	E (61.5)	29.9 s	32.7%
Saturday	E (69.2)	E (58.8)	10.4 s	15.0%

5. Cox Road at I-85 NB Ramp

The overall intersection operations could be improved with the following physical and operational changes:

- Restripe exclusive EB left-turn lane to EB left-through-right
- Optimize splits

Condition	Existing	Improved	Decrease in Overall Delay	% Reduction
AM peak hour	B (18.9)	C (21.4)	-2.5 s	-13.2%
PM peak hour	F (56.2)	D (35.4)	20.8 s	37.0%
Saturday	C (26.7)	B (17.6)	9.1 s	34.1%

15. S. Main Street at I-85 NB Ramp

The overall intersection operations could be improved with the following physical and operational changes:

- Restripe (and add pavement/minimize concrete median) for a two-lane WB approach with exclusive left-turn lane and shared left-right lane
- Optimize splits (150 sec cycle length for AM peak, 90 sec cycle length for PM and Sat)

Condition	Existing	Improved	Decrease in Overall Delay	% Reduction
AM peak hour	F (150.0)	D (49.5)	100.5 s	67.0%
PM peak hour	C (33.5)	B (12.6)	20.9 s	62.4%
Saturday	B (13.6)	A (8.7)	4.9 s	36.0%

16. S. Main Street at I-85 SB Ramp

The overall intersection operations could be improved with the following physical and operational changes:

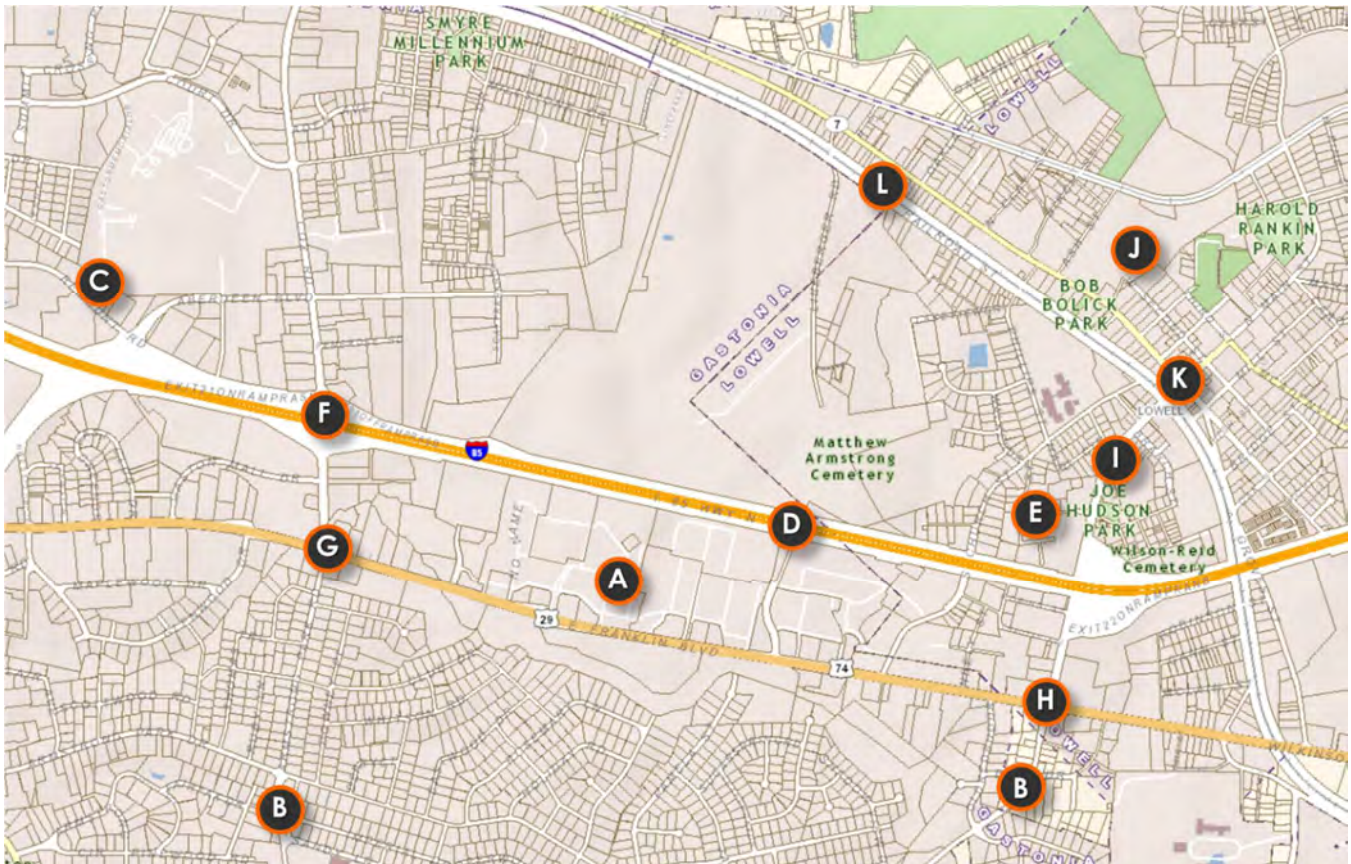
- Restripe (and add pavement/minimize concrete median) for a two-lane WB approach with exclusive left-turn lane and shared left-right lane
- Optimize splits (90 sec cycle length) all peaks

