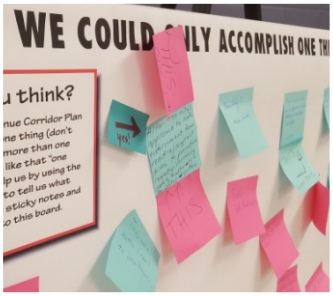
RENEW MAPLE AVENUE

A CITY OF BURLINGTON CORRIDOR INITIATIVE

FINAL REPORT

ADOPTED JUNE 18, 2019



RESOLUTION TO APPROVE THE RENEW MAPLE AVENUE CORRIDOR PLAN

CITY OF BURLINGTON, NC

WHEREAS, at its regular meeting on September 1, 2015 the City Council adopted the "Destination Burlington" Comprehensive Plan; and,

WHEREAS, the Comprehensive plan recommended that the City pursue focused corridor plans to address redevelopment opportunities and public realm investment for challenged corridors; and,

WHEREAS, the Comprehensive Plan identified the Maple Avenue corridor as the least preferable gateway to represent the character of Burlington; and,

WHEREAS, on March 21, 2017 City Council approved a contract with Toole Design Group to undertake a corridor study on Maple Avenue; and,

WHEREAS, said Maple Avenue corridor study included significant public input, including:

- Steering Committee Meetings;
- Direct Stakeholder Meetings;
- Maple Talks (initial public presentation);
- Surveys for public Input;
- Public Workshop;
- Public Alternative Vetting;
- Public Recommendations Reveal; and,

WHEREAS, the Steering Committee conducted four meetings over twenty months; and,

WHEREAS, the completed corridor plan ("Renew Maple Avenue Corridor Plan") includes recommendations related to conceptual transportation, land-use and economic development improvements along the corridor; and,

WHEREAS, the Renew Maple Avenue Corridor Plan was presented to City Council at its June 3, 2019, work session meeting; and,

WHEREAS, a public hearing on the Renew Maple Avenue Corridor Plan was conducted by City Council at its June 18, 2019, meeting; and,

WHEREAS, adoption of the Renew Maple Avenue Corridor Plan would provide strategic direction to City staff in:

- applying for potential grant opportunities;
- submitting projects for funding via NCDOT's State Transportation Improvement Program (STIP);
- drafting related corridor overlay standards for Council consideration;
- leveraging the economic development elements of the plan;
- communicating the City's future plans and concepts to developers interested in the corridor;
- incorporating plan concepts in future efforts along the corridor; and,

WHEREAS, in and of itself, adoption of the Renew Maple Avenue Corridor Plan does not commit the City to provide funding;

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF BURLINGTON does hereby resolve that it adopts the Renew Maple Avenue Corridor Plan.

Adopted this the 18th day of June 2019.

Ian Baltutis
Mayor

Beverly Smith
Interim City Clerk

CITY OF BURLINGTON, N.C.
SEAL

RENEW MAPLE AVENUE

A CITY OF BURLINGTON CORRIDOR INITIATIVE

FINAL REPORT

JUNE 18, 2019

CITY COUNCIL

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Kathy Hykes, Mayor Pro Tem
Jim Butler
Harold Owen
Bob Ward

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Gary Aherron, LabCorp
Clay Baldwin, Nichols Dodge Chrysler Jeep
Alan Bice, Floor Designs Unlimited
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Judy Cook, Resident
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ANY
TIME
Miller

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Everett St
500

1 INTRODUCTION

Maple Avenue Must be Transformed. At first blush, that may sound melodramatic, but it is not an overstatement. Much of the current perception of the City of Burlington, and its future success, is and will be determined by Maple Avenue. As the principal gateway to downtown, major employers, and economic development initiatives, Maple Avenue is the first impression many visitors have of Burlington and is the image that is reinforced daily for residents and commuters. Additionally, Maple Avenue will serve as a primary connection between the Interstate and industrial sites and parks near the airport.

Destination Burlington, the City's comprehensive plan, rated Maple Avenue as the highest priority corridor out of seven challenged corridors. Challenged corridors were defined as "those that the public has identified as projecting a negative character of the City." *Destination Burlington* went further to state that, for the future of Burlington, Maple Avenue requires "immediate attention." Specifically, *Destination Burlington* recommended that focused corridor plans should be pursued to address redevelopment opportunities and public realm investment for challenged corridors, with Maple Avenue at the top of the list.[1]

> "Make the Maple Avenue corridor attractive and inviting with a 'WOW' factor!"
>
> *Public Engagement Participant*

In response to *Destination Burlington*, the City of Burlington initiated *Renew Maple Avenue*, a corridor plan to establish actionable recommendations to transform Maple Avenue into a true, welcoming gateway to the City of Burlington. *Renew Maple Avenue* is the culmination of 20 months of public engagement, planning, market and economic analysis, and conceptual design. Some might say it has been a long process, but it was important to spend the necessary time to make it a thoughtful and inclusive process. Not only will *Renew Maple Avenue* provide the blueprint for the future of Maple Avenue, but, as the first corridor plan undertaken by the City of Burlington, it will also serve as the template for similar future efforts.

Maple Avenue does not currently present a positive first impression of the City of Burlington.

[1] For more information on *Destination Burlington*, please visit: http://burlingtonnc.gov/1516/Comprehensive-and-Long-Range-Planning.

IF WE COULD ACCOMPLISH ONLY ONE THING

The public was asked, "If Renew Maple Avenue could accomplish only one thing (don't worry, we'll accomplish more than one thing!), what would you like that 'one thing' to be?"

- Beautify the main gateway into Burlington.
- Trees and better visual to downtown.
- Beautify! More trees!
- Beautify. Better landscaping.
- Beautify so that people have a good first impression of our city.
- Raze buildings not being kept up.
- Tear it all down and start over. Aesthetically, there is nothing salvageable!
- Clean up/clear vacant properties and encourage economic development.
- Mixed income.
- Maple Avenue must be an attractive and functional gateway to Downtown Burlington.
- Make Maple Avenue the main "gateway" to Burlington, complete with a well-landscaped, thoughtfully planned streetscape.
- Make the Maple Avenue corridor attractive and inviting with a "WOW" factor!

1.1 GREAT STREETS APPROACH

In executing *Renew Maple Avenue*, the City of Burlington and its Project Team employed a "Great Streets" approach. Great Streets are designed with people as priority. This means that people of every age, ability, and socioeconomic level should be considered when streets are designed. Whether people choose to drive a car, walk, ride a bike, or take public transit, Maple Avenue should accommodate all modes of transportation while considering those who live, work, and play along the street. Far too often, streets are designed for only those who travel on them, while disregarding those who own property, homes, and businesses along them; these are the people that must interact with the street on a daily basis. This approach integrates the concepts of Complete Streets and Context Sensitive Solutions to produce a Maple Avenue that will meet transportation demands while also being embraced by the community.

Renew Maple Avenue's Great Streets approach had its own triple bottom line that will ***make the trip as enjoyable as the destination***:

- Quality of design
- Quality of service for transportation
- Quality of life for residents and users

1.2 ONE THING

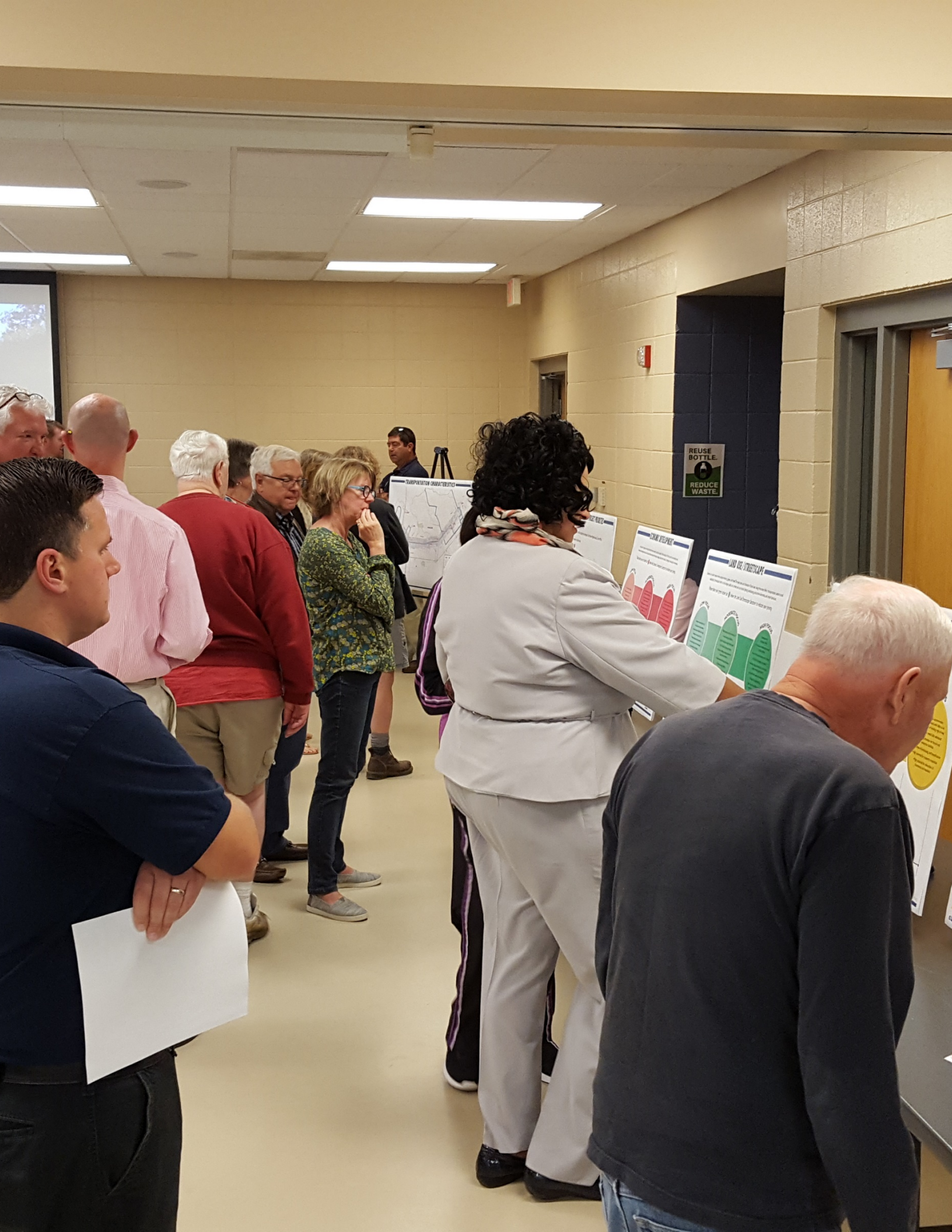
Because understanding the needs and desires of those who use and are affected by Maple Avenue is so important, a robust public outreach campaign was undertaken and is summarized in Section 2.1. During the workshop that was held early in the planning process, participants were asked, "If *Renew Maple Avenue* could accomplish only one thing, what would you like that 'one thing' to be?"

Responses, shown at left, focused on improved visual quality, definition of a gateway, and potential economic development. These responses formed the initial basis for understanding how *Renew Maple Avenue* can meet the needs of the community.

1.3 STUDY AREA

Renew Maple Avenue considers Maple Avenue from Anthony Road south of I-40/I-85 to Worth Street in Downtown Burlington. **Figure 1.3-1** graphically depicts the study area, including a reasonable depth of parcels along both sides of the corridor.

Figure 1.3-1 | Study Area


REUSE BOTTLE.
REDUCE WASTE.
TRANSPORTATION CHARACTERISTICS
ECONOMIC DEVELOPMENT
LAND USE / STREETSCAPE

2 BASELINE REVIEW

Public perception and existing conditions were considered to provide an understanding of Maple Avenue. This baseline review serves as the basis on which alternative solutions were developed.

2.1 PUBLIC PARTICIPATION

As outlined in the introduction, one of the goals of *Renew Maple Avenue* was to develop solutions that are context sensitive; this requires a full understanding of the context, including the thoughts and opinions of those who:

- Own property and businesses along the corridor;
- Call the corridor home;
- Travel the corridor on a regular basis;
- Are considering investing in the corridor; and
- Are leaders in the community, having the capacity to influence change.

To ensure that *Renew Maple Avenue* was grounded in reality and would be complementary to the core values of the community, public input was solicited throughout the planning process by a variety of methods, which are summarized in the following sections.

The public was engaged through a variety of methods.

Steering Committee

A steering committee was established to guide *Renew Maple Avenue*. The steering committee was composed of representatives that have a vested interest in the future of Maple Avenue and the surrounding area, including:

- Alamance Chamber;
- Alamance Community College;
- Alamance Convention and Visitors Bureau;
- Burlington Downtown Corporation;
- Burlington Housing Authority;
- New Leaf Society;
- North Carolina Department of Transportation;
- Business and property owners;
- Civic and institutional groups;
- Real estate professionals;
- Residents; and
- Utility providers.

The steering committee met at key project milestones to review work products, give feedback, and provide direction. The input of the steering committee was vital to understanding the perspectives of those who would be most affected by changes to the corridor.

Stakeholder Meetings

To provide more individualized attention than public meetings afford, stakeholder meetings and interviews were held with a large number of people and groups that are invested in the future of the Maple Avenue corridor. These meetings were individualized to each stakeholder's interests and occurred throughout the planning process to engage stakeholders at critical decision-making milestones. Stakeholders included residents, business and property owners, civic groups,

City staff, NCDOT staff, not-for-profits, Chamber representatives, and utility providers.

Overwhelmingly, stakeholders were excited about *Renew Maple Avenue*. Naturally, each had their own set of concerns that related to their unique interest in the corridor. NCDOT and New Leaf Society are ready to partner with the City, while others had a "wait and see" sentiment, hoping that the City will make public investments that they then can respond to with their own investment. Aesthetics of the corridor were by far the number one concern, with several stating, "First impressions are important." The vast majority of stakeholders want the City to enhance the visual character of this important gateway.

Public Meetings

Several types of public meetings were held throughout the planning process to encourage a dialogue between the project team and the public. The first was branded "Maple Talks" and was held at the Paramount Theater in Downtown Burlington on the evening of August 23, 2017.

Maple Talks served as the official kickoff of the project, providing an educational talk highlighting the myriad benefits of people-focused street design. Nearly 100 people attended Maple Talks and were very receptive to the ideas that were presented. A social time was held immediately following the presentation, providing the opportunity for individual members of the public to meet the project team and share initial thoughts and concerns.

In October 2017, the public was invited to participate in a planning workshop to help the project team understand community values and aspirations as they pertain to Maple Avenue. The workshop offered many interactive activities for the public to provide input, including mapping exercises, visual preference survey, priority spectrums, and comment forms.

The ideas garnered through the planning workshop, coupled with input from the steering committee, stakeholders, and survey respondents, assisted the project team in the development of alternative solutions. A variety of alternative solutions were presented during a public meeting in January 2018. The public was encouraged to express their preferences for the various treatments and countermeasures depicted using sticker dots; the more dots a solution received, the more consideration the project team would give it during the recommendations phase.

Information gathered through the workshop and alternative solutions public meeting directly influenced the final recommendations that are presented in this document, which were shared with the public during a "Recommendations Reveal" meeting held in April 2019.

The January 2018 public meeting allowed participants to express their preferences regarding a variety of alternative solutions for improving Maple Avenue.

Survey

To provide another forum for public input in addition to the public meetings, a survey was provided in both online and paper formats. The survey was available during the early stages of the project, mirroring the timing of the public workshop. Nearly 400 people responded to the survey, providing key insights regarding priorities and concerns. To ensure that surveys were completed by residents, City staff offered the survey by tabling (i.e., setting up an intercept table) on the corridor where resident foot traffic is high.

Survey respondents represent several specific categories of invested interest in Maple Avenue. The majority of respondents commute/travel Maple Avenue on a regular basis. Nearly 20% live along or in close proximity to Maple Avenue, while 12% work along or near the corridor. Those who own a business on or near Maple Avenue made up 14% of respondents.

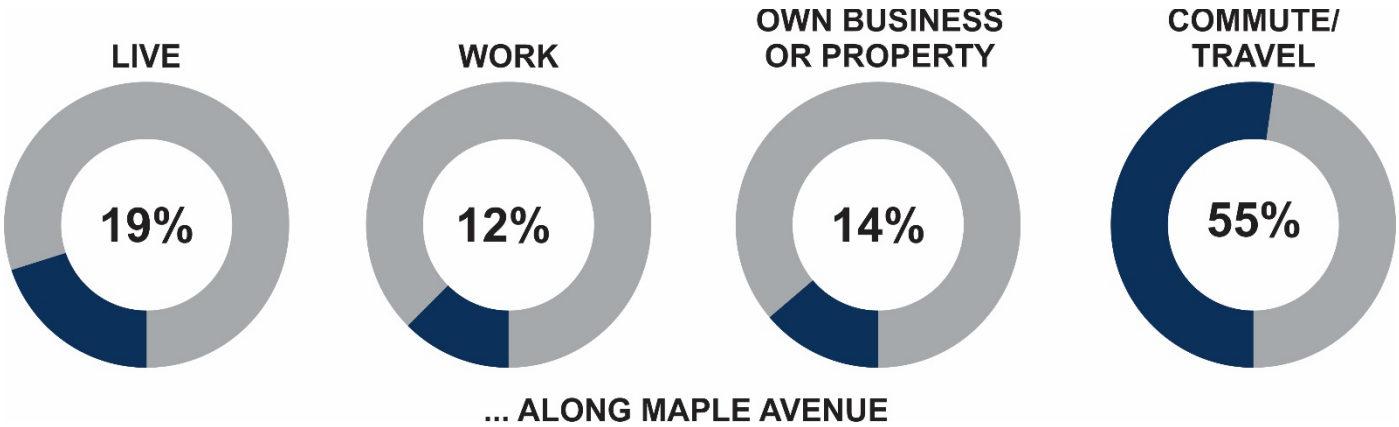


Figure 2.1-1 | Survey Respondent Vested Interest

The majority of survey respondents commute/travel the Maple Avenue corridor.

Respondents were asked to express their concerns regarding the current condition of Maple Avenue. Seven multiple choice answers were available, along with an open-ended "other" category. Respondents could select as many of the options as they felt described their concerns. Condition of surrounding properties and crime and personal safety were the top two concerns expressed by a large margin, with 54% and 47% respectively. With regard to safety and crashes, respondents were most concerned about pedestrians (30%), with vehicles (23%) and bicycles (23%) following. Approximately one-quarter (24%) of respondents were concerned with traffic congestion, which is relatively low for a primary gateway corridor but is reflective of the low traffic volumes along Maple Avenue. Respondents were nearly equally concerned (22%) about the condition of the street.

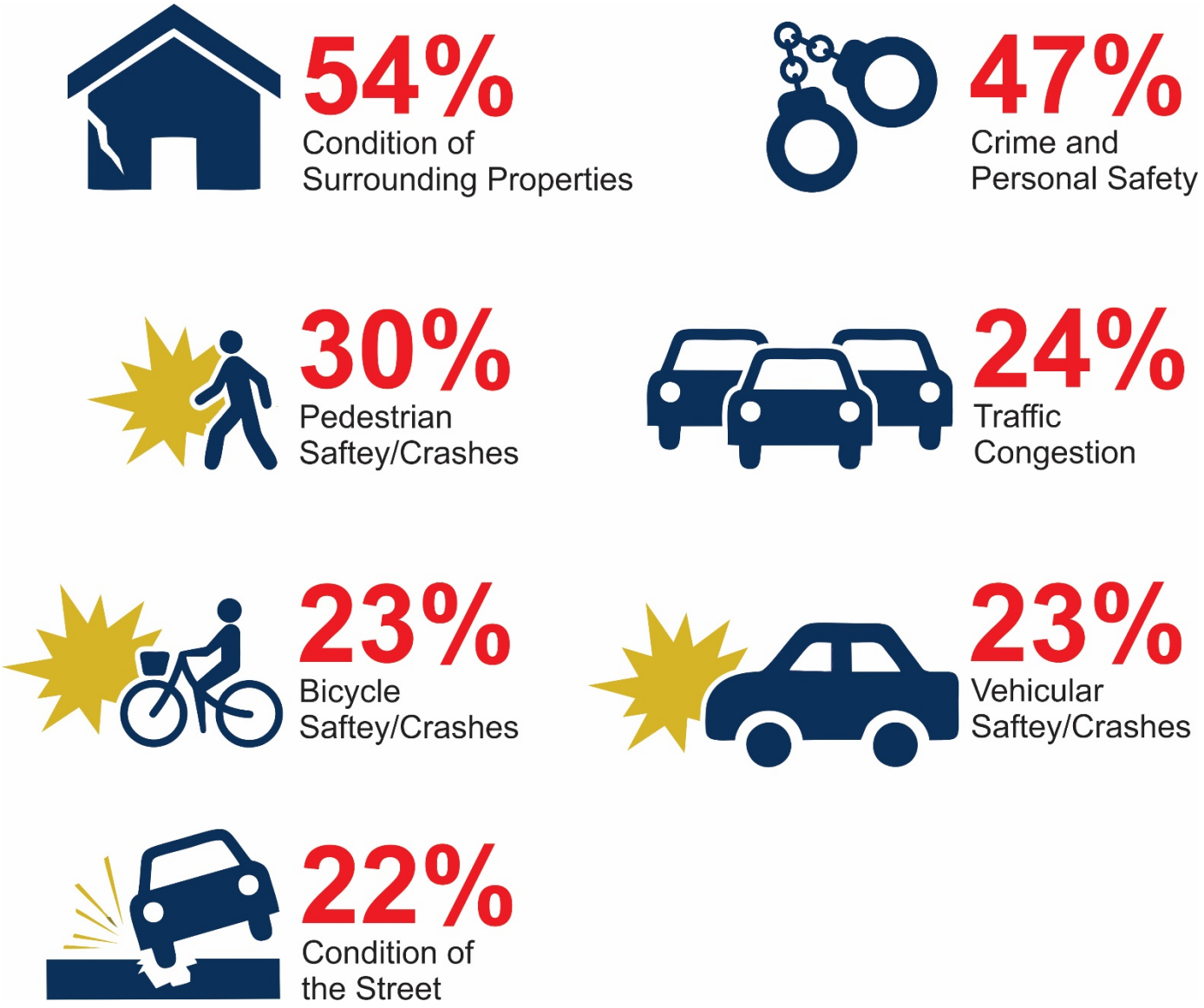


Figure 2.1-2 | Survey Respondent Corridor Concerns

To gauge interest in walking and bicycling along the corridor, respondents were asked if certain changes to the corridor would encourage them to walk or bike more often. Separating sidewalks and paths from motorized traffic would be most encouraging. The presence of sidewalks and paths that are in quality condition was also highly desired, as was the provision of crosswalks and crossing signals at intersections. Additionally, only 15% of respondents stated they would not walk or bike under any circumstance. In short, safer, more comfortable pedestrian and bicycle environments would result in more walking and biking along the corridor.

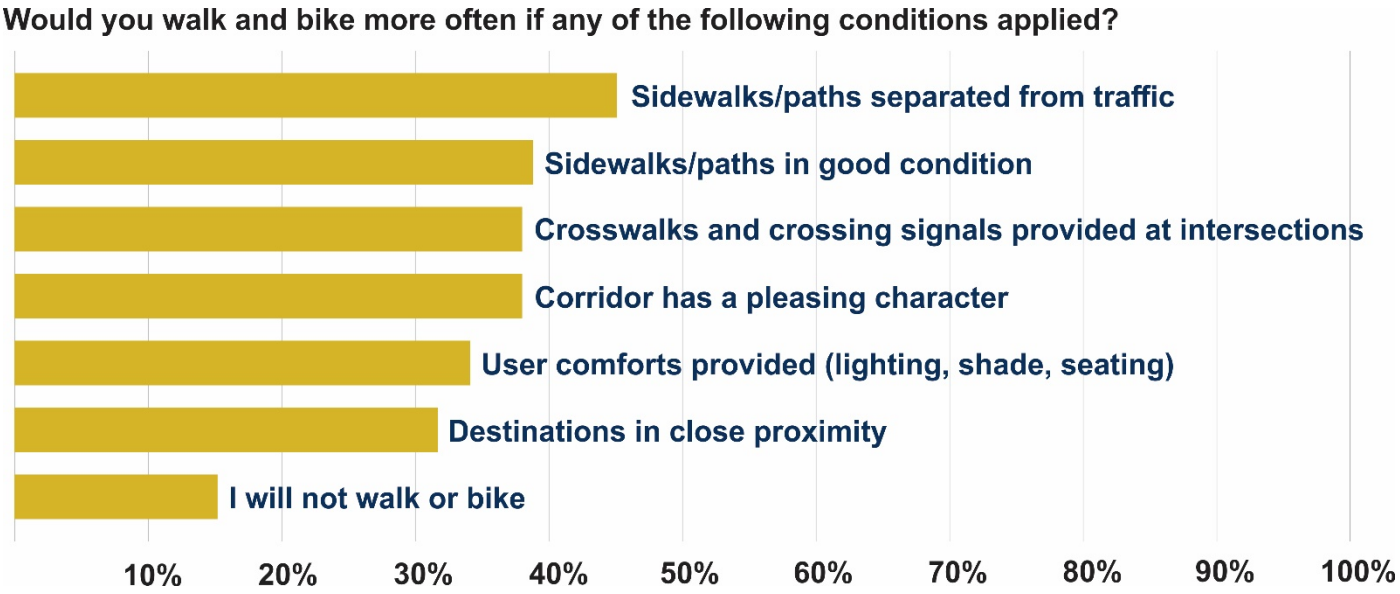


Figure 2.1-3 | Survey Respondent Desires for Walking and Bicycling

2.2 LAND USE CONTEXT

The Maple Avenue corridor has a diverse mix of land uses along its length, beginning near I-40/I-85 and extending into Downtown Burlington. Like many mature corridors, Maple Avenue has evolved over time, with land uses reflecting the various periods of development that have occurred across many years.

Because of this diversity of land uses and character of development, it is important that we not paint the corridor with a broad brush when considering solutions for the future. Therefore, the corridor was broken down into four distinct contextual districts, as shown in **Figure 2.2-1** and summarized in the sections that follow.

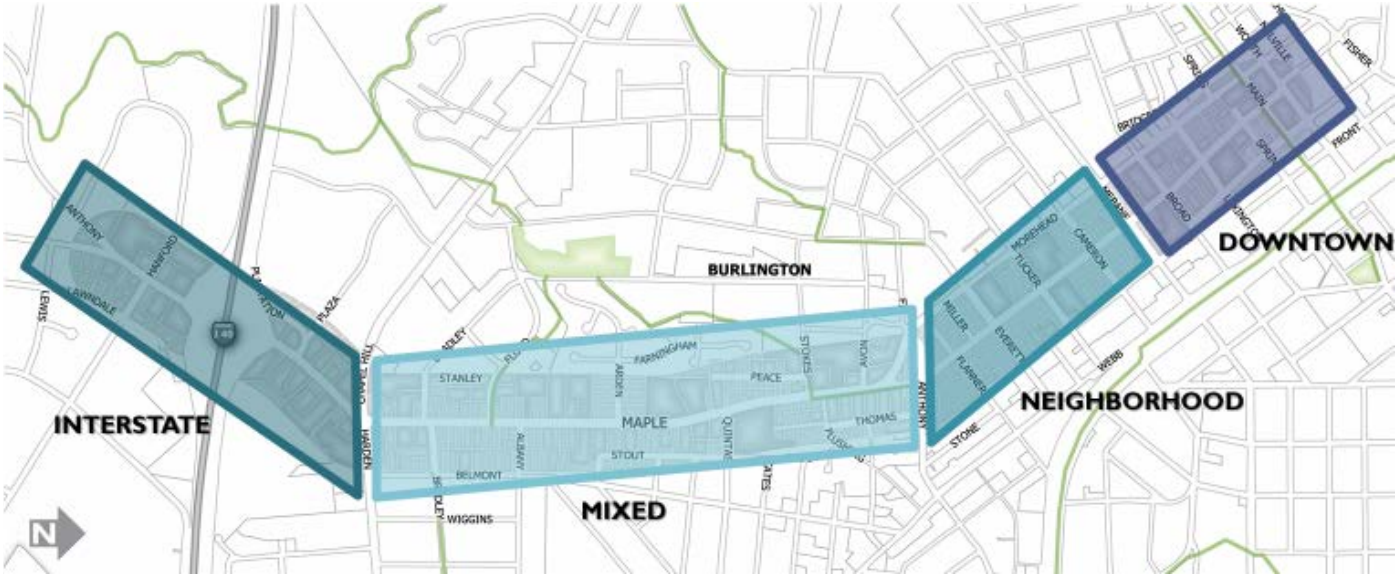


Figure 2.2-1 | Land Use Contextual Districts

Interstate District

The Interstate District begins at Maple Avenue's intersection with Anthony Road at the southern end of the corridor and continues to Chapel Hill Road/Harden Street (NC 54).

- District is defined by its proximity to I-40/I-85 with land uses that are focused on interstate and commuter travel, including fast food, gas stations, lodging, automobile dealerships, and strip commercial.
- Individual parcel site design encourages driving, with few connections between adjacent properties and very little opportunity to walk or bicycle safely.
- Buildings are set back from the street with parking in front; often parking is in excess of what is required to service each business.
- Signage is of every type, style, height, and color creating a confusing and visually taxing environment.
- Some businesses have invested in updates to their properties, but the majority are only making the most basic improvements to stay within code compliance.
- While some landscaping is present on the interior of individual properties, the corridor itself has very little landscape enhancements or beautification.

Mixed District

The Mixed District is bounded by Chapel Hill Road/Harden Street (NC 54) to the south and Anthony Street to the north.

- District is transitioning from an historically residential area to a mix of residential, commercial, and office uses.
- Older commercial service businesses are located close to the street in nondescript concrete block or brick buildings.
- Newer commercial structures are of metal and concrete block construction with limited architectural detailing on their front façades.
- Surface parking lots are less prevalent and smaller in size than in the Interstate District, located on the front and sides of buildings.
- Signage is also less prevalent than the Interstate District, but is still of various types, styles, heights, and colors.
- Single-family residential structures are in relative proximity to the street and are generally in good repair.
- Some single-family residential structures are transitioning to office and commercial uses.
- Multi-family residential structures are present in the northern portion of the district.
- Established, large trees are throughout the district, but are set back from the road on private property.

Neighborhood District

Maple Avenue between Anthony Street and Mebane Street is predominately single-family residential, and, therefore, has been classified as the Neighborhood District.

- District has an abundance of quality single-family homes situated close to the street with quaint front porches and yards.
- Very little signage is present in the district.
- Building placement, overstory trees, and sidewalks encourage walking.
- Some multi-family residential structures are present.
- Some pockets of light industrial uses have occurred, creating disconnects in an otherwise cohesive district.

Downtown District

The most northern portion of the corridor is entirely within the central business district of Burlington and has been aptly termed the Downtown District.

- Most structures, often multistoried, front the street, creating a “street wall”; articulation, fenestration, and street level transparency (i.e., windows) are limited.
- Commercial is the predominate land use with civic, dining, retail, and residential also present.
- Some structures are set back from the street with parking in front, but these are limited.
- The public realm is better defined than other districts with some street furniture, decorative elements, and street trees.
- Most signage is appropriately sized and has a degree of character that reflects the district.

ONLY
Mebane
NO PARKING ANY TIME

2.3 TRANSPORTATION CONTEXT

Understanding the existing transportation context of Maple Avenue is essential to being able to determine appropriate alternative solutions. The transportation network in and around Maple Avenue goes well beyond vehicular traffic to include pedestrian, bicycle, and transit modes. **Figure 2.3-1** presents a graphical overview of Maple Avenue's transportation context that is discussed in the sections that follow.

Travel Lanes

Maple Avenue's cross section changes as it moves through the contextual districts that were presented in Section 2.2. While there are many characteristics to the street in each district, one key characteristic is the number of travel lanes. The number of lanes varies by district, and, in many cases, there is excess capacity based on the volumes the street is experiencing and is projected to experience. Not only does the data support this, but survey respondents also indicated that traffic congestion is a low concern. **Table 2.3-1** provides a "rule of thumb" for judging the car-carrying capacity of a street based on its number of travel lanes.

Table 2.3-1 | Lane Capacities

NUMBER OF LANES	CAPCITY (ADT)*
2 lanes	~10,000
3 lanes	~20,000
4 lanes	~25,000
5 lanes	~35,000
6 lanes	~40,000

*Capacities are for planning purposes only, as the exact carrying capacity of a particular street is affected by many factors.

Source: Toole Design Group

When a street is overdesigned from a vehicular capacity standpoint, that often results in higher vehicular speeds; actual speeds throughout the Maple Avenue corridor are regularly higher than posted speed limits. Additionally, public right-of-way is a valuable commodity that should be used to the greatest benefit possible in our communities. When travel lanes are not needed, that portion of the right-of-way may be better utilized for other public purposes within our transportation network.

The following sections provide a summary of the street characteristics in each contextual district.

Interstate District

In the Interstate District the street ranges from five to eight lanes, depending on the exact location and number of dedicated turn lanes. With average daily traffic (ADT) ranging between 14,000 and 22,000 vehicles and movements onto and off the Interstate, most of the existing travel lanes are needed. Through coordination with NCDOT, it was determined that one northbound travel lane between Hanford Road and the westbound Interstate ramps is no longer needed. As alternative solutions were developed, opportunities for reallocation of this portion of the right-of-way was considered.

Mixed District

The Mixed District has a five-lane cross section (i.e., two travel lanes in each direction with a continuous center turn lane) and an average of 12,000 to 16,000 vehicles per day. Based on the lane capacities shown in Table 2.3-1, this section of the street is designed to carry more than twice as many vehicles each day than its current volumes. Through consultation with NCDOT, it was determined that two travel lanes can be reallocated in the Mixed District.

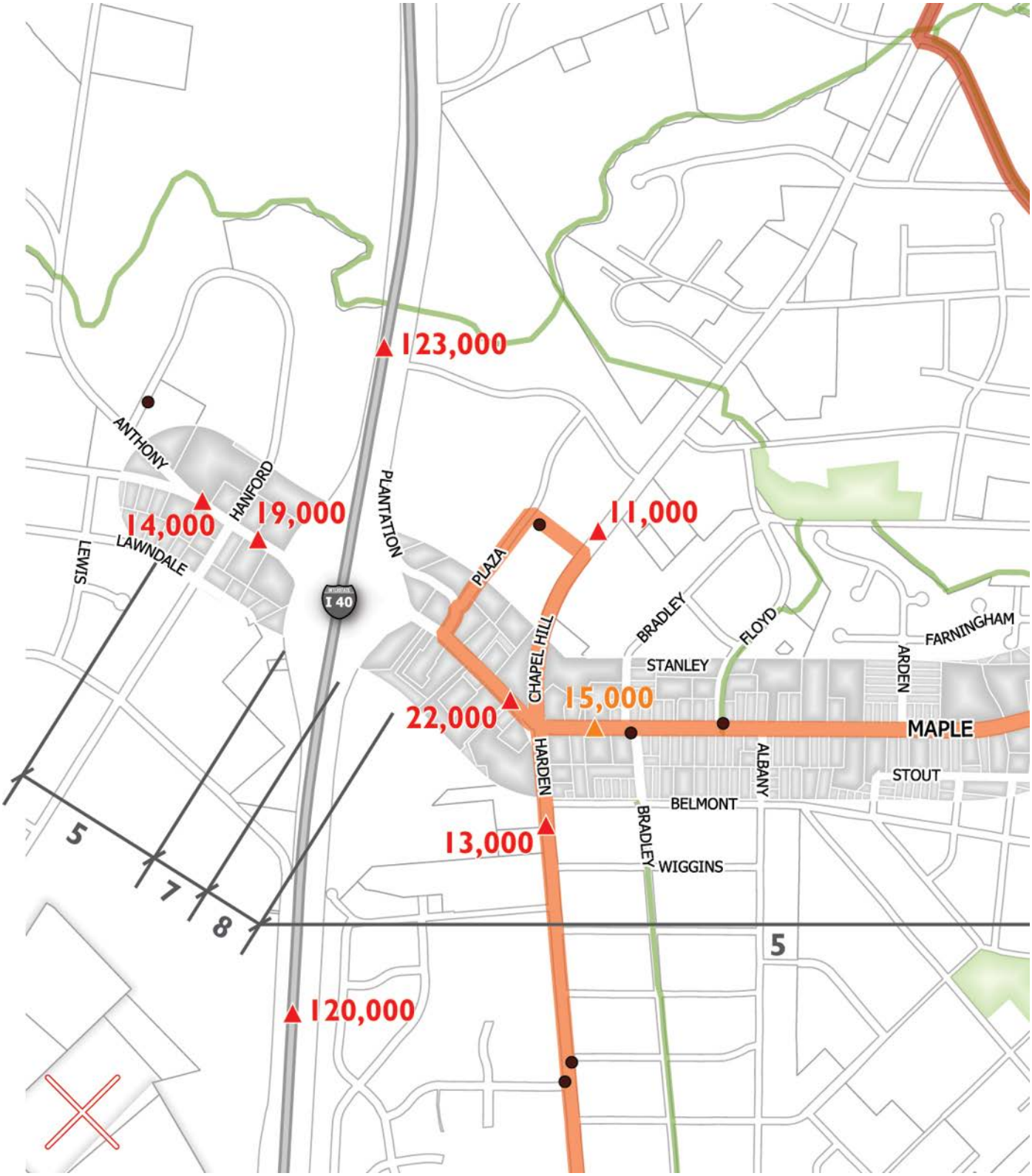
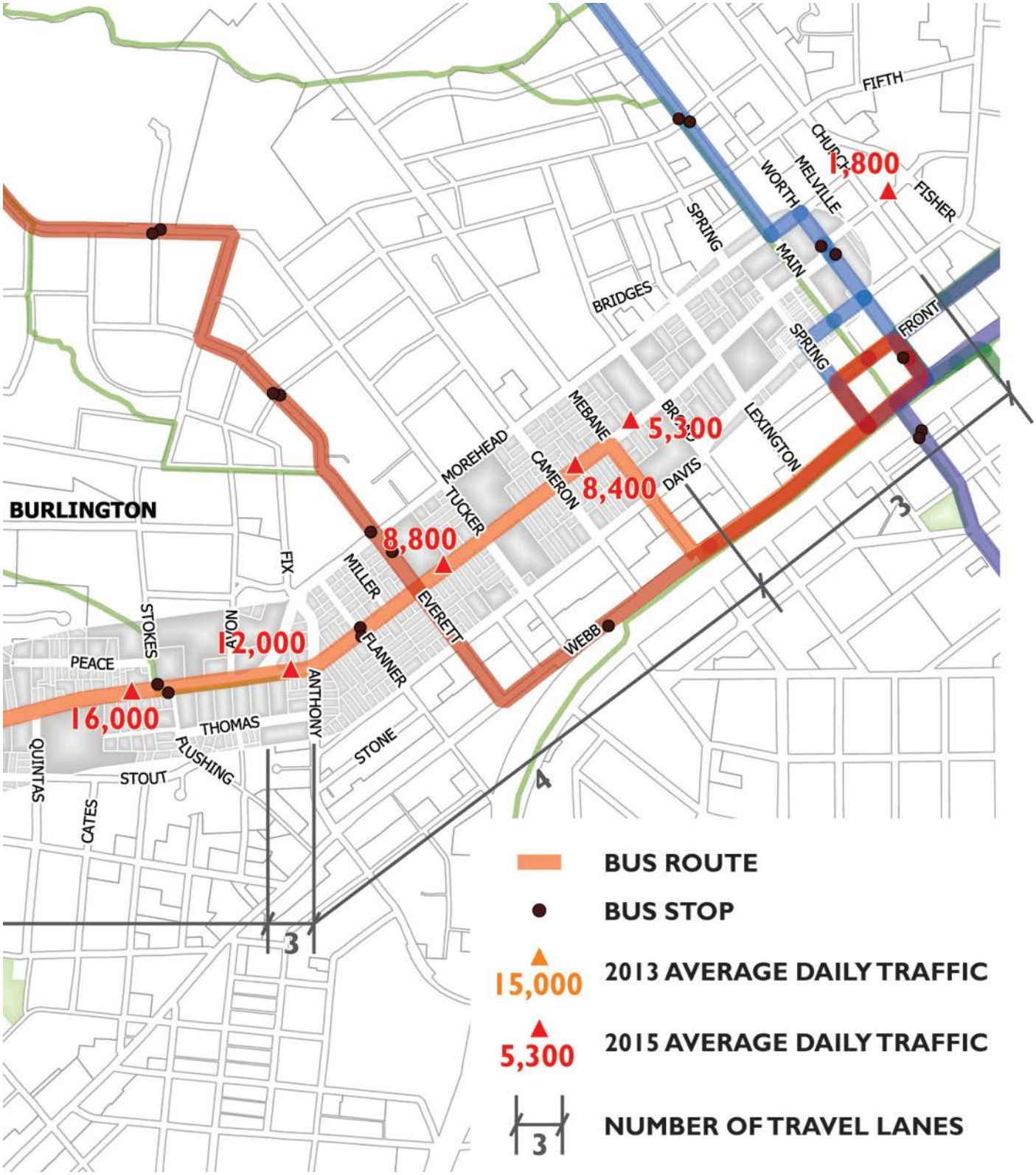


Figure 2.3-1 | Transportation Context



RENEW MAPLE AVENUE
A CITY OF BURLINGTON CORRIDOR INITIATIVE

Neighborhood District

Maple Avenue between Anthony Street and Mebane Street is predominately single-family residential, and, therefore, has been classified as the Neighborhood District. Maple Avenue has four travel lanes (i.e., two travel lanes in each direction) throughout this district, which provides a capacity of up to 25,000 per day. However, volumes on this portion of Maple Avenue are under 9,000 vehicles per day. With excess capacity being significant in the Neighborhood District, it would be reasonable to reallocate one travel lane.