Condition	Existing	Improved	Decrease in Overall Delay	% Reduction
AM peak hour	C (23.5)	B (12.5)	11.0 s	46.8%
PM peak hour	F (191.1)	C (20.8)	170.3 s	89.1%
Saturday	C (20.8)	B (10.7)	10.1 s	48.6%

Long Term Recommendations

The approach to the long term recommendations is one that develops an access strategy for the study area as a whole rather than focusing on an individual interchange or intersection. The strategy looks to build upon improved access and mobility working as a system rather than individual corridors. This allows for corridors to be retooled to work in better harmony with the surrounding community, while others take on a completely different role than what was originally envisioned. As the recommendations shown on the following pages are implemented, staff should reassess the impacts and whether additional improvements are needed.

The long term improvements are broken into two groups. The first group focuses on the implementation of a connector road through the Franklin Square development. The other focuses on individual projects within the study area. Combined with the interim year improvements, these recommendations create a comprehensive access and mobility strategy for the study area. The graphic below depicts the location of each of the projects, relative to each other.



Franklin Square Parallel Connector

Key Issues

In coordination with staff and the community, the following key issues were identified:

- Lack of “defined” connectivity through Franklin Square.
- “Land Use” peak hour congestion on weekends and holidays.
- Reliance on Franklin Boulevard to facilitate trips between centers.

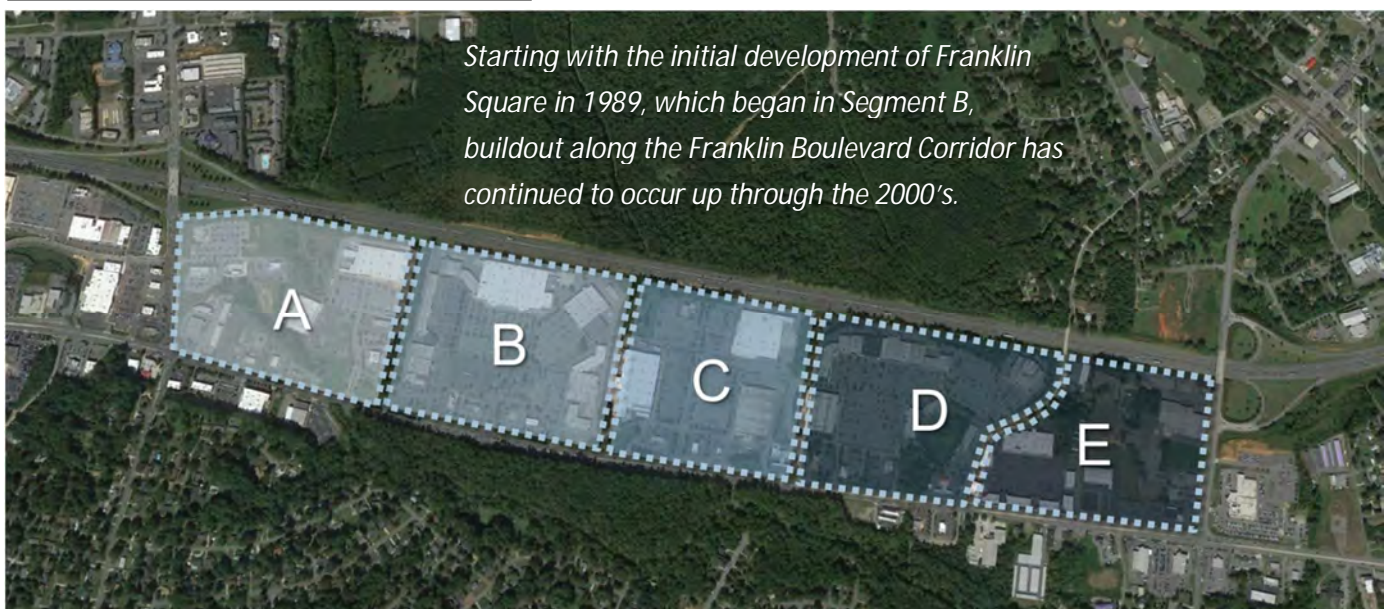
A common recommendation for each of the sections, is the conveyance of ownership of connecting roadways and access points to the representative Cities. This will allow for the implementation of the future roadway improvements. The Cities should work with the individual property owners to establish these right-of-ways.

Description:

For almost thirty years, Franklin Square has served as the major retail hub for Gaston and the surrounding counties. First opened in 1989, Franklin Square has been an economic engine for the communities of Gastonia and Lowell, fueling development along the Franklin Boulevard, S. Main Street and Cox Road corridors. While the economic prosperity has been welcomed, the associated congestion has placed a burden on the adjacent roadway network. The center has such a draw on from the surrounding communities that the City of Gastonia deploys alternative signal timing starting the first of November to manage traffic demand for the Christmas season.

A common theme during the outreach activities was the need for an improved connector roadway through Franklin Square. This connector would allow patrons the ability to travel between the different centers without reliance on Franklin Boulevard. While an existing connector route is in existence in various forms throughout the centers, the lack of a defined connector with common signage and typical section makes its utilization by visitors difficult. In addition, its spacing from Franklin Boulevard can at times result in gridlock conditions internal to the site.

The following pages highlight the recommendations for connectivity throughout the different phases of Franklin Square.



Franklin Boulevard



Section A covers the area from Cox Road east to the boundary of the Home Depot shopping center. Currently, Gaston Mall Drive stops at Duharts Creek and does not connect to the Home Depot shopping center. To the east, the Home Depot Shopping Center does have connectivity to the Franklin Square Shopping center. As shown above the connection is located just 200 feet north of Franklin Boulevard. The close spacing of Franklin Boulevard can limit the ability for side street left-turns during the peak hours. This peak hour and Saturday congestion has the potential to limit the use of the connector, forcing motorists to use Franklin Boulevard for mobility between centers.

Two possible connections to Gaston Mall Drive are shown in the graphic above. Both connections will require a crossing of Duharts Creek and the existing floodplain/floodway as shown to the right. Both options would provide improved connectivity and mobility, as well as foster less reliance on Franklin Boulevard for connectivity. If an extension of Gaston Mall Drive was made it most likely will increase traffic demand and congestion at the intersection with Cox Road. Given the existing congestion levels along Cox Road and the close spacing with the I-85 Ramps, intersection spacing or operational capacity improvements would need to be implemented prior to making this connection.



Franklin Boulevard



Section B covers the original Franklin Square Center. Unlike the center to the west, this phase of Franklin Square has connectivity between the adjacent centers. To the west there is one connection, while to the east the center currently has two connections to Franklin Square Phase II.

Through the center of the development the beginnings of a formalized street connection is present it does not connect to the east and it loses its formalized street typical section, which visually promotes the thought that this is not a connection. To the west the formalized street connection terminates into the development.

As with the Home Depot Center to the west, the existing connection is located just 330 feet north of Franklin Boulevard. The close spacing with Franklin Boulevard can limit the ability for side street left-turns during the peak hours. This peak hour and Saturday congestion has the potential to limit the use of connector, forcing motorists to use Franklin Boulevard for mobility between centers.

As the center begins to evolve, the City of Gastonia should work with the property owners to develop a more formalized street connector through the center that connects to the adjacent centers.

Franklin Boulevard



Section C covers phase II of the Franklin Square development. Like sections A and B there is a parallel connector road located approximately 330 feet from Franklin Boulevard at the main entrance. Unlike the original phase of Franklin Square, the connector road does not continue to the east. In addition, there is not the beginnings of a formalized, parallel street connection further north in the site. There is connectivity to the parcel to the east as well as to Lineberger Road. Lineberger Road is a public street that is intended to connect the development along the south side of I-85 with the currently undeveloped Lineberger parcel located on the north side of the I-85. The connection is currently proposed to occur via a grade separation (bridge) over I-85. At this time there are no currently plans on when this connection may occur.

Like the previous sections, as redevelopment of the center occurs, it is recommended that the City of Gastonia work with the property owners to create a formalized street connection through the northern portion of the property. This street connection will play an increased role in internal and external mobility once the extension of Lineberger Road occurs to the north.

Franklin Boulevard



Section D between Lineberger Road and S. Church Street is the newest phase of the Franklin Square development to occur. Unlike its predecessors, it offers a formalized street connection east and west through the site. It also is within both municipalities, Gastonia and Lowell.

Moving forward, the recommendations for this section continue to preserve the street connections and internal and external connectivity this phase provides. In addition, the property owners should work with the adjacent property owners to promote and support improved connectivity with its neighbors. Lastly, the property owners should work with the City of Gastonia to support the extension of Lineberger Road north of I-85.

Franklin Boulevard



Section E, while not built out like the previous parcels, has started to see development occur. The evolution of development practices and standards are evident in the placement of buildings and degree of connectivity to adjacent streets.

While the majority of the property is currently developed in a variety of land uses, as redevelopment or consolidation of the parcels occurs, the City of Lowell should work to create an improved connection between S. Church Street and S. Main Street. While an existing connection between these streets is currently present, it is circuitous and utilizes residential streets to facilitate this connection. An improved connection would help to formalize the connection between S. Main Street and the other parcels to the west.