Downtown District

The most northern portion of the corridor is entirely within the central business district of Burlington and has been aptly termed the Downtown District. Maple Avenue currently transitions to a two-lane cross section (i.e., one travel lane in each direction) with frequent left-turn lanes just north of Broad Street all the way to the corridor's northern limits at Worth Street. Where space allows, on-street parallel parking is present, mostly on one side of the street but sometimes on both sides, depending on constraints. Traffic volumes in this portion of the corridor range from 1,800 to 5,300 vehicles per day, making the frequent turn lanes not necessary. Based on the performance of individual intersections, it may make sense to have dedicated left-turn lanes only in targeted locations.

Historical Crashes, Speed, and Safety

Between 2009 and early 2019, nearly 2,300 crashes occurred on or in proximity to Maple Avenue. Of those, approximately 84% only damaged property, while roughly 16% resulted injuries. Over this period, three fatalities occurred. Information on crash types and contributing factors was not available.

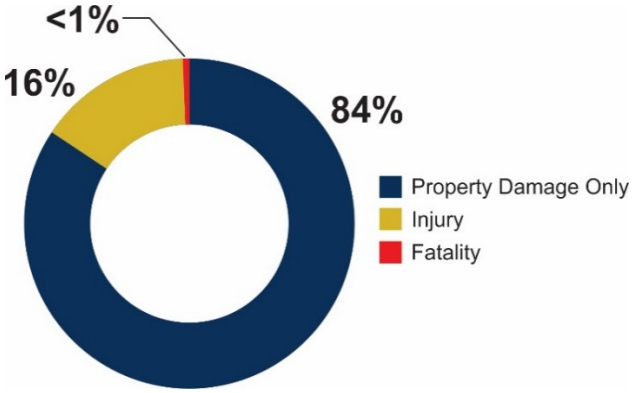


Figure 2.3-2 | Historical Crash Severity[2]

Excessive vehicular speeds are a concern along Maple Avenue; the posted speed limit ranges from 20 mph to 45 mph. The actual speed at which drivers travel through our communities directly correlates to the comfort and safety of all people, whether they choose to drive, walk, ride a bike, or use transit. The design of a street is the most effective way to influence speed. If a street is designed appropriately, that design can actually limit the maximum speed at which drivers feel comfortable; this results in a balanced approach for all users.[3] Geometry, lane and roadway width, excess capacity, and traffic calming measures can all influence speed for better or worse.

One myth of speed is that lower speeds always increase travel times. In some instances, this may be true, but often other factors have a greater impact on travel times. Congestion at signalized intersections contributes greatly to increased travel times and driver frustration.

[2] City of Burlington, April 2019.
[3] FHWA, "Relationship between Design Speed and Posted Speed," memorandum, October 7, 2015.

Coordination of signalized intersections for speeds of 15-25 mph or implementing modern roundabouts can help to lower travel speeds while also reducing congestion and improving travel times.[4]

Often, communities adjust posted speed limits in the hope of reducing speeds. This can be effective, if the lower speed limit is enforced. Speed limits can be set using several methodologies. The traditional "engineering" method is to use the 85th percentile speed that is currently experienced on the street in question. This approach often results in excessive speeds, as it allows current behavior, good or bad, to influence future behavior. Another method is to factor in the amount of pedestrian and bicycle traffic on the street, which generally results in a speed limit close to the 50th percentile. The "safe systems approach" sets speed limits based on anticipated crash types, the impacts that will result, and the tolerance of the human body to withstand those impacts.[5]

Active Transportation

Providing appropriate facilities for active, non-motorized forms of transportation, like walking and bicycling, is extremely important in the Maple Avenue corridor, as it is a principle connection between residential areas, downtown, and basic goods and services. With the entire corridor being less than three miles in length, it is very reasonable for people to walk and bike as a choice or because they do not have regular access to an automobile. Additionally, to have viable transit, strong pedestrian and bicycle facilities are essential to make first and last mile connections.

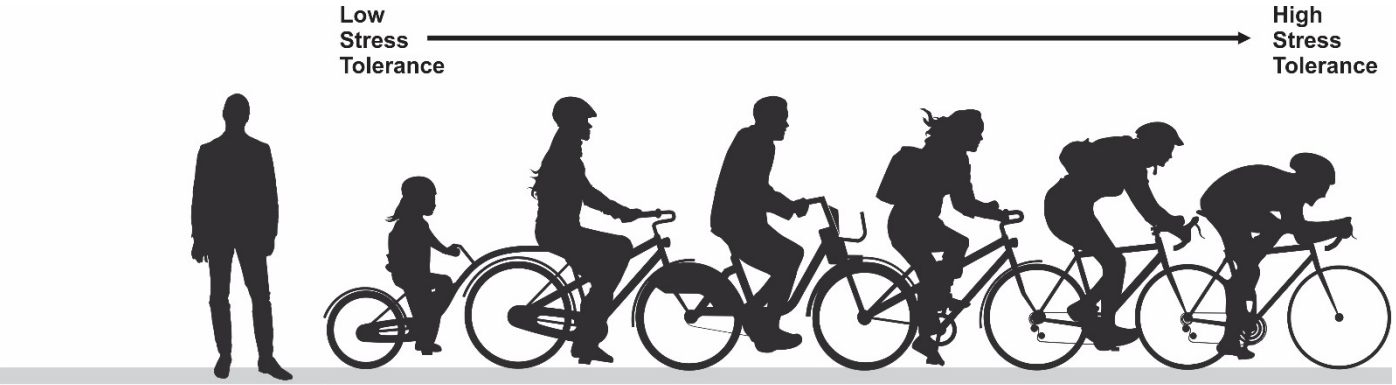
Today, bicycle facilities do not exist in the corridor. With the exception of some minor gaps and maintenance issues, sidewalks are present on the east side of Maple Avenue in the Mixed District and on both sides of the street in the Neighborhood and Downtown Districts; there are no sidewalks in the Interstate District.

The Mixed District only has sidewalks on the east side of the street.

[4] FHWA, *Achieving Multimodal Networks: Applying Design Flexibility & Reducing Conflicts* (p. 23), August 2016.
[5] See Section 6.2 for more information on the safety benefits of slower speeds.

Understanding Users

Throughout the United States, bicycle and pedestrian facilities have evolved from serving as "alternative transportation" facilities to filling a critical gap in communities' transportation networks. For many years, bicycle facilities placed people riding bikes in or directly adjacent to vehicle travel lanes. While this approach meets the needs of confident cyclists, it does not attract new users or encourage a broader bike culture, which is a key quality of life indicator. We now understand that a variety of bicyclists exist, each with different needs and stress tolerances, as shown in **Figure 2.3-3**.



NON-BICYCLE	INTERESTED BUT CONCERNED	SOMEWHAT CONFIDENT	HIGHLY CONFIDENT
Uncomfortable bicycling in any condition, have no interest in bicycling, or are physically unable to bicycle.	Often not comfortable with bike lanes, may bike on sidewalks even if bike lanes are provided; prefer off-street or separate bicycle facilities or quiet or traffic-calmed residential streets. May not bike at all if bicycle facilities do not meet needs for perceived comfort.	Generally prefer more separated facilities, but are comfortable riding in bicycle lanes or on paved shoulders, if necessary.	Comfortable riding with traffic, will use streets without bike lanes.

Figure 2.3-3 | Bicyclist User Types

Nationally, over 50% of people indicate that they are "Interested but Concerned" in bicycling and would like to ride more often.[6] Over 50% say they are worried about being hit by a car, and nearly 50% say they would more likely ride a bike if physical separation were provided between motor vehicles and bicycles.[7] Based on the survey that was conducted for *Renew Maple Avenue*, the City of Burlington has a more confident bicycling public, with only 27% categorizing themselves as "Interested but Concerned." Nearly 50% described themselves as either "Highly Confident" or "Somewhat Confident." Only 27% said they would not ride a bicycle under any circumstance, which is 10% lower than the national average.

While the prescribed user types and cited research are specific to bicyclists, pedestrians also prefer to be placed further away from the curb and/or have a buffer between themselves and motor vehicle traffic. Lower stress environments result in increased numbers of people biking and walking because lower stress design typically accommodates both user types through the combination of sidewalks, separated bike lanes, and shared use paths.

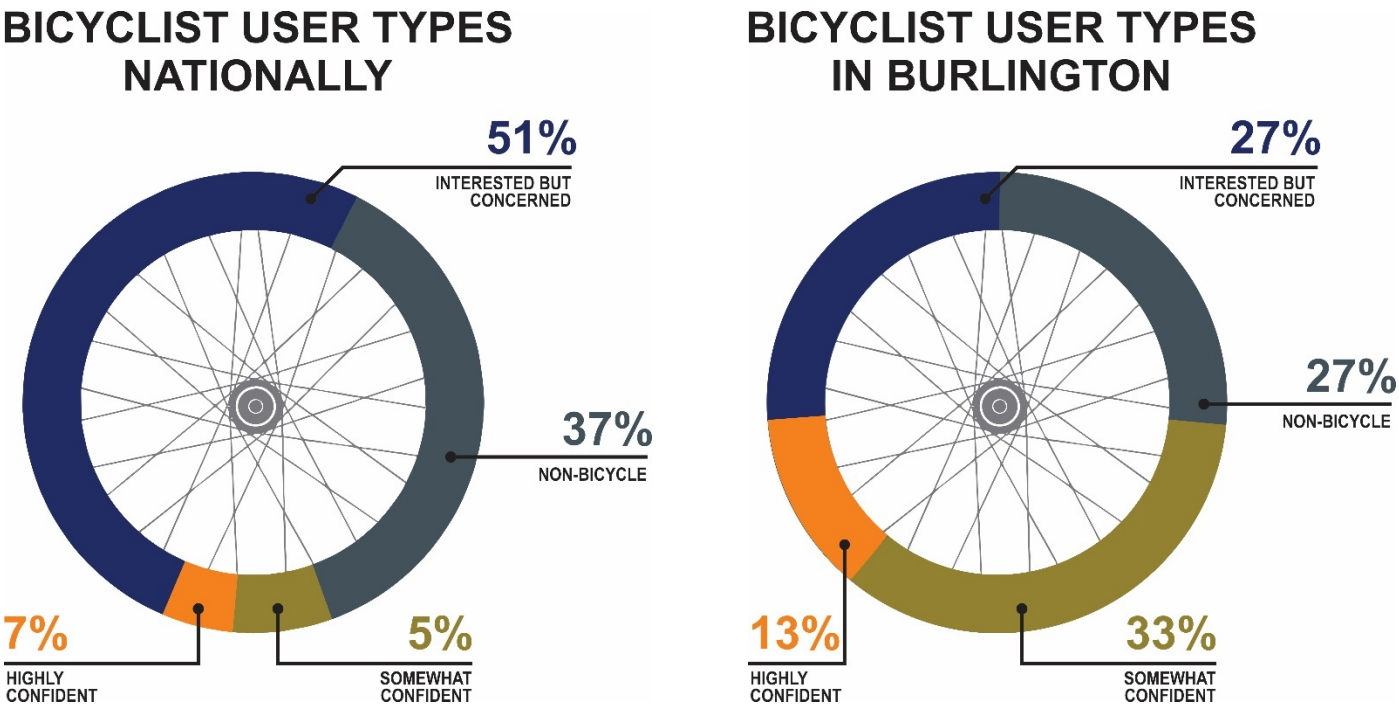


Figure 2.3-4 | Bicyclist User Nationally and in Burlington

[6] Dill, J., McNeil, N. (2015). Revisiting the Four Types of Cyclists. Transportation Research Board.
[7] U.S. Bicycling Participation Benchmarking Study (2014).

Transit

The City of Burlington operates Link Transit along and in proximity to Maple Avenue, as previously shown on the transportation context map in Figure 3.1-1. Service runs Monday-Friday 5:30am to 8:30pm.

The Orange Route runs along Maple Avenue from Lexington Avenue to Hanford Road; this route also directly serves Alamance Community College's Dillingham Center and connects back to the Worth Street Transfer Hub, allowing transfers to other Link Transit routes. The Orange Route also connects Maple Avenue to destinations to the east, including the City of Graham and Alamance Community College's Graham campus. Additionally, to allow for longer regional trips, Link Transit connects with the Piedmont Authority for Regional Transportation (PART) at the park-and-ride lots along the Orange Route.

The Orange Route begins service at 6:35am and ends service at 7:48pm each weekday. Service operates on a 90-minute headway, meaning that if you miss the bus at any stop, the next bus will arrive at that stop in 90 minutes. The regular fare is reasonably priced at $1, with reduced rate fares[8] and day passes also available. If a transfer is required between routes to reach your destination, a transfer pass is available at no additional charge.

In addition to the Orange Route, Link Transit's Red and Blue Routes cross Maple Avenue on Everett Street and Main Street respectively and have stops in proximity to the corridor. These routes connect the corridor to destinations to the west, including Holly Hill Mall, Alamance Crossing, Alamance Regional Medical Center, and the Town of Gibsonville.

It should also be mentioned that just a short walk from the Worth Street Transfer Hub is Burlington Station where Amtrak service is available to regional North Carolina destinations, as well as cities throughout the United States.

Link Transit serves the Maple Avenue corridor, including Alamance Community College's Dillingham Center.

[8] Passengers who have a disability, are 60 years of age or older, are Medicare card holders with a valid photo ID, or are students are eligible to apply for a reduced fare card, which will allow them to ride for half the regular fare.

3 MARKET ANALYSIS

Market and economic analyses assist in setting the stage for planning processes like *Renew Maple Avenue*. Various data needed to determine the capacity for future growth of housing, retail, office, industrial, civic, and other uses was evaluated.

In support of the goals of *Renew Maple Avenue*, a series of analyses were conducted to identify the optimum approach to address land uses, public improvements, and development strategies to assist in creating a vibrant and economically sustainable corridor.

3.1 CURRENT REALITY

The importance of the corridor being strategically located between the Interstate and Downtown Burlington cannot be overstated. With five interchanges servicing the City of Burlington, Exit 145 leads to the Maple Avenue corridor, which serves as the primary gateway from I-40/I-85 to Burlington's historic downtown. Surrounding this interchange are neighboring "areas of influence" with existing and planned developments that impact the market and future land uses.

While the corridor has many locational advantages and opportunities, it also presents a variety of issues that require attention for redevelopment reinvestment to occur. These are detailed in the full market and economic assessment included in **Appendix A** and are summarized in **Figure 3.1-1**.

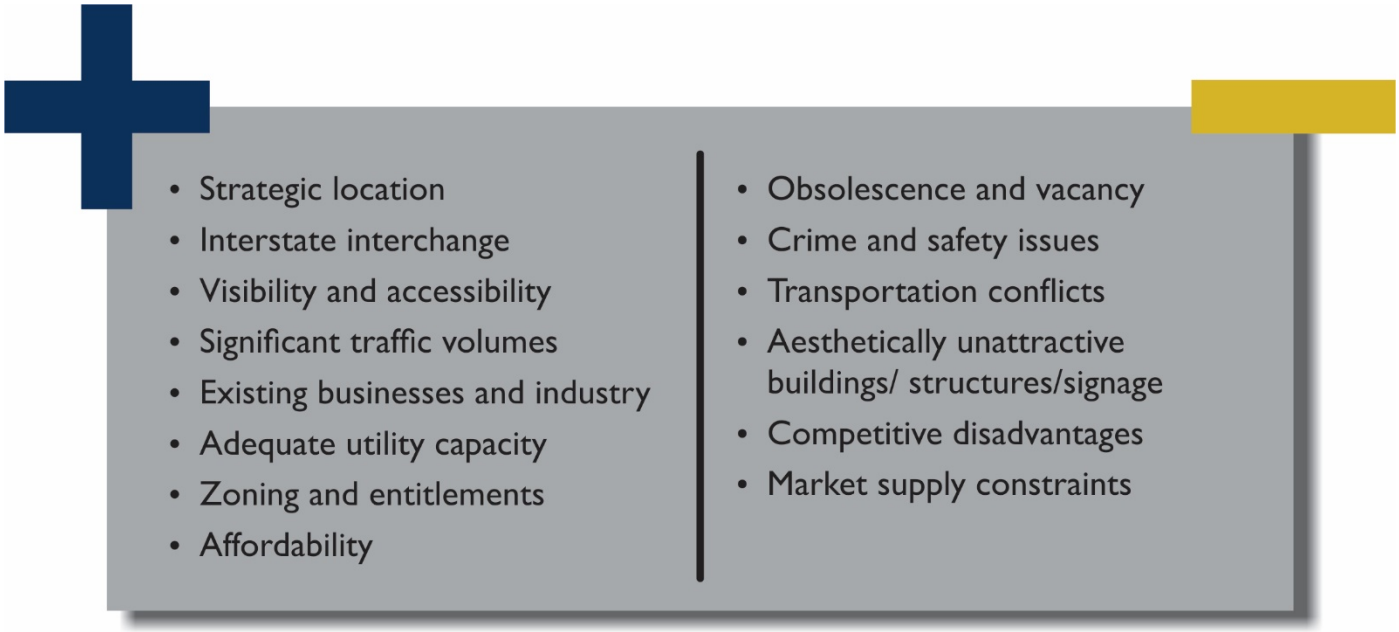


Figure 3.1-1 | Current Market Reality

3.2 KEY THEMES

A large percentage of the population currently perceive the corridor as unsightly and unsafe. Findings reveal a community in transition, moving away from its traditional industrial and manufacturing history toward embracing new industry, job, and lifestyle options for both Millennials and Empty Nesters seeking vibrant communities. Public input gathered revealed a desire to see mixed use development, with expanded employment, dining, shopping, and entertainment options. This changing dynamic is at the intersection of the new economy, which underscores the key themes shown below.

> "The negative perception of this corridor goes hand-in-hand with its principal gateway at the Interstate. Were it not plagued by the aesthetic chaos of overhead utilities and huge commercial signage, the roadway is a bleak and uninviting entryway to downtown."
>
> *Destination Burlington*

Maple Avenue as a Gateway Destination

Maple Avenue's customers include local area residents, employees, and visitors. The corridor currently operates as a "drive-through." Each day, these users commute through the corridor from downtown and adjacent neighborhoods, and many *drive to* the corridor from the Interstate to area destinations and downtown. With Maple Avenue as its central thoroughfare, the corridor should be repositioned as a gateway between the Interstate and downtown, while also becoming a key destination and employment center both north and south of the interchange.

This retrofit includes expanded employment, as well as updated dining, shopping, and entertainment that are complementary to the market. Strengthening the connections to the existing residential homes along the corridor and adjacent neighborhoods will provide a new lifestyle environment and more housing options associated with new mixed-use development.

Maple Avenue as an Innovation Hub

Burlington has a growing population of Millennial entrepreneurs fueled by the rapid growth in the Carolinas and, specifically, in the Triangle region. Burlington is strategically positioned to capture this intellectual capital seeking affordable work and lifestyle options. Entrepreneurship and new innovations are not born solely out of university environments but also out of existing industry. Those that embrace technology to remain relevant include innovative Burlington companies like LabCorp and Glen Raven, offering new opportunities in both life science and materials science (i.e., textiles).

Providing a campus for these companies to grow and attract supporting industries would create additional employment opportunities and a sustainable balanced tax base for Burlington. The corridor's strategic position gives promise to future business opportunities both at the start-up and mature levels by offering companies a variety of space options in areas that are currently underutilized.

3.3 PRIMARY DRIVERS

While the main goal of *Renew Maple Avenue* is to plan for and implement a safe, attractive public realm, the corridor also has opportunities to attract and support private investment. Such public-private partnerships are critical to the long-term success of Maple Avenue. Pressure from surrounding developments at neighboring interchanges provides both challenges and opportunities, and so, the plan must be prudent in where and how redevelopment should occur. The four primary drivers, as depicted in **Figure 3.3-1**, needed to renew the corridor are transportation and mobility, land use, real estate, and economic/community development.

While the draw of shoppers in the past is evident at this interchange, the new economy with shifting retail dynamics, emerging technologies and changing demographics can provide new workplace, shopping, and entertainment options. Aged and obsolete product in the retail and industrial categories currently limits these opportunities. Product absent from the market includes flex industrial, research and development, and office space. The corridor could provide for suburban retrofit to update obsolete uses and support future growth.

Transportation improvements, amenities, and changing land uses along the corridor will need to address a wide range of customers – from affordable to luxury – for this diverse socio-economic population. Public investment must be the first step in this corridor to encourage private investment activity.

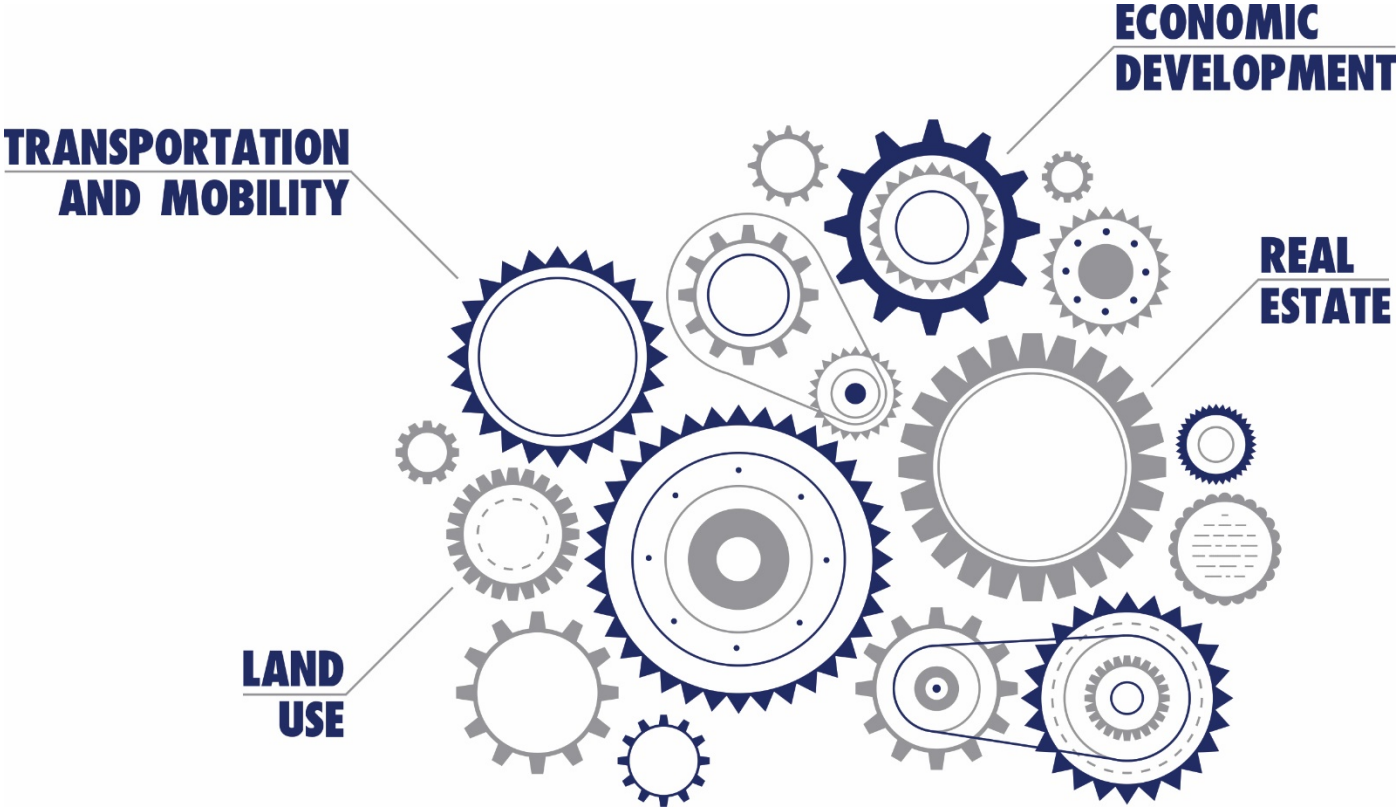


Figure 3.3-1 | Primary Drivers Necessary to Renew Maple Avenue

3.4 REAL ESTATE TYPES

As outlined in the market and economic assessment in Appendix A, real estate demand based on market fundamentals provides a program for land use in support of transportation and economic development goals. Annual demand over a transitional period considers market cycles and build-out over a ten-year period for the sectors presented in **Figure 3.4-1**.

Figure 3.4-1 | Real Estate Types – Ten-Year Demand

4 RECOMMENDATIONS

Recommended transportation improvements were developed as part of a conceptual roadway design for Maple Avenue. These improvements work in concert with the districts that have been previously presented and overlay zoning recommendations made as part of this chapter. Major goals of the recommendations include:

- Elevating quality of life;
- Providing a streetscape and public realm that welcomes people to Burlington and ushers them into Downtown;
- Enhancing convenience for all modes, including walkability and bikeability along the corridor's length;
- Increasing access to and convenience of public transit;
- Improving safety, while reducing conflicts; and
- Maximizing the efficiency of the existing transportation network.

While many location-specific improvements are included in the conceptual roadway design, there are a number of strategies that are recommended for the entire corridor:

- Basic pedestrian intersection improvements like crosswalks, pedestrian signals, refuge islands, and ADA curb ramps;
- Minor intersection improvements to increase vehicular capacity and reduce delay;
- Access management through the consolidation of left-turns, reduction of driveways, and general organization of the street;
- Beautification measures such as street furniture, trees, and median landscaping;
- Interconnectivity of parcels to enable short trips to be made without the need to access Maple Avenue; and
- Design guidelines to encourage a unified character for the built environment.

Specific recommendations are summarized in the following sections. The conceptual roadway design in its entirety is included in the **Appendix B**.

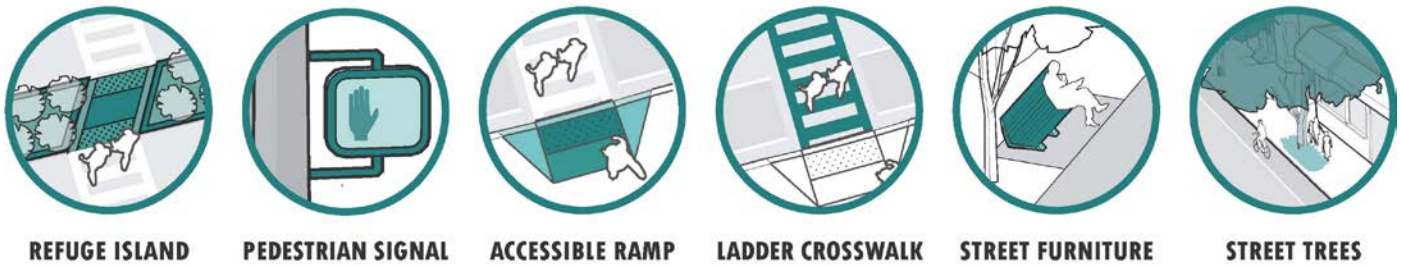


Figure 4.0-1 | Select Corridor-wide Improvements

4.1 CORRIDOR OVERLAY DISTRICT

An overlay district would establish regulatory criteria for certain characteristics within each district. There are a wide variety of characteristics (e.g., sidewalks, open space requirements, driveway configuration, parking requirements, lighting, etc.) that can be regulated along the corridor. It will be important to identify the overall intent of the overlay district as it applies to the corridor and more specifically to its character districts. In general, the overlay district should:

- Encourage multi-modal facilities and amenities;
- Promote shared parking;
- Support open space and an inspired public realm;
- Require new development to create interconnected streets that provide an alternative to Maple Avenue; and
- Facilitate a pedestrian-oriented built environment; and
- Enhance the architectural character of the corridor through design guidelines and signage standards.

The standards outlined here and illustrated on the following pages focus on multimodal connectivity and scale and form of future development. The information presented is not all-inclusive of what the final overlay districts for Maple Avenue should be, nor should this guidance be considered an ordinance. Rather, what is included here should serve as the inspiration for a City staff-crafted ordinance.

Multimodal Connectivity and Block Structure

Current development along Maple Avenue has limited to no pedestrian connectivity and very limited internal vehicular circulation. This results in vehicle trips being forced to use Maple Avenue for circulation, even for extremely short trips. New street connectivity and cross-access between parcels will put fewer local trips on Maple Avenue and through its intersections with other streets. As a result, the safety and capacity of all streets along the corridor will be improved.

As part of an adopted overlay district, new street connections with pedestrian and bicycle facilities should be constructed as development occurs. The incremental nature of parcel-by-parcel development will, over time, lead to a robust, local, and multimodal street structure that moves shorter trips off Maple Avenue.

Key considerations include the following:

- Much or the corridor is composed of smaller parcels. In these areas, connecting of existing side streets should be encouraged.
- Where larger parcels exist, parcels should be organized into blocks that are between 360 feet to 600 feet. This structure should be used to organize buildings, internal parking, cross-access between parcels and/or future stub outs, and parks.
- Blocks larger than 360 feet should provide dedicated pedestrian connections that are at least five feet wide to connect parking and streets to building entrances and transit stops.
- Joint use driveways and/or cross-access easements should be provided, with stub-outs for future connections.
- Sites should identify primary streets (A streets) and secondary streets (B streets). Buildings should front and hold the corner on all A streets and, include where appropriate, on-street parking, bike lanes, access to building entrances, and generous pedestrian facilities and amenities. B streets should serve as supporting streets with a minimum of a five-foot sidewalk with a planting strip.
- The shared-use path network that is being proposed on Maple Avenue should be continued through development sites and between destinations.

Inter-parcel Connectivity

Curb cuts and driveways are necessary elements of any corridor to provide access to adjoining streets and properties. However, when allowed frequently, in close proximity to each other and street intersections, or extending along an entire property frontage, driveways become inhibitors to and create safety issues for people driving cars, walking, and biking. Numerous driveways that allow left and right turns in and out of them create situations where drivers, pedestrians, and bicyclists have no idea from where the next conflict may approach.

Today, very few opportunities exist for drivers, pedestrians, and bicyclists to move directly between adjacent properties along Maple Avenue. Instead, they are required to utilize Maple Avenue for these very short trips, which places more traffic on the road and increases opportunities for conflicts and crashes. When each property can only be accessed from Maple Avenue, every property must have its own driveway or multiple driveways. This creates more conflict points and increases the potential for crashes to occur.

Where feasible, adjacent parcels and associated circulation and parking should be physically connected. With these connections, opportunities for consolidating and sharing of driveways should be explored. When several parcels in succession are connected, a pseudo frontage road can be created, allowing multiple shorter trips to occur without accessing Maple Avenue**.** The more parcels that are connected, the longer these short trips can become.

A good example of inter-parcel connectivity is Sunset Boulevard (US 378) in Lexington, SC. The Town of Lexington has required properties to be interconnected and limited the number of driveways onto Sunset Boulevard. As seen in **Figure 4.1-1**, more than 25 businesses can be patronized without accessing Sunset Boulevard, removing hundreds of trips from the road but not the corridor. Every property is not provided direct access to Sunset Boulevard; rather, driveway access is consolidated to major entry points, resulting in fewer conflict points and opportunities for collisions.

Figure 4.1-1 | Example of Inter-Parcel Connectivity in Lexington, SC

Design Guidance

Design guidance should be created that has specific principles for building placement, style, and characteristics (e.g., minimum and maximum heights, zero setbacks or build-to lines, materials, fenestration, articulation, etc.). Such standards would ensure that a proper and dynamic street frontage is maintained.

Much of the guidance could be applied corridor-wide, as it is important for the style and materials of buildings to be consistent to deliver a clear message of "who" Burlington is to residents and visitors. It would also be appropriate for some elements of the guidance to be specific to each district to ensure that the specific needs of each are addressed. For instance, it is critical that multistoried buildings be encouraged in the Downtown District, while allowing for automobile-oriented development in the Interstate District is crucial to its success.

Guidelines should be crafted with appropriate text and visuals to clearly depict what is desired.

Parking

Parking will continue to be a necessary component of development along the corridor. As such, the overlay district must account for its design. To move away from vast seas of asphalt to a more thoughtful parking strategy, parking maximums should be employed, rather than minimums. Additionally, wherever possible, shared parking should be encouraged.

Primary driveways serve as the principle connections to commercial development from adjacent public streets. They should be designed as streets with appropriate landscaping, lighting, and pedestrian connections.

Secondary driveways provide connections through parking lots that front commercial development. These connections may have direct access to parking aisles but need to have a continuous pedestrian sidewalk on both sides either though parking lot landscape islands or adjacent to commercial buildings.

As much as feasible, parking lots should be positioned to the interior of parcels, reserving street frontage for engaging, well-articulated buildings and inviting landscaping. The landscaping of parking lots is especially important in creating a safe and attractive environment that encourages pedestrian activity and controls the micro-climate created by large paved areas. Therefore:

- Parking lots should be planted with overstory shade trees at a rate of one tree per ten parking spaces;
- Parking aisles should not extend more than twelve spaces without a tree island; and
- Tree islands should be a minimum of 200 square feet in size and not less than 8 feet wide

Pedestrian Access

Multimodal options that include pedestrian and bicycle access, circulation, and facilities are equally as important as vehicular access and circulation. At the most basic, a pedestrian network is a sidewalk system along public and private roads. It should also include internal pedestrian connections and pathways within parking areas, and along parks and open space. At a minimum:

- Sidewalks should be five feet wide and connect all building entrances to surrounding streets, transit stops, parking lots, and adjacent development;
- Sidewalks should be landscaped with shade trees at an average of one tree every 50 feet; and
- Crosswalks should be designed and coordinated to move people safely to and from buildings and through parking areas.

Shared-use Path Standards

Broader recommendations for *Renew Maple Avenue* include shared-use paths along most of the corridor. Connecting shared-use paths should be explored to improve overall non-motorized connectivity between existing and proposed development. To ensure continuity and cohesion of the path network, standards to consider include:

- Paths should be a minimum of ten feet of a paved surface such as asphalt or concrete;
- All paths should be ADA compliant;
- All site furnishings should be located along the same side of the path and three feet from the back of the path's edge;
- Vehicular warning signs should be posted at all travel routes;
- A wayfinding system could include mile markers, directional signs, path identification signs, and path regulations; and
- Each major access point or trailhead should contain a sign that directs users along the path.

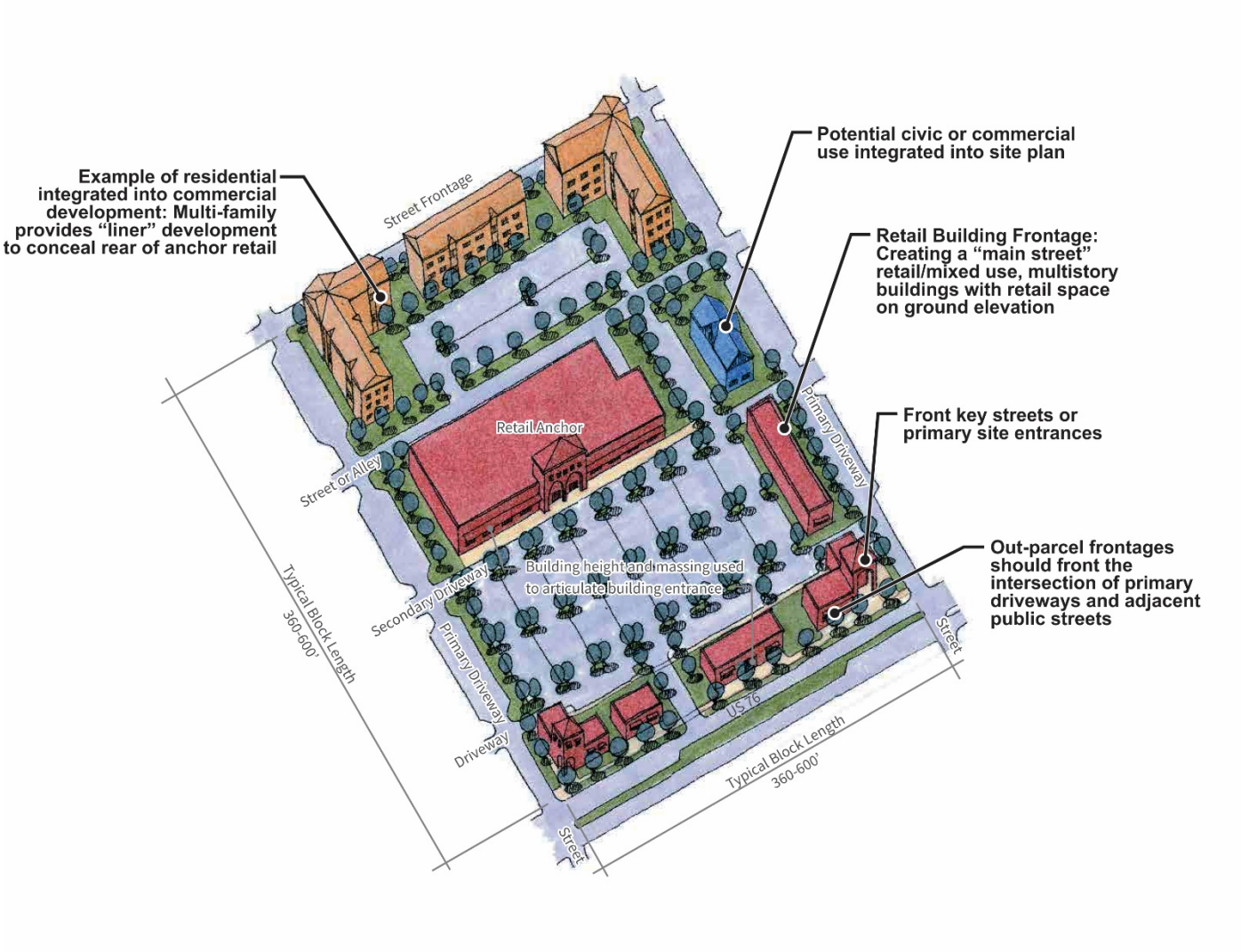


Figure 4.1-2 | Sample Parcel Depicting Overlay District Recommendations

4.2 DISTRICT RECOMMENDATIONS

As previously established in Section 2.2, the corridor has distinct contextual areas that have been categorized into four districts. Through analysis of baseline conditions, a number of alternative street cross sections were developed to respond to the context of each district. These alternatives were presented to the public for review. Based on that review and the professional judgment of the project team, a defined street cross section was selected for each district.

The following sections present each district's recommended cross section along with complementary recommendations for aspects of the overlay district that will support the community's vision for the future of development. In all cases, street cross sections have been designed to provide for all modes of travel, but they are not uniform in how this provision is made; context sensitivity was applied based on the existing and desired long-term character of the immediate surroundings.

The Interstate District is currently highly automobile oriented.

Interstate District

The Interstate District begins at Maple Avenue's intersection with Anthony Road at the southern end of the corridor and continues to Chapel Hill Road/Harden Street (NC 54). As depicted in **Figure 4.2-1**, recommended improvements include overall beautification of the street and property frontages, pedestrian and bicycle facilities, and passive traffic calming measures.

This section of the corridor currently has no facilities for people walking, using wheelchairs, or riding a bicycle even though, due to its proximity to the interstate, it is the most dangerous area of the corridor for non-motorized travel. To provide appropriate and comfortable facilities, ten-foot shared-use paths are recommended on both sides of the street. Proposed landscaping includes five-foot planted buffers between the travel lanes and the new shared-use path, as well as a planted center median that will slow traffic and allow for pedestrian refuge.