Readbud Drive and Armstrong Park Road

B

Key Issues

In coordination with staff and the community, the following key issues were identified:

- Peak hour and weekend congestion
- Constrained right-of-way
- Residential neighborhood

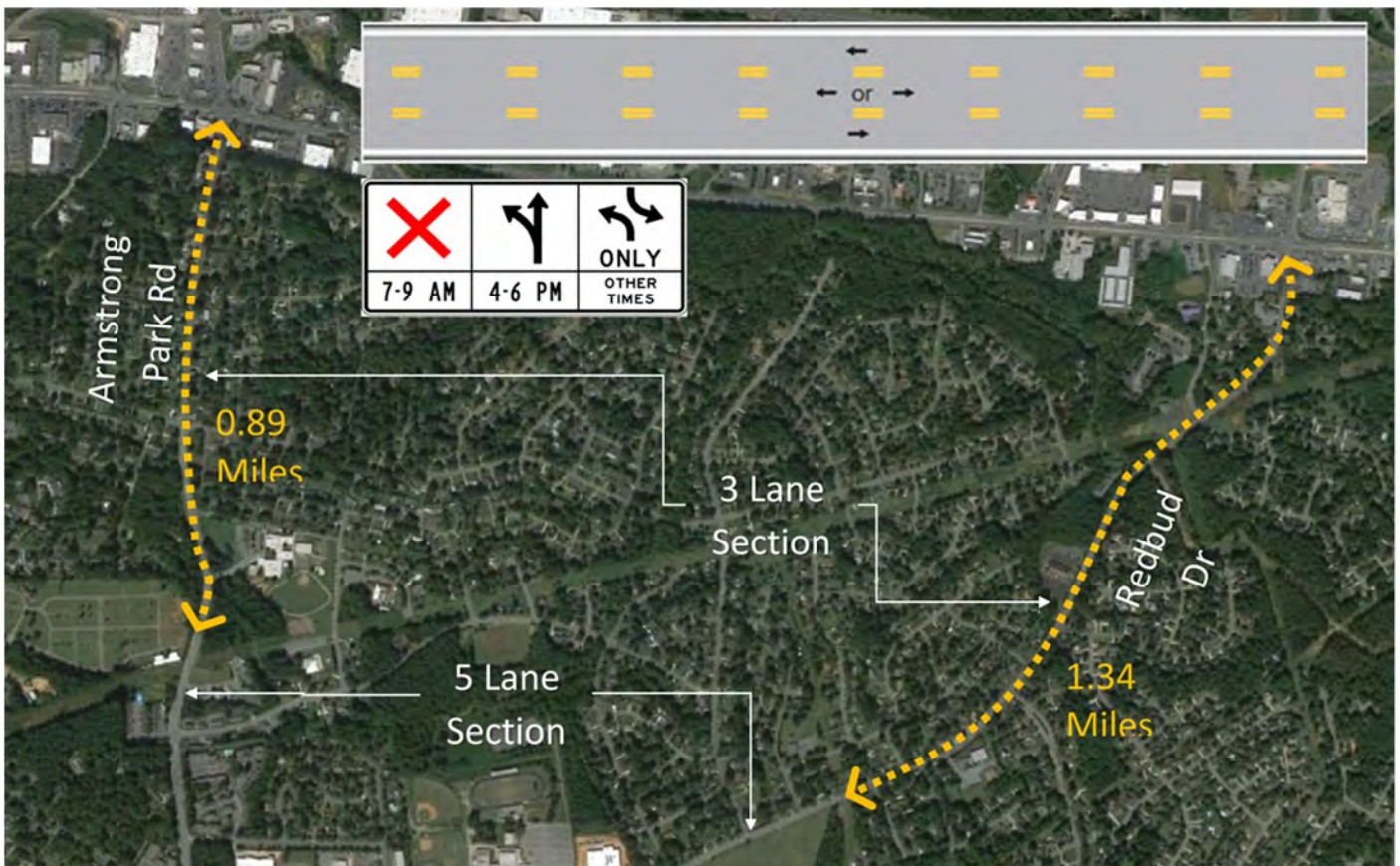
Cost: \$3-5 million

Description:

Each of these roadways are located on the south side of Franklin Boulevard and serve as major connectors for residents in southern and western Gaston county wanting to access Interstate 85. Each of these corridors experience a capacity transition from 5 –lanes to 3-lanes to 5-lanes. This hourglass configuration creates additional congestion and elongates the duration of the peak hour.

The traditional approach to mitigating this congestion would be to widen these roadways. This approach, while solving the congestion would impact the residential neighborhoods populating these corridors. During the off peak hours, the widened roadway would be underutilized.

An alternative approach, one that is supported by this study, is to implement a reversible lane system. This allows traffic to utilize the existing center turn lane for the approximate 1 mile sections, improving capacity, reducing congestion, while minimizing the impact to the adjacent residents and neighborhoods.





Hospital Drive

Key Issues

Based on a stakeholder interview with emergency medical technicians, the following issues were identified:

- Peak hour congestion on Cox Road
- Constrained access to the Hospital

Description:

Carmont Regional Medical Center is the largest hospital in Gaston County and is located just west of Cox Road and north of Aberdeen Boulevard in the study area. During the community outreach portion of this study, EMT's with the hospital indicated that access to the hospital is off Court Drive which connects to both Cox Road and New Hope Road.