Through coordination with NCDOT, it was determined that one northbound travel lane can be repurposed to make room for these enhancements between Hanford Road and the westbound Interstate ramps. In the remainder of the district, all existing lanes are needed to accommodate traffic volumes and turning movements; therefore, improvements may require right-of-way acquisition or could be accomplished by individual property owners as redevelopment occurs, if the overlay district ordinance required such.

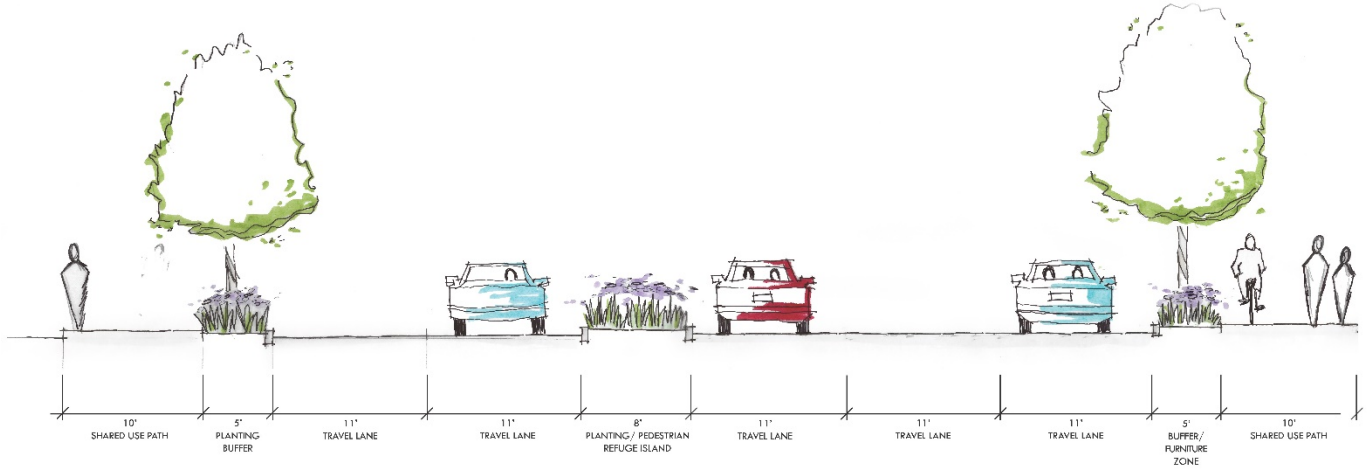


Figure 4.2-1 | Interstate District Recommended Typical Cross Section

Overlay Standards

Interstate commercial, lodging, light industrial/flex office, retail, and multi-family uses should be allowed within the Interstate District, provided they meet overlay ordinance standards, which should include:

- Provide cross-access between adjacent parcels;
- Encourage shared parking;
- Position buildings to the primary street frontages with parking, loading/unloading located to the side or behind buildings;
- Make allowances for auto-oriented aspects of interstate commercial uses, including drive-thrus;
- Focus architectural detail on primary frontage; and
- Provide sidewalk/shared-use path connections between building entrances and the primary street.

Mixed District

The Mixed District is bounded by Chapel Hill Road/Harden Street to the south and Anthony Street to the north. This district is transitioning from an historically residential area to a mix of residential, commercial, and office uses. Within this district, Maple Avenue is currently overbuilt, causing it to function as a highway with speeds far outpacing the posted speed limit. With residents that walk, bike, and ride transit as their primary means of transportation and a school in close proximity, this creates a very dangerous environment.

Through coordination with NCDOT, it is recommended that this portion of Maple Avenue be converted from its current five-lane (i.e., two travel lanes in each direction with continuous center turn lane) cross section to a three-lane (i.e., one travel lane in each direction with a continuous planted median/left-turn lane as appropriate) cross section, as depicted in **Figure 4.2-2**. Additionally, planted buffers and 12-foot shared-use paths will be implemented on both sides of the street. As shown in **Figure 4.2-3**, when implemented, these recommendations will transform Maple Avenue into a safe, comfortable, and efficient street for all people. It is anticipated that all improvements within the Mixed District can be accomplished within the existing right-of-way.

Figure 4.2-2 | Mixed District Recommended Typical Cross Section

Overlay Standards

Single-family residential, commercial, office, retail, and multi-family uses should be allowed within the Mixed District, provided they meet overlay ordinance standards, which should include:

- Provide cross-access between adjacent parcels (i.e., single-family homes will need individual driveways);
- Encourage shared parking;
- Position new commercial and office buildings to the primary street frontages with parking, loading/unloading located to the side or behind buildings;
- Allow residential buildings to be set back from the street to provide front yards and open space, but driveways and parking should be located to the side or behind buildings;
- Allow adaptive reuse of residential structures as office, commercial, or retail uses, retaining as much original fabric as possible; and
- Provide sidewalk/shared-use path connections between building entrances and the primary street.

Existing Conditions

Recommended Improvements

Figure 4.2-3 | Mixed District Photo Rendering of Recommended Improvements

Neighborhood District

Maple Avenue between Anthony Street and Mebane Street is predominately single-family residential, and, therefore, has been classified as the Neighborhood District. Like the Mixed District, in this district Maple Avenue's current capacity far surpasses its existing and anticipated future traffic volumes, resulting in vehicular speeds well above the posted speed limit. Many residents in this district are dependent on walking, bicycling, and transit as their primary means of transportation, so slowing traffic is a priority.

It is recommended that Maple Avenue throughout the Neighborhood District be converted from its current four-lane (i.e., two travel lanes in each direction) cross section to a three-lane (i.e., one travel lane in each direction with a continuous planted median/left-turn lane as appropriate) cross section, as shown in **Figure 4.2-4** and **Figure 4.2-5**. Additionally, planted buffers and 10-foot shared-use paths will be implemented on both sides of the street. These recommendations will transform Maple Avenue into a true neighborhood street that is safe, comfortable, and efficient for people traveling by any mode. It is anticipated that all improvements within the Neighborhood District can be accomplished within the existing right-of-way.

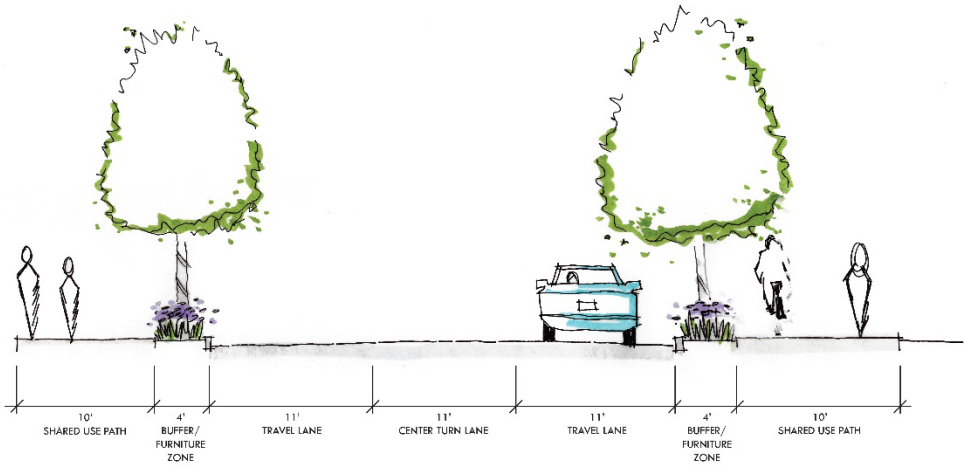


Figure 4.2-4 | Neighborhood District Recommended Typical Cross Section

Overlay Standards

Single-family residential, home occupations, office, and multi-family uses should be allowed within the Neighborhood District, provided they meet overlay ordinance standards. Additionally, neighborhood commercial could be permitted at major intersections or as part of larger mixed use residential developments. Standards should include:

- Provide cross-access between parcels (i.e., single-family homes will need individual driveways);
- Position neighborhood commercial buildings to the primary street frontages with parking, loading/unloading located to the side or behind buildings;
- Allow residential buildings to be set back from the street to provide front yards and open space, but driveways and parking should be located to the side or behind buildings;
- Allow adaptive reuse of residential structures, retaining as much original fabric as possible;
- Sidewalk/shared-use path connections should be provided between building entrances and the primary street.

Existing Conditions

Recommended Improvements

Figure 4.2-5 | Neighborhood District Photo Rendering of Recommended Improvements

Downtown District

The most northern portion of the corridor is entirely within the central business district of Burlington and has been aptly termed the Downtown District. Maple Avenue currently transitions to a three-lane (i.e., one travel lane in each direction with a continuous center turn lane) cross section just north of Broad Street all the way to the corridor's northern limits at Worth Street. Where space allows, on-street parallel parking is present, mostly on one side of the street but sometimes on both sides, depending on constraints. The sidewalk network is robust, with some small gaps and maintenance issues needing to be addressed to meet ADA requirements. Limited landscaping is present where right-of-way is ample enough to accommodate it.

There are no pedestrian signals at any signalized intersections in the Downtown District.

Recommended improvements in the Downtown District focus on making the most of the public realm from face-of-building to face-of-building. Traffic volumes (i.e., left-turning volumes in particular) are not high enough to need a continuous center turn lane; additionally, the grid street network and street wall character (i.e., few mid-block driveways) of downtown makes dedicated left-turn lanes less necessary. It is recommended that the space currently allocated to the center turn lane be better utilized for on-street parking, landscaping, and/or wider sidewalks, as shown in **Figure 4.2-6**.

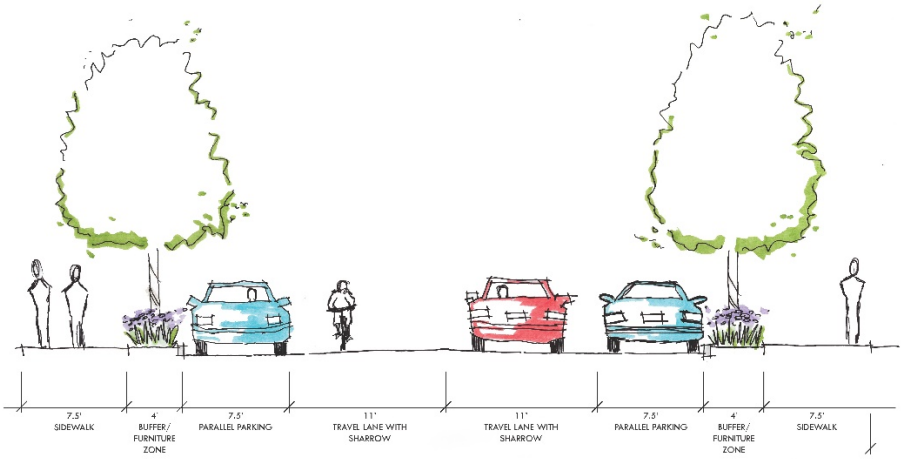


Figure 4.2-6 | Downtown District Recommended Typical Cross Section

Overlay Standards

The Downtown District should have a mix of uses that support living, working, staying, and playing in downtown. Standards should include:

- It is especially important in the Downtown District to position buildings to the primary street frontages with a strong promotion of a street wall. Articulation, fenestration, proportions, and window ratios should be specified to encourage a vibrant and engaging built environment;
- Locate parking, loading/unloading to the side or behind buildings;
- Encourage residential above commercial uses, including allowing balconies and overhangs.
- Allow adaptive reuse of structures, retaining as much original fabric as possible.
- Focus architectural detail on primary frontage.
- Specify a strong, welcoming public realm, including wide sidewalks, street furniture, and landscaping.

LOADING
ZONE
PHARM
SERVI
IN

4.3 KEY INTERSECTION IMPROVEMENTS

Several intersection improvement recommendations go beyond basic enhancements. Intersections where more comprehensive capital improvements are recommended are summarized below.

Maple Avenue at Anthony Road

The intersection of Maple Avenue and Anthony Road is located at the southern end of the corridor limits. Currently, it is a "Y" intersection that is skewed, creating difficult geometry and site line issues. Additionally, due to its geometry, traffic moves through the intersection at higher speeds.

It is recommended that the intersection be converted into a single-lane roundabout, as shown in **Figure 4.3-1**.

This design will allow for a slower, more balanced flow of traffic, while eliminating site distance problems. It will be important to work with adjacent property owners to ensure that appropriate access is provided outside the roundabout itself.

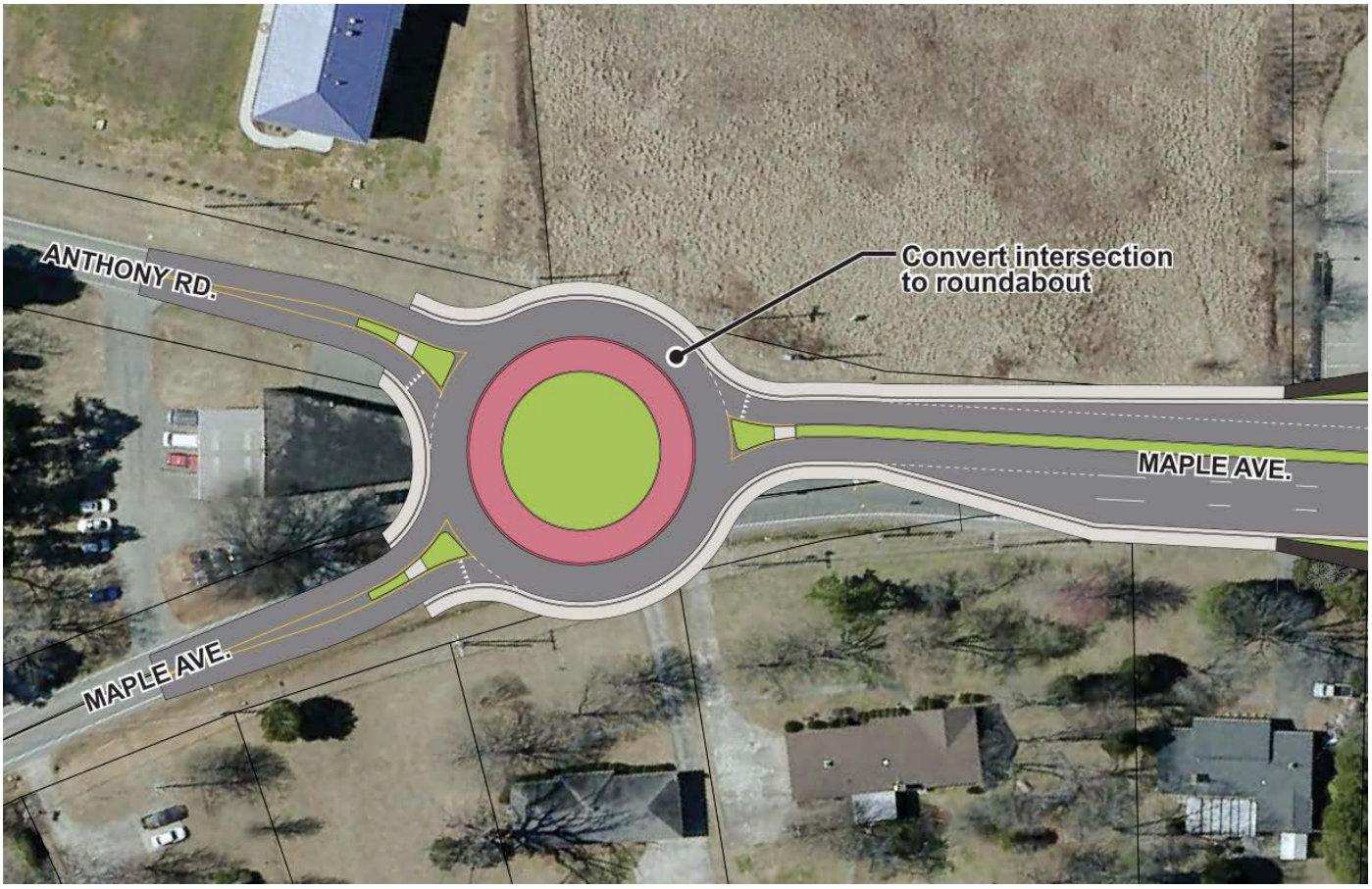


Figure 4.3-1 | Anthony Road Intersection Recommendations

Maple Avenue at Plantation Drive

Currently, the intersection of Maple Avenue and Plantation Drive is located approximately 300 feet from the westbound ramps of I-40. This proximity often creates traffic issues, as vehicles waiting at the Plantation Drive traffic signal back up to block the signalized intersection of the Interstate ramps. NCDOT specifically requested that this intersection either be simplified (i.e., through the elimination of left turns) or removed completely. Additionally, NCDOT also expressed concern with how close the intersection of Plaza Drive/Plantation Drive is to the intersection of Plantation Drive/Maple Avenue. This too creates traffic issues.

To improve traffic flow and safety, it is recommended that Maple Avenue's intersection with Plantation Drive be consolidated to the north with the signalized intersection at Burger King, as shown in **Figure 4.3-2**. This would include a new access into properties east of Maple Avenue to create a complete four-legged intersection. Additionally, Plantation Drive's frontage road layout would be shifted northward to intersect with Plaza Drive at a new roundabout on the interior of the Burlington Outlet Village.[9]

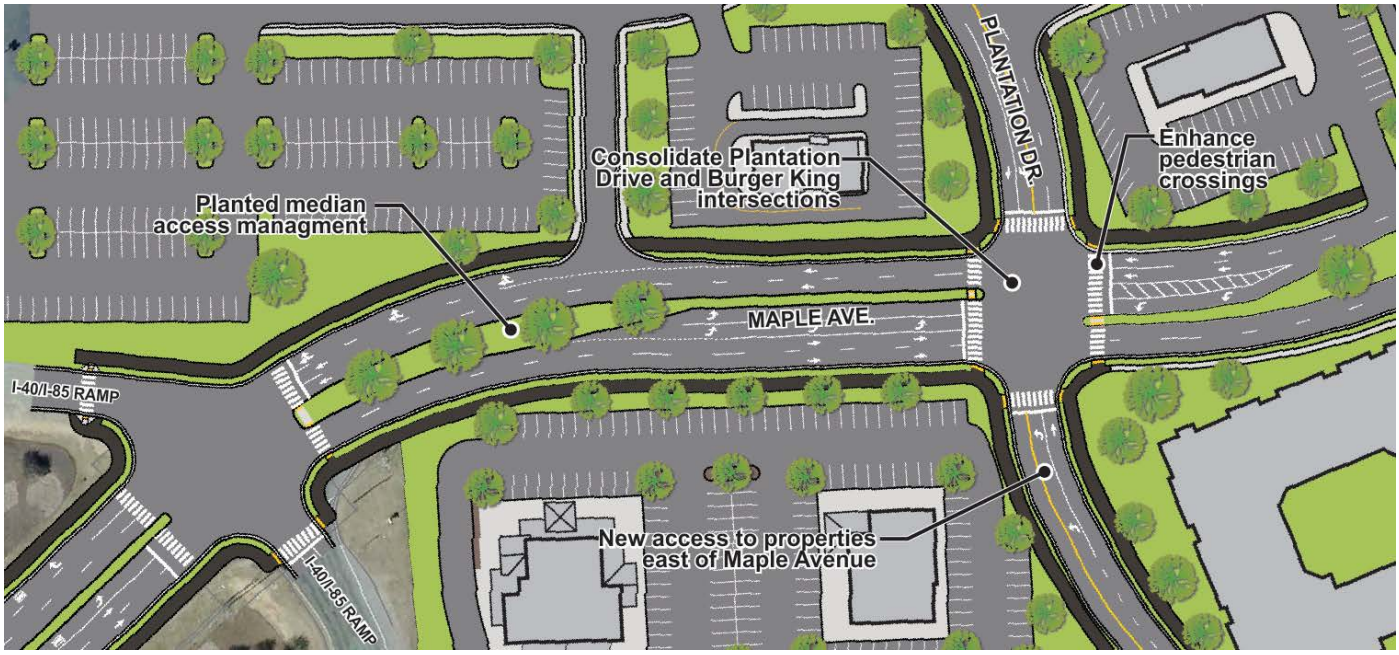


Figure 4.3-2 | Plantation Drive Intersection Recommendations

[9] For more information see Section 4.5.

Maple Avenue at Chapel Hill Road/Harden Street

Maple Avenue's intersection with Chapel Hill Road/Harden Street (NC 54) is currently severely skewed. The geometry of the intersection has very poor site distance. The wide cross section of the street encourages higher traffic speeds, and drivers traveling north and south through the intersection find navigation of the skew very dangerous, even at the posted speed limit of 35 miles per hour (mph). NCDOT desires for the geometry of this intersection to be corrected when improvements are made to this section of Maple Avenue.

Realignment of the intersection of Maple Avenue and Chapel Hill Road/Harden Street is recommended to form a ninety-degree intersection, as shown in **Figure 4.3-3**. For this realignment to tie back into the Interstate ramps to the south, the entire horizontal profile of Maple Avenue will shift to the east. This will require the reconfiguration of a number of driveways and parking lots surrounding the intersection, but no structures will be affected. While it is apparent that properties and structures south of the intersection will be impacted, the extent of those impacts will not be fully known until the project moves to final design.

To improve pedestrian and bicyclist safety at the intersection, enhanced crossings are proposed. Additionally, the existing southbound right-turn slip lane from Chapel Hill Road will be removed to slow right-turning vehicles; a truck apron would be provided to allow larger vehicles to make the turn.

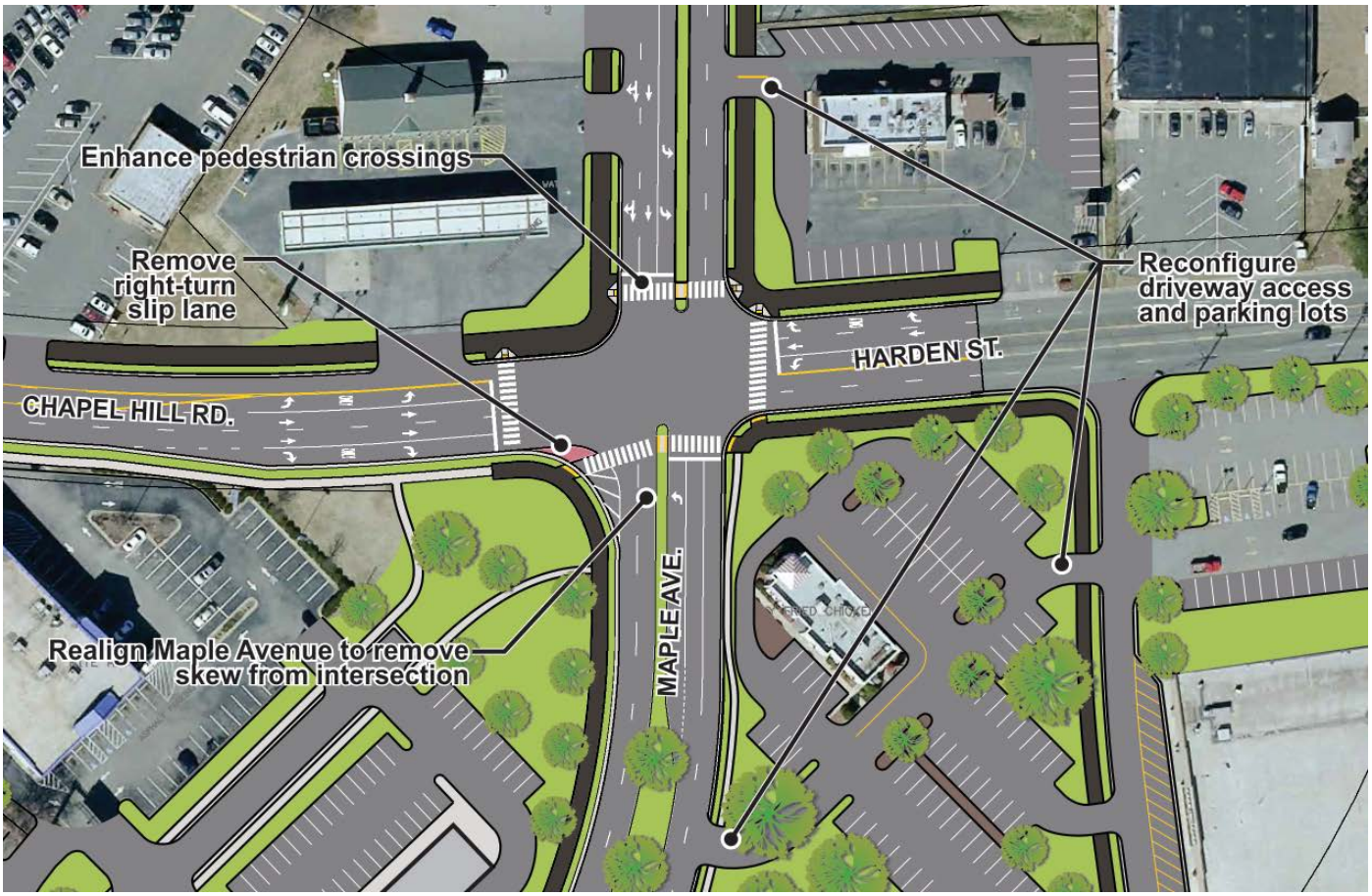


Figure 4.3-3 | Chapel Hill Road/Harden Street Intersection Recommendations

Maple Avenue South of Stokes Street

South of the Maple Avenue/Stokes Street intersection, a significant number of people routinely cross Maple Avenue between the Burlington Housing Authority complex and the Speedway gas station. This is a highly dangerous crossing, as no traffic signal is present at the intersection and traffic travels at high speeds.

In addition to narrowing Maple Avenue, it is also recommended that a midblock crosswalk be installed with a High-intensity Activated crossWalK (HAWK) beacon, as shown in **Figure 4.3-4**. The HAWK signal can be actuated by pedestrians to stop oncoming traffic, when needed.

Figure 4.3-4 | Midblock Crossing Recommendation

Maple Avenue at Albany Street and Quintas Avenue

The Mixed District is currently a five-lane (i.e., two travel lanes in each direction with a continuous center turn lane) cross section. The previously recommended changes to this cross section, through the reduction of two travel lanes and the addition of a planted median, will help to make the street more intimate and provide access management. However, it will still be possible for vehicular speeds to be higher than desired, as the street has long straight sections. Additionally, while access management will reduce conflicts, it will also reduce property access.

To ensure lower speeds and property access, it is recommended that small roundabouts be installed at Maple Avenue's intersections with Albany Street and Quintas Avenue, as shown in **Figure 4.3-5**. Not only will the small roundabouts slow traffic but they will also provide easy turnaround points for drivers wishing to access properties on the opposite side of the planted median access management. Further, the small roundabouts, combined with the planted median, will offer opportunities for enhanced landscapes and strong gateways to this portion of the corridor.

Figure 4.3-5 | Albany Street and Quintas Avenue Intersection Recommendations

Maple Avenue at Morehead Street and Anthony Street

Maple Avenue's intersections with Morehead Street and Anthony Street are both skewed and in close proximity to one another. Anthony Street is the larger and higher volume of the two, and, because Morehead Street also intersects with Anthony Street just west of Maple Avenue, the Maple Avenue/Morehead Street intersection is somewhat redundant.

To improve operations and safety of both intersections, geometric changes are recommended, as shown in **Figure 4.3-6**. To simplify the Maple Avenue/Morehead Street intersection, while also maintaining the most predominant movements, Morehead Street should be converted to right-out/left-in. This eliminates the more dangerous movements where existing sight distance is challenging. During final design, complete closure of this intersection should be investigated further, as property access could be maintained and connectivity to Maple Avenue achieved via Anthony Street.

The intersection of Maple Avenue and Anthony Street should be converted to a single-lane roundabout. This will slow traffic speeds, move vehicles more efficiently through the intersection, and increase safety by eliminating sight distance issues. To slow all vehicles but still enable large trucks to traverse the roundabout, a truck apron would be provided.

Figure 4.3-6 | Morehead Street and Anthony Street Intersection Recommendations

Maple Avenue at Spring Street, Main Street, and Worth Street

In downtown, Maple Avenue's intersections with Spring Street, Main Street, and Worth Street are very close together, and the performance of each is dependent on the other two. Currently, all three intersections are signalized. The signals are timed, so they do not adjust based on actual volumes; therefore, drivers have the same wait time at each signal regardless of the amount of traffic in the opposing direction. Additionally, the Maple Avenue/Worth Street intersection is offset. This offset requires additional signal phases to move through the signal cycle.

It is recommended that the Maple Avenue/Worth Street intersection be converted to a single-lane roundabout. Based on the offset geometry of the intersection, the shape of the roundabout is often referred to as a "peanut-about," as depicted in **Figure 4.3-7**. The roundabout design will allow traffic to efficiently flow on a continuous basis, reducing delay along Maple Avenue throughout downtown. Truck aprons will allow larger vehicles to traverse the roundabout while encouraging slower speeds.

Spring Street should be converted from a signalized intersection to a four-way stop sign controlled intersection. Based on the lower volumes on Spring Street, this will decrease delay on Maple Avenue and increase driver attentiveness. Additionally, this intersection can be necked down with curb extensions, increasing sidewalk area and reducing pedestrian crossing distances.

The geometry of the Maple Avenue/Main Street intersection would remain the same as it is today, but it too should have narrowed pedestrian crossing distances through the installation of curb extensions.

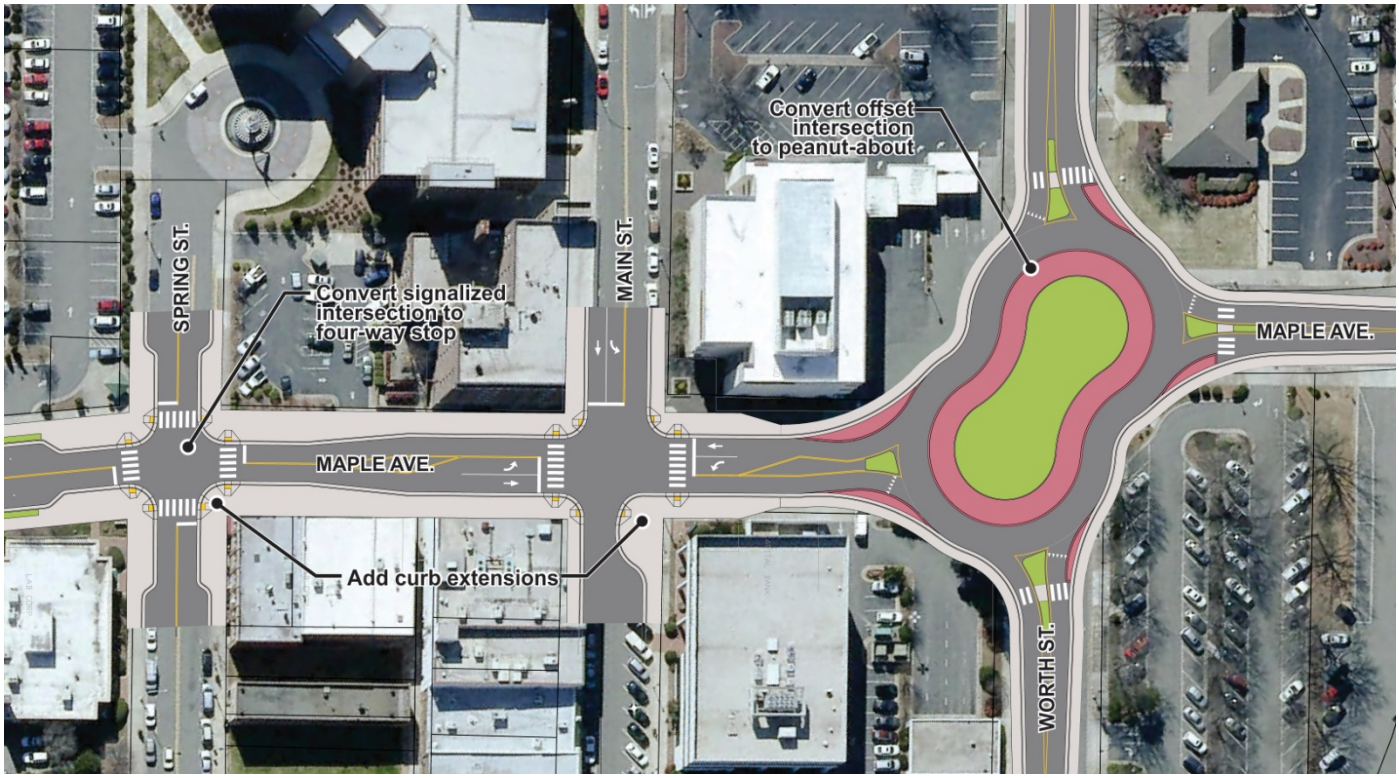


Figure 4.3-7 | Spring Street, Main Street, and Worth Street Intersection Recommendations

4.4 BUS STOP GUIDELINES

Because Link Transit operates along Maple Avenue, it is essential that quality transit facilities exist within the corridor. Such should include bus stops with shelters and benches and bus turnouts in high traffic areas. These facilities, in conjunction with proposed sidewalks and shared use paths, will provide basic dignity elements that make riding transit viable.

The specific location and design of bus stop facilities has not been depicted on the conceptual plans included in Appendix B, as their placement and design will respond to ridership demand and surrounding land uses, require coordination with individual property owners, and be influenced by available funding sources. The cost estimates presented in Chapter 5 do account for such improvements with general unit costs.

The following sections provide design guidelines for bus stop improvements. Guidelines are intentionally broad, covering a variety of street types, contexts, and locations, so that they can be applied to the Maple Avenue corridor and the remainder of the Link Transit system, if desired.

Bus Stop Placement

Stop spacing range:

- Urban/Downtown: 500 to 1,200 feet
- Suburban: 600 to 2,500 feet
- Rural: up to 2,700 feet

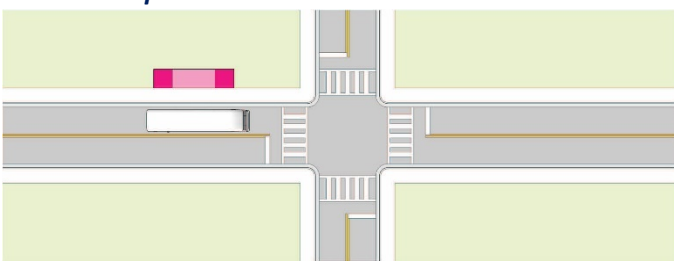
Safety elements:

- Passenger protection from vehicular traffic
- Accessibility
- Proximity to crosswalks and curb ramps
- Proximity to major trip generators
- Convenient passenger transfers to routes with
- nearby stops
- Proximity to stop for the same route in opposite
- direction

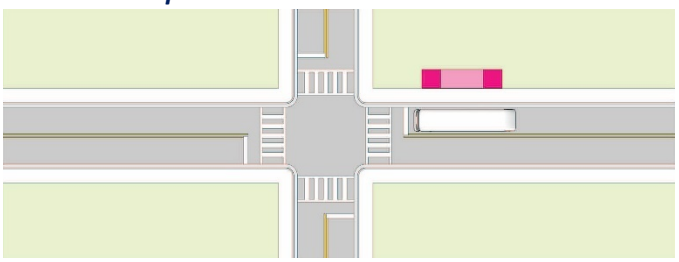
Operating elements:

- Curb space for number of buses expected at stop at one time
- Impact of stop on adjacent properties
- On-street parking and loading zones
- Bus routes
- Directions and widths of intersection streets
- Types of traffic signal controls
- Traffic volumes and turning movements
- Sidewalk widths

Far Side Stop



Near Side Stop



Midblock Stop

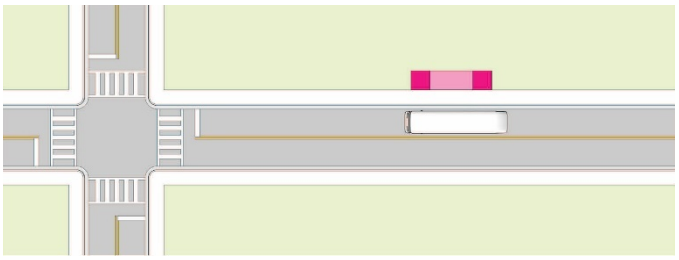


Figure 4.4-1 | Bus Stop Placement

Bus Stop Geometry

- Loading zones: 5 feet wide minimum, 8 feet deep minimum
- Distance between landing zones: 18 feet minimum
- Distance from stop to crosswalk: 5 feet minimum, 10 feet+ preferred
- Trash/recycling bins: 18 inches minimum to the left of landing
- Trees: 10 feet minimum offset from landing
- Bus stop signs: 2 feet from back of curb

Bus Stop Shelters

- Crosswalk to shelter: 15 feet minimum
- Shelter to back of curb: 4 feet minimum
- Ground obstructions to shelter: 1 foot minimum
- Fire hydrant to shelter: 10 feet minimum
- Shelter to landing zone: 3 feet minimum, 20 feet maximum

Bus Turnout Design

- Bus lane width: 12 feet minimum
- Overall turnout length: 130 feet minimum
- Deceleration zone: 40 feet minimum
- Loading zone: 50 feet minimum
- Acceleration zone: 40 feet minimum

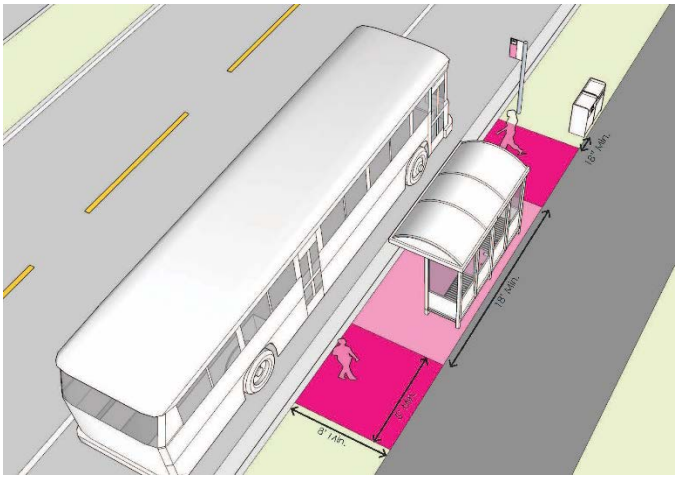


Figure 4.4-2 | Bus Stop Geometry

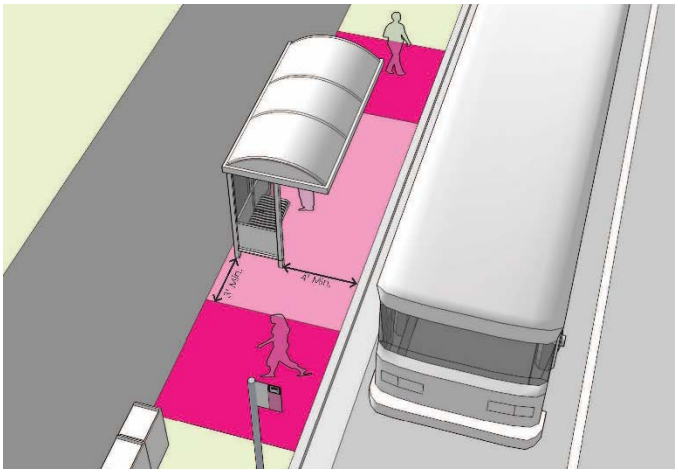


Figure 4.4-3 | Bus Stop Shelters

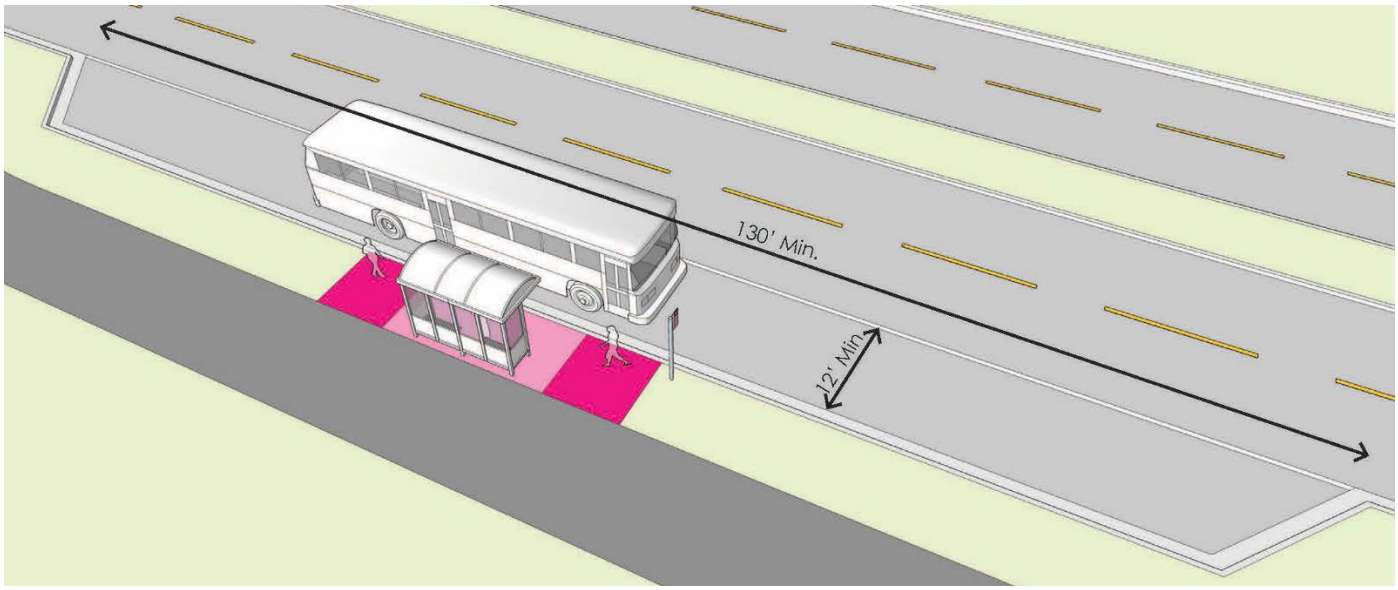


Figure 4.4-4 | Bus Turnout Design

4.5 CATALYST SITES

As a complement to the corridor study, several catalyst sites were evaluated for their redevelopment potential, with two being advanced to a master planning level of detail. The catalyst sites selected are located just north of I-40, as shown in **Figure 4.5-1**. Catalyst Site A is generally bounded by Chapel Hill Road to the north, Plantation Drive to the south, Maple Avenue to the east, and Corporation Parkway to the west, including the Burlington Outlet Village. Catalyst Site B is bounded by Harden Street to the north, I-40 to the south, Granddaddy's Antique Mall to the east, and Maple Avenue to the west.

Figure 4.5-1 | Catalyst Sites

Land Use Programming

Based on the findings of the market analysis summarized in Chapter 3, a land use program was developed for the sites and is shown in **Table 4.5-1**.

Table 4.5-1 | Catalyst Sites Land Use Programming

LAND USE TYPE	TOTAL CURRENT		TOTAL ANTICIPATED	
	SITE A	SITE B	SITE A	SITE B
Antique Store	-	106,000 sf	-	106,000 sf
Automotive Dealership	35,000 sf	-	35,000 sf	-
Casual Dining	18,200 sf	-	18,200 sf	11,000 sf
Church	54,000 sf	-	54,000 sf	-
Community College	50,000 sf	-	100,000 sf	-
Daycare	26,700 sf	-	25,000 sf	-
Fast Food	9,200 sf	2,500 sf	12,500 sf	2,500 sf
Flex Office/Light Industrial	-	-	203,000 sf	-
Grocery Store	-	33,000 sf	-	33,000 sf
Motel	80 rooms	170 rooms	-	130 rooms
Multifamily Residential	-	-	-	220 units
Retail	340,000 sf	35,000 sf	178,000 sf	25,000 sf

Redevelopment Intent

Site A

The redevelopment intent for Site A is to transform this functionally obsolete retail village into a mixed-use campus targeting employment and education. This renewed regional destination could provide new office, flex, and research/development space for expanding existing business and attraction of new business. This area may be phased to evolve over time maintaining a select few businesses/tenants, while relocating others. This could integrate limited restaurants and retail after the primary infrastructure is repositioned and the area rebranded.

Key aspects of Site A's redevelopment intent include:

- Educational anchor in expansion of Alamance Community College's Dillingham Center;
- Retention of strong uses, including Nichols Dodge Chrysler Jeep;
- Flexible office space, research, and light industrial;
- Dining and retail;
- Consolidation and rebranding of existing businesses; and
- Strong public realm and multimodal transportation network with both interior and exterior connections.

Site B

Site B's redevelopment intent would anchor the redevelopment of the east side of Maple Avenue into a mixed-use project focused on shopping and entertainment, to include lodging. Retail, dining, and entertainment uses could congregate together as part of a revitalized and expanded project to provide synergy and renew the viability of retail in the corridor. Further, the inclusion of multifamily residential would activate the site on a 24/7 basis.

Key aspects of Site B's redevelopment intent include:

- Mix of uses;
- Retention of strong uses, including Food Lion and Granddaddy's Antique Mall;
- Retail and dining;
- Market-rate housing in proximity to Food Lion;
- Entertainment and public gathering; and
- Strong public realm and multimodal transportation network with both interior and exterior connections.

Catalyst Sites Master Plan

The land use program and redevelopment intent were applied graphically to a master plan for the two catalyst sites, as depicted in **Figure 4.5-2**.

Figure 4.5-2 | Catalyst Sites Master Plan

RENEW MAPLE AVENUE
A CITY OF BURLINGTON CORRIDOR INITIATIVE

Catalyst Sites Zoning Considerations

It is important to note that certain zoning considerations must be made to implement the Catalyst Sites Master Plan as depicted previously in Figure 4.5-2.

Site A

The entirety of the properties on Site A are currently zoned I-2 Light Industrial. This district is for industries that can be operated in a manner that will not be obnoxious or detrimental to adjacent residential or business districts. All permitted uses (with exceptions), including storage, must be conducted within a completely enclosed building or opaque screened area. There are no minimum lot area or width requirements, no limitations on lot coverage or floor area ratio, and no height limit, with the exception that this site is at the perimeter of the airport overlay, both horizontal (partial) and conical (entire site). Considering that the overlay restrictions on height fall away with distance from the airport, there should be no undue hardships with respect to the height of structures allowed in Site A. Allowable uses include light manufacturing, colleges, offices, restaurants, and retail.

Site B

The properties on Site B include a variety of zoning districts, specifically I-2 Light Industrial, B-1 General Business, CB Conditional Business, and R-9 Residential.

The I-2 district is for industries that can be operated in a manner that will not be obnoxious or detrimental to adjacent residential or business districts. All permitted uses (with exceptions), including storage, must be conducted within a completely enclosed building or opaque screened area. There are no minimum lot area or width requirements, no limitations on lot coverage or floor area ratio, and no limitations on height, with the exception that this site is at the perimeter of the airport overlay, both horizontal (partial) and conical (entire site). Considering that the overlay restrictions on height fall away with distance from the airport, this area should not suffer any undue hardships with respect to the height of structures allowed in Site B. Uses allowed in the district include light manufacturing, colleges, offices, restaurants, and retail.

The B-1 district is for neighborhood business purposes, primarily intended to accommodate very low intensity office, retail, and personal service uses within predominately residential areas. The district is established to provide convenient locations for businesses that serve the needs of surrounding residents without disrupting the character of the neighborhood.

The CB district is intended to accommodate the development of planned commercial developments, subject to specific conditions imposed upon the property. There is only one such property contained within Site B, and it is near the periphery, embedded amongst B-1 zoned properties.

The R-9 district is intended for residential uses and allows home occupations. The extent of residential use on Site B is very limited in scope.

Rezoning

The rezoning process in the City of Burlington can be accomplished in as little as three months, depending on the timing, although the complexity involved in a particular request has the potential of adding a month or two. The Planning Department will shepherd the applicant through the process. Many future uses could easily be accommodated within the I-2 Light Industrial district. This district has been discussed internally and is seen by staff as ideal for the area. Those areas needing to be rezoned can be converted in a short period of time, without causing any undue hardship to the businesses in question.

5 IMPLEMENTATION PLAN

Renew Maple Avenue is an essential step in realizing improved quality of life, a more connected, safe, and efficient multimodal transportation network, and economic development along this prominent gateway into the City of Burlington. However, the process that created this document should not be considered the destination, but rather the beginning of the journey toward a renewed Maple Avenue.

While completing the planning process was important and necessary, implementation of recommendations identified in this document is the ultimate desired outcome of *Renew Maple Avenue*. To this end, an implementation framework has been crafted and is presented on the following pages. This implementation plan provides:

- Understanding the purpose and place of *Renew Maple Avenue* in the overall planning, design, and implementation process;
- Summary of partnerships that will be necessary to make recommendations a reality; and
- Action Plan outlining the key steps and considerations that should be made to move recommendations forward.

Chapter 6 that follows the Implementation Plan considers reasonable expectations for the City to realize improved quality of life, a safer, more efficient transportation network, and increased private investment.

5.1 ROLE OF *RENEW MAPLE AVENUE*

Renew Maple Avenue fulfills a critical role in the overall land use and transportation planning process. It is important to recognize the merits and limitations of the corridor study planning process to appropriately understand the next steps that must be taken to achieve the recommendations made here.

Relationship to the Project Delivery Process

While a corridor study like *Renew Maple Avenue* is part of the total project delivery process, it is just that – a part, not the whole. Although the project delivery process has many individual, complex elements, it can be succinctly summarized into three major components: 1) Vision; 2) Plan; and 3) Implementation, as shown in **Figure 5.1-1**.

Figure 5.1-1 | Project Delivery Process

Vision is generally identified through an overarching, high-level process where "big picture" goals, objectives, and strategies are formulated for a community. In the case of the City of Burlington, this was accomplished through the completion of *Destination Burlington*, the City's comprehensive plan that was adopted in 2015. Through assessment, public outreach, and goal-setting, *Destination Burlington* provided a visionary framework for the future. Within that framework are discrete strategies for achieving success, including the recommendation that "challenged corridors" receive individualized analysis, with Maple Avenue being at the top of the list.[10]

[10] For more information on *Destination Burlington*, please visit: http://burlingtonnc.gov/1516/Comprehensive-and-Long-Range-Planning.

Implementation is at the opposite end of the project delivery spectrum. When a community determines a final course of action for a particular site, corridor, or district, detailed design is initiated followed by the actual construction of the project. Implementation involves knowing and understanding all project elements, expending capital dollars, and the community realizing a final solution. In the case of Maple Avenue, this would be when one or more portions of the project are actually constructed.

Plan sits at the center of the project delivery process and serves a very important purpose; *Renew Maple Avenue* fulfills this role as a corridor study. While *Renew Maple Avenue* provides a robust understanding of the opportunities, challenges, and most-applicable solutions for Maple Avenue, it is not all-inclusive. By its very role in the project delivery process, *Renew Maple Avenue* is not designed to provide definitive answers to all questions that may arise, but rather is a bridge between the extremely broad nature of the initial assessments included in *Destination Burlington* and the site-specific investigations of future design/construction projects. *Renew Maple Avenue* should be thought of as a view from 50,000 feet, while the view of *Destination Burlington* was taken from 100,000 feet and a design/construction project is at "ground level."

Environmental Review Process

Per the National Environmental Policy Act (NEPA) of 1970, all federally funded projects, and those seeking federal permits, must consider impacts to the natural, built, and social environment as part of their project development process.[11] Therefore, projects that advance from *Renew Maple Avenue*, and require federal funding/permitting, must go through a level of environmental review. The specifics of this review are based on the magnitude of the project, but generally will consider a broad number of areas. While a variety of regulatory requirements may exist, NEPA is specifically addressed here because it has been recommended that the City pursue federal funding through NCDOT, FTA, and a BUILD grant, all of which would require NEPA documentation.

While many variables regarding NEPA are unknown at this time, what is known is that recommendations included here will be subject to a more comprehensive review as concepts are taken through the design and environmental review process. Therefore, it should be noted that the recommendations of *Renew Maple Avenue* may experience changes to accommodate the findings of the NEPA process; these changes may be minor, or they could significantly alter a recommendation based on constraints and opportunities that cannot be assessed in the scope of a corridor study document like *Renew Maple Avenue*. Therefore, the City of Burlington, NCDOT, property owners, development professionals, and the general public should utilize *Renew Maple Avenue* as the planning document it is intended to be; no guarantees are made or implied.

[11] For more information on how NEPA affects the transportation decision-making process, please visit: https://www.environment.fhwa.dot.gov/nepa/nepa_projDev.aspx.

5.2 PARTNERSHIPS

With such a large array of recommendations, it is apparent that the implementation of *Renew Maple Avenue* is not something that the City of Burlington can undertake on its own. Not only is this not possible, but for the City to attempt to do so would be inappropriate, as the recommendations of *Renew Maple Avenue* benefit a broad cross-section of the community and will bring added value to many stakeholders. This is why partnerships have been stressed throughout the planning process, from the origination of a steering committee comprised of community organizations and interests to the one-on-one stakeholder meetings that have been performed as plans have developed.

While the partnerships that can be leveraged for the implementation of *Renew Maple Avenue* are many, the sections that follow identify four of the more apparent and critical ones:

- North Carolina Department of Transportation (NCDOT);
- Link Transit;
- New Leaf Society; and
- Property owners, businesses, and organizations.

NCDOT

The NCDOT owns and maintains Maple Avenue within the study area between Anthony Road to the south and Anthony Street to the north. This accounts for approximately 1.6 miles of the total 2.5-mile corridor. In addition to controlling roughly 65% of the total project length, NCDOT also owns and maintains many of the connecting streets that will be affected; therefore, it was imperative that NCDOT be an active partner in *Renew Maple Avenue*.

To that end, NCDOT has been continuously consulted as existing conditions were examined, alternatives considered, and final recommendations developed. Not only was it important that NCDOT have ownership of recommendations as part of this planning process, but it will be critical for NCDOT to be an active design and funding partner as recommendations move forward to implementation. For this to occur, projects presented in *Renew Maple Avenue* will need to be competitive in NCDOT's project prioritization process, which is further detailed in Section 5.3 of this report.

Link Transit

Through the Burlington-Graham Metropolitan Planning Organization (MPO), Link Transit has access to a variety of federal funding sources for capital improvements associated with the transit system. While these funds require a minimal match (i.e., generally 20%), that match must come from local sources. Without the local match, federal dollars may be underutilized.[12]

Some of these federal funds would be eligible to assist with transit upgrades along Maple Avenue. In many cases, these funds can be used for not only infrastructure immediately tied to the transit system, such as bus shelters and stop amenities, but also for access and connectivity to bus stops, including sidewalks, shared use paths, intersection enhancements, and ADA improvements. Partnering with Link Transit to find ways to leverage these specific transit funding categories could benefit the corridor through improved transit service and access along

[12] For more information on funding available through the Federal Transit Administration, please visit: https://www.transit.dot.gov/funding/grants/urbanized-area-formula-grants-5307.

Maple Avenue. Section 5.3 provides information on the typical cost of various transit improvements.

New Leaf Society

New Leaf Society, a private, non-profit organization focused on beautification and community partnerships in Alamance County, has a strong track record of providing landscape enhancements associated with transportation projects.[13] The Society has already expressed its willingness to be a partner in the implementation of *Renew Maple Avenue*, indicating that they are willing to provide landscape design, installation, and early maintenance of landscape treatments associated with implementation.

While high-level conceptual planning of landscape elements is included in *Renew Maple Avenue*, these are meant as placeholders until more robust design can occur. Therefore, the City of Burlington and NCDOT should welcome a partnership with the New Leaf Society, allowing them to articulate the long-term vision for implementation of landscape elements throughout the corridor.

Property Owners, Businesses, and Organizations

Renew Maple Avenue provides a strong blueprint for the revitalization of the Maple Avenue corridor. However, one of the principles of *Renew Maple Avenue* is for such revitalization to be done in a context-sensitive manner, embracing the corridor's many characteristics while enhancing its future through the implementation of strategic recommendations. This is why area property owners, businesses, and organizations most invested in the corridor have been engaged throughout the planning process and why partnership with them should continue.

5.3 ACTION PLAN

This section presents the Action Plan for implementation of recommended improvements presented in Section 4 of this document.

Opinions of Probable Cost

Where applicable, an estimated order-of-magnitude opinion of probable cost is presented for each recommendation (i.e., detailed opinions of probable cost are included in **Appendix C**). Costs were developed for recommendations by identifying pay items and establishing rough quantities. Unit costs are based on 2019 dollars and were assigned based on historical cost data from NCDOT and other sources.

Please note that costs for engineering analysis and design are included based on previous experience with similar projects. While not highly quantifiable at the planning phase, costs for right-of-way acquisition were estimated per current tax values and acreage/structures anticipated to be impacted. The cost for ongoing maintenance was not included. Also, note that rough costs have been assigned to some general categories such as stormwater and erosion control, however these costs can vary widely depending on the exact details and nature of the work. Cost estimates were designed to account for a "middle of the road" approach – not the lowest finish, but not the highest either. Should the City decide to increase amenities along the corridor, then increased costs should be anticipated.

The overall estimates are intended to be general and used for planning purposes. Construction costs will vary based on the ultimate project scope (i.e., potential combination of projects) and economic conditions at the time of construction.

[13] For more information on the New Leaf Society visit: https://www.newleafsociety.org/.

NCDOT Prioritization

NCDOT introduced project prioritization in 2009 to provide an inclusive and data-driven process for moving projects to the State Transportation Improvement Program (STIP). To further direct the expenditure of available transportation dollars, the North Carolina General Assembly created the Strategic Transportation Investment Act (STI), which was signed into law on June 26, 2013. STI established three categories of funding, in order of significance:

1) Statewide Mobility (40%);
2) Regional Impact (30%); and
3) Division Need (30%).

Further, STI requires MPOs, Rural Planning Organizations (RPOs), and the 14 NCDOT Divisions develop a project solicitation process and adopt a project ranking process for all modes of transportation.[14]

Since its inception, project prioritization has gone through a number of iterations, the most recent being Prioritization 5.0 (P5.0). Like its predecessors, P5.0 provided unique scoring criteria for each type of transportation project, ranked all submitted projects by tier, and culminated with the 2020-2029 Draft STIP being released on January 10, 2019. The programmed Regional Impact projects in the STIP included $1.6 million for the intersection of Maple Avenue and Chapel Hill Road/Harden Street (NC 54). When this funding was applied for, the *Renew Maple Avenue* planning process had not yet begun. As mentioned above, NCDOT has been actively involved in the planning process for *Renew Maple Avenue* and understands that larger transportation issues can be resolved, and economic development potential increased, if additional funding can be realized. The City of Burlington has begun discussions with NCDOT to determine if the $1.6 million programmed in the STIP can be combined with future funds to implement a broader, and more complete solution for Maple Avenue.

The next round of prioritization, P6.0, is anticipated to begin in June/July 2019; this would be when projects from *Renew Maple Avenue* would seek funding from and partnerships with NCDOT. The City of Burlington falls within the Burlington-Graham MPO (BGMPO), and, therefore, the City must apply for funding based on BGMPO's established criteria. *Renew Maple Avenue* recommended projects are anticipated to fall within the Regional Impact and Division Need categories. As we do not yet know the P6.0 criteria for these categories, the P5.0 criteria are included in **Appendix D** as a reference.

While *Renew Maple Avenue* includes analysis, graphics, concept designs, and opinions of probable cost that will assist in completing the required documentation for inclusion in P6.0, it is not currently possible to predict how well any recommendation will perform in the prioritization process. The City of Burlington should continue to work with NCDOT Division staff to determine the most advantageous packaging of projects to score well against the various criteria that will be developed for P6.0.

It should be noted that if NCDOT funding is secured through P6.0 or later prioritization rounds, it will take several years for that funding to make its way through the appropriations process. Most likely, the earliest new funds would be available would be 2026.

[14] For more information on the NCDOT STI process, please visit: https://www.ncdot.gov/initiatives-policies/Transportation/stip/Pages/strategic-transportation-investments.aspx.

Transit Improvements

As previously mentioned, Link Transit has access to a variety of federal funding sources for capital improvements associated with the transit system. To assist in determining dollars necessary to accomplish specific transit related improvements, unit costs have been developed for transit improvements that would benefit the Maple Avenue corridor. These are presented in **Table 5.3-1**.

Table 5.3-1 | Transit Improvement Unit Costs

IMPROVEMENT	NOTES	UNIT	UNIT COST
Standard bus stop	8'x10' concrete pad, bench, bus stop sign w/post	Each	$2,200.00
Bus shelter	8'x18' concrete pad, shelter w/bench, bus stop sign w/post	Each	$10,000.00
Connecting shared use path	10' wide asphalt	Linear Foot	$170.00
Connecting sidewalk	5' wide concrete	Linear Foot	$130.00
Bus turnout	12'x130'	Each	$30,000.00

Utility Considerations

Potential impacts to utilities such as water, sewer, and power and communication lines are a reality of any street reconstruction project. When estimating the cost of recommendations, this inevitability is accounted for through a standard percentage of project cost being attributed to utility relocations. However, sometimes as part of street improvements, communities desire to upgrade utilities at the same time to realize economies of scale; such upgrades can include new water and sewer improvements to replace aging infrastructure and/or relocating pole-mounted overhead utilities underground to reduce visual clutter.

Based on direction from the City of Burlington, *Renew Maple Avenue* has assumed that impacts to water and sewer systems will be incidental to street improvements; therefore, these costs have been captured as such in the opinions of probable cost that have been developed. However, the City does desire to explore several options for power and communication lines, including leave in-place, removal of transverse lines, aboveground consolidation to one side of the street, and relocation underground.

Cost estimates generated for the corridor recommendations in this document assume full undergrounding of current overhead utilities. Per-mile costs for the other options are provided in **Table 5.3-2**; costs were derived based on discussions with utility providers, similar previous experience, and engineering judgment. To assist in determining which option has the best cost to benefit, a series of costs and photo renderings were prepared considering each relocation type and are included in **Appendix E**.

Table 5.3-2 | Power and Communication Line Relocation Costs

RELOCATION TYPE	NOTES	UNIT	UNIT COST
Aboveground clean-up	• Utilities remain aboveground on poles • Remove aerial transverse crossings	Per Mile	$1,200,000
Aboveground consolidation	• Utilities remain aboveground on poles • Remove aerial transverse crossings • Consolidate lines/poles to one side of street	Per Mile	$2,400,000
Underground relocation	• Relocate all utilities underground	Per Mile	$3,600,000

Project Phasing

Renew Maple Avenue includes a wide variety of recommendations. It is understood that all recommendations will not be accomplished simultaneously, as funding and partnerships must be assembled. To provide an understanding of the most appropriate project packages, recommendations have been broken into logical phases for implementation and are depicted graphically in **Figure 5.3-1**. **Table 5.3-3** summarizes recommendation phasing, order-of-magnitude opinions of probable cost, potential partners, and general notes regarding implementation.

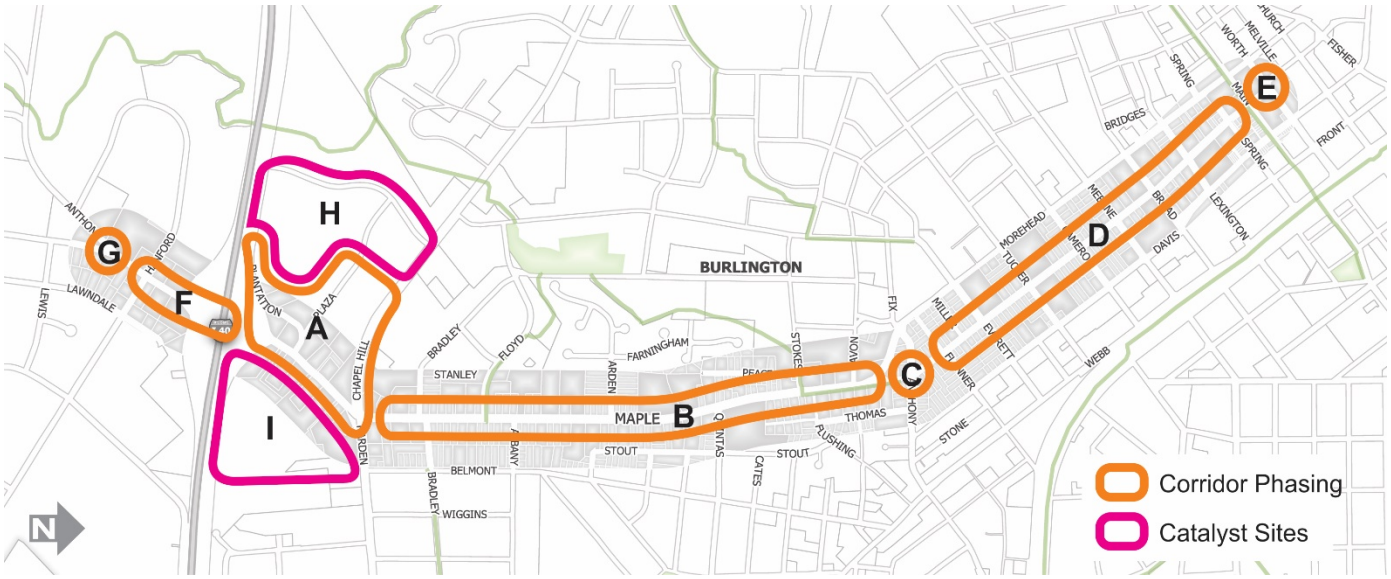


Figure 5.3-1 | Project Phasing

Table 5.3-3 | Project Phasing

MAP ID	RECOMMENDED ACTION	ESTIMATED COST[a]	POTENTIAL PARTNERS	NOTES
A	Maple Avenue Phase 1	$16,840,000	City of Burlington; NCDOT; New Leaf Society	• Phase 1: Westbound interstate ramps to Chapel Hill Road/Harden Street (NC 54) o Realignment of Maple Avenue to facilitate ninety-degree intersection at Chapel Hill Road/Harden Street (NC 54) o Realignment of Plantation Drive to remove safety and flow conflicts of multiple intersections in close proximity (i.e., Plaza Drive/Plantation Drive intersection is currently too close to Maple Avenue/Plantation Drive intersection) o Roundabout at new Plaza Drive/Plantation Drive intersection o Reconfiguration of individual parcel access on Catalyst Site A o New access drive to Catalyst Site B at relocated Maple Avenue/Plantation Drive intersection • Continued coordination with affected property owners will be necessary • Work with NCDOT to use P5.0 $1.6M for intersection improvements • While competing for and securing additional NCDOT funding will take time, work should begin immediately to position for P6.0 funds
B	Maple Avenue Phase 2	$9,170,000	City of Burlington; NCDOT; New Leaf Society	• Phase 2: Chapel Hill Road/Harden Street (NC 54) to Anthony Street • Does not include Anthony Street roundabout • Will need to emphasize safety aspects to be competitive for NCDOT funding • While competing for and securing NCDOT funding will take time, work should begin immediately to position for these funds
C	Anthony Street Roundabout	$1,760,000	City of Burlington; NCDOT; New Leaf Society	• Ideally, this would be implemented in conjunction with Maple Avenue Phase 2 • If necessary or desired, this can be implemented following Maple Avenue Phase 2
D	Maple Avenue Phase 3	$11,110,000	City of Burlington; New Leaf Society	• Phase 3: Anthony Street to Worth Street • Does not include Worth Street roundabout

MAP ID	RECOMMENDED ACTION	ESTIMATED COST[a]	POTENTIAL PARTNERS	NOTES
E	Worth Street Roundabout	$2,290,000	City of Burlington; New Leaf Society	• Ideally, this would be implemented in conjunction with Maple Avenue Phase 3 • If necessary or desired, this can be implemented before or after Maple Avenue Phase 3
F	Maple Avenue Phase 4	$3,860,000	City of Burlington; NCDOT; New Leaf Society	• Phase 4: Westbound interstate ramps to Anthony Road • Does not include roundabout at Anthony Road • Based on timing of implementation, it may be advised to reevaluate recommended improvements to ensure they still meet the needs of the corridor
G	Anthony Road Roundabout	$1,580,000	City of Burlington; NCDOT; New Leaf Society	• Based on timing of implementation, it may be advised to reevaluate recommended improvements to ensure they still meet the needs of the corridor
H	Catalyst Site A Interior Infrastructure	$4,680,000	City of Burlington; Private Developer(s)	• Reconfiguration of individual parcel access • Surface parking lots • Trail and sidewalk network • Hardscape and landscape enhancements • Continued coordination with affected property owners will be necessary
I	Catalyst Site B Interior Infrastructure	$4,020,000	City of Burlington; Private Developer(s)	• Formalize interior access road • Reconfiguration of individual parcel access • Surface parking lots • Trail and sidewalk network • Hardscape and landscape enhancements • Continued coordination with affected property owners will be necessary

[a] Itemized opinions of probable cost are located in Appendix C.

Potential Funding and In-Kind Sources

Funding for the recommendations in *Renew Maple Avenue* will come from a variety of sources and combinations of those sources. Some implementation may be realized through in-kind services rather than traditional funding. While it is impossible to know exactly how each project will be funded, it is important to have some idea of the level of resources for which the City of Burlington will be responsible. To that end, **Table 5.3-4** presents an anticipated breakdown of funding sources by project.

It is important to note that even though NCDOT may provide the majority of funding for some phases, the City of Burlington should plan to contribute to the pedestrian and bicycle facilities associated with those projects. Also, for all potential funding and in-kind sources, it is essential to realize that *Renew Maple Avenue* projects will be competing with other City, NCDOT, FTA, and New Leaf Society priorities.

Table 5.3-4 | Potential Funding/In-Kind Sources Breakdown by Project

MAP ID	PROJECT [a]	POTENTIAL FUNDING/IN-KIND SOURCES				
		City of Burlington	NCDOT	FTA [b]	New Leaf Society [c]	Total
A	Maple Avenue Phase 1	$2,620,000	$13,830,000 [d]	$200,000	$190,000	$16,840,000
B	Maple Avenue Phase 2	$4,450,000	$4,380,000	$300,000	$40,000	$9,170,000
C	Anthony Street Roundabout	$690,000	$1,060,000	$0	$10,000	$1,760,000
D	Maple Avenue Phase 3	$10,790,000	$0	$300,000	$20,000	$11,110,000
E	Worth Street Roundabout	$2,280,000	$0	$0	$10,000	$2,290,000
F	Maple Avenue Phase 4	$1,460,000	$2,280,000	$100,000	$20,000	$3,860,000
G	Anthony Road Roundabout	$620,000	$950,000	$0	$10,000	$1,580,000
	TOTAL	**$22,910,000**	**$22,500,000**	**$900,000**	**$300,000**	**$46,610,000**

[a] Does not include catalyst sites, as they would occur as public-private partnerships; the breakdown of funding is not predictable, as a development agreement(s) would be negotiated.

[b] Transit funding is competitive and may impact funding for operations.

[c] Value of in-kind donation; actual cost would be significantly lower.

[d] Includes $1.6M that was previously programmed in the STIP for the intersection of Maple Avenue and Chapel Hill Road/Harden Street (NC 54).

Financing Options

For the City of Burlington's portion of *Renew Maple Avenue*, it is likely that several funding options will be investigated. The major authorized borrowing mechanisms are listed below, along with a brief description of each of their authorized forms of security.[15]

- *General Obligation Bonds* (G.S. 159, Art. 4) - Authorizes a local government to pledge its full faith and credit or unlimited taxing power as security for the bonds.
- *Revenue Bonds* (including Special Assessment Revenue Bonds) (G.S. 159, Art. 5; G.S. 153A, Art. 9A; G.S. 160A, Art. 10A) - Authorizes a local government to pledge the revenues from the debt-financed asset or system and to pledge the asset that is being financed. Also authorizes a local government to pledge the revenues generated from special assessments imposed on private property to pay for certain capital projects that benefit those private properties.
- *Installment Purchase Financings* (G.S. 160A-20) - Authorizes a local government to pledge the asset that is being financed.
- *Special Obligation Bonds* (G.S. 159I) - Authorizes a local government to pledge any unrestricted revenue sources other than local taxes under the unit's control. Also authorizes a local government to pledge the asset that is being financed.
- *Project Development Financings* (G.S. 159, Art. 6) - Authorizes a local government to pledge the incremental increase in property tax proceeds generated, at least in part, by new development in a defined area. (Note that this is not a pledge of a unit's taxing power. And, the pledge of the incremental property tax proceeds is specifically authorized by NC Const. Art. 5, Sect. 14.) Also authorizes a local government to pledge the asset or assets that are being financed and any additional unrestricted revenue sources other than local taxes under the unit's control.

Among these authorized debt mechanisms, the only one that requires voter approval, pursuant to the constitutional limitation, is the issuance of general obligation bonds because it is the only mechanism that authorizes a pledge of the full faith and credit of the unit.

The City currently has an outstanding installment purchase contract related to the purchase of various pieces of equipment and general obligation debt which was used for the acquisition of public safety equipment and the construction of water and sewer facilities. The general obligation bonds are collateralized by the full faith, credit, and taxing power of the City.

[15] For more information, see **Appendix F**.

5.4 EARLY ACTIONS

While Section 5.3 presented the larger, more comprehensive recommendations of *Renew Maple Avenue* that require longer periods of time to coordinate, plan, and generate support, there are a number of actions that should take place in the immediate future (i.e., 0-2 years) to create early momentum. As these should all occur in a relatively short amount of time, they are presented in no particular order and should be pursued based on the timeliness of each.

Continue Focus on Public Safety and Code Enforcement

Prior to and throughout the development of *Renew Maple Avenue*, the City has focused on increasing public safety throughout the corridor and particularly in and around the catalyst sites; code enforcement has been an emphasis as well. Positive momentum has been generated from these efforts, and the City should maintain this focus. In conjunction with these continued efforts, the City may want to consider organizing a community watch program within certain areas of the corridor to increase "eyes on the street" and develop a rapport among business and property owners.

Submit Eligible Projects for SPOT 6.0

The City's Transportation Department should continue its coordination with the BGMPO and NCDOT to position eligible project phases for the SPOT 6.0 prioritization process. Requests for SPOT 6.0 funds are due May 31, 2019. Information contained in *Renew Maple Avenue* should provide a solid basis for the further development of the SPOT 6.0 project submittals.

Apply for a BUILD Grant

The City of Burlington should apply for a federal Better Utilizing Investments to Leverage Development (BUILD) Transportation Discretionary Grant to implement *Renew Maple Avenue*. BUILD grants and their predecessor, Transportation Investment Generating Economic Recovery (TIGER) grants, have dedicated nearly $7.1 billion to local and regional transportation projects over the past ten years. Unlike most federal funds, BUILD grants are often awarded directly to local jurisdictions, but it is advantageous to have a strong partnership with NCDOT. Because of Burlington's population of less than 200,000, in the 2019 grant cycle no local match is required; however, some level of a local match might make an application more attractive. With a maximum grant amount of $25 million, it is possible to implement a large portion of *Renew Maple Avenue's* recommendations with a single BUILD grant.

While BUILD grants are highly competitive, *Renew Maple Avenue* should show well, as it hits many of the criteria of the BUILD grant program, including safety, state of good repair, economic competitiveness, environmental sustainability, quality of life, and innovation. The fact that a portion of the corridor is located within a federally designated Opportunity Zone would also increase potential for success (i.e., more information on Opportunity Zones is included under the "Create a Marketing and Promotions Campaign" early action recommendation).

The 2019 cycle of BUILD grants opened in late Spring 2019 with a submittal deadline of July 15, 2019. While the grant would take some effort to assemble, the *Renew Maple Avenue* documentation would provide a strong starting point.

Strengthen Partnerships

As previously outlined, partnerships will be critical to the success of *Renew Maple Avenue*. Through the development of *Renew Maple Avenue* the City has already strengthened a number of relationships and established many new ones. To ensure this momentum does not slow, the City should assign staff to have regular meetings with their "partnership counterparts."

While the list of partners is limitless, the City is encouraged to meet regularly with NCDOT, Alamance Community College, and New Leaf Society in particular. These meetings should each build upon the last to make them valuable to all involved. Clear, concise summaries with action items should be recorded for each meeting, and those action items should be tracked to ensure that progress is being made toward mutual goals and objectives.

As part of the partnership program, the City should regularly have roundtable discussions on important topics to the renewal of Maple Avenue. Such roundtables would assemble property and business owners, major corporations, economic development organizations, agency representatives, and educational institutions to focus on: repositioning and renovation to support employment and education; incubation, acceleration, and other entrepreneurship initiatives; safety, operations, and beautification; and local/regional parks, recreation, and tourism.

Adopt a Corridor Overlay District

As outlined in Section 4.1, the City should craft and adopt a corridor overlay district. The overlay district will be critical to achieving the desired organization and character of development along Maple Avenue. It will be important to coordinate with affected property owners during development. While the City can consider establishing a stakeholder committee to help guide and shape the ordinance, it is important that this ordinance be drafted and adopted in a relatively short amount of time (i.e., four to six months). With the guidance provided as part of *Renew Maple Avenue*, city staff should be able to draft the overlay district ordinance. Timing is good for this to occur to coordinate with the Unified Development Ordinance.

Advance the Catalyst Sites Master Plan

The catalyst sites master plan, and accompanying market and fiscal analyses, provide the City with the tools it needs to advance discussions with current and potential property and business owners, as well as interested developers. The City should continue to meet regularly with key stakeholders for both catalyst sites to answer questions, address concerns, and refine plans for redevelopment., including owners within the BMOC, Alamance Community College, Burlington Shrine Club, Nichols Dodge Chrysler Jeep, Granddaddy's Antique Mall, Food Lion, and other business and property owners.

Keeping the channels of communication open and current with key stakeholders will be critical to advancing the Catalyst Sites Master Plan.

Create a Marketing and Promotions Campaign

The City's administrative, economic development, and communications staff should partner to create a marketing and promotions campaign to position Maple Avenue for renewal. Content from *Renew Maple Avenue*, including the catalyst sites master plan, photo renderings, and implementation plan should be packaged in informative and attractive ways to promote and market the corridor to potential investors and businesses. Once generated, these materials could be informally floated to real estate professionals or could

be presented more formally in publications and at conferences/conventions. If desired, the City could commission materials that were not possible in the scope of work for *Renew Maple Avenue*; such could include additional photo renderings, interactive three-dimensional "fly-throughs," and perspective sketches of development scenarios.

In its marketing efforts to private investors, the City should specifically emphasize the fact that the catalyst sites are located within an Opportunity Zone. Opportunity Zones were added to the federal tax code as part of the Tax Cuts and Jobs Act on December 22, 2017. Offering several tax benefits to investors, Opportunity Zones were designed to catalyze economic development. The fact that the *Renew Maple Avenue* catalysts sites sit within an Opportunity Zone should prove attractive to potential investors and developers.

Expand City Grant Programs

The City should consider expanding its downtown grant programs to target other areas of emphasis, including Maple Avenue. Currently, the Burlington Downtown Corporation issues downtown grants for façade improvements, property development, and business development. These funds are distributed on a 50/50 match basis, with the property/business owner putting up half the money and the Burlington Downtown Corporation matching an equal amount up to a certain dollar figure depending on the grant type.

Expanding such a program, or creating a similar program, for the Maple Avenue corridor would encourage existing property and business owners to reinvest and incentivize new investment from potential owners and businesses. The City has already allocated $100,000 of Community Development Block Grant (CDBG) funding for façade grants on Maple Avenue and should begin formalizing the program, its policies, and areas of emphasis, as well as communicating the availability of funds to property and business owners. It should be determined how these and other programs can enable existing property owners to afford to remain within the corridor as property values rise.

Perform a Demonstration Project

While the capital improvement projects outlined in the *Renew Maple Avenue* Action Plan require significant funding to achieve, it is possible to "pilot" some of those recommendations for a fraction of the cost through demonstration projects. Generally, demonstration projects are undertaken to help show the merits of a more innovative solution through temporary installation.

Maple Avenue Phase 2 would be an excellent candidate for a demonstration project, as it calls for the reduction of travel lanes to implement bicycle and pedestrian facilities and beautification on an NCDOT street. The full recommendation will move curbs, gutters, and drainage conveyances, install landscaped buffers and medians, and implement wide shared-use pathways. However, a demonstration project could provide a glimpse of the full recommendation through the use of temporary striping, cones or flexible delineators, hay bales, and potted plants.

The demonstration project would allow the community to experience a "mock-up" of the recommended improvements, while affording NCDOT the opportunity to consider its merits. If a demonstration project is pursued, the City is encouraged to monitor before and after traffic volumes, crashes, and general behaviors; this benchmarking will provide valuable insight in the decision-making process and assist in developing champions for moving the actual recommendations forward.

Demonstration projects, like this two-way separated bike lane in Athens, GA, allow a community to test a solution prior to full implementation.

Implement Initial Beautification

In meetings with stakeholders it became apparent that early opportunities exist for achieving beautification in small but important areas of the corridor. New Leaf Society is eager to lend their landscape design and implementation expertise, as well as fund landscaping itself. NCDOT indicated it may be able to find limited funds to construct curbing for islands in existing medians, which New Leaf Society could fill with landscaping. Additionally, NCDOT expressed their willingness to tidy up areas surrounding the Interstate interchange and along the on- and off-ramps. The City should continue to talk with these stakeholders and determine the most appropriate places to implement such beautification.

Pursue Interstate Gateway Signage and Wayfinding

Many communities are installing gateway signage in proximity to Interstate interchanges. The City of Burlington should begin discussions with NCDOT to determine if this would be possible just east of the Maple Avenue exit from I-40/I-85. This could be coordinated with the beautification mentioned above. Additionally, the City should continue implementing wayfinding along the Maple Avenue corridor. Building on the initial phases of wayfinding that were installed in 2018, the City can unify the "place" that Maple Avenue will become while informing motorists of destinations along the corridor and beyond.

Brainstorm Incentive Programs

As an extension of the steering committee that was established for *Renew Maple Avenue*, the City should consider facilitating subgroups to brainstorm targeted incentive programs. By assembling individuals with expertise in business, marketing, real estate, housing, education, and other areas, the City could generate ideas for incentivizing reinvestment and new investment. Programs may emerge to address rehabilitation, historic preservation, affordable housing/gentrification, public art, loans, grants, and other initiatives.

Establish an Incentives Policy

Once a basic understanding of desired potential incentives is in place, the City should establish an incentives policy. Such a policy would provide the ground rules and framework for working with potential developers to create public-private partnerships. An incentives policy would allow interested developers and investors to have a clear understanding of what the City is willing and able to do to partner with them. It would temper expectations and give clarity to the process through the communication of what the City expects from the developer and what the developer should expect in return from the City. A well-written incentives policy will place the onus on the developer to "sell" their proposal, while giving the developer assurances of consistency and the City's serious intentions to partner with them.

6 RETURN ON INVESTMENT

Improving critical gateway corridors like Maple Avenue can have significant positive impacts for a community. When speaking to return on investment (ROI), often the focus is solely on economics, but, where a City is concerned, a wider set of ROI categories must be considered. When people and companies decide where to live and do business, they factor in a host of areas, including health, safety, economics, equity, and the overall quality of life of a community. Conversely, if these areas decline, as they have on Maple Avenue, people and businesses may choose to relocate to communities that place a higher priority on them.

To provide an initial understanding of the potential benefits of implementing *Renew Maple Avenue*, the following sections showcase some of the more compelling arguments for making the investments recommended in this document.

POTENTIAL RETURN ON INVESTMENT

Projects like *Renew Maple Avenue* can result in positive return on investment in a variety of areas, including:

- Health
- Environment
- Equity
- Quality of Life
- Safety
- Economics

6.1 HEALTH

Renew Maple Avenue will transform Maple Avenue from an auto-centric highway into a walkable and bikeable street, enabling people to walk and bicycle comfortably between destinations or for recreation. Walking and bicycling are the most basic forms of physical activity and provide substantial health benefits.

The American Medical Association, American Heart Association, and Center for Disease Control (CDC) all recommend adults participate in at least 150 minutes of physical activity per week (i.e., about 20 minutes a day).[16] Numerous health advocacy organizations recommend walking and biking for physical activity, as they are easy, widely accessible, relatively low impact, and require no specialized equipment. Walking and riding a bike also do not require a dedicated time and

Walking, one of the most basic forms of physical activity, will be encouraged as a result of *Renew Maple Avenue*.

[16] Centers for Disease Control and Prevention

place for physical activity as do going to the gym, swimming, or other methods of physical activity; they can also be easily incorporated into daily activities as a means of transportation or recreation.

Walking is the most commonly reported physical activity among U.S. adults overall and the most frequently reported activity among adults who meet physical activity guidelines. However, as of 2018, only 23% of adults living in the U.S. reported meeting the recommended physical activity.[17]

Increased walking and bicycling can help remedy a number of common health issues and concerns. The Mayo Clinic encourages regular walking as a healthy activity, stating that walking can help an individual:

- Maintain a healthy weight;
- Prevent or manage various conditions, including heart disease, high blood pressure, and type 2 diabetes;
- Strengthen bones;
- Lift mood; and
- Improve balance and coordination.

Walking and bicycling also have particular benefits for senior citizens and children:

- Exercise on a regular basis has been shown to help prevent dementia.[18]
- Walking is an excellent way for seniors, especially those who don't drive, to socialize with friends and access local services.
- In 2017, 18.5% of children and adolescents were considered obese.[7] The CDC cites community environment as being a determinate in the health of children; if communities support healthy habits, like walking and bicycling, it is easier for children and adults to get enough physical activity.

6.2 SAFETY

Renew Maple Avenue has been intentionally designed to provide a myriad of safety benefits:

- Slower traffic speeds;
- Coherent definition of space for each mode;
- Enhanced visibility;
- Improved sight lines; and
- Clear understanding and expectations of users.

Through much of the corridor, the overall width of the street will be reduced through the removal of excess capacity travel lanes. FHWA reports that similar projects have shown a crash reduction of 19-47%. Additionally, speed differentials have been reduced, meaning that people drive closer to the posted speed limit.

In 2017, the American Automobile Association (AAA) published a report that found that key roadway improvements throughout the U.S. have the potential to save nearly 64,000 lives and prevent over 350,000 serious injuries over a 20-year period. The report cited six key safety improvements, of which, two are recommended as part of *Renew Maple Avenue*:

1. Converting intersections into roundabouts (nearly 30% of total safety benefits); and
2. Adding sidewalks and signalized pedestrian crossings (nearly 20% of total safety benefits).

Renew Maple Avenue will provide robust active transportation facilities, with low-conflict crossings and 10-foot wide shared use paths on both sides of the street for most of its length. Pedestrians and bicyclists are the most vulnerable road users, having the highest risk for injury in the event of a crash. **Figure 6.2-1** demonstrates that as vehicle speeds are reduced, as will be the case with an implemented *Renew Maple Avenue*, risk of serious injury and fatalities are reduced as well.

[17] Centers for Disease Control and Prevention

[18] Genetics and Aging Research Unit at Massachusetts General Hospital

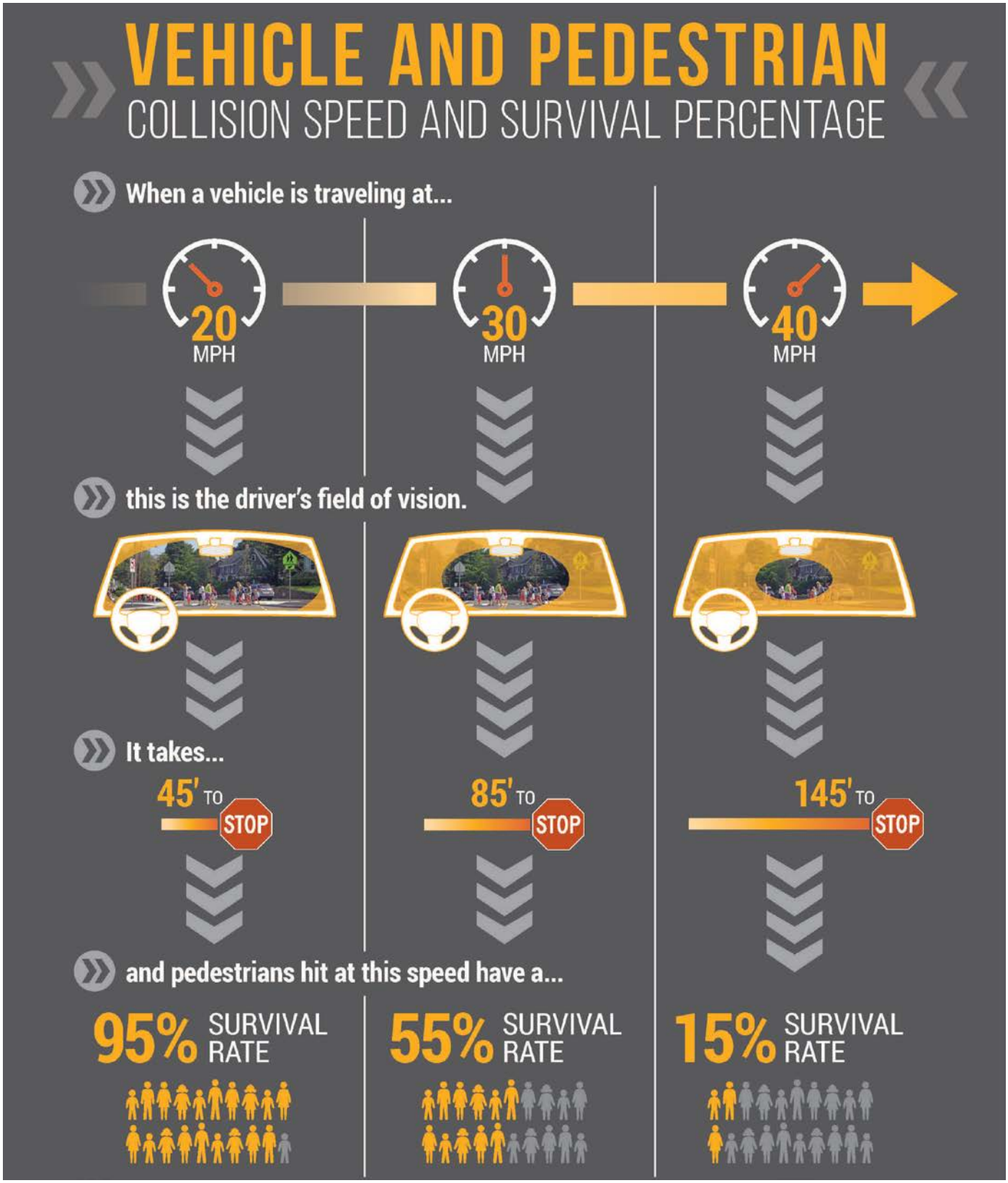


Figure 6.2-1 | Vehicle and Pedestrian Collision Speed and Survival Rates

Traffic safety has positive financial impacts as well. The National Safety Council estimates an average cost of $57,400 (i.e., 2011 dollars) for a nonfatal injury resulting from a motor vehicle crash. In addition to improved traffic safety, a culture of slower driving and increased walking and bicycling increases "eyes on the street," which can help reduce crime.

6.3 QUALITY OF LIFE

Communities that invest in their most critical corridors are more vibrant communities because their streets are active and dynamic with people engaging one another on a personal level. Focus on improving connectivity, accessibility, and safety of people results in environments that encourage strong economies and a healthy populace.

Research by the American Planning Association, Urban Land Institute, and others documents that Americans of all ages want to live in communities that place a focus on a variety of modes of transportation, not just cars (See **Figure 6.3-1**). Nationally, almost half of trips made daily are three miles or less in length, not an unreasonable walking, bicycling, or transit distance.[19] When communities invest in a truly multimodal transportation network, they increase the choices their citizens have for these shorter trips. Whether out of necessity or choice, living in a community where walking or biking to the store, work, or church is a viable option makes life easier and more enjoyable.

46 percent of Active Boomers would prefer to live in a walkable community, whether an urban, suburban, or small town location

52 percent of Americans would like to live in a place where they do not need to use a car very often

45 percent of Millennials are consciously replacing driving with other modes

Figure 6.3-1 | National Research on Americans' Desire for Multimodal Transportation

[19] Federal Highway Administration. *University Course on Bicycle and Pedestrian Transportation (FHWA-HRT-05-085)*. http://www.tfhrc.gov/safety/pedbike/pubs/05085/index.htm

Communities who work to improve their critical corridors also see an improved public realm and quality of development. Working with developers to facilitate a connected multimodal system of shared-use paths, sidewalks, transit facilities, and streets, using multiple modes becomes a way of life rather than a choice. Encouraging a mix of land uses to create nodes of neighborhood conveniences in relatively close proximity to residential areas provides local options for shopping, eating, and socialization. Development patterns that support a variety of destinations within a compact area are not only positive for walking, biking, and transit usage but will also reduce automobile dependency, alleviate roadway congestion, reduce parking demand, and improve the community's overall quality of life.

6.4 ECONOMICS

Improving critical corridors like Maple Avenue can also have positive impacts on a community's local economy. More people are expressing a preference to live in compact, walkable, mixed use areas. The National Realtors Association 2013 Community Preference Survey revealed that 60% of adults favor walkable, mixed use neighborhoods, and almost two thirds of adults between 18 and 35 report a desire to drive less if alternative transportation options were available. Additionally, property values have shown increases of $700 to $3,000 for each additional point on WalkScore, a widely used tool to measure a community's walkability.[20]

$700 to $3,000

amount property values increase for each additional point on

Walk Score®

Projects like *Renew Maple Avenue* have resulted in a variety of economic benefits to their communities.

When individuals and families can choose to walk, bike, or use transit instead of drive, it can make a significant impact to a household's expenses and can increase job opportunities. Cost savings from driving less or not needing to own multiple or even a single vehicle provide additional income which can be used for other necessities and discretionary purchases. Also, through their ability to improve health, walking and bicycling have been shown to reduce health care costs. In addition:

- Walkable, bikeable, transit supportive communities that connect jobs to residential areas provide greater access to jobs for people without a vehicle and can improve upward economic mobility.[21]

[20] Cortright, Joe. "How Walkability Raises Home Values in U.S. Cities." CEOs for Cities. 2009.

[21] Chetty, Raj, et al. "Where is the Land of Opportunity? The Geography of Intergenerational Mobility in the United States." Harvard University and the National Bureau of Economic Research. 2014.

- Providing transportation options for all people is important, especially as 13% of people over the age of 15 do not drive.[22]
- Costs associated with obese and overweight adults in the Unites States and Canada are estimated to be approximately $300 billion.[23]
- The nation could save $5.6 billion in health care costs related to obesity if one of every 10 adults started a regular walking program.[24]

Similar Project Results

To provide a frame of reference for what is possible when communities invest in corridor improvement projects, research has been compiled on results following the implementation of similar projects. While the intent was to find a common set of metrics that could be applied to the potential of *Renew Maple Avenue*, different communities measure success in different ways, including jobs created, businesses opened, new private investment, and property value increases.

One rich data source that was reviewed was the National Complete Streets Coalition's 2015 *Safer Streets, Stronger Economies* report.[25] While documenting the economic impact of corridor improvement projects similar to *Renew Maple Avenue*, the report does acknowledge that data for these types of projects is limited. However, even with smaller sample sizes, much can be learned from this report. Key highlights include the following:

- More people were employed along project corridors after a project was completed than before. Also, more people were employed along the project corridor than other unimproved comparison corridors.
- West Jefferson, NC's improvements resulted in ten new businesses opening and 55 new jobs. Visitors to downtown increased by 14%.
- Retail sales increased by 96% following corridor improvements in Lancaster, CA. Similarly, retail sales rose by 46% in Normal, IL's Uptown District and by 42% along Hillsborough Street in Raleigh, NC.
- Of ten projects reporting before and after property values, eight reported an increase in property values; the other two reported no change.
- Following Edgewater Drive's improvement in Orlando, FL, 77 net new businesses opened and 560 new jobs were created. Additionally, on-street parking usage has gone up 41%.

In 2013, Spartanburg, SC's City Council announced that it would dedicate $2.5 million dollars to street projects in its downtown core that would directly benefit bicycling and walking. These projects included streetscapes, wider sidewalks, shared-use paths, and protected bicycle facilities. Key measurements for success were obtained for the 2013-2018 period, including:

- Over $190 million in private investment has been announced, with over 80% of that figure already realized;
- Over 100 new businesses have opened;
- Downtown hospitality taxes have seen an 8% annual increase; and
- Spartanburg is ranked eighth nationally for mid-size city millennial population growth at 17.8%.[26]

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[22] National Household Travel Survey

[23] Behan, D. and Cox, S. "Obesity and its Relation to Mortality and Morbidity Costs." Society of Actuaries. 2010.

[24] National Governor's Association Report on Healthy Living. 2011.

[25] National Complete Streets Coalition. *Safer Streets, Stronger Economies*. 2015.

[26] City of Spartanburg, SC

Leveraging Public Dollars

Two key areas were data was collected was for private investment and property value increases following corridor improvement projects. As with other areas of consideration, data was limited but still provides some understanding of what is possible when communities invest in their critical corridors.

Table 6.4-1 presents data on how public dollars spent were leveraged to create private investment following corridor improvements. ROI ranged from approximately $2 of private investment for every $1 of public dollars spent in West Jefferson, NC to $76 of private investment for every $1 of public money in Spartanburg, SC. The aggregate ROI for the nine projects was $23 of private investment for every $1 or public dollars spent.

Table 6.4-1 | Corridor Projects - Leveraging Public Dollars for Private Investment

PROJECT	COMMUNITY	POPULATION	PUBLIC DOLLARS SPENT	PRIVATE INVESTMENT	RESULTING DEVELOPMENT LEVERAGED
Downtown Biking and Walking Improvements [a]	Spartanburg, SC	38,000	$2.5M	$190M	$76 to $1
Ingersoll Avenue [b]	Des Moines, IA	218,000	$303,000	$15M	$50 to $1
Euclid Avenue Healthline [b]	Cleveland, OH	386,000	$200M	$5.8B	$29 to $1
Millwork District Transportation Improvements [b]	Dubuque, IA	58,000	$6.7M	$184M	$27 to $1
Downtown Streetscapes [c]	Florence, SC	38,000	$3.5M	$63M	$18 to $1
West Lancaster Boulevard [b]	Lancaster, CA	160,000	$11.6M	$125M	$11 to $1
Hillsborough Street [b]	Raleigh, NC	465,000	$7.5M	$25.5M	$3 to $1
Uptown District Transportation Improvements [b]	Normal, IL	54,000	$47.4M	$160M	$3 to $1
Jefferson Avenue [b]	West Jefferson, NC	1,300	$300K	$500K	$2 to $1
		AGGREGATE	**$280M**	**$6.5B**	**$23 to $1**

[a] Source: City of Spartanburg

[b] Source: National Complete Streets Coalition

[c] Source: Eat Smart Move More South Carolina

Increased Property Values

Data for property value increases following corridor improvement projects was available from only four communities and is presented in **Table 6.4-2**. While this is not a significant sample, it does provide some understanding of potential ROI. ROI ranged from 4.3% annually (i.e., over 14 years for a total increase of 80%) to 20.5% annually (i.e., over 4 years for a total increase of 111%).

The higher annual increases are associated with shorter time periods, so it may be reasonable to assume that corridor improvement projects produce new investment and higher values initially that then balances out over time. However, this might not hold true if a larger sample size were available.

Table 6.4-2 | Corridor Projects Property Value Increases

PROJECT	COMMUNITY	POPULATION	TOTAL PERCENT CHANGE
Downtown Streetscapes [b]	Florence, SC	38,000	275% over 15 years
Millwork District Transportation Improvements [a]	Dubuque, IA	58,000	111% over 4 years
Edgewater Drive [a]	Orlando, FL	280,000	80% over 14 years
Uptown District Transportation Improvements [a]	Normal, IL	54,000	16% over 1 year

[a] Source: National Complete Streets Coalition

[b] Source: Eat Smart Move More South Carolina

What Might Be Economically Possible

As has been pointed out throughout this chapter, economic impact is only one factor in the total impact a project like *Renew Maple Avenue* will have on the City of Burlington. The improvements that will be realized in quality of life, safety, and health make implementation of *Renew Maple Avenue* extremely valuable in positioning the City of Burlington be the community it desires to be. *Renew Maple Avenue* will certainly have direct economic impacts as well.

While it is not possible to predict the exact economic impact implementation of *Renew Maple Avenue* will have, it is possible to use the case study leveraging of public dollars to private investment and property value increases presented previously to consider reasonable economic scenarios for Maple Avenue.

Scenarios for Leveraging Public Dollars

Table 6.4-3 presents four scenarios for leveraging public dollars spent to realize private investment:

1. Presents what would be possible if a leverage were achieved that is similar to the highest leverage presented in Table 6.4-1 ($76 to $1).
2. Considers what would be possible if a leverage were achieved that equaled the aggregate leverage ($23 to $1).
3. Takes a conservative position of showing a leverage that is higher than the lowest but well below the aggregate (i.e., $5 to $1).
4. Presents what would be possible if a leverage were achieved comparable to the lowest leverage ($2 to $1).

When looking across these four scenarios, some are more likely than others. While it would be tremendous to see a return of $76 of private investment to every $1 of public dollars spent, Scenario 1 is probably overly optimistic, as only one of the case studies performed at this level. Conversely, it seems extremely cautious to think that Scenario 4 would be the outcome, with only $2 of private investment being realized for every $1 of public dollars spent. It is not unreasonable to assume that Scenario 2 could occur, as it does present the aggregate of the nine case studies presented in Table 6.4-1, yielding a return of the City's investment in just six years from when the total private investment occurs. However, if you would prefer to take a reasonably conservative position, Scenario 3 is highly plausible with the City's investment of $22.9 million being returned in less than 30 years.

It is also important to consider how the Maple Avenue Phase 1 recommendations would leverage public dollars for private investment. **Table 6.4-4** presents similar scenarios to those shown in Table 6.4-3 but exclusively for Maple Avenue Phase 1. Scenarios 2 and 3 are both highly plausible, returning the City's investment in approximately two years and nine years respectively.

Table 6.4-3 | All Phases: Scenarios for Leveraging Public Dollars Spent for Private Investment

	SCENARIO 1: HIGH	SCENARIO 2: AGGREGATE	SCENARIO 3: CONSERVATIVE	SCENARIO 4: LOW
Leverage Scenarios [a]	$76 to $1	$23 to $1	$5 to $1	$2 to $1
Leverage on $46.6 Million Investment [b]	$3.5 billion	$1.1 billion	$233 million	$77 million
Annual Property Taxes [c]	$12.3 million	$3.8 million	$812,000	$271,000
Years to Return $22.9 Million City Investment [b]	1.9 years	6.0 years	28.2 years	84.6 years

[a] Based on leverages presented in Table 6.4-1.

[b] $46.6 million is the total cost for all corridor recommendations from all sources; $22.9 million of this is anticipated to be City dollars, as shown in Table 5.3-4.

[c] Based on a property tax rate of 0.5973% and a collection rate of 97.3%, considering conservative County valuations at roughly 60% of actual value.

Table 6.4-4 | Phase 1: Scenarios for Leveraging Public Dollars Spent for Private Investment

	SCENARIO 1: HIGH	SCENARIO 2: AGGREGATE	SCENARIO 3: CONSERVATIVE	SCENARIO 4: LOW
Leverage Scenarios [a]	$76 to $1	$23 to $1	$5 to $1	$2 to $1
Leverage on $16.8 Million Investment [b]	$1.3 billion	$394 million	$84 million	$28 million
Annual Property Taxes [c]	$4.5 million	$1.4 million	$293,000	$98,000
Years to Return $2.6 Million City Investment [b]	0.6 years	1.9 years	8.9 years	26.6 years

[a] Based on leverages presented in Table 6.4-1.

[b] $16.8 million is the total cost for Phase 1 recommendations from all sources; $2.6 million of this is anticipated to be City dollars, as shown in Table 5.3-4.

[c] Based on a property tax rate of 0.5973% and a collection rate of 97.3%, considering conservative County valuations at roughly 60% of actual value.

Scenarios for Increased Property Values

The scenarios presented in Table 6.4-3 showed several possibilities for new private investment with no consideration of how existing properties might increase in value based on implementation of *Renew Maple Avenue*. **Table 6.4-5** presents several scenarios of how existing property values may be affected by the implementation of *Renew Maple Avenue*; to be conservative, a 50% increase has been used as the highest increase even though all of the case studies presented in Table 6.4-2 showed higher increases over shorter periods.

While it is important to consider how existing property values will be positively affected by the project, incremental increases in existing property values will generate only a modest tax delta, even over a 20-year period. When comparing Table 6.4-3 to Table 6.4-5, it is apparent that the City will realize a stronger return from new private investment than from the increase in existing property values. This reinforces the idea that, in addition to being a beautification and transportation improvement project, *Renew Maple Avenue* is also an economic development project.

> "The City will realize its strongest economic return on investment from new private investment, making *Renew Maple Avenue* as much an economic development project as it is a transportation or beautification project."

Table 6.4-5 | Scenarios for Property Value Increases

	EXISTING	SCENARIO 1 1.6% INCREASE		SCENARIO 2 9.6% INCREASE		SCENARIO 3 50% INCREASE	
Period	-	10 years	20 years	10 years	20 years	10 years	20 years
Assessed Property Values	$112 million [a]	$130 million	$148 million	$220 million	$328 million	$673 million	$1.2 billion
Property Tax [b]	$674,000	$782,000	$890,000	$1,321,000	$1,968,000	$4,043,000	$7,411,000
Property Tax Revenue Increase Over the Period	-	$108,000	$216,000	$647,000	$1,294,000	$3,369,000	$6,737,000

[a] Source: City of Burlington; accounts for all properties fronting on Maple Avenue and a ~60-block Planned Development District; does not include catalyst sites.

[b] Based on a property tax rate of 0.5973% and a collection rate of 97.3%, considering conservative County valuations at roughly 60% of actual value.

6.5 BROADER ECONOMIC ENVIRONMENT

It's important to realize that forward-thinking communities employ a host of strategies for improving their economic position. It would be presumptuous to imply that corridor improvement projects were the only factor in the successes cited here. Each of the communities mentioned also had a variety of marketing, tourism, and promotional programs in place, as well as investing in other capital projects that spur growth and development. Because of this, it is essential for the City of Burlington to understand the broader economic environment that impacts project success.

Market Forces

Market forces include both external and internal forces. External forces include such things as natural or man-made disasters and the broader geopolitical climate as well as the national economy. Internal forces include more localized factors that are influenced by state and local public policy (See **Table 6.5-1**).

Table 6.5-1 | Market Forces

NATIONAL ECONOMY	STATE ECONOMY	LOCAL ECONOMY
Gross Domestic Product	Job Growth	Job Growth
Job Growth	Population Growth	Population Growth
Federal Tax Policy	State Tax Policy	Local Tax Policy
Fiscal Policy	Fiscal Policy	Fiscal Policy
Interest Rates and Inflation	Funding and Incentives	Funding and Incentives
Consumer Confidence	Legislative Issues	Land Use and Ordinances

The identification of capital improvement projects to provide a catalyst for private investment can be measured by fiscal impacts. Fiscal impacts are based upon reasonable assumptions that reflect state and local economic factors, as well as other market factors such as housing and real estate markets. Tax valuations for the purposes of tax assessment are based upon mass appraisal practices which take these factors into consideration.

Alamance County's tax revaluation was last conducted in 2016, as values were beginning to recover from the previous valuation in 2008, during the recession. Since 2016, construction costs have risen dramatically and many housing markets have seen dramatic upward shifts in value, both in for sale and for lease residential real estate. Commercial markets generally follow the housing market, so long as construction costs can be justified by occupancy costs, including market rental rates and property taxes. When the market rates are not commensurate with the cost to construct new product or occupancy costs, the market cycle of supply and demand is impacted.

Market Cycles

Real estate markets reflect national, state and local economies. They are also influenced by costs of capital, wages, and construction. Each of these factors into a complex prism of demand and supply, much of which can be measured or quantified. The market metrics gathered during the market analysis and fiscal impact phase of a project assist in determining appropriate land uses and product types as well as what phase the local market may be experiencing (See **Figure 6.5-1**).

Based on the data collected during the market analysis phase of *Renew Maple Avenue*, the Burlington market appears to be between the recovery and expansion phase. The housing market leads the local market recovery, as rising rental rates and median home price increases have fueled new construction. As of December 2018, the median list price of homes in Alamance County rose to $245,050, up 16% over the prior year (See **Figure 6.5-2**). In commercial, market vacancies are declining, however, new construction is somewhat limited compared to other markets, as rent pressures have not yet met the test to warrant new construction in certain sectors of the commercial real estate market.

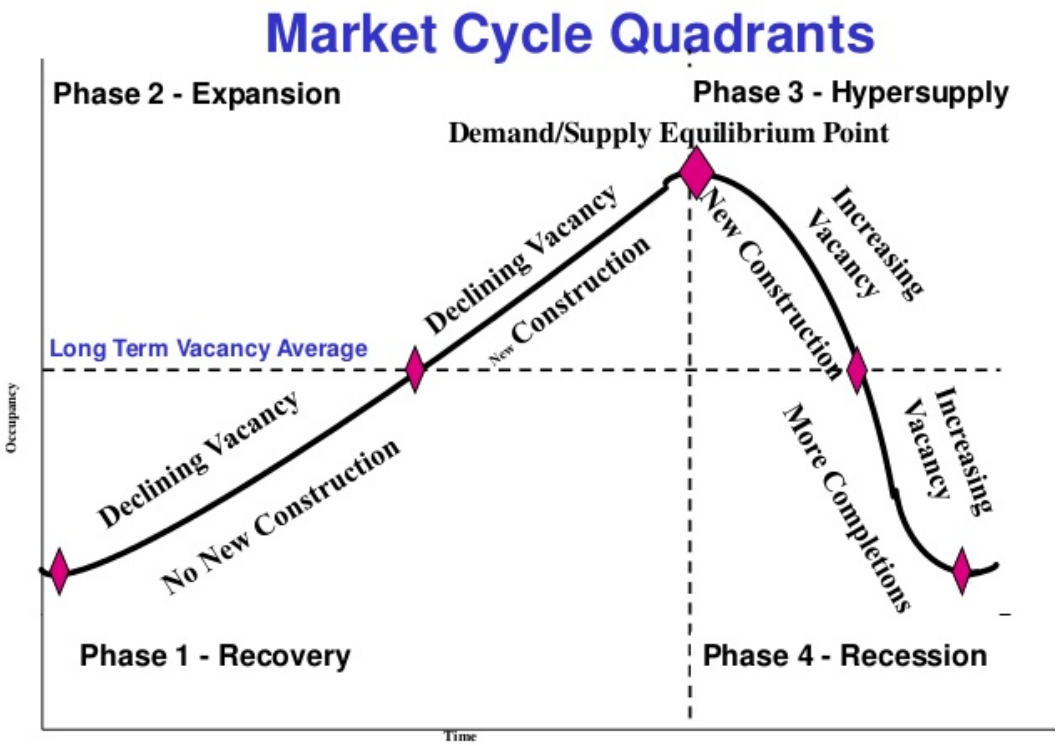

Figure 6.5-1 | Market Cycles

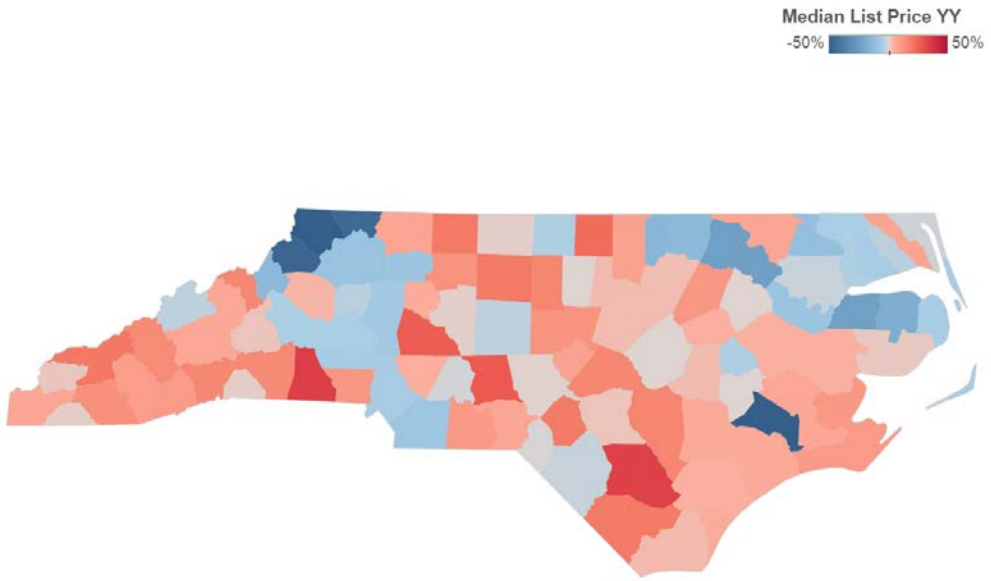

Figure 6.5-2 | Year-Over-Year Home Prices by County[27]

Market Metrics

Once market metrics are established, these benchmarks assist in strategies for implementation, including funding for capital improvement projects and monitoring project performance (See **Table 6.5-2**). The fiscal impact analysis reflects local data to determine the anticipated revenue as a result of both public and private investment. The challenge for Burlington includes a combination of rising construction costs and tax valuations which reflect the recessionary phase of the market cycle. Therefore, it must make capital improvement decisions in anticipation of the continued expansion of the market cycle together with future tax revenues which will be reassessed in 2024.

Table 6.5-2 | Market Metrics

EMPLOYMENT	CONSUMPTION	PRICE MEASURES	REVENUES
# Employed	Household Income	Home Sale Prices	Real Property Tax
# Businesses	Per Capita Spending	Rental Rates	Personal Property Tax
Primary Job Sectors	Retail Sales	Commercial Property Rates	Local Sales Tax
# Housing Permits	Occupancy/Vacancy Rates	Retail Property Rates	Hotel Occupancy Tax
Ratio of Residential to Commercial Tax Base	New Commercial Projects/Permits	Tax Rates	Business Tax

[27] Realtor.com, December 2018.

6.6 CATALYST SITES PROJECTED RETURN ON INVESTMENT

The catalyst sites discussed in Section 4.3 of this document have a targeted redevelopment plan, with land use programming that allows for quantifying potential costs and revenues and contemplate potential partnerships between the City and private developers. Therefore, the net annual fiscal benefit from the redevelopment of the catalyst sites following public improvements can be estimated. As presented in **Table 6.6-1**, the net annual fiscal benefit is projected to increase by $302,000.[28]

Table 6.6-1 | Catalyst Sites Net Fiscal Impact

CATEGORY	BEFORE IMPROVEMENTS	AFTER IMPROVEMENTS
Revenues		
Property Taxes*		
Real	$212,000	$410,000
Business	$31,000	$59,000
Personal Motor Vehicle	-	$17,000
Other Revenues	$2,000	$122,000
Total Revenues	**$245,000**	**$608,000**
Expenditures		
Police	$59,000	$104,000
Fire	$9,000	$25,000
Total Expenditures	**$68,000**	**$129,000**
Net Fiscal Benefit	**$177,000**	**$479,000**
Incremental Net Fiscal Benefit		**$302,000**

*Based on a property tax rate of 0.5973% and a collection rate of 97.3%, considering conservative County valuations at roughly 60% of actual value.

[28] The complete fiscal analysis report can be found in Appendix F.

Table 6.6-2 compares the estimated $8.7 million cost of the catalyst site improvements to the projected tax value of those sites once programmed redevelopment is realized.

Table 6.6-2 | Catalyst Sites Investment

CATEGORY	BEFORE IMPROVEMENTS	AFTER IMPROVEMENTS
Real Property Tax Base [a]	$36,566,000	$70,571,000
Incremental Real Property Tax Base Increase		$34,005,000
Catalyst Site Improvement Cost [b]		
Site A		$4,680,000
Site B		$4,020,000
Total Catalyst Site Improvement Cost		**$8,700,000**
Percentage of Tax Base Increase to Improvement Cost		**390%**

[a] Based on a property tax rate of 0.5973% and a collection rate of 97.3%, considering conservative County valuations at roughly 60% of actual value.

[b] The exact amount of these costs that the City would fund would be based on development agreements. Most likely, early in the redevelopment process the City would fund a higher percentage of improvements; once redevelopment momentum begins, the City's burden would be reduced as private developers fund more improvements associated with redevelopment.

In addition to the tax base increase, the fiscal analysis also projects that 106 new, permanent ongoing jobs will be created within the catalyst sites. In addition, new temporary jobs will be generated during the construction of the catalyst site improvements and the redevelopment activities.

7 CALL TO ACTION

In implementing *Renew Maple Avenue*, the City of Burlington will capitalize on an extremely rare opportunity. Renewal and revitalization will occur through improvements that enhance the public realm, encourage private investment, and elevate quality of place and life. The project will foster stronger partnerships, as the City, NCDOT, key stakeholders, and business and property owners rally together for a common cause – the betterment of their community. Yes, this will require the expenditure of significant public dollars, but this is a corridor of significant public importance. As it once was, *Renew Maple Avenue* will make this a corridor of significant private importance as well, and public dollars spent will be leveraged for private investment at a rate that is anticipated to dwarf public expenditures.

Transforming a street and its surrounding environment is never easy, but the recommendations and implementation plan presented in *Renew Maple Avenue* provide a clear roadmap of next steps to achieve success. The City and its partners should use, dogear, and "thump" this document often and with enthusiasm as the guide for the future. In doing so, the following tenets should be at the forefront of every conversation, meeting, and decision.

Keep People as Priority

From the outset of *Renew Maple Avenue* to its completion, a commitment to placing people as priority was made and upheld. People of all ages, abilities, cultures, and socioeconomics directed and owned this process, with recommendations being fashioned around the desires of the community. This focus should remain as plans become reality. The City and its partners should continue to be mindful of the needs and perspectives of all people that drive, walk, bicycle, wheel, ride transit, work, live, play, and own property and businesses along Maple Avenue; each and every decision should be viewed through this lens.

> "The City and its partners should use, dogear, and "thump" this document often and with enthusiasm as the guide for the future of Maple Avenue."

Maintain Momentum

Renew Maple Avenue has generated a lot of excitement and energy surrounding a corridor that has not seen such in many years. Maple Avenue has momentum and it is imperative that the City and its partners keep that momentum going. While securing funding and support for larger capital projects will take time and could siphon momentum, the Early Actions that are outlined in Section 5.4 of this document present a host of methods designed to increase momentum through smaller, immediately tangible goals and solutions. The Early Actions will provide that ongoing reminder of the larger goals and serve as milestones around which partners can coalesce.

***Renew Maple Avenue* has been and should continue to be about the people of Burlington.**

Celebrate Victories; Grow from Adversities

The completion of the planning process for *Renew Maple Avenue* should be celebrated as the first of many victories. No matter how small or large the accomplishment, each milestone that is achieved toward the realization of *Renew Maple Avenue* should be a cause for celebration. It is through these victories that the City and its partners will find the strength and stamina to face the challenges and obstacles that will most certainly emerge. The same comradery that fashioned *Renew Maple Avenue* will allow the community to view adversities as opportunities to learn, grow, and get stronger, rather than seeing them as setbacks.

Leverage Circumstance and Opportunity

Implementation of *Renew Maple Avenue* will benefit from a variety of circumstances and opportunities that present themselves; some of these can be anticipated, while others will be unexpected. It is important that the City and its partners recognize these circumstances and opportunities, embrace them, and be agile in responding to them.

Early on, the City has the opportunity to apply for a federal BUILD grant that could fund a large portion of the implementation of *Renew Maple Avenue*. It will be important for the City to put its full support behind such an effort, as the grant application must be completed quickly to meet the July 15, 2019 deadline. Even if a first attempt at a BUILD grant is unsuccessful, the initial effort will be a great way to build coalitions and momentum for future attempts.

Another area of opportunity is Maple Avenue's excess capacity that allows for the public realm to be reimagined much within current right-of-way. Existing and projected future traffic volumes are well below the capacity of the existing street throughout the majority of the corridor. Where congestion does exist, in the vicinity of Maple Avenue's intersection with Chapel Hill Road/Harden Street (NC 54), NCDOT has already programmed funding for geometric and capacity improvements.

The City should also continue to work with partners to understand the opportunities that exist for synergy between Maple Avenue and other projects. Of particular interest are Alamance Community College's needs for expansion at the Dillingham Center, New Leaf Society's desires to enhance the corridor, NCDOT's willingness to beautify the Interstate interchange, and any redevelopment of private properties that might be on the horizon.

The excess capacity of Maple Avenue can be leveraged to transform the corridor.

APPENDIX A

Market and Economic Assessment

BURLINGTON, NC

RENEW MAPLE AVENUE CORRIDOR INITIATIVE
MARKET & ECONOMIC ASSESSMENT

Addendum to Report
In Conjunction with Toole Design Group (TDG)

November 2017

ROSE
ASSOCIATES

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The conclusions set forth are based upon information provided by public records, municipal officials, business owners, market and demographic data obtained by Rose & Associates Southeast, Inc. Neither an appraisal nor title search were performed for the Study Area or any specific property in preparing this report. While the information included herein is believed to be accurate, no warranty or representation, expressed or implied, is made as to the information contained herein, and is submitted subject to omission, change of market conditions, or other factors outside the scope of this report or the author's control. This report is the property of Rose & Associates Southeast Inc. and the City of Burlington, and shall not be duplicated in whole or in part, without express written permission, all rights reserved, 2017.
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Introduction

Market and economic analysis helps to set the stage for the Maple Avenue Corridor Initiative. We evaluated the various data needed to determine the capacity for future growth of housing, retail, office, industrial, civic and other uses.