Based on congestion and improving emergency response times a new connector road through the extension of Hospital Drive to Remount Road was a recommendation of the Hospital. This would allow emergency vehicles and the public to access the hospital from Remount Road which has less congestion than Cox Road and New Hope Road. It also provides improved connectivity and routing to New Hope Road, Franklin Boulevard and Cox Road, via Aberdeen Boulevard.



The panels to the left and below depict two alternatives for the possible connector. Impacts to the floodplain, floodway and existing stream will determine the ultimate connection and configuration of the roadway.



Cost: \$750,000 – \$925,000



Lineberger Road Interchange

Key Issues

In coordination with staff and the community, the following key issues were identified:

- Need for additional access to Franklin Boulevard
- Need for future access to the Lineberger Property

Cost: \$28-32 million



Description:

The Federal Highway Administration (FHWA) requires a minimum of one mile spacing between interchanges in urban settings. Under a traditional approach to interstate access, a new interchange at Lineberger Road would not be feasible. However, utilizing a series of collector and distributor roads between the existing interchanges at Exits 21 and 22, a new interchange at Lineberger Road is feasible. Under this scenario, merging and diverging traffic can be separated by from the mainline through movements. This approach also minimizes the number of decision points along I-85 from eight to four between the existing and proposed conditions.

Franklin Square is currently accessed through Franklin Boulevard via the Cox Road and S. Main Street interchanges, Exits 21 and 22, respectively. With the planned future extension of Lineberger Road and the widening of I-85, the potential exists to create a series of connected or linked interchanges between Exits 21 and 22, allowing for a new interchange at Lineberger Road. Linked through collector and distributor roads, the interchange system would provide access not only to the existing Franklin Square development south of I-85 as well as the development of the Lineberger property north of I-85.





Exit 22 Connector Boulevard

Key Issues

In coordination with staff and the community, the following key issues were identified:

- Need for future access to the Lineberger Property
- Minimize future congestion on W. 1st Street
- Address at grade crossing concerns with railroad along W. 1st Street

Cost: \$4.2- 6.9 million

Description:

The Exit 22 Connector Boulevard utilizes the existing interchange configuration at Exit 22 to provide access to the Lineberger Property, but also to alleviate future congestion along S. Main Street and W. 1st Street in Lowell. With the partial cloverleaf design, the western quadrants are not currently utilized by loops or ramps. Tying into the southbound ramp terminal, a new connector road extends west crossing S. Church Street creating a new intersection and then beyond ultimately connecting to Aberdeen Road at Cox Road. This new connector road not only provides access to the Lineberger Property but also provides a northern connection into Franklin Square via Lineberger Road extension lessening the reliance upon Franklin Boulevard for access and mobility between the developments along Franklin Square.





Exit 21 Interchange

Key Issues

In coordination with staff and the community, the following key issues were identified:

- Intersection spacing
- Peak hour congestion
- Close ramp spacing
- Tight geometry

Cost: \$3.4-5 million

Description:

Cox Road serves as the primary access point from I-85 to the local and regional commercial development of Franklin Square and Gaston Mall as well as serving as a primary conduit for commuters to and from Charlotte. Frequent peak hour delay and queuing is common at the interchange and adjacent intersections to the south. Exacerbating the situation is the close spacing of the intersection of Cox Road at Gaston Mall Drive to the northbound I-85 ramp terminal (approx. 400 ft) and the intersection of Cox Road at Franklin Boulevard (approx. 775 ft).

To improve the operations for the corridor and the interchange, the recommendation is to offset the northbound on and off ramps and bring them into alignment with the southbound ramps. By offsetting the ramps to the north it creates intersections spacing closer to 1,000 ft between Gaston Mall Drive and the I-85 Exit 21 Ramps allowing for improved signal timing, increased storage capacity, and better intersection geometry all leading to improved intersection and corridor efficiency.