In support of the transportation goals for the corridor as defined by Toole Design Group, we conducted a series of analyses to identify the optimum approach to address land uses, public improvements and development strategies to assist in creating a vibrant and economically sustainable corridor.

Our work includes three phases:

Phase I – Discovery and Investigation. Interviews were conducted with staff, steering committee members and stakeholders. We collected data from both public and proprietary sources at various geographic levels. The market analysis builds upon prior studies produced by the City and Alamance County, including but not limited to:

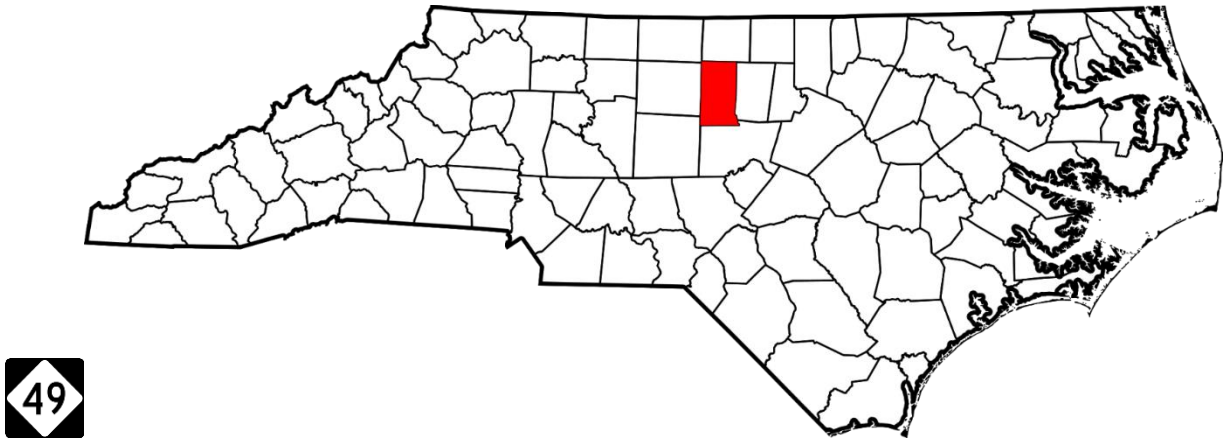
- Burlington NC Community Assessment Report – 2014
- Destination Burlington – 2016 Comprehensive Plan
- 2015 Burlington NC Community Profile (Economic Development)
- Alamance Chamber Community Profile

Phase II - Market & Economic Analysis. The outcome of the Phase I work leads us to key indicators which determine land uses, key catalyst sites and programmatic themes. The analysis assists in framing an outline plan that is market driven and subject to industry best practices.

Phase III – Development Strategies & Implementation. This is prescriptive, with tools and resources for implementation.

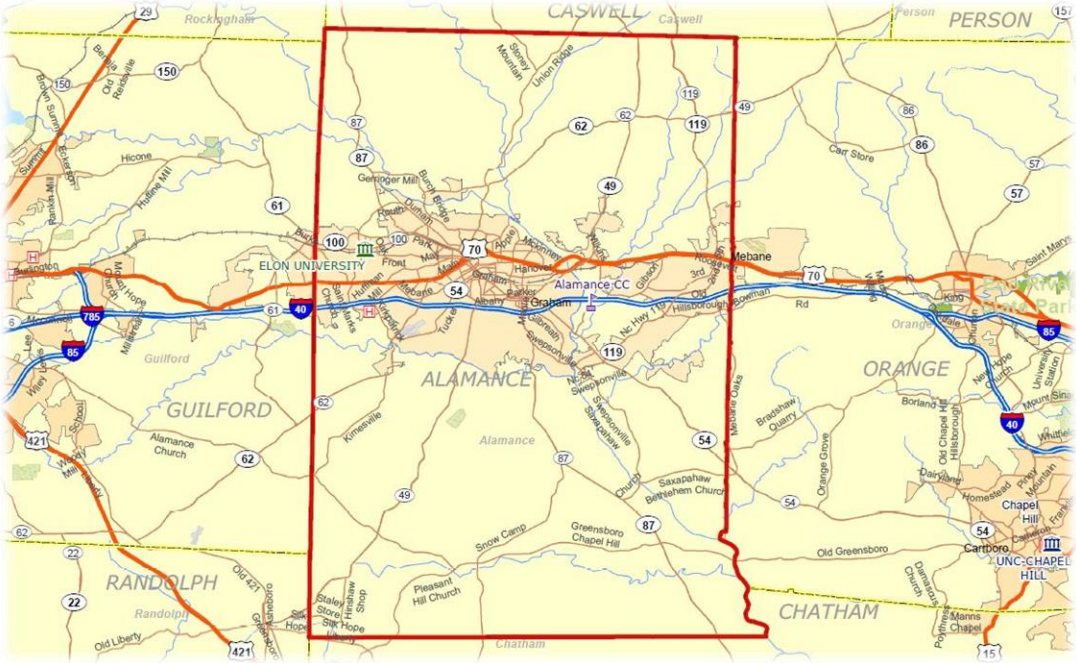
Study Area and Context

Maple Avenue is located within the City of Burlington, in Alamance County, North Carolina. The Burlington metro area, which encompasses Alamance County, is ranked 12th in size by population of the 17 Metropolitan Statistical Areas (MSA) in North Carolina. Maple Avenue, also known as NC State Highway 49, is located at Exit 145 on Interstate 40/85 between the two larger regions of Greensboro-High Point, also known as the Triad, and Durham-Chapel Hill.



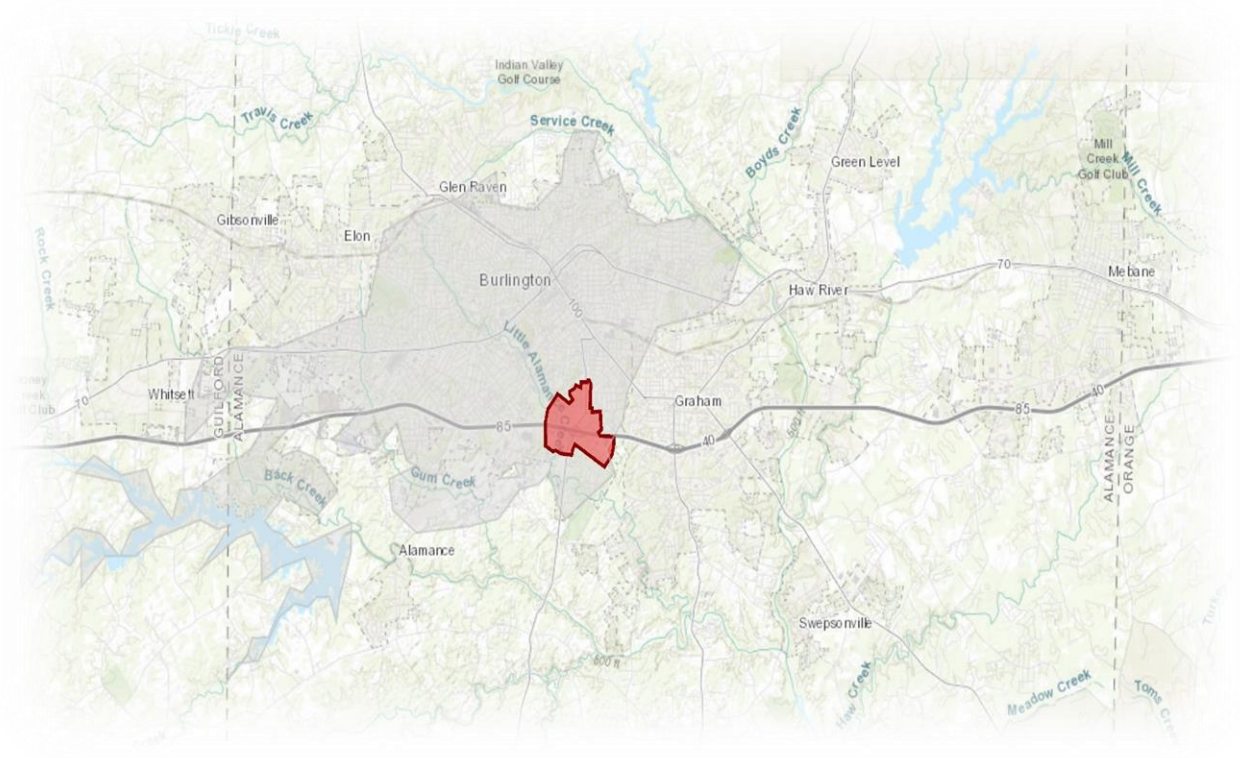
Alamance County, NC *Source: nationalatlas.gov*

Burlington is located along Interstates 40/85, which uniquely merge in Guilford County to the west, and continue through Alamance County. Burlington is accessible to both the mid-Atlantic and the southeast regions of the United States. According to the Alamance County Chamber of Commerce, over half of the population of the United States is located within 650 miles of Burlington, the County's largest city. The map below highlights its position relative to a network of interstate highways and to other major metropolitan areas.



Alamance County w/ Key Interstate *Source: NC Department of Commerce*

The Study Area includes a 2.7 mile north/south portion of the Maple Avenue corridor from the interstate to downtown Burlington. The focus of our analysis is centered around the interchange area, which lies at the center of Alamance County, as shown below:



Maple Avenue Corridor Study Area *Source: ESRI, Rose Associates*

The evaluation of the market to determine land uses and a viable implementation strategy begins with a few simple questions:

- **Who** is the customer?
- **What** businesses and uses are appropriate?
- **Where** do people want to be?
- **When** and how should the City take action?
- **Why** does it matter?

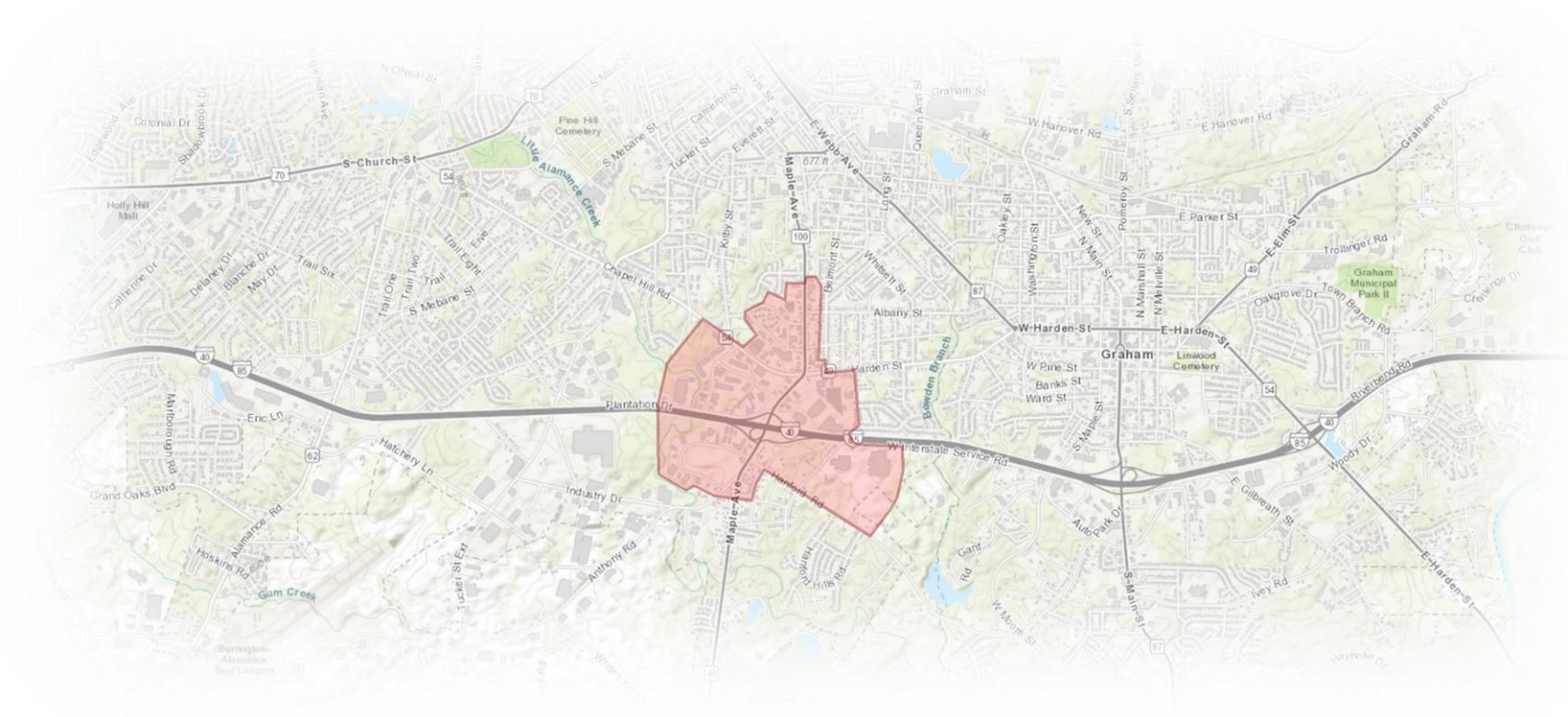
Executive Summary

This section summarizes the data and findings of Rose & Associates Southeast, Inc. related to land use, demographics, real estate market and economic assessment associated with the Maple Avenue Corridor.

The Renew Maple Avenue Corridor Initiative began with feedback from the community through a variety of venues, which revealed its wants and needs. The majority of feedback from the Steering Committee and various stakeholders suggests that the best use of the corridor would be associated with mixed-use development. The synthesis of this feedback focuses on three primary areas:

- **Employment**
- **Shopping & Entertainment**
- **Tourism**

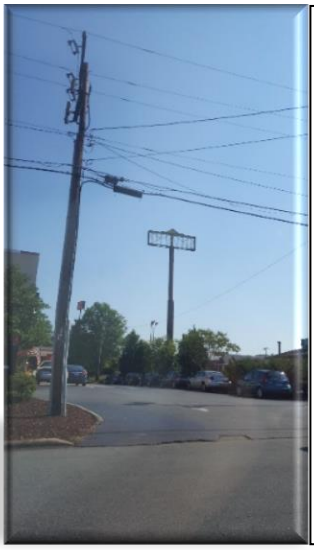
The importance of the corridor being strategically located between the interstate and Burlington's downtown cannot be understated. With four interchanges servicing Alamance County and the City of Burlington, Exit 145 leads to the Maple Avenue corridor, which served as the primary gateway from the interstate to the historic downtown. Surrounding this interchange are neighboring "areas of influence" with existing and planned developments that impact the market and future land uses.



Current Reality

While the Study Area has many locational advantages and opportunities, it also presents a variety of issues that require attention for redevelopment and reinvestment to occur.

+	−
Strategic location	Obsolesence & Vacancy
Exit 145 Interstate interchange	Crime & Safety issues
Visibility & Accessiblity	Transportation conflicts
Significant Traffic Volumes	Esthetically unattractive buildings/structures/signage
Existing Business & Industry	Competitive Disadvantages
Adequate Utility Capacity	Market Supply constraints
Zoning & Entitlements	
Affordability	

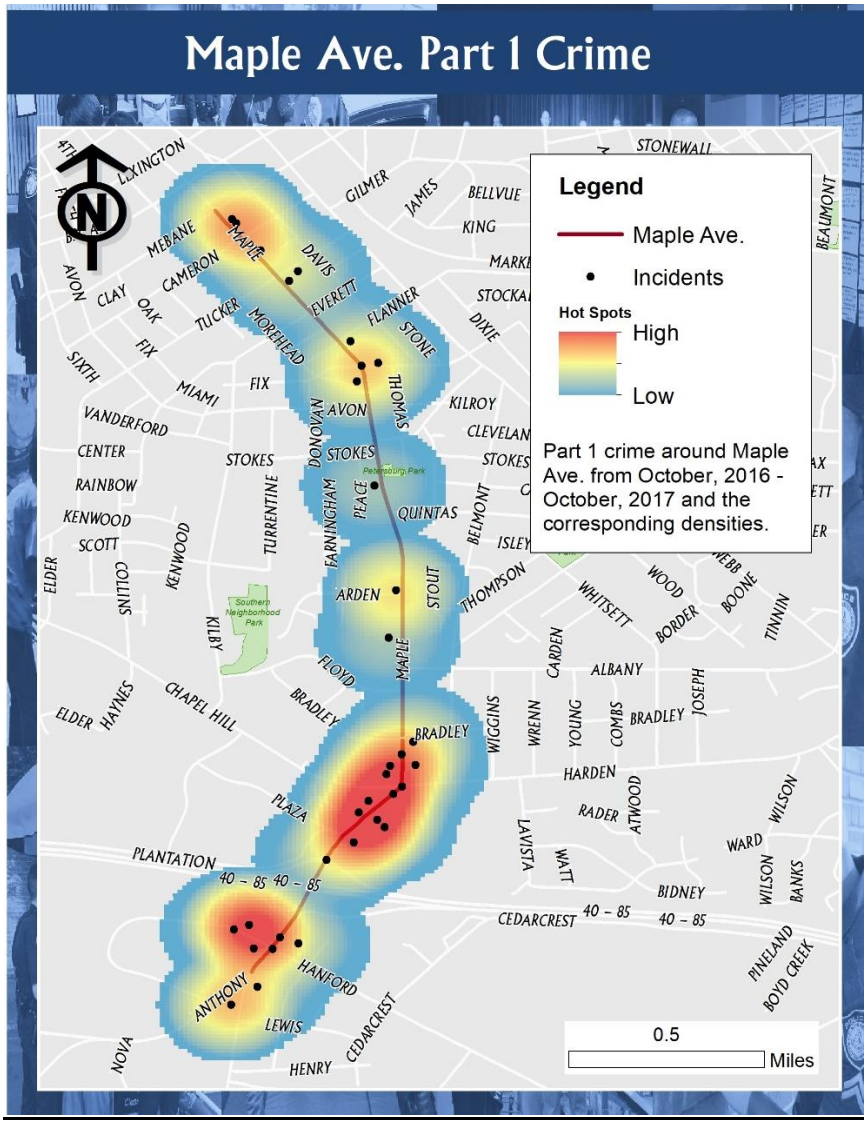


"The Maple Avenue exit, which current highway signage indicates is the preferred route to Downtown, was regarded as the least preferable gateway to represent the character of Burlington. Unattractive and dingy buildings—particularly the Burlington Outlet Village—traffic congestion, a disorienting intersection geometry, and wide expanses of surface parking combine to create a hostile environment for visitors entering the City."

Burlington NC Community Assessment Report - 2014

Public Safety

Aside from the issues of transportation, mobility and visual esthetics, the Study Area has a total crime index rating of 283 according to data gathered by ESRI. This is among the highest in the county compared to neighboring interstate interchanges, and 183% greater than the average total crime index of the US[1]. Data gathered at the local level such as the heat map shown below further exemplify this issue. Both the perception and reality of safety are a prevalent concern among both users of the corridor and business owners alike. This is a threshold issue which must be addressed for meaningful public and private reinvestment to occur.



Source: Crime Analysis Unit, Burlington Police Dept. 2017

1 The index values for the US level are 100, representing average crime for the country. A value of more than 100 represents higher crime than the national average, and a value of less than 100 represents lower crime than the national average. For example, an index of 120 implies that crime in the area is 20 percent higher than the US average. Total Crime index includes all reported crimes including but not limited to murder, rape, robbery, assault, property crime, burglary, larceny, grand theft auto.

Catalyst Sites

The Maple Avenue I-40/85 interchange is nearly fully developed with a variety of commercial uses, including hotels, retail, institutional and industrial uses. The primary destinations at the interchange include the Burlington Commerce Park, south of I-40/85, which features Down Home Harley Davidson, and The World Tang Soo Do Association facilities.

North of the interchange, Granddaddy's Antique Market and shopping center features a variety of shops and a grocery store. While most retailers have abandoned the former Burlington Manufacturer's Outlet Center (BMOC), key destinations in this area include Alamance Community College and the Palladium Event center.

Hotels are located both north and south of I-40/85 to service these and other destinations and regional events. Gas stations, self-storage and miscellaneous commercial uses are also found along the corridor as it transitions into residential to the north, before entering the downtown.

Shin statue in the World Tang Soo Do gardens

Granddaddy's Antique Market

Down Home Harley Davidson

Three catalyst sites were identified along the corridor for having the greatest opportunity for retrofit and revitalization, including private (re)investment and public infrastructure improvements:

<u>Burlington Outlet Village (Formerly Burlington Manufacturer Outlet Center "BMOC")</u>
This functionally obsolete retail village west of Maple Avenue should be redeveloped into a mixed-use campus targeting employment and education. This renewed regional destination could provide new office, flex and research/development space for expanding existing business and attraction of new business. This area may be phased to evolve over time maintaining a select few businesses/tenants, while relocating others. This could integrate limited restaurants and retail together with lodging after the primary infrastructure is repositioned and the area rebranded.

<u>Granddaddy's Antique Market</u>
This regional destination should anchor the redevelopment of the east side of Maple Avenue into a mixed-use project focused on shopping and entertainment, to include lodging. Retail operators currently at BMOC and along the corridor could relocate to a revitalized and expanded project to provide synergy and renew the viability of retail in this corridor.

<u>Burlington Commerce Park</u>
This highway industrial park has developed into a mix of uses, destinations and lodging, which could continue to evolve organically adding additional flex industrial, general commercial and highway retail services.

Key Themes

A large percentage of the population currently perceive the corridor as unsightly and unsafe. Our findings reveal a community in transition, moving away from its traditional industrial and manufacturing history toward embracing new industry, job and lifestyle options for both Millennials and Empty Nesters seeking vibrant communities. Public input gathered from the community revealed a desire to see mixed use development, with expanded employment, dining, shopping and entertainment options. This changing dynamic is at the intersection of the new economy, which underscores the following key themes:

Maple Avenue as a Gateway Destination

Maple Avenue's customers include local area residents, employees and visitors. The corridor currently serves as a "drive-through". Each day, these users commute *through* the corridor from the downtown and adjacent neighborhoods, and many *drive to* the corridor from the interstate to area destinations and the downtown. With Maple Avenue as its primary central boulevard, the corridor should be repositioned as a gateway between the downtown and the interstate, while also becoming a key destination and employment center both north and south of the interchange.

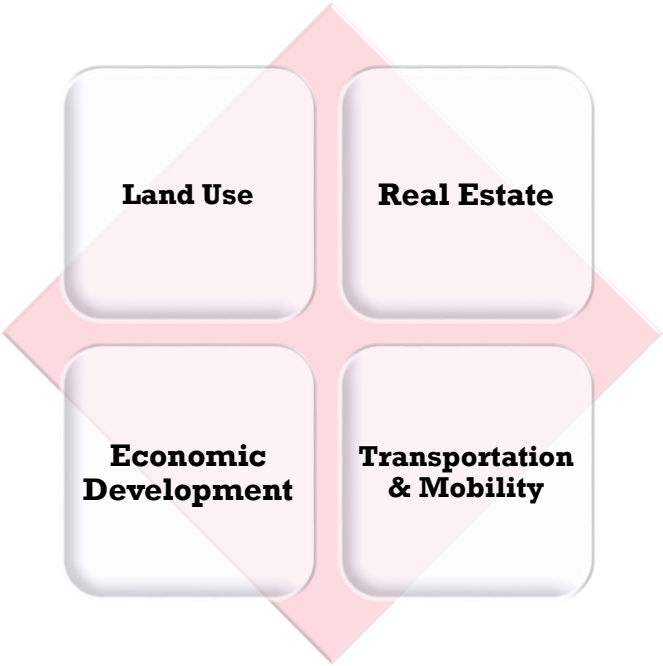
This retrofit includes expanded employment as well as updated dining, shopping and entertainment that are complementary to the market. Strengthening the connections to the existing residential homes along the corridor and adjacent neighborhoods will provide a new lifestyle environment, and provide more housing options associated with new mixed-use development.

Maple Avenue as an Innovative Hub

Burlington has a growing population of Millennial entrepreneurs fueled by the rapid growth in the Carolinas and, specifically, in the Triangle region. Burlington is strategically positioned to capture this intellectual capital seeking affordable work and lifestyle options. Entrepreneurship and new innovations are not born solely out of university environments, but also out of existing industry. Those that embrace technology to remain relevant include innovative companies such as LabCorp and Glen Raven, offering new opportunities in both life science and materials science (textiles).

Providing a campus for these companies to grow and attract supporting industries would create additional employment opportunities and a sustainable balanced tax base for Burlington. The corridor's strategic position gives promise to future business opportunities both at the start up and mature level, by offering companies a variety of space options in areas that are currently underutilized.

While the primary goal of the Maple Avenue Corridor Study is to plan for and implement a safe, attractive route for vehicles, bicycles and pedestrians, the corridor also has opportunities to attract and support private investment. Such public-private partnerships are critical to the long-term success of Maple Avenue. Pressure from surrounding developments at neighboring interchanges provides both challenges and opportunities, and so, the plan must be prudent in where and how redevelopment should occur. While the draw of shoppers in the past is evident, the new economy with changing retail dynamics, emerging technologies and changing demographics can provide new workplace, shopping and entertainment options. Aged and obsolete product in the retail and industrial categories currently limits these opportunities. Product absent from the market includes flex industrial, research and development and office space. The catalyst sites could provide for suburban retrofit to update obsolete uses and support future growth. Transportation improvements, amenities and changing land uses along the corridor will need to address a wide range of customers– from affordable to luxury – for this diverse socio-economic population. Public investment must be the first step in this corridor to encourage private investment activity. The four primary drivers needed to renew the corridor include land use, real estate, economic/community development and transportation and mobility.



Real Estate Types

As outlined in this report, real estate demand based on market fundamentals provides a program for land use in support of transportation and economic development goals. In summary, annual demand over a transitional period considers market cycles and build out over a 10-year period:

Work Space (Office & Flex Industrial)

259,000 +/- s.f.

(10 Year)

Retail/Entertainment

124,000 +/- s.f.

(10 Year)

Housing/Lodging

450 Units

(10 Year)

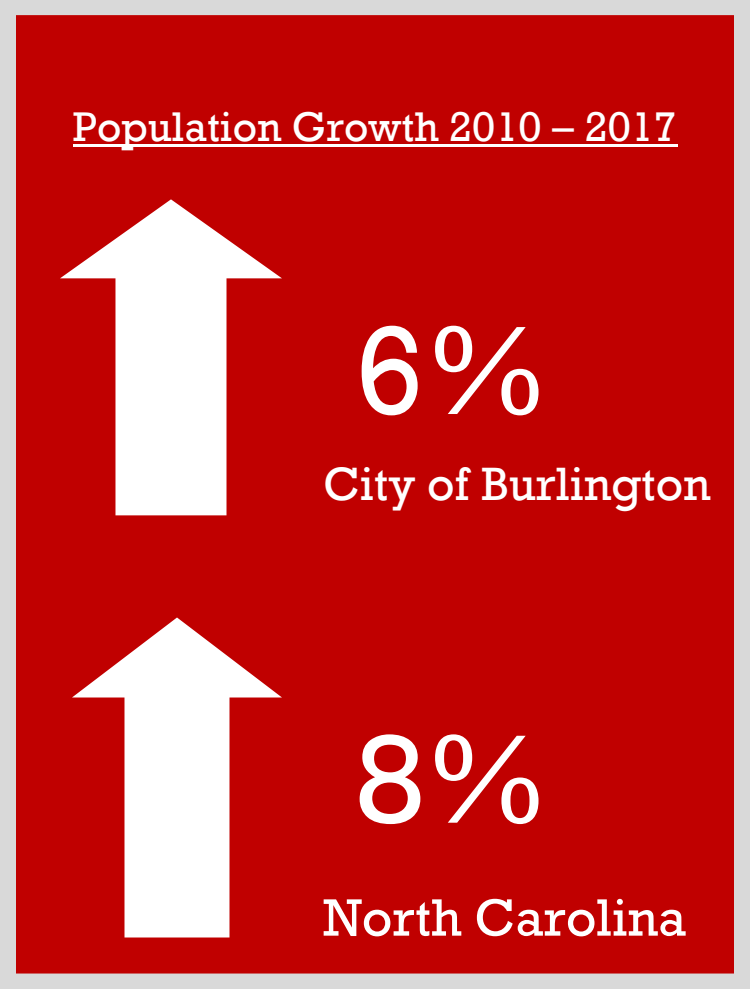
Demographic & Economic Analysis

When compiling demographic and economic data, the most appropriate geography must be determined to understand the community from a macro to micro view to determine competitive advantages or disadvantages. The Maple Avenue corridor is located within the Burlington Metropolitan Statistical Area (MSA), Alamance County (same geography as the MSA) and the City of Burlington, NC.

Population Characteristics

The population in Burlington and the Alamance County metro continues to demonstrate growth, albeit slower than that seen in other metro areas in North Carolina. The Burlington population is both racially and ethnically diverse. This is primarily associated with local industry, housing affordability and the expanding service sector.

As mentioned in the Executive Summary, the demographics of the area are changing. The table below provides a macro to micro view of the region, city and the Maple Avenue study area. Alamance County has higher household incomes as compared to the others, while the corridor study area has the lowest household size and median age – a full 5 years younger than both Alamance County and the City of Burlington.



2017 Estimates Income, Age & Household Size	Burlington MSA/ Alamance County	City of Burlington	Maple Avenue Corridor
2017 Total Population	161,563	53,997	388
2017 Median Household Income	$45,117	$41,257	$33,491
2017 Average Household Income	$62,215	$59,332	$44,375
2017 Median Age	39.8	39.3	34.7
2017 Average Household Size	2.46	2.38	2.34

Source: US Census, ESRI, Rose Associates

Growth is projected to moderate from 2017 to 2022 compared to prior years. The corridor is currently expected to contribute little to the overall regional growth.

2017 Estimates Population Growth Estimates	Burlington MSA/ Alamance County	City of Burlington	Maple Avenue Corridor
2017 Total Population	161,563	53,997	388
2010 – 2017 Population Growth Rate	6.9%	6.17%	4.3%
2017 – 2022 Population Growth Rate	4.69%	3.72%	3.1%
2022 Estimated Total Population	169,151	56,004	400

Source: US Census, ESRI, Rose Associates

Generational Cohorts

To further the discussion, the median age is expanded into generational cohorts. Many communities are focused on ways they can attract Millennials, also known as Generation Y, ranging in age from 17 to 36 years old. This generation includes a broad spectrum of life stages from teens to young adults and families, with varied needs and characteristics. Unlike the Baby Boomer generation whose housing decisions were driven by job relocations, Millennials when entering the workforce, make career decisions based upon their desired lifestyle, then revolve their job search around their chosen community. The dominant generation in Burlington in 2010 were Gen X, which has now shifted to Millennials. There has also been increased growth in the Baby Boomer population.

City of Burlington, NC

Generation	Age	2010 Population %	2017 Population %
Gen Z (Centennials)	0 – 16	20.2	19.2
Gen Y (Millennials)	17 – 36	25.6	**25.4**
Gen X	37 – 51	**26.8**	25.1
Baby Boomers	52 – 70	18.9	21.8
Silent Generation	70+	8.5	8.5

Source: ESRI, Rose Associates

Source: VisitNC.com

ESRI©

Lifestyle Segmentation

Lifestyle Segmentation, as defined by ESRI's Tapestry©, combines demographic and socio-economic data to further understand the residents in a neighborhood and the consumers in an area. Tapestry© assists in understanding lifestyle characteristics including housing, consumer and entertainment preferences. The entire U.S. population is categorized within 14 Tapestry LifeMode groups, from which 65 Lifestyle Segments can be identified. This includes six groups from rural to urban center populations. These provide in-depth information about the character of Burlington's households combining demographic, social and behavior patterns. The percentage of households in the geographic areas below define the top three (3) LifeMode groups in each area that dominate the landscape:

Tapestry LifeModes

LifeMode Groups	Alamance County	City of Burlington	Study Area
Affluent Estates	3.3%	4.3%	-
Upscale Avenues	-	-	-
Uptown Individuals	-	-	-
Family Landscapes	11.0%	3.7%	17.0%
GenXurban	19.7%	27.7%	-
Cozy Country Living	11.3%	1.0%	-
Ethnic Enclaves	4.1%	5.8%	-
Middle Ground	16.6%	28.6%	15.2%
Senior Styles	3.0%	5.8%	-
Rustic Outposts	22.5%	3.1%	-
Midtown Singles	1.5%	4.4%	-
Hometown	5.4%	15.6%	67.9%
NextWave	-	-	-
Scholars and Patriots	1.5%	-	-

Source: ESRI, Rose Associates

While the City of Burlington contains 10 of the 14 LifeMode groups showing a socioeconomically diverse population, the Maple Avenue study area has only 3 of the 14. The Tapestry Segments within each of these groups show different and more specific lifestyle characteristics.

The data show the majority of the City of Burlington falling into primarily one LifeMode group: Middle Ground, which is a lifestyle for those in their 30's living in an affordable smaller metro city environment which combines two segments, Hardscrabble Road and Old and Newcomers, totaling 4,810 households. The other significant LifeMode group is GenXUrban, in one segment: In Style, representing 8% of households. This segment includes middle aged, smaller households, with fewer children. The majority in this group are college educated white collar professionals, administrative or service jobs, all of which typically live in single family housing, and usually by themselves. They own 1-2 vehicles and spend their time doing outdoor environmentally conscious activities or supporting local arts in the community. They invest in retirement instruments and generally do their shopping online or at major retailers.

City of Burlington

8G	Hardscrabble Road 2,975 households	13% of Households
8F	Old and Newcomers 1,835 households	8% of Households
5B	In Style 1,756 households	8% of Households

Maple Avenue Study Area

12B	Traditional Living 66 households	40% of Households
12C	Small Town Simplicity 46 households	28% of Households
4C	Middleburg 28 households	17% of Households

Source: ESRI, Rose Associates

As we narrow our focus to the Maple Avenue study area a change in the lifestyles of the population is evident, as 68% of the households combine two segments into the Hometown LifeMode group. The Traditional Living and Small Town Simplicity segments include aging single householders living in affordable single-family housing, typically with a high school diploma, employed in blue collar or service jobs. They participate in outdoor activities like camping, fishing and hunting, and do their shopping from QVC and other TV programs, or from major retailers. The remaining 17% of households fall into the Family Landscapes LifeMode group. This Middleburg segment is defined by young families, whose spending priorities focus on family or home DIY projects. Traditional values are the norm, and 66% have a high school diploma or some college. They live in semirural locales within metropolitan areas. Home ownership is 74.3% in single family ownership, higher than the national average. More detailed descriptions of these lifestyle segments can be found in the Appendix.

The demographic and economic characteristics of both the City and the Study Area is summarized as follows:

At A Glance – City of Burlington

KEY FACTS

53,997
Population

39.3
Median Age

2.38
Average Household Size

$41,257
Median Household Income

EDUCATION

18%
No High School Diploma

27%
High School Graduate

32%
Some College

24%
Bachelor's/Grad/Prof Degree

BUSINESS

2,639
Total Businesses

37,892
Total Employees

EMPLOYMENT

58%
White Collar

25%
Blue Collar

17%
Services

6.3%
Unemployment Rate

INCOME

$41,257
Median Household Income

$24,791
Per Capita Income

$35,273
Median Net Worth

Tapestry Segments

8G	**Hardscrabble Road** 2,975 households	**13%** of Households
8F	**Old and Newcomers** 1,835 households	**8%** of Households
5B	**In Style** 1,756 households	**8%** of Households

At A Glance – Study Area

KEY FACTS

388
Population

34.7
Median Age

2.34
Average Household Size

$33,491
Median Household Income

EDUCATION

21%
No High School Diploma

29%
High School Graduate

40%
Some College

10%
Bachelor's/Grad/Prof Degree

BUSINESS

101
Total Businesses

2,537
Total Employees

EMPLOYMENT

51%
White Collar

25%
Blue Collar

25%
Services

10.4%
Unemployment Rate

INCOME

$33,491
Median Household Income

$16,672
Per Capita Income

$18,627
Median Net Worth

Tapestry Segments

12B	**Traditional Living** 66 households	**40%** of Households
12C	**Small Town Simplicity** 46 households	**28%** of Households
4C	**Middleburg** 28 households	**17%** of Households

Source: ESRI, Rose Associates

Economic Analysis

Burlington's history is rooted in its agricultural, textile and manufacturing heritage. Development strategy begins with understanding the local labor market and the community's economic base. With that understanding, economic development organizations may focus on any, or all, of the following four primary areas:

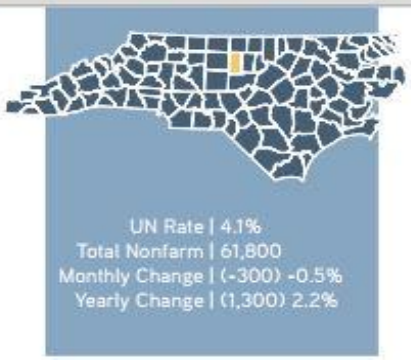
- Attraction
- Business retention/expansion (BRE)
- Small business and entrepreneurship (SBE)
- Tourism

Labor and Employment

Employment and industry data is defined above by traditional Standard Industry Classification (SIC). However, the North American Free Trade Agreement (NAFTA) expanded these classifications to the North American Industrial Classification System (NAICS), which provides both two-digit sector and three-digit sub-sector data for analysis.

Local employment is assessed by many data points, including educational attainment for job readiness and the employed population. Often the percentage of civilian population aged 16 or higher that are employed or seeking employment is defined as the labor force participation rate. However, these figures do not consider those that are unemployable (due to lack of skills or minimum educational attainment), discouraged workers who have dropped out of the workforce, and the unemployed. The data below shows regional employment growth in the major sectors from June 2016 to June 2017, with Leisure and Hospitality leading the MSA growth at 6.8% followed by Other Services (5.0%):

Burlington MSA | Total Nonfarm Employment | June 2017



Over-the-Month Employment Change

Industry	Change	
Mining, Logging & Construction	0	0.0%
Manufacturing	0	0.0%
Trade, Transportation & Utilities	0	0.0%
Information	0	0.0%
Financial Activities	0	0.0%
Professional & Business Services	0	0.0%
Education & Health Services	0	0.0%
Leisure & Hospitality	100	1.3%
Other Services	0	0.0%
Government	-400	-5.6%

Over-the-Year Employment Change

Industry	Change	
Mining, Logging & Construction	100	3.9%
Manufacturing	200	2.2%
Trade, Transportation & Utilities	100	0.8%
Information	0	0.0%
Financial Activities	0	0.0%
Professional & Business Services	100	1.9%
Education & Health Services	200	1.7%
Leisure & Hospitality	500	6.8%
Other Services	100	5.0%
Government	0	0.0%

Source: NC Department of Commerce

Educational Attainment

The key determining factor for workforce development is educational attainment. The correlation between education, employment, and income is impacted by job readiness. K-12 public education is provided by the Alamance-Burlington school system, which includes 40 public schools serving approximately 25,000 students. North Carolina Career Pathways provides students in the Alamance-Burlington school system career advice and guidance to high quality, high skill or, high demand careers. Combining core academic and technical instruction with work-based learning experiences provides marketable skills to local industries and companies. In addition, STEM (Science, Technology, Engineering and Math) programs, early college programs and specialized training are offered through the Alamance-Burlington school system.

High School Graduate

City 81.9%

County 83.2%

Bachelor's Degree or higher

City 23.1%

County 21.6%

It is reported that there are 26 four-year universities and 14 community colleges within 60 miles of Burlington. Neighboring Elon University is a private liberal arts college with 6,739 students (2016). According to a U.S. News & World Report, it leads the nation ranking eight programs that promote student success, and it touts being a leader in its study abroad program. The Alamance Community College located in Graham recently opened its new $16 million, 55,000 square foot state-of-the-art Career and Technical Education Center which provides training for local industry. Additional programs offered through the Alamance Community College Dillingham campus (located within the study area) assists with matriculation for minority males pursuing medical degrees. Influence from regional industry and these institutions provide opportunities for expanded STEM education and resources.

Economic Base

The dynamics of population characteristics influence land use, real estate markets and economic development strategies. Other factors such as education also influence workforce, wages, income and consumer expenditures. Economic Base Analysis is used to determine what drives the local economy and determines real estate demand. **The underlying theme suggests that jobs drive demand for real estate.** In other words, for every base industry job that is created, a multiplier effect increases overall employment, in turn increasing both population and income benefiting from such job growth. There are two types of jobs: those which export their goods and services outside the community (also referred to as basic employment), and those which service the local community (otherwise referred to as non-basic or service employment). The corresponding growth (or decline) in jobs, population and income correspond to demand for housing and various commercial uses of real estate.