Cox Road at Franklin Boulevard

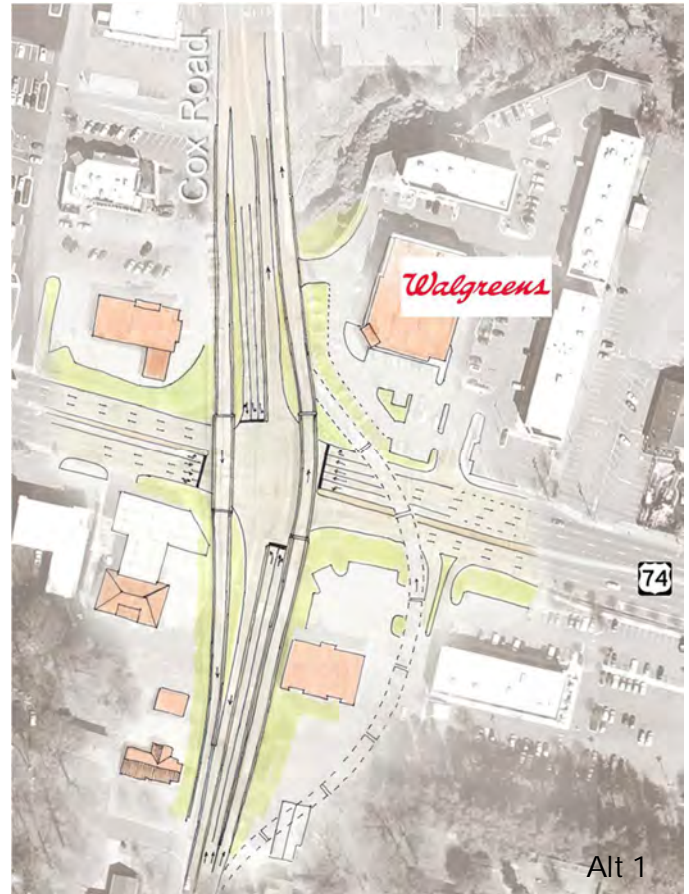
Key Issues

In coordination with staff and the community, the following key issues were identified:

- Peak Hour congestion
- Topography
- Limited Right-of-Way

Description:

Throughout the public engagement and stakeholder interviews the design team continually heard that the Cox Road and Franklin Boulevard intersection was the worst intersection within the study area. Field observations during and outside of the peak hours, in addition to capacity analysis, confirm that this intersection is the worst operating intersection within the study area. Considering the limited right-of-way and utilizing the topography of Cox Road/Armstrong Park Road, one alternative to improve operations at the intersection is to grade separate Cox Road from Franklin Boulevard. However, instead of building a traditional interchange which would require significant land acquisitions, the recommendation is to separate the through movements, either Cox Road or Franklin Boulevard, from the intersection. The graphics shown on this page depict the grade separation of the through movements from the intersection. The benefit of this is that it allows the built environment to remain while improving the operations of the intersection.



Alt 1

Cost:

Alt 1: \$3.6 - 5 million

Alt 2: \$2.4 - 3.6 million



Alt 2



Redbud Drive Connector

Key Issues

In coordination with staff and the community, the following key issues were identified:

- High congestion at Redbud & Franklin Boulevard
- Additional mobility and connectivity needed
- Tight geometry

Cost: \$4.6 – 6.8 million

Description:

Redbud Drive/S. Main Street serves as one of the two intersections between the arterial network and the interstate system within the study area providing access for both commercial development located along Franklin Boulevard and residential development located south of I-85. Peak hour congestion is not uncommon at the intersection of Redbud Drive/S. Main Street.

The *Redbud Connector* as shown below utilizes a combination of existing roadways – Crasuby Avenue and Old Redbud – as well as new infrastructure to create a series of connections, working in combination to reduce congestion at Franklin Boulevard and Redbud Drive. The concept still affords the same degree of access to local land uses as well as Franklin Boulevard. However, it gives traffic wanting to bypass Franklin Boulevard the option to do so by using the connector. For commuting traffic, it provides two alternatives to access the interchange with I-85, thus splitting the volume, allowing the roundabout to process traffic in balanced perspective from all approaches, rather than from a single direction.





S. Main Street

Key Issues

In coordination with staff and the community, the following key issues were identified:

- Lack of a gateway into Lowell
- Unbalanced street section
- Street operates under its capacity

Cost: \$600,000 – 1.3 million

Description:

Streets serve many purposes in our communities beyond just moving motor vehicles. Within the travel realm they should accommodate not just the motor vehicle, but also the active modes of transportation, bicycle and pedestrian. Beyond transportation they also provide an aesthetic quality to a community offering a welcome transition to a community, in addition to managing storm water, and traffic management. Overwhelming public comment from the City of Lowell, indicated that S. Main Street needed a refreshing to make it more of a balanced street – one that accommodates anticipated traffic, but also balances all modes of transportation. The recommendation below builds upon the community request to provide a balanced street. This recommendation can be accomplished with a complete rebuild of the street. The initial phase may include restriping to accommodate bicycles and motor vehicles. This could easily occur during resurfacing. The next phase could include the installation of medians and landscaping.





3rd Street Extension

Key Issues

In coordination with staff and the community, the following key issues were identified:

- Heavy peak hour turning movements in the downtown
- Heavy trucks on NC 7
- Create a walkable intersection and Main and 1st Streets

Cost: \$1.7 – 2.1 million

Description:

More often than not the community understands how to drive through a community and where backups can be expected. That is what the design team experienced when they spoke with the City of Lowell citizens. Their understanding and enthusiasm to make their City better was palpable. One such idea from the community was the extension of 3rd Street west to create a new intersection with W 1st Street. The purpose behind this street extension was to take turning movements out of the intersection of W 1st Street and S Main Street. During the AM peak hour there is a heavy movement from W 1st Street to N. Main Street to McAdenville Road/W 3rd Street. In the PM peak hour, there is the reverse movement. The driving force for this movement is access to I-85, which McAdenville Road provides. The graphic below depicts the extension of W 3rd Street and the possible intersection configuration at W 1st Street.





W. 1st Street at Main Street Intersection

Key Issues

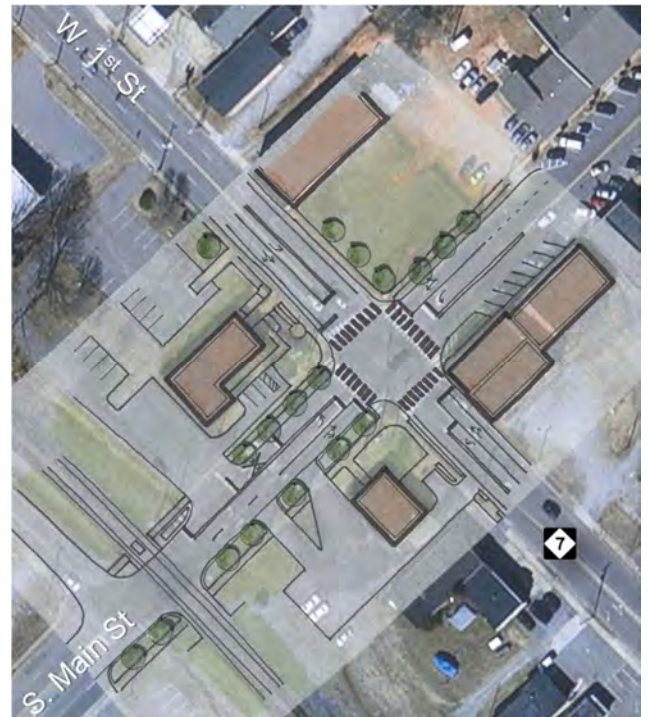
In coordination with staff and the community, the following key issues were identified:

- Heavy peak hour turning movements in the downtown
- Heavy trucks on NC 7
- Create a walkable intersection and Main and 1st Streets

Description:

Working in conjunction with the extension of W 3rd Street and the gateway enhancements along S Main Street, the proposed intersection improvements at W 1st Street at Main Street offer the City of Lowell a modified intersection configuration in the heart of downtown. With the reduction of traffic volumes at the intersection allows the intersection to be balanced to accommodate all modes of transportation through the reassignment of laneage. The graphics shown below depict two potential intersection configurations that build upon each other allowing the construction to be phased.

Cost: \$500,000 – 1.2 million





W. 1st Street

Key Issues

In coordination with staff and the community, the following key issues were identified:

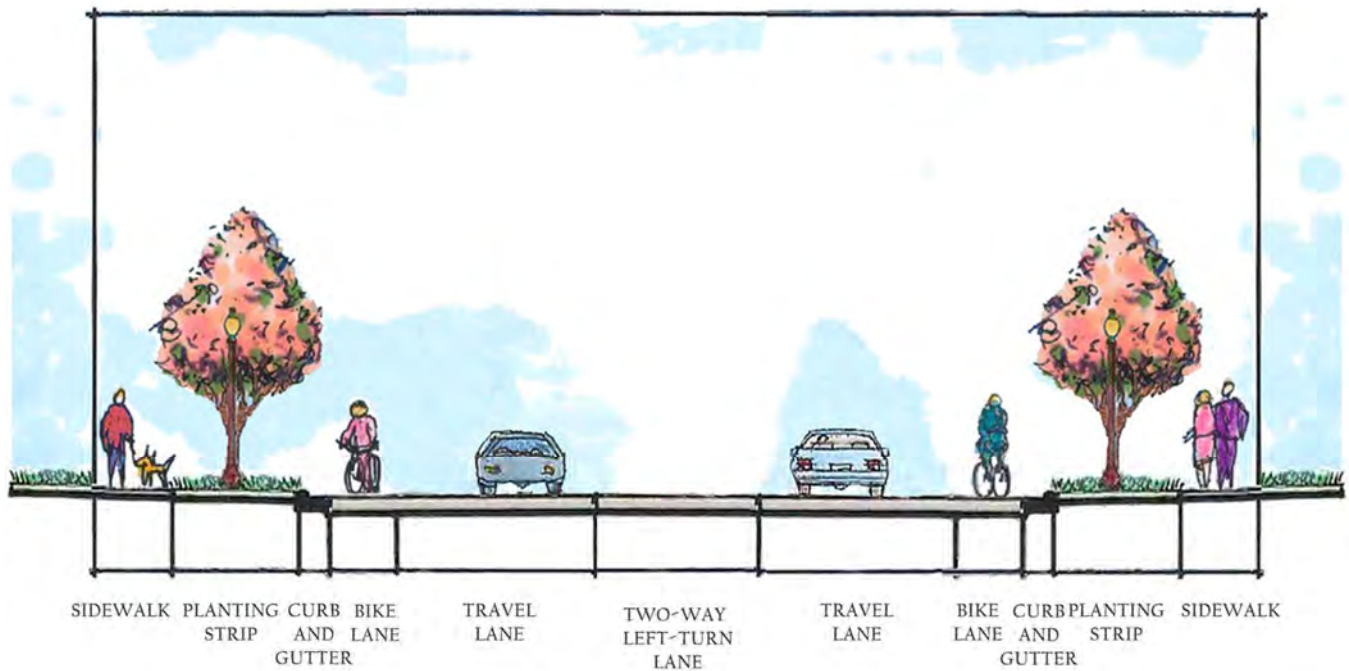
- Gateway Street from the west
- Create a balanced street
- Street under capacity