The ratio of the county percentage of employment as compared to U.S. employment, or location quotient ("LQ") identifies which basic industry sectors contribute the greatest local economic growth. The sectors with location quotients ("LQ") greater than 1.00 demonstrate higher than U.S. averages, thus the primary drivers of the local economy and job growth. The following chart highlights Alamance County's leading economic sectors and sub-sectors, which vary from those industries providing the highest percentages of employment (those of most significance are in noted in **red/bold**):

Economic Base Industry Key Sectors (NAICS) Alamance County - 2016	LQ	% Employment	Product Type
Total Annual Average Employment: 52,806			
Manufacturing (31-33)	**1.79**	**17.56%**	**Flex Industrial/ Manufacturing**
Textile Mills (313)	**43.04**	**3.89%**	
Textile Product Mills (314)	2.01	0.19%	
Apparel Manufacturing (315)	**17.84**	1.82%	
Wood Product Manufacturing (321)	2.20	0.68%	
Paper Manufacturing (322)	2.73	0.80%	
Printing & related support activities (323)	1.42	0.51%	
Plastics & Rubber Manufacturing (326)	**2.79**	1.55%	
Nonmetallic mineral product manufacturing (327)	1.07	0.34%	
Fabricated metal product manufacturing (332)	1.15	1.29%	
Machinery manufacturing (333)	2.18	1.86%	
Miscellaneous manufacturing (339)	1.13	0.53%	
Wholesale Trade (42)	1.06	4.93%	**Warehouse/Distr.**
Merchant wholesalers, durable goods (423)	1.20	2.79%	
Merchant wholesalers, nondurable goods (424)	1.20	1.94%	
Retail Trade (44-45)	**1.32**	**16.66%**	**Retail**
Motor vehicle & parts dealers (441)	1.30	2.05%	
Furniture & home furnishings stores (442)	1.09	0.41%	
Building material & garden supply stores (444)	1.14	1.16%	
Health & Personal care stores (446)	1.20	0.10%	
Gasoline stations (447)	1.77	1.30%	
Clothing/Clothing Accessories Stores (448)	1.94	2.07%	
Sports, hobby, instrument & book stores (451)	**2.24**	1.10%	
General Merchandise Stores (452)	1.54	**3.93%**	
Miscellaneous store retailers (453)	1.27	0.83%	
Transportation & Distribution (48-49)			**Warehouse/Distr.**
Warehousing & storage (493)	1.19	0.87%	
Administrative and Waste Services (56)	1.02	7.26%	**Office/Other**
Administrative & support services (561)	1.01	6.87%	
Waste management & remediation services (562)	1.21	0.39%	
Educational Services (61)	1.56	3.44%	**Institutional/Office**
Health Care & Social Assistance (62)	**1.24**	**18.63%**	**Institutional/Office**
Ambulatory health care services (621)	**1.80**	10.13%	
Nursing & residential care facilities (623)	1.38	3.64%	
Accommodation & Food Services (72)	1.22	**12.91%**	**Retail/Hotel**
Food services & drinking places (722)	1.36	12.27%	
Construction (23)			**Other**
Specialty trade contractors (238)	1.16	3.93%	

Source: US Bureau of Labor Statistics

The top sectors providing the greatest percentage of employment includes manufacturing, retail trade and healthcare services. Healthcare leads in employment (18.63%), while manufacturing sub-sectors contribute most significantly to economic growth via exports (textiles and apparel manufacturing), also providing nearly 18% of the county's employment. Retail trade, healthcare services and accommodation and food services are predominately local services as evidenced by their location quotient, thus do not contribute to the region's economic base to the same extent as manufacturing, despite providing a substantial percentage of employment.

Business & Industry

Aside from the sectors and sub-sectors of the economy, the size or stage of each company is a factor when determining employment growth and its relationship to real estate. There are an estimated 3,269 business establishments in Alamance County per 2016 annual estimates from the Bureau of Labor Statistics. The large majority of business establishments in the county contain less than 250 employees, including large corporations such as Honda Aero. The major employers in Alamance County represent a diverse range of both goods and services-producing sectors, many of which directly influence the Maple Avenue Corridor:

Major Employers	# of Employees (+/-)	Sector
Alamance-Burlington School System	3,500	Education
Labcorp of America	3,000	Healthcare
Cone - Alamance Regional Medical Center	2,000	Healthcare
Elon University	1,500	Education
Wal-Mart Associates (Retail & Distribution)	1,200	Trade/Transportation
City of Burlington	1,100	Government
Alamance County Government	950	Government
GKN Automotive Components	500-999	Manufacturing
Honda Power Equipment Manufacturing Inc	500-999	Manufacturing
Gate City of Burlington Inc	500-999	Professional Service
Alamance Community College	500-999	Education
Olsten Staffing	500-999	Professional Service
Food Lion	500-999	Trade/Transportation
Glen Raven Inc.	500-999	Manufacturing
Kayser-Roth	465	Manufacturing
Kernodle Clinic Inc.	325	Healthcare
Copeland Fabrics	300	Manufacturing
Sheetz Distribution Center	254	Retail
American Multimedia Inc.	250	Entertainment
International Textile Group (ITG)	250	Manufacturing
Carolina Hosiery Mills, Inc.	250-499	Manufacturing
Alamance Foods Inc	250-499	Trade/Transportation
People Inc	250-499	Professional Service
Twin Lakes Community	250-499	Health & Education
Triangle Paving Inc	250-499	Construction
Aramark Food & Support Services	250-499	Professional Service
Carolina Biological Supply Co. Inc	250-499	Trade/Transportation

Source: Alamance County Economic Development & NC Department of Commerce

Tourism

As demonstrated in the Economic Base analysis above, Manufacturing, Retail Trade and Health Care & Social Services are the substantial contributors to the local economy. Accommodations and Food Services also provide nearly 13% of the county's employment, ranking fourth among the top employment sector. The Maple Avenue corridor is a key player, with surrounding destinations and assets bringing visitors and expenditures into the area. Visitors come to area attractions and events, the parks and gardens, golf and other recreational venues. Major employers, as shown previously, also bring in visitors and vendors from outside the area.

What is Experiential Tourism?

Experiential tourism is a new term that encompasses a variety of tourism and traveler categories; where activities are environmentally sensitive, displaying respect for the culture of the host area and looking to experience and learn rather than merely stand back and gaze. Experiential tourism involves active participation, involvement, even immersion based on exposure to the people met, the places visited, and the activities participated in and the memories created.

Tourism, Attractions & Events

According to Burlingtonnc.gov, Burlington Recreation and Parks provide diversified leisure opportunities involving a wide variety of programs at well maintained and strategically located facilities that may enhance the quality of life for all residents within the community. They also bring a constant stream of daily visitors to the area:

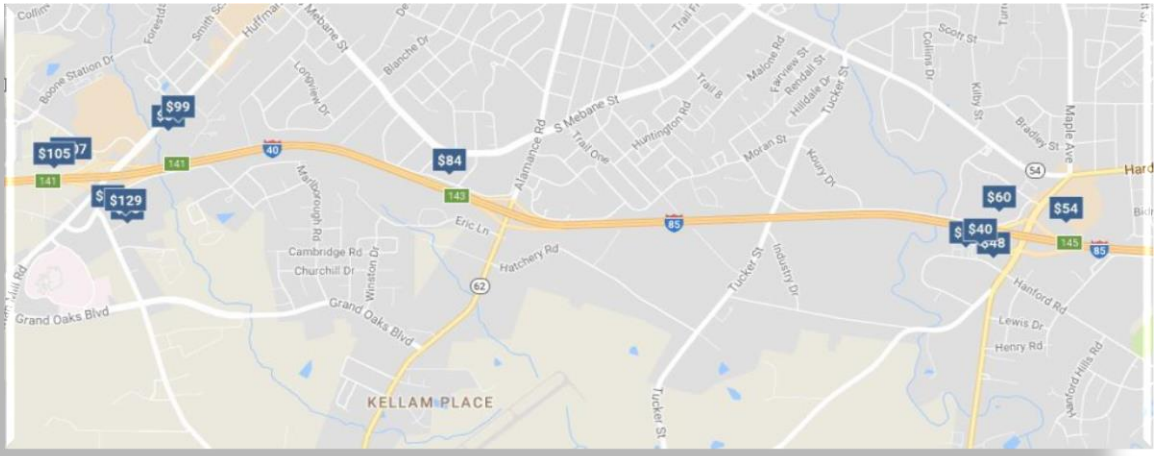
The 2017 30th Annual Carousel Festival in mid-Sept for 2 days features multiple stages for various types of music, arts & crafts, food, beer garden, amusement rides & permanent, popular attractions. Annual Festival attendance 10,000-20,000 people

- Burlington Royals Baseball play 33 games from spring to early fall played in a vintage stadium. Programming is targeted at multigenerational entertainment. Attendance in 2016 was 49, 227 averaging 1492 people per game.

- The stadium is also used for other popular events such as a 2nd Annual Draft Day Festival. Aimed to attract Millennials, this event has live music, tents around the outfield for food and beer vendors, including food trucks.

Area Hotels

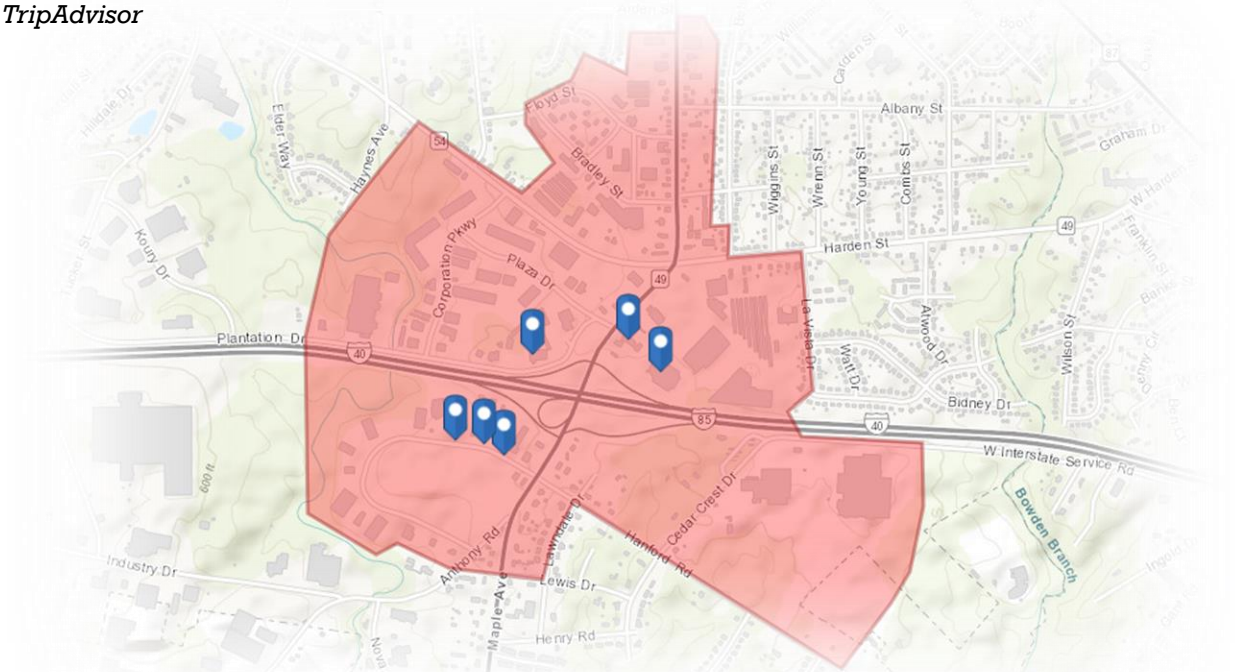
There are 19 different hotel brands located in the Burlington Area with varying rates from $144 around Elon, to $84-$125 around Exit 143, and only $40 -$60 on Exit 145. "Hotels look for location & visibility, Interstate access & high traffic counts. This includes industry, tourist attractions, Triad Airport, Elon University and Alamance Hospital Exit 143," says the former Manager of Hampton Inn – Greensboro, NC. Burlington is thought to be an "up and coming area, albeit with some work".



The following hotels are found at Exit 145 surrounding the interchange:

Hotel	Rate	Group
Red Carpet Inn	$60	Hospitality International
Microtel	$55	Wyndham Hotel Group
Red Roof Inn	$54	Hilton Group
Econo Lodge	$54	Choice Hotel Group
Royal Inn & Suites	$48**	N/A
Motel 6	$38**	G6 Hospitality
*** very low rates often attract undesirable clientele that may engage in criminal activity*		

Source: TripAdvisor



Event Space

Two of the event venues in the Maple Avenue area have shown growth, which is a positive sign of expectations of future activity:

- Alliance Convention Center - located just off Maple Avenue on Turrentine Street recently completed construction of an additional new 16,000 square foot space, more than doubling their current capacity from 13,000 sq. ft. The facility, which holds 900 theater style or 500 banquet style, is available for public rentals for business, charity & social functions.

- Palladium Event Center - located next to Alamance Community College, now with recent renovations has over 8,000 sq. ft. of event space to host a formal reception of 500 guests. A second location on 24 acres in Graham, NC is currently under construction for indoor & outdoor events.

Although outside the study area, interesting to note, is the Ramada Inn at Exit 143, marketed as the Burlington Hotel & Conference Center with 7 meeting rooms & room for 400 banquet guests.

Destinations

A number of destinations can be found along the Maple Avenue corridor. These include those in and around the interchange such as the World Tang Soo Do Martial Arts facilities, Down Home Harley Davidson and Granddaddy's Antiques.

Granddaddy's is a 2-acre indoor Antique Mall with a reputation for unique offerings and potential for growth. Often antiques are successfully combined with arts & crafts as like audience shoppers purchase both. Many popular artists & crafts that appear in the Annual Carousel Festival could be enticed to offer their products at Granddaddy's every day. An appeal could also be made to local vendors to create proudly "Made in Burlington" offerings.

Tourism Impacts

According to 2016 data from United Van Lines, North Carolina continues to be a high inbound migration state, attracting newcomers to the area for work and, most notably, for retirement. Thoughtful estimates suggest the In-Migration Industry annually generates an estimated $13 billion dollars to the North Carolina economy.

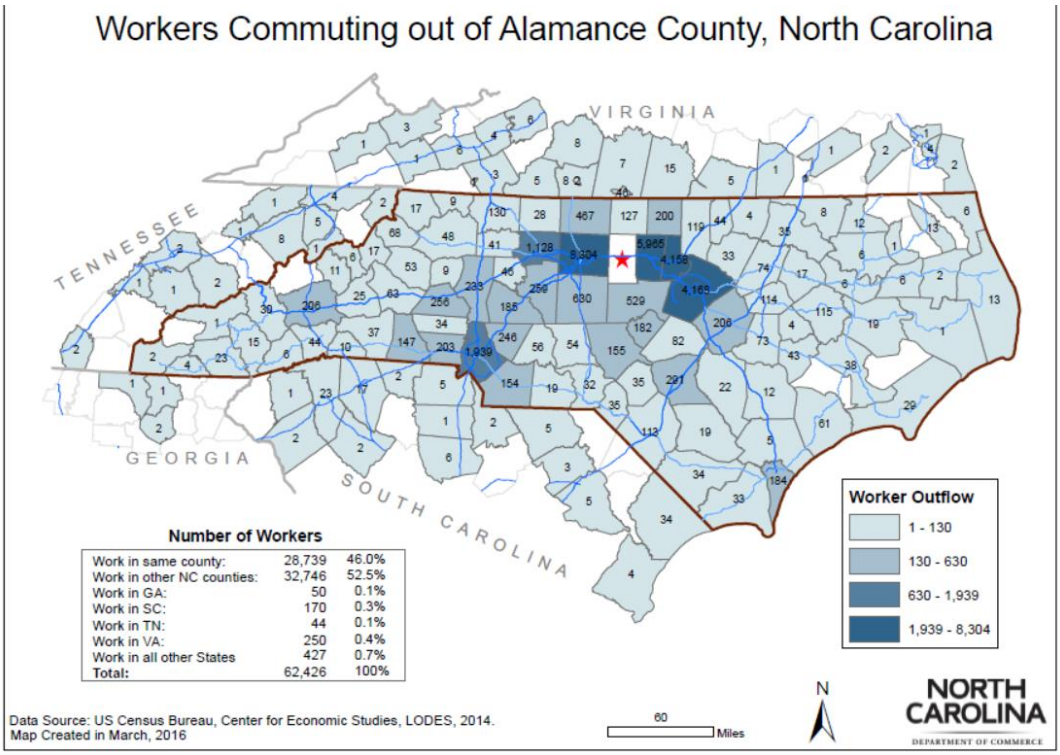
Patrick Mason of Carolinaliving.com evaluates the impact of tourism on the local economy, particularly those nearing or in retirement. Per their annual report, the transient leisure segment ("Turbo-Tourists"), estimated to be 6-million visitors to the Carolinas annually, are here exploring with investment and relocation motivations. These affluent, educated families visit and tour numerous destinations as part of their exploration mission. They reserve way in advance, spend more, stay longer and return more frequently on average. Beyond a $2,000 to $10,000 visit or vacation, there's a "turbo-effect" when they relocate and/or acquire a second home, investing $250,000 to over a million in the first year. Each new household creates 1.9 jobs locally. Then, the "turbo-effect" kicks in again, as these new homeowners begin entertaining, on average, six friends and family groups a year, some of whom, like birds-of-a-feather, will also relocate or invest here. A third "turbo-effect" ices the economic cake as the research consistently reports that as many as 14% "say", they plan to move or launch a business, bringing intellectual capital, investing millions and creating thousands of new jobs across the Carolinas.

The Maple Avenue corridor could become the beneficiary of this dynamic through diverse work and lifestyle options for both Millennials and Baby Boomers.

Real Estate Market

Commuting Patterns

Data provided by the US Census and NC Commerce Department provides insight as to the flow of workers both into and out of Alamance County. The data below suggests that each day there is a net outflow of approximately -5,639 workers who live in the county, yet commute elsewhere each day.



Source: AccessNC, Alamance County Commuting Report, Primary Jobs 2014

According to the Piedmont Authority for Regional Transportation (PART), over 75% of Alamance County residents live and work within with a 10-minute drive of the I-40/85 corridor. Further the 2017 American Community Survey (ACS) reports that the average travel time to work (2011-2015) for county residents is 23.7 minutes.

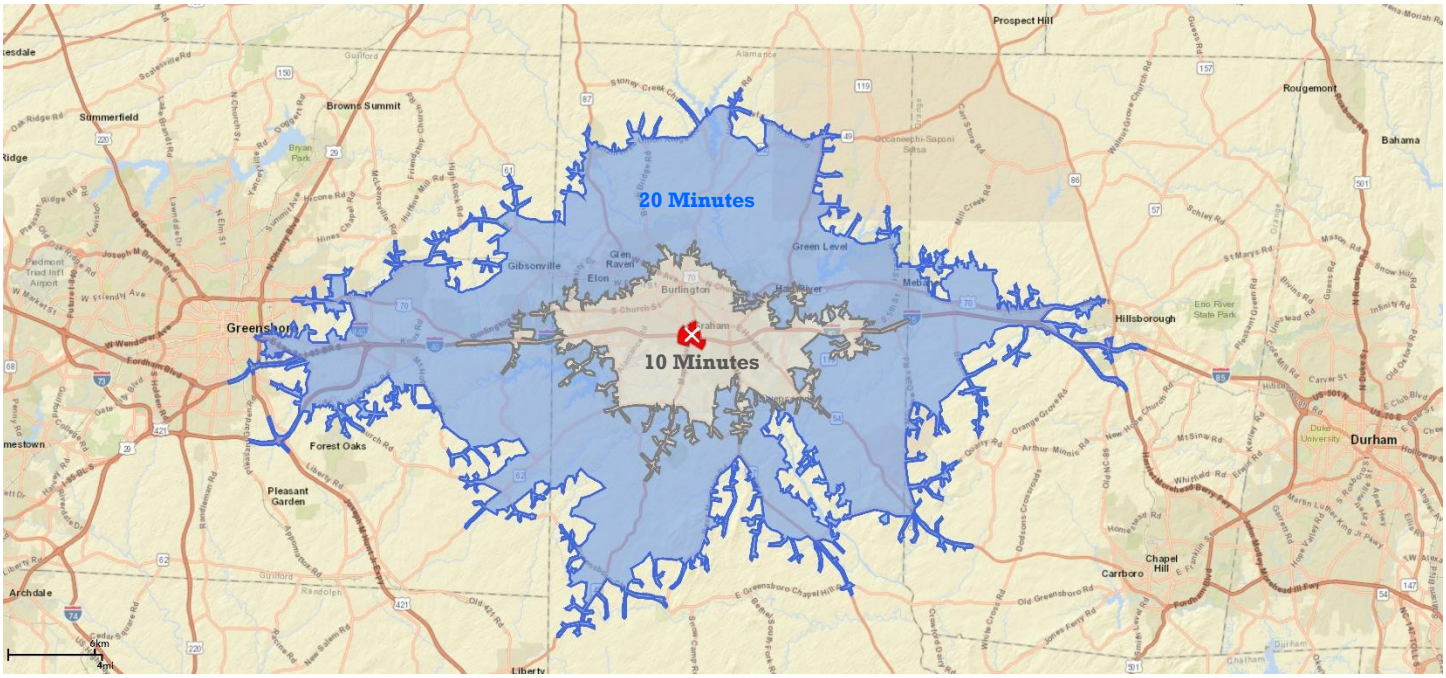
Trade Areas

Trade areas are defined by the distance which a location may attract employees or consumers. Within each trade area, thresholds are measured to determine adequate capacity, or demand, for a particular use. Often trade areas are defined by a radius distance around a site in terms of miles. While a useful benchmark, trade areas are more accurately defined based upon drive-time, which is dictated by traffic volumes, convenience and the number of alternative options within the trade area.

Larger **destination-oriented** uses such as major employers, hospitals and major retail centers for furniture, clothing, specialty items and automobiles have a larger trade area, or distance that a consumer would be willing to drive, generally 10+ minutes or more.

Local employment and small service businesses for purchases made for daily living, such as gas, food, drugs, grocery and household items draw from a smaller, more **convenience-oriented,** trade area. The average consumer will travel less than 10 minutes for these purchases and services.

The location of the corridor and commuting patterns found throughout the county, as well as access to major employers in the region, indicate that the primary trade area be defined within a 10-minute drive time, while the secondary trade area includes a 20-minute drive time surrounding the interchange. These highlight opportunities for both convenience-oriented and destination-oriented uses.



Source: Rose Associates, ESRI

Real Estate Product Types & Land Use

Analyzing real estate markets is as much art as it is science, as the data represents both a snapshot in real time and prevailing economic cycles and real estate trends. Current and proposed future land use strategies are benchmarked against these as demand for space is driven by several factors including, but not limited to, the local economy and job growth, transportation, infrastructure, land entitlements and quality of life.

Market analysts, appraisers and lenders report data based on traditional product types, including office, industrial, retail and multifamily uses. Industrial is tracked by two product types: Warehouse/Distribution and Flex, which combines office and industrial space in various ratios to include drive-in or dock-high overhead doors. Real estate data is tracked by submarkets, which may include specific geographic areas, such as counties, cities or census tracts. These are important elements when determining local market capture in the context of the larger regional marketplace.

CBRE, a national commercial real estate organization, tracks and reports data within the Triad region including Guilford, Forsyth and Alamance Counties. The submarkets associated with the corridor include both SE and SW Alamance depending upon product type. Currently the data reported within these submarkets includes only warehouse (industrial) and retail uses. The product type most recently built and absorbed within Alamance County is predominately warehouse/distribution space.

Work Space

The successful recruitment of new business generally results in demand in the form of work space, such as office and industrial buildings. The next generation of space reflects the behaviors and attitudes of changing workforce, and the design of traditional office and industrial space. New work environments are less formal structures that are flexible and offer open spaces where workers engaged in technology, research, and advance/precision manufacturing, can collaborate or perhaps be used for light assembly. These structures may look more like a brewery or coffee house than a traditional office or industrial building, as the workspace environment has now become a recruiting tool.

The structure required for these workers who desire a space for collaborative innovation and new goods, services and processes that use smaller equipment, less space and on-time distribution is the next generation of space. This *NextGen* space is neither traditional office nor industrial, but has a flexible design which highlights:

- Multi-purpose use
- Open informal space concept
- Meeting and collaboration space
- Flexible floor plans and design
- Space for technology/lab/innovation
- Space for loading/unloading merchandise (e.g. rear drive-in or dock-high door)

Based on our review of the market and economic data, the workspace environments recommended for the Maple Avenue corridor includes flex industrial, office and institutional uses based on our "highest and best use" analysis.

Workspace Demand

The emphasis on business attraction and expansion (BRE) for the basic industries (those with LQ substantially higher than 1.0 noted above) point primarily to manufacturing and flex industrial uses.

Additionally, other industries such as healthcare and education services diversify the landscape and drive demand for office and institutional space, where other amenities and complementary uses such as restaurants, retail and housing exist. The corridor's location and past reputation for shopping make it well positioned for retrofit with a focus on key sectors driving employment. The catalyst sites for this type of demand include the former BMOC area on the west side of Maple Avenue and the Burlington Commerce Park, south of the interchange.

Based upon annual county job growth and an estimated capture rate, annual square footage demand estimates can be projected using the County's percentage of employment sectors that correlate with flex industrial and office uses. Given Maple Avenue's position within the region and existing submarket absorption data, conservative capture rates for each product type as it relates to job growth is estimated. Based upon current estimates of space demand per employee, this results in estimated demand:

Product Type	Flex Industrial	Office/Institutional
Submarket Capture	25%	5%
Annual Demand (sq. ft.)	23,916	1,980
Total Demand (10-year) (Rounded)	239,000	20,000

Industrial & Office Supply

The lease activity in Alamance County that is reported by CBRE is found in warehouse and distribution space, which includes six submarkets. The study area is within the South and SW Alamance submarkets. This includes the 850,000 square foot Lidl distribution center, most recently completed and delivered in the South Alamance submarket, and the 500,000 square foot warehouse facility in the SW Alamance submarket identified as Carolina Center/Sheetz project, located within the southern portion of the study area.

Warehouse Totals Q2 2017	Market Rentable Area (SF)	Vacant SF	Vacancy Rate	Q2 2017 Net Absorptions	YTD Net Absorption (SF)	Under Construction (SF)	Net Average Asking Lease Rate (S/SF/Yr.)
Total Greensboro/Winston-Salem Industrial Market	72,966,563	6,111,037	8.4%	73,510	471,392	883,800	$3.71
Totals for 6 Alamance Submarkets	14,517,754	1,367,034	6.2%	49,960	30,360	500,000	$3.37
SW Alamance Submarket	2,502,794	96,500	3.9%	(20,000)	4,000	500,000	$5.15

Source: CBRE 2Q 2017, Rose & Associates

CBRE 2nd Quarter 2017 flex industrial reports, which includes data from only Guilford and Forsyth counties, indicates over 8.2 million square feet of flex industrial space with a 7.6% vacancy rate and lease rates ranging from $5.34 - $8.43 per square foot. Alamance County is not currently reported, due to its limited inventory in this category.

However, Loopnet/Costar - national commercial listing service providers - report information on current market listings by category which revealed 5 listings totaling approximately 22,000 square feet of available flex space within the Burlington city limits, with rents ranging from $6.00 - $15.00 from Sept – October 17, 2017.

Similarly, CBRE does not track or report office space for Alamance County, thus we again relied on listing information from Loopnet/Costar during that same period. We found 16 office listings, totaling 154,129 square feet of office space, with 55,308 square feet available (36% vacancy) ranging in rents from $8.00 - $20.00 per square foot. By comparison, total office space for Alamance County totaled 1,233,675 square feet of space with approximately 190,018 of available square feet (a 15% vacancy rate), with year built ranging from 1951 to 2002.

Work Space Summary

The current economic cycle will continue to drive companies to the southeastern United States in search of lower operating costs, skilled labor and quality of life characteristics found in this region. Traditional industry clusters in manufacturing and healthcare are transforming, developing opportunities for new work environments. As these industries continue to evolve, business leaders are demanding advanced workforce skills, infrastructure and support services in their location and operation decisions.

The Maple Avenue corridor could emerge as a desirable and viable business location, including education and workforce development opportunities aligned with modern facilities in which to operate. The limited inventory in the office and flex industrial categories in Burlington are perhaps largely old and obsolete. Both flex industrial and office space demand considers future county job growth attributable to these uses, and existing submarket supply and capture. New workspace that addresses emerging technologies and a new workforce must be constructed for future economies. The manufacturing sector is dynamically changing, and Burlington has the opportunity to build to this market, rather than rely on old models.

The implementation of transportation improvements along the corridor to create synergy between the existing assets, recreation, housing and commerce could spark private investment, particularly in the former BMOC buildings, surrounding the existing Alamance Community College facility. The resulting added daytime population would support the desired restaurants, retail and other service businesses in the corridor, which could be repositioned both on the east and west side of Maple Avenue at the key intersections. Strategies include adopting policies and incentives to support the plan and reduce entitlement uncertainty, and a branding/marketing effort to support local and regional economic development.

Shopping & Entertainment

The retail industry is dramatically changing and exercising caution as it focuses on profitability over expansion through new store openings. Retail formats are shifting from traditional malls and shopping centers to mixed-use, and more urban Main Street formats. The residents, respondents and stakeholders in the Maple Avenue corridor clearly want expanded options for this type of shopping, dining and entertainment. The corridor provides opportunities to provide new lifestyle environments that appeal to both Millennials and Baby Boomers, as well as visitors traveling to and through the area.

> "B & C CLASS MALLS ARE GOING BY THE WAYSIDE IN AREAS OF SLOWER GROWTH, REPLACED BY E-COMMERCE AND EXPERIENCE BASED SPENDING, AND ARE EXPECTED TO BE OBSOLETE IN THE NEXT 10 YEARS" ~ *ADAM RUGGIERO, REAL ESTATE RESEARCH, METLIFE*

Retail Demand Dynamics

The demand dynamics for retail differ from office and industrial uses, as demand comes primarily from population, household and income growth, most often attributed to job growth. Incomes throughout Alamance County are healthy; however, income averages diminish substantially within the Maple Avenue Corridor (as shown below):

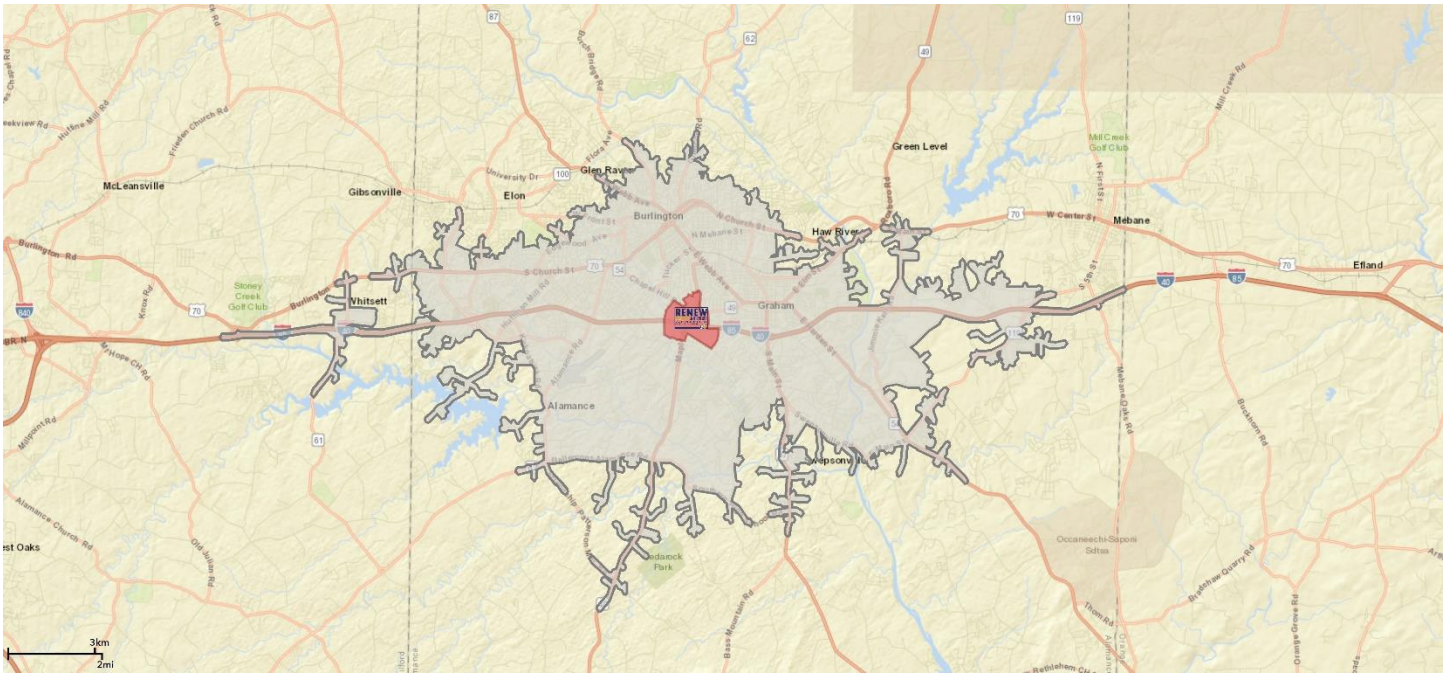
2017 Estimates (ESRI)	Burlington MSA/ Alamance County	City of Burlington	Maple Avenue Corridor
Total Population	161,563	53,997	388
Median Household Income	$45,117	$41,257	$33,491
Average Household Income	$62,215	$59,332	$44,375
Median Age	39.8	39.3	34.7
Average Household Size	2.46	2.38	2.34

Source: US Census, ESRI, Rose Associates

In addition to population and income, the volume of automobile traffic is an important factor for the success of retail. The 2017 annual average daily traffic volume collected by Toole Design Group indicates that the area of I-40/85 near the Maple Avenue interchange carries between 120,000 and 123,000 cars per day, while Maple Avenue itself carries between 19,000 and 22,000 cars per day at the intersection of I-40/85 and dropping off slightly to between 15,000 to 22,000 cars per day at the intersection of Harden St/Chapel Hill Rd. heading towards downtown. This reflects a heavy volume for this corridor ideal for business visibility and viability.

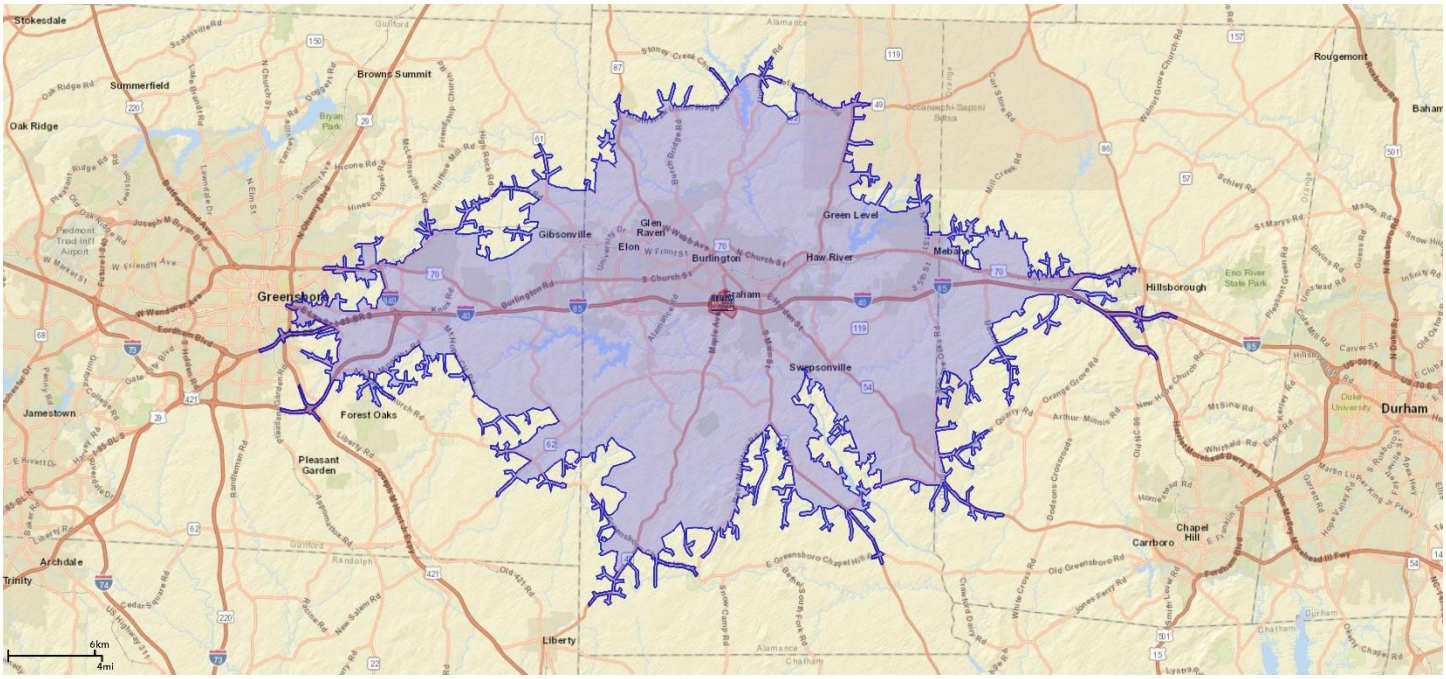
As mentioned, trade areas include several components that determine which retail operators might find adequate demand for their goods/services and retail sales potential. Given the dynamics of the Maple Avenue corridor serving both destination and convenience-oriented businesses, the trade areas around the interchange are defined as primary and secondary trade areas within 10- minute and 20- minute drive times. Consumer Expenditures outline the average dollars spent in major retail segments on an annual basis within each trade area, and assess both demand and supply factors to determine gaps in the market for each segment.

Primary Trade Area
Drive Time: 10 minutes



Source: ESRI, Rose Associates

Secondary Trade Area
Drive Time: 20 minutes



Source: ESRI, Rose Associates

Retail Supply

Regional shopping venues surround the study area providing goods/services for a wide variety of categories. The two having the greatest impact on the Maple Avenue interchange include Alamance Crossing with 875,368 square feet of gross leasable area to the west at Exit 143, and the Tanger Outlet Center totaling 318,910 square feet with 80+ upscale outlet stores to the east in Mebane at Exit 154. Additional shopping centers such as Holly Hill Mall and University Commons add to the mix of retail at these interchanges. For the local shopper, a visit to the outlets generates 2-4 trips per year, with the change of season and holidays, while the regional big box stores at Alamance Crossing's power center generate 12-15 trips per year.

CBRE tracks over 37 million square feet of retail space in the Triad market. The market is broken into three areas, Guilford County, Forsyth County and Alamance County. According to the CBRE Triad Retail Market Report for the second half of 2016, the vacancy rate for the total market area was 7.4%. Of the three markets, Alamance had the highest vacancy rate of 9.7 % compared with Guilford County's 7.4 %, and the lowest vacancy in Forsyth County at 6.0%.

Per its report, Alamance County had a total of 7,151,925 square feet of retail space, with 695,787 square feet of vacant lease space, and 2016 net absorption of 14,666 square feet. Alamance County had no new retail under construction as of the report date but noted the planned 62,956 square feet for the Academy Sports store at the retail center on Huffman Road in Burlington. Also noteworthy was a 52,000 square foot lease transaction to Carousel Cinemas at Alamance Crossing. Guilford County, had 243,886 square feet of retail space under construction, while Forsyth County reports 183,310 square feet under construction. The South Burlington submarket, reveals an eye popping 41.1% vacancy rate with negative net absorption of -130,303 square feet in 2016 compared with the strong demand in the South and SE Alamance submarkets with vacancy rates at 2.3% and 1.3% respectively.

CBRE Triad Region Retail H2 2016	Market Rentable Area (SF)	Vacant (SF)	Vacancy Rate	Q4 2016 Net Absorption (SF)	YTD Net Absorption (SF)	Under Construction (SF)
Guilford County	18,601,022	1,372,054	7.4%	119,582	521,850	243,886
Forsyth County	21,110,051	730,139	6.0%	136,130	178,969	183,310
Alamance County	7,151,925	695,787	9.7%	13,266	14,666	0

CBRE Alamance County Submarkets Retail H2 2016	Market Rentable Area (SF)	Vacant (SF)	Vacancy Rate	Q4 2016 Net Absorption (SF)	YTD Net Absorption (SF)	Under Construction (SF)
South Alamance	87,519	20,100	2.3%	28,070	43,670	0
SE Alamance	640,732	8,600	1.3%	900	15,700	0
North Alamance	1,101,970	73,648	6.7%	6,000	18,091	0
West Burlington/Airport	3,868,354	318,566	8.2%	17,277	28,068	0
South Burlington	**669,350**	**274,873**	**41.1%**	**(123,328)**	**(130,303)**	**0**
Alamance County	7,151,925	695,787	9.7%	13,266	14,666	0

Retail Gap

Employment in retail industry sectors (Retail Trade and Food Services) totals 25.21% in Alamance County, and contributes to the county's economic base, providing jobs and bringing consumer expenditures to the region. While supply and demand for office and industrial is defined by employment and square feet, for retail, the actual dollar expenditures within each category are measured against demand within a given trade area. Negative gaps **(surplus)** suggest oversupply or a market where customers are drawn in from outside the area as in destination-oriented retail, while positive gaps **(leakage)** indicate areas of opportunity for additional retail within a given trade area. Where gaps exist in select categories, the potential expenditures must meet the income thresholds of per square foot sales. Details of surplus and leakage for all categories in the primary and secondary trade areas can be found below:

Retail Trade Area	Major Industry Summary		
Primary: 10-Minute Drive Time	**Demand**	**Supply**	**Retail Gap (surplus)**
Total Retail Trade and Food & Drink	$825,725,541	$1,678,994,844	-$853,269,303
Total Retail Trade (NAICS 44-45)	$745,877,605	$1,497,502,298	-$751,624,693
Total Food & Drink (NAICS 722)	$79,847,936	$181,492,546	-$101,644,610
Secondary: 20-Minute Drive Time	**Demand**	**Supply**	**Retail Gap (surplus)**
Total Retail Trade and Food & Drink	$2,202,134,787	$2,938,475,607	-$736,340,820
Total Retail Trade (NAICS 44-45)	$1,990,503,418	$2,672,238,729	-$681,735,311
Total Food & Drink (NAICS 722)	$211,631,369	$266,236,878	-$54,605,509

The surplus gap is greater within the primary trade area. With a large expenditure surplus and supply of retail space within the submarkets surrounding the Maple Avenue corridor, there are few gaps for additional large-scale retail development, until or unless there is a major shift in population and/or income growth through housing or job growth. However, within each major retail industry group there are sub-sectors that provide some gap opportunities due to leakage in a limited number of categories. Included are those gaps in the market for non-store retailers (e.g. e-commerce/online markets) which is substantial in the secondary trade area. These sub-sectors demonstrating retail opportunities for the Maple Avenue corridor include:

Retail Trade Area	**Industry Subsector Summary**		
Primary: 10-Minute Drive Time	**Demand**	**Supply**	**Retail Gap**
Jewelry, Luggage & Leather Goods (NAICS 4483)	$6,585,792	$4,195,541	**$2,390,251**
Office Supplies, Stationary & Gifts (NAICS 4532)	$6,830,444	$6,740,252	**$90,192**
Drinking Places- Alcoholic Bev. (NAICS 7224)	$5,517,282	$928,972	**$4,588,310**
E-commerce & Mail Order (NAICS 4541)	$9,108,892	$6,949,798	**$2,159,094**
Secondary: 20-Minute Drive Time	**Demand**	**Supply**	**Retail Gap**
Automobile Dealers (NAICS 4411)	$353,304,787	$295,894,323	**$57,410,464**
Other Motor Vehicle Dealers (NAICS 4412)	$34,700,038	$23,564,089	**$11,135,949**
Electronic & Appliance Stores (NAICS 443)	$59,049,513	$52,446,385	**$6,603,128**
Bldg Material & Supplies Dealers (NAICS 4441)	$134,088,991	$123,757,212	**$10,331,779**
Beer, Wine & Liquor Stores (NAICS 4453)	$11,904,667	$11,219,616	**$685,051**
Jewelry, Luggage & Leather Goods (NAICS 4483)	$17,171,320	$11,014,844	**$6,156,476**
Florists (NAICS 4531)	$2,901,739	$2,144,544	**$757,195**
Drinking Places- Alcoholic Bev. (NAICS 7224)	$14,470,680	$2, 790,345	**$11,680,335**
E-commerce & Mail Order (NAICS 4541)	$24,191,406	$9,442,406	**$14,769,000**

Existing restaurants and retailers in the corridor could differentiate the experience by converting traditional centers to more desirable updated mixed-use formats and repositioning the existing retail mix to include the above sub-sectors. The success of retail along Maple Avenue is dependent upon the continued momentum of local population and income growth and property redevelopment. The adjacency of these revitalized projects to demand generators such as medical, major employment, or entertainment venues would create and drive synergy between residents, students, employees, and visitors.

Assuming its position in capturing a substantial share of the retail sub-markets, demand estimates suggest the potential for +/-124,000 square feet of additional retail beyond that which is renovated through redevelopment, or is relocated from other areas of the corridor or city.

Retail Summary

The substantial available retail inventory and commensurate lease rates suggests that much of the existing vacant square footage is older obsolete space, which is losing favor among newer town center, mixed-use and open "Main Street" concepts.

> "MILLENNIALS ARE EXPECTED TO DRIVE GROWTH IN SUBURBAN SHOPPING AS THEY AGE, FORM FAMILIES AND SEEK PLACES TO LIVE AS AFFORDABILITY CONCERNS RISE IN URBAN AREAS. DEVELOPERS OF SUBURBAN DESTINATIONS WANT TO CREAT MIXED-USE DISTRICTS THAT HAVE AN URBAN FEEL AND ARE WALKABLE."
>
> *~ GARRICK BROWN, CUSHMAN & WAKEFIELD @ 2016 ICSC CONVENTION*

Regional and super-regional shopping venues are dominant throughout the region. Maple Avenue's neighborhood shopping destinations are largely supported by drive-by traffic and local residents. The corridor can support additional retail uses; however, these are limited by obsolescence, population and income stagnation, negative perceptions and competition from neighboring shopping venues. Consideration must be given to the long-term policy decisions regarding safety and code enforcement, as well as retail scale and size, as larger retail formats continue to downsize and are driven to denser urban markets. Therefore, retail should be considered in Main Street and/or mixed-use formats, with entertainment or employment uses integrated. These could include both re-development of existing single-story retail sites, and new space, interconnected with other uses to create synergy. Locating new and revitalized retail on the east side of Maple Avenue, with ancillary retail to support employment on the west side of Maple Avenue, will increase the potential for future growth, in both the resident and daytime (employment) populations.

Housing

Housing will need to reflect both the current population in Burlington and the Maple Avenue corridor as well as new residents coming to the area for work or living preferences. According to the Burlington Alamance Association of Realtors, single family home average price for closed sales went from $161,196 in the period of September 2015 – 2016 to $177,983 for September 2016 - 2017, a 10.4% increase. Inventory has also decreased, from 1,336 active listings to 716 for the same periods respectively. According to local realtor sources, Alamance County continues to demonstrate strong buyer activity, thus a seller's market. However, housing data for city of Burlington for August 2016 – 2017 reveals perhaps a less robust trend:

Burlington, NC

	August 2016	August 2017	+/-
Median Sales Price	$162,000	$159,500	-1.5%
Median Days on Market	70	74	+5.7%
Closed Sales	168	161	-4.2%
Source: Trulia Market Trends, Realtor.com			

The housing market in the city and the corridor is challenged by older housing stock, predominance of single family homes, with some neighborhoods having a substantial number of rental homes. The community has a reputation of being more affordable than surrounding areas, which includes public housing:

Housing Portfolio	Burlington 2011 - 2015 ACS Estimate	Maple Avenue Corridor 2010 - 2014 ACS Estimate
Total Housing Units (ACS Estimate)	**24,065**	**192**
Single Family Detached	64.1%	75.0%
Singe Family Attached (1-4 units)	13.4%	10.0%
Multifamily Attached (5+ units) (excludes Mobile Homes)	19.1%	10.4%
Median Year Built	**1971**	**1962**
Built 2010 or later	1.7%	0%
Built 2000 to 2009	13.7%	18.2%
Built 1990 to 1999	12.8%	6.8%
Built prior to 1989	71.8%	75.0%
Greatest majority of housing built 1950 - 1959	**20.20%**	**34.9%**
Source: ACS Community Survey; US Census; Rose Associates		

The Burlington MSA is projected to have 1,264 new apartment units in 2017, making it the fourth-fastest growing apartment market in the state, according to Rent Café. It analyzed new apartment construction data across 134 U.S. Metropolitan Statistical Areas. The study is based on apartment data related to buildings with 50 or more units. The top three apartment growth markets are Charlotte, Raleigh, and Durham-Chapel Hill. The Burlington market is ahead of Wilmington and Greensboro-High Point.

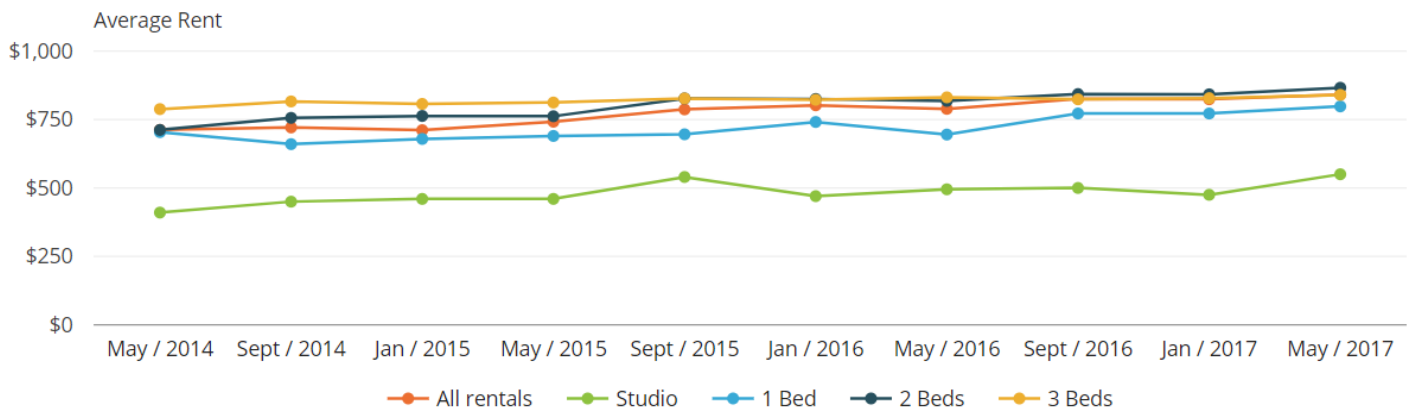
According to Rent Café, there has been a steady increase in the average rental rates in Burlington, particularly in the studio and 1-bedroom units:

Average Rent in Burlington, NC

Last updated Nov 2017

	All rentals	Studio	1 Bed	2 Beds	3 Beds
Average Rent	$841	$550	$798	$866	$840
Y-o-Y Change	7%	11%	15%	6%	1%
Average Apartment Size	1,028 sq. ft.	349 sq. ft.	759 sq. ft.	1,063 sq. ft.	1,286 sq. ft.

Burlington, NC Rent Trends



Source: https://www.rentcafe.com/average-rent-market-trends/us/nc/burlington/

The Burlington Housing Authority provides over 500 units of affordable housing through credit subsidized rent. The public housing developments adjacent to the Maple Avenue corridor include Maplebrook (62 units), Woodrail Acres (63 units) and the elderly age restricted Burlington Homes high-rise (100 units), which was recently renovated. The units range in price from $470 - $914 per month depending upon size and number of bedrooms.

Housing Demand

Housing demand is driven by two factors: employment growth and population growth, which in turn is demonstrated in household growth. New residents to Burlington are driven by jobs in the region or those relocating from other regions for lifestyle preferences. They may also choose Burlington based on affordability. Demand based on job growth and the ratio of employees to population provides some insight, particularly for the Maple Avenue corridor:

Employment to Resident Housing Summary	Alamance County	Burlington	Maple Avenue Area
Total Businesses:	5,130	2,639	101
Total Employees:	68,809	37,892	2,537
Total Resident Population:	161,563	53,997	388
Employee/Resident Population Ratio:	0.43	0.70	6.54
Annual Estimated Employment Growth	1,518	836	56
Annual Estimated Housing Demand	1,214	669	45

source: ESRI 2017; Rose Associates

An industry benchmark for housing based on employment suggests that for every 100 new jobs, 80 new housing units are needed. Next, housing demand based upon predicted population and household growth is evaluated, which provides a more conservative estimate for both the number of homes and the value range.

Population Growth Housing Summary	Burlington				Maple Avenue Corridor			
	2010	2017	2022	Change +/-	2010	2017	2022	Change +/-
Total Population	**50,860**	**53,997**	**56,004**	**2,007**	**372**	**388**	**400**	**12**
Households	**21,077**	**22,246**	**23,054**	**808**	**159**	**165**	**171**	**6**
Average Household Size	2.37	2.38	2.39	0.01	2.33	2.34	2.33	-0.01
Total Housing Units	**23,882**	**25,089**	**25,994**	**905**	**181**	**188**	**195**	**7**
Owner Occupied	48.4%	46.2%	46.0%	-0.20%	49.7%	46.8%	46.7%	-0.10%
Owner Occupied Total	-	11,582	11,961	**379**	-	88	91	**3**
Owner Occupied Housing Units by Value								
<$50,000	-	8.1%	6.7%	**-1.40%**	-	9.1%	7.7%	**-1.40%**
$50,000 - $99,000	-	23.7%	22.0%	**-1.70%**	-	25.0%	23.1%	**-1.90%**
$100,000 - $149,000	-	25.6%	24.7%	**-0.90%**	-	39.8%	39.6%	**-0.20%**
$150,000 - $199,999	-	16.5%	15.6%	**-0.90%**	-	13.6%	14.3%	**0.70%**
$200,000 - $249,999	-	7.8%	7.6%	**-0.20%**	-	5.7%	6.6%	**0.90%**
$250,000 - $299,999	-	4.1%	4.4%	**0.30%**	-	2.3%	2.2%	**-0.10%**
$300,000 - $399,999	-	7.2%	8.7%	**1.50%**	-	3.4%	4.4%	**1.00%**
$400,000 - $499,999	-	3.2%	4.5%	**1.30%**	-	1.1%	1.1%	**0.00%**
$500,000 - $749,999	-	2.3%	3.2%	**0.90%**	-	0.0%	0.0%	**0.00%**
$750,000 - $999,999	-	0.9%	1.2%	**0.30%**	-	0.0%	0.0%	**0.00%**
$1,000,000 +	-	0.7%	1.2%	**0.50%**	-	0.0%	0.0%	**0.00%**
Average Home Value	-	$179,317	$202,364	**$ 23,047**	-	$130,682	$136,389	**$ 5,707**
Renter Occupied	39.8%	42.5%	42.7%	**0.20%**	38.1%	41.0%	41.0%	**0.00%**
Vacant Housing Units	11.7%	11.3%	11.3%	**0.00%**	12.2%	12.2%	12.3%	**0.001**

Source: ESRI, US Census, Rose Associates

Based upon estimated annual employment and population growth over the next five years (2017 – 2022) there is estimated demand of between approximately 900 – 3,500 housing units in the City of Burlington, with an estimated 225+/- of these new housing units within the Maple Avenue corridor. With rising increases in the estimated home values, this suggests both demand for renovation of existing single-family homes, conversion to "for sale" housing, as well as both affordable and market rate new rental units. This coincides with the lifestyle preferences of those living in and around the corridor, as described in the Tapestry© segments (see Appendix for details).

Future Housing Considerations

The status of the housing units along the Maple Avenue corridor suggests some possible options to consider that may improve the stability and diversity of the housing stock. The question for the corridor is, which type of housing is in demand and how should it redevelop the aging housing to create viable, workforce housing that remains affordable? The availability of affordable housing is one of Burlington's competitive advantages, as compared to neighboring communities. Data show the demand shifting from home ownership to apartment rentals, with steadily increasing market rates seen at both the local and national level pushing average home values and rental rates up.

"THE SWEET SPOT IN DEMAND IS IN MID-PRICED SINGLE-FAMILY HOUSES THAT ARE AFFORDABLE TO A LARGER BUYING POOL…AT THE SAME TIME, AFFORDABLE RENTAL UNITS FOR MILLENNIAL S SHOULD SEE SOLID DEMAND."

ULI, Emerging Trends in Real Estate 2018

The information gathered about citizen preferences for housing and lifestyle options available suggests that, apart from mobility and transportation concerns, area residents are ready for some new housing choices along the Maple Avenue corridor. Preferences or opinions also include concerns about safety, connectivity, and more or better retail, dining and entertainment opportunities adjacent to neighborhoods. This begins with local law and code enforcement officials, including institution of neighborhood watch programs.

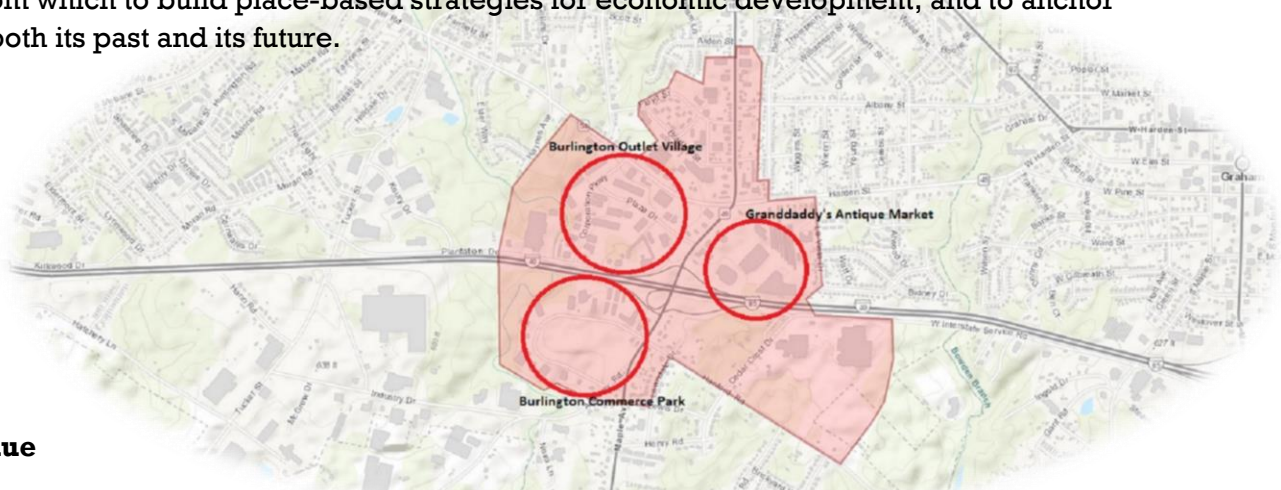
The two largest population groups in terms of housing demand are Millennials and Baby Boomers/early retiree groups. Extensive research, including multiple national surveys, concluded that the housing preferences of these groups while similar, are substantially different than much of the existing housing stock. Millennials are primarily renters; both because they don't have the funds to buy a house and, for some, because they are making a lifestyle decision to rent rather than own. They want to live where you can walk to things, where a lot of others just like them live and where arts, culture, restaurants, and clubs are available. Access to downtowns and to vibrant mixed-use and town centers are what both generations seek.

Corridor Development Strategies

We identified targeted areas along the corridor in which there are existing central places, or centers of influence, as well as transportation patterns, existing infrastructure/investment, proposed redevelopment and available property, ripe for renovation and/or redevelopment. Redevelopment parcels which would need to be strategically repositioned. This effort may require phasing of projects given existing tenancy and lease obligations.

Catalyst Sites

The interstate interchange and Maple Avenue serve as a gateway to the community. The length and character of the Maple Avenue corridor evolves from highway commercial to suburban residential, and to downtown. Three targeted areas were identified as having the greatest potential for catalyst site redevelopment from which to build place-based strategies for economic development, and to anchor Maple Avenue to both its past and its future.



West Maple Avenue

This former manufacturer's outlet center should be the prime target for new and expanding employment and education opportunities. This includes office, flex and light industrial space in a campus setting, with amenities to include dining and personal convenience services. The centerpiece of this mixed-use development area should include Alamance Community College, with expansion opportunities for additional growth. Partnering with private industry in the life and materials sciences provides STEM opportunities for learning, job training and innovation.

East Maple Avenue

This shopping area should transition from single purpose retail and hotels into a mixed-use lifestyle and entertainment district. This may include retail, dining and entertainment establishments surrounded by new housing and lodging options. All interconnected, the centerpiece should include a public gathering space, themed "Made In Burlington". Partnership with Glen Raven could provide a public dining and entertainment plaza with (sun)umbrellas, honoring the history of the Burlington manufacturers of the past. Expanding Granddaddy's concept to include crafts, locally made art and other cottage industries would provide a differentiating experience uniquely Burlington. This is the first stop off the interstate, while venturing to the downtown.

South Maple Avenue

Whether attending a martial arts event, or purchasing Harley Davidson products, this area continues to organically evolve into a mixed-use business and destination area, with lodging and other highway services, such as gasoline and food options. The addition of the Hospice store will continue this trend.

We began the analysis with a series of questions, which are most relevant when considering lifestyle options for retrofitting suburban or urban development:

- **Who** is our customer? While the primary customer in the Maple Avenue area are Millennials, strategies to attract and retain older generations should be among the considerations for the corridor. Customers also include employees commuting to the area as well as visitors.

- **What** are we trying to attract? To support lifestyle options for these groups, job and educational opportunities, as well as shopping, dining and entertainment should have the highest priorities.

- **Where** do people want to be? The key to a successful corridor must include ease of access and movement, as well as attractive place-making to include art and public spaces to improve and enhance the experience for residents and visitors.

- **When** and how should we take action? Improving the safety and esthetic appeal of the corridor is the first step. A focused effort on code and law enforcement for loitering and other illegal activities, and property neglect would send an immediate message. Creating a visually attractive and landscaped boulevard, developed as a "complete street" will demonstrate the community's commitment to the corridor and attract private investment. Housing is the natural progression of job growth. In additional to attracting employment, the community could also focus on lifestyle destinations to attract both Millennials and Baby Boomers, at or nearing retirement.

- **Why** does it matter? Public safety and infrastructure improvements can be a catalyst for private investment. Providing additional lifestyle options can assist local economic development officials to tell the story and "sell" the community. Together, these will attract new investment, providing jobs and economic mobility for all its citizens and a stable tax base for Burlington.

Corridor Development Strategies — **Renew Maple Avenue Initiative**

	2017 - 2022		2022 - 2027	
Area:	**West Maple - BMOC**	**East Maple - Granddaddy's**	**South Maple - Commerce Park**	**All Areas**
Residential	1. Expand public safety & code enforcement to stablize adjacent neighborhoods; 2. Improve connectivity of roads, bike and ped lanes to neighborhoods; 3. Institute enhanced safety/community watch program.	1. Support market rate housing development in conjunction with Safety planning; 2. Improve connectivity of roads, bike and ped lanes to adjacent neighborhoods; 3. Institute enhanced safety/community watch program.	1. Improve connectivity of roads, bike and ped lanes to adjacent neighborhoods; 2. Incorporate wayfinding signage to north interchange and downtown;	1. Facilitate renovation/rehab of existing housing on the corridor; 2. Evaluate impacts and improve connection/transition between commercial and residential uses. 3. Involve local realtors in housing initiatives and provide a housing forum for discussions on incentives, rehabs and historic preservation;
Retail	4. Incorporate local service retaurants/retail into the employment mixed-use master plan (see below); 5. Facilitate façade improvements for commercial structures facing the interstate, including signage; 6. Revisit signage and demolition by neglect ordinances for code enforcement;	4. Facilitate master planning for renovation/redevelopment of Granddaddy's and related retail to destination mixed-use to incorporate public space/art; 5. Improve streetscape and wayfinding connections to continue momentum from downtown; 6. Create gateway boulevard from interchange to downtown and expand planned activities/programming onsite;	3. Facilitate renovation of vacant properties and development of remaining vacant parcels for employment and/or highway commercial; 4. Improve streetscape and wayfinding connections to continue momentum from downtown;	4. Faciliate signage and façade improvements and/or redevelopment of critial parcels surrounding proposed road improvements; 5. Develop updated marketing materials to promote new development and businesses along the corridor; include discussions with Motorcoach operators (e.g. IMG); 6. Monitor and support ongoing safety/community watch program;
Workspace	7. Facilitate master planning for renovation/redevelopment of BMOC and surruoundig parcels to employment campus (office/flex/industrial) mixed-use, with ACC as the anchor; 8. Facilitate discussions with Shriners and hotel owners regarding repositioning and renovation to support employment and education campus;	7. Incorporate meeting and workspace (small professional offices) into the desination mixed-use master plan (see above); 8. Provide opportunities for additional small office for service/professional services	5. Enhance connectivity between workplaces and adjacent retail/restaurants/services;	7. Facilitate apprenticeship and job training opportunities between business owners, education institutions and non-profits. Highlight local, state and federal grant opportunties to incentivize development; 8. Support incubation, acceleration and other entreprenueurship initiatives with economic development organizations, education institutions and local corporations involved in innovation;
Lodging	9. Facilitate discussions with hotel owners regarding safety, operations and façade renovations, to include signage; 10. Facilitate and coordinate discussions with hotel owners/managers and meeting space providers;	9. Incorporate renovation/expansion of Red Roof Inn parcel into the destination/retail mixed-use plan (see above); 10. Facilitiate and coordinate discussions with hotel owners/managers and local/regional tourism organizations;	6. Facilitiate and coordinate discussions with hotel owners/managers and local/regional tourism organizations;	9. Monthly/quarterly meetings with hotel owners/managers and local and regional tourism organizations, to include the City Parks and Recreation Department to coordinate events, lodging, shopping, dining, meetings and other tourism related activities;

NOTES: Initial Findings/Recommendations are subject to change and revsion as planning cycle continues to include stakeholder/staff meetings, and continued data collection. Not to be distributed, copied or interpreted without the entire context of the full and final market analysis and/or report.

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Appendix & References

Methodology

This is a site-specific market analysis, using both macro and micro data and trends. Therefore, it should not be considered in a broad sense or used for any other purpose other than for the study area. The analysis and forecasting of market data, which includes demographic and population estimates, together with real estate, economic and employment estimates, is both art and science. All market research analysts begin with US Census Bureau data – which has limitations as to accuracy and timeliness. Nonetheless, the data provides a benchmark as much for a retrospective look as a prospective one. Three factors must be considered when looking exclusively at demographic data: the role of economic drivers that are a departure from past trends; growth from primary centers spilling over into outlying areas (i.e., "sprawl"); and constraints due to availability of land physically and legally suited for such development. Therefore, several methodologies are utilized throughout this report, including but not limited to, Economic Base Analysis, Highest & Best Use Analysis and Central Place Theory. They are described as follows:

Economic Base Analysis is used to determine real estate demand. The underlying theme suggests that jobs drive demand for real estate: in other words, for every (basic) job that is created, a multiplier effect increases overall employment (both basic and non-basic), thus increasing both population and income within an area benefiting from such job growth. The corresponding growth (or decline) in jobs, population and income correspond to demand for commercial and residential uses of real estate.

Highest & Best Use is used to determine the most appropriate use of land, given the underlying economic base. It is site specific. Highest & Best Use, as defined in *The Dictionary of Real Estate Appraisal*, is:

> ***The reasonably probable and legal use of vacant land or an improved property, which is physically possible, appropriately supported, financially feasible, and that results in the highest value. The four criteria the Highest & Best Use must meet are legal permissibility, physical possibility, financial feasibility and maximum profitability.***

Using the Highest & Best Use concept a site is analyzed "As if Vacant." The premise of the concept is that an analysis of all reasonable alternative uses will identify the use that yields the highest present land value, after payments are made for labor, capital, and coordination, and, therefore, is the Highest & Best Use. The use of a property assumes that the parcel of land is vacant or can be made vacant by demolishing any improvements.

Central Place Theory (CPT) is utilized to evaluate commercial feasibility and trade areas. It can be also be used for certain types of non-traditional housing, such as senior or student housing, whose locations are dependent upon central places, such as a university or hospital. The underlying theme of CPT is that the location decision of commercial establishments is driven by rent maximizing forces. That is, providers of goods and services will locate where they believe they can maximize profits. CPT suggests that certain locations are more "desirable" than others, primarily due to the location of existing businesses that are already attracting customers. This means that there are "central places" with varying degrees of magnitude that attract such customers. The fundamental theme of CPT is that commercial locations are spatially interdependent, implying that growth is not random, but ordered and rational. Therefore, CPT relies on three basic concepts:

- Threshold Population

- Higher vs. lower order of goods and services

- Trade area or "range" of goods and services

· Threshold population: Businesses need a certain number of customers to break even. The threshold refers to the number of persons or households of a target customer group. When the population density is known, this can be expressed in terms of a trade or service area. Most employers and retailers know their threshold population and it is common for them to specify minimum site requirements in terms of population, households, and workforce or customer type (by age, income, occupation, etc.) within certain radial or drive-time areas around a site. The trade area for this analysis includes typical benchmarks for determining threshold consumer or employee populations.

· Higher vs. lower order of goods and services: Goods and services with low thresholds are called lower order of goods (i.e., gas stations, eating/drinking establishments, beauty salons, etc.), also referred to as convenience-oriented locations. Those with high thresholds are called higher order of goods (i.e., shopping malls, hospitals, office parks, etc.), also referred to as destination-oriented locations. The location of higher order goods and services may influence the location of lower order goods and services. This is often seen where retail/office uses will cluster together around certain centers of influence such as regional malls, large shopping centers, hospitals and business parks or major employment centers.

· Trade area or "range" of goods and services: Demand for a good or service is constrained to a limit or "range" (measured in terms of distance or drive time) beyond which customers will not travel to a specific store location. Therefore, demand for most goods/services decreases with distance or travel (drive) time from a retail/commercial location. The existence of competitors diminishes the range and more accurately determines the actual market area for a good or service. The market or trade area will also vary according to street patterns and population density. However, not all businesses seek to maximize distance from competitors, but rather cluster together to attract more customers per business than if they were to distance themselves from each other.

Together, these concepts determine that a business seeking to maximize accessibility and profits will select one location over another and be willing to pay higher (or lower) rents for a specific location.

Assumptions & Limiting Conditions

The conclusions set forth are based upon information provided by public records, municipal officials, business owners, market and demographic data obtained by Rose & Associates Southeast Inc. Anecdotal information was obtained through individual and/or group interviews during this process, and we thank the following for their insights and input:

- Renew Maple Avenue Initiative Steering Committee (City Staff and Stakeholders)
- Mr. Glenn Patterson, Patterson Appraisal Co.
- Mr. David Tsui, BMOC
- Mr. Birju Patel, Red Roof Inn
- Mr. Zach Tran, Diamond Back Investment Group
- Mr. Ernie Koury, Carolina Hosiery
- Mr. Rhett Davis, New Leaf Society
- Mr. Tim Hegarty and Ms. Lee Easley, Biscuitville Corporation
- Mr. Scott Queen, Alamance Community College
- Mr. Mac Williams, Alamance Chamber of Commerce
- Tommy Adams, LTP Commercial
- Veronica Revels, Burlington Housing Authority

Data & References

All market research analysts begin with U.S. Census Bureau data - which has limitations as to accuracy and timeliness. Nonetheless, the data provides a benchmark as much for a retrospective look as a prospective one. Two factors must be considered when looking exclusively at demographic data: the role of economic drivers that are a departure from past trends' growth from primary centers spilling over into outlying areas (i.e. "sprawl"); and constraints due to availability of land physically and legally suited for such development. We utilize **ESRI**, State and **U.S. Census** data in our analysis. Detailed reports and data are attached for reference. Additional data sources include the following:

- **Burlington Alamance Association of Realtors**
- **CBRE Research**
- **Corridor Route Analysis – PART**
- **NC Dept. of Commerce**
- **Realtor.com**
- **Rent Café**
- **Times News**
- **Trulia**
- **ULI Emerging Trends in Real Estate 2018**
- **Access NC**
- **CBL Properties (Alamance Crossing)**
- **Tanger Outlets Annual Report 2014**

Neither an appraisal nor title search were performed for any specific property in preparing this report. While the information included herein is believed to be accurate, no warranty or representation, expressed or implied, is made as to the information contained herein, and is submitted subject to omission, change of market conditions, or other factors outside the scope of this report or the author's control. This report shall not be duplicated in whole or in part, without express written permission, all rights reserved, 2017

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APPENDIX B

Conceptual Roadway Design

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Brent W. Moser

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1 OF 11

1

Maple Avenue Corridor Study

Burlington, NC

TOOLE DESIGN
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Maple Avenue Corridor Study

Burlington, NC

REVISIONS		
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SCALE: 1" = 100'-0"
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Sheet Title

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6 OF 11

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Brent W. Moser

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Sheet Title

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Maple Avenue Corridor Study

Burlington, NC

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SCALE: 1" = 100'-0"
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Maple Avenue Corridor Study

Burlington, NC

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8

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SCALE: 1" = 100'-0"
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Burlington, NC

REVISIONS

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DR BY: XX RELEASE DATE: 2.21.2017
AP BY: XX REVISION DATE: 2.21.2017

Sheet Title

9

SHEET NUMBER
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Maple Avenue Corridor Study

Burlington, NC

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Maple Avenue Corridor Study

Burlington, NC

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APPENDIX C

Opinions of Probable Cost

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Preliminary Estimate- Maple Avenue Phase 1

5/22/2019

Item	Units	Qty	*Unit Cost	Item Cost
MOBILIZATION	LS	1	$ 1,000,000.00	$ 1,000,000.00
CONST. SURVEYING	EA	1	$ 150,000.00	$ 150,000.00
TRAFFIC CONTROL	LS	1	$ 200,000.00	$ 200,000.00
REMOVAL OF PAVEMENT, CURB, ASPHALT, AND OTHER	LS	1	$ 400,000.00	$ 400,000.00
EARTHWORK	CY	50000	$ 25.00	$ 1,250,000.00
CONCRETE CURB RAMP	EA	20	$ 2,000.00	$ 40,000.00
CONCRETE SIDEWALK, 4"	SY	1741	$ 55.00	$ 95,761.11
1.5' CONCRETE CURB & GUTTER	LF	14419	$ 10.00	$ 144,190.00
6" CONCRETE CURB	LF	19070	$ 8.00	$ 152,560.00
CONCRETE CURB-MOUNTABLE	LF	316	$ 30.00	$ 9,480.00
8" CONCRETE TRUCK APRON	SY	295	$ 120.00	$ 35,343.33
GRADED AGGREGATE BASE COURSE (6" UNIFORM)	TON	28522	$ 40.00	$ 1,140,870.00
ASPHALT INTERMEDIATE COURSE (4" UNIFORM)	TON	5065	$ 100.00	$ 506,485.83
ASPHALT SURFACE COURSE (2" UNIFORM)	TON	7194	$ 120.00	$ 863,321.80
LIQUID ASPHALT BINDER 64-22	TON	736	$ 900.00	$ 661,997.16
DETECTABLE WARNING MATERIAL	SF	979	$ 45.00	$ 44,055.00
4" WHITE SKIP THERMOPLASTIC PAVEMENT MARKING LINES (90 MILS)	LF	4472	$ 0.75	$ 3,354.00
4" WHITE SOLID THERMOPLASTIC PAVEMENT MARKING LINES (90 MILS)	LF	1615	$ 1.00	$ 1,615.00
24" WHITE THERMOPLASTIC PAVEMENT MARKING LINES (120 MILS)	LF	2255	$ 8.00	$ 18,040.00
THERMOPLASTIC PAVEMENT MARKING CHARACTER (120 MILS)	EA	16	$ 130.00	$ 2,080.00
THERMOPLASTIC PAVEMENT MARKING SYMBOL (90 MILS)	EA	75	$ 135.00	$ 10,125.00

4" YELLOW SKIP THERMOPLASTIC PAVEMENT MARKING LINES (90 MILS)	LF	1280	$ 0.75	$ 960.00
4" YELLOW SOLID THERMOPLASTIC PAVEMENT MARKING (90 MILS)	LF	11033	$ 1.00	$ 11,033.00
4" WHITE SKIP PAINT PAVEMENT MARKING LINES	LF	13416	$ 0.35	$ 4,695.60
4" WHITE SOLID PAINT PAVEMENT MARKING LINES	LF	4842	$ 0.35	$ 1,694.70
24" WHITE PAINT PAVEMENT MARKING LINES	LF	6763	$ 3.00	$ 20,289.00
4" YELLOW SKIP PAINT PAVEMENT MARKING LINES	LF	32	$ 0.35	$ 11.20
4" YELLOW SOLID PAINT PAVEMENT MARKING LINE	LF	150	$ 0.35	$ 52.50
REMOVAL OF PAVEMENT MARKING SYMBOLS & CH	LF	10000	$ 2.30	$ 23,000.00
LANDSCAPING	AC	9.4	$ 20,000.00	$ 188,000.00
BUS STOP WITH PULLOUT	LS	1	$ 30,000.00	$ 30,000.00
BUS STOP INLINE WITH SHELTER	LS	1	$ 10,000.00	$ 10,000.00
TRAFFIC SIGNALS	EA	3	$ 300,000.00	$ 900,000.00
STORMWATER	LS	1	$ 750,000.00	$ 750,000.00
EROSION CONTROL	LS	1	$ 200,000.00	$ 200,000.00

Project Subtotal	$ 8,869,014.24
12% Engineering	$ 1,064,282.00
10% Utility Relocation	$ 886,902.00
Utility Undergrounding	$ 1,023,000.00
Right-of-Way Acquisition	$ 5,000,000.00
Rounded Total	$ 16,843,200.00

Specific Notes:
Unit costs are based on data from RS Means, NCDOT Bid Tabs, and Estimator's Judgment.
Right-of-Way was estimated based on current tax values and acreage/structures anticipated to be impacted.
All costs are in 2019 dollars and should be inflated as necessary for use in future construction years.

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Preliminary Estimate- Maple Avenue Phase 2

5/22/2019

Item	Units	Qty	*Unit Cost	Item Cost
MOBILIZATION	LS	1	$ 500,000.00	$ 500,000.00
CONST. SURVEYING	EA	1	$ 100,000.00	$ 100,000.00
TRAFFIC CONTROL	LS	1	$ 200,000.00	$ 200,000.00
REMOVAL OF PAVEMENT, CURB, ASPHALT, AND OTHER	LS	1	$ 250,000.00	$ 250,000.00
EARTHWORK	CY	20000	$ 25.00	$ 500,000.00
1.5' CONCRETE CURB & GUTTER	LF	12369	$ 10.00	$ 123,690.00
6" CONCRETE CURB	LF	8338	$ 8.00	$ 66,704.00
4" CONCRETE ISLAND COVER	SY	195	$ 100.00	$ 19,500.00
8" CONCRETE TRUCK APRON	SY	252	$ 120.00	$ 30,240.00
CONCRETE CURB-MOUNTABLE	LF	252	$ 30.00	$ 7,560.00
CONCRETE CURB RAMP	EA	30	$ 2,000.00	$ 60,000.00
DETECTABLE WARNING MATERIAL	SF	960	$ 45.00	$ 43,200.00
GRADED AGGREGATE BASE COURSE (6" UNIFORM)	TON	5314	$ 40.00	$ 212,542.50
PATCHING EXISTING PAVEMENT	TON	475	$ 150.00	$ 71,179.63
ASPHALT INTERMEDIATE COURSE (4" UNIFORM)	TON	485	$ 100.00	$ 48,469.67
ASPHALT SURFACE COURSE (2" UNIFORM)	TON	3070	$ 120.00	$ 368,398.80
LIQUID ASPHALT BINDER 64-22	TON	242	$ 900.00	$ 217,577.75
4" WHITE SKIP THERMOPLASTIC PAVEMENT MARKING LINES (90 MILS)	LF	168	$ 0.75	$ 126.00
4" WHITE DASH THERMOPLASTIC PAVEMENT MARKING LINES (90 MILS)	LF	309	$ 0.75	$ 231.75
4" WHITE SOLID THERMOPLASTIC PAVEMENT MARKING LINES (90 MILS)	LF	375	$ 1.00	$ 375.00
24" WHITE THERMOPLASTIC PAVEMENT MARKING LINES (120 MILS)	LF	1319	$ 8.00	$ 10,552.00
THERMOPLASTIC PAVEMENT MARKING CHARACTER (120 MILS)	EA	44	$ 130.00	$ 5,720.00
4" YELLOW SKIP THERMOPLASTIC PAVEMENT MARKING (90 MILS)	LF	474	$ 0.75	$ 355.50
4" YELLOW SOLID THERMOPLASTIC PAVEMENT