Cost: \$2.6 – 3 million*

**Includes mill and overlay of entire corridor*

Description:

Over the years W 1st Street has served many roles – providing access to the mills, community center, residents and business dotted along this section of NC 7. Like many streets in NC, this street has experienced a change in its primary function. Formerly it facilitated heavy truck and worker movements, today it accommodates local and commuter traffic along the corridor. The existing four lane section was once viewed as a way to move heavy amounts of traffic along a corridor. However, today it is a section that is no longer built because of its inability to accommodate left-turning movements. With this in mind, it is recommended to convert the existing four lane section to a three lane section that accommodates active modes of transportation without moving the existing curbs. The graphic below depicts what a restriping of W 1st Street might look like.



NEXT STEPS

The Franklin Boulevard Corridor Access and Alternatives Development Mobility Strategy

began with the intent to collect, refine and communicate a mobility strategy for the study area. This plan represents the contribution of the Communities of Gastonia and Lowell, technical staffs at GCLMPO and NCDOT, and local staffs in these communities. For successful implementation it will require partnerships among government entities, stakeholders, private developers and the people that live and work within the communities that makeup the study area.

Given the critical role the study area streets play in the overall transportation network supporting the Franklin Boulevard corridor, there is a sense of urgency to expedite implementation of this study. This project complements the overall development strategies set forth by each community within the community and represents an investment in this corridor that will help promote economic vitality of the region.

The Franklin Boulevard Corridor Access and Alternatives Development Mobility Strategy began with the intent to alleviate congestion associated with the existing corridor and interchanges along Interstate 85. The magnitude of some of the identified feasible alternatives suggest that local community funding is not the primary source for implementation. Therefore, it should serve as starting point for the I-85 widening project's (TIP I-5719) environmental document. Many of the concepts developed within this study were developed to work in conjunction with the proposed eight-lane widening.

Identifying the most appropriate outcome represents a major milestone in the process; however, several work tasks remain. In order to realize the vision established during this planning process the following tasks will require follow-through by the communities:

- **Study Endorsement:** The results of the *Franklin Boulevard Corridor Access and Alternative Development Mobility Strategy* should be carefully considered and endorsed by the City of Gastonia, City of Lowell, GCLMPO, NCDOT and Gaston County. This endorsement will memorialize the agreements established during the planning process and reduce the risk of having to revisit some of the issues contemplated during the study. Endorsement should happen both as individual entities as well as collectively. A Memorandum of Understanding that is endorsed by these collective parties will guarantee a consistent partnership remains in place until implementation is complete.

Next Steps – Chapter Overview

This Chapter provides a set of recommendations that build upon the ideas and outcomes presented in previous chapters.

- Foundational Document: The Franklin Boulevard Corridor Access and Alternative Development Mobility Strategy should serve as the starting point for the development of the I-5719 Environmental Document. Key projects within this plan that should be considered in I-5719 include:
 - Lineberger Road Interchange
 - Exist 22 Connector Boulevard
 - Exit 21 Interchange
 - Redbud Drive Connector
- Update MTP: The Gaston Lincoln Cleveland Urban Area LRTP should be amended to reflect the recommendations of this study when updated in 2017.
- Establish Design Themes: The design of any new infrastructure should be done with the recognition of area context. New infrastructure has an opportunity to establish a recognized identity for the area. The Cities of Gastonia and Lowell should develop an approach to design including signing so that a sense of arrival is clearly established when passing through and accessing the study area. Recommendations include: coordinated wayfinding and signing, materials and lighting details and landscaping.
- Concepts: Endorsement of the preferred intersection configurations contained herein by the GLCMPO, NCDOT, the City of Gastonia, and the City of Lowell will ensure a consistent implementation of the plan. It will likewise allow these communities to continue with some certainty that future planning efforts will consider the work contained herein.
- Financing Partnership: The expense associated with implementation suggests that an exclusive local funding source is not likely. In addition, the traditional process for funding via the NCDOT Strategic Transportation Investments (STI) program may not yield a desired project schedule. If the parties involved are interested in improving their chance of reduced implementation duration creativity, initiative, and partnerships may prove beneficial. Considerations that may increase the likelihood of funding include: adoption of the Memorandum of Understanding, dedication of right-of-way by affected property owners (rather than NCDOT right-of-way acquisition), and the use of local dollars supplemented with funds from grants and programs external to existing NCDOT funding. All of these should help elevate the exposure of the project and increase the likelihood of securing full funding and implementation in a timely manner.

Franklin Boulevard

Local partnerships can take many forms, but in this case it represents an opportunity to leverage that fact that the projects discussed in this study are located in an area of change and growth. The communities of Gastonia and Lowell should continue to foster their relationships with the GLCMPO, NCDOT, and FHWA as they work towards implementation of the recommendations contained within this study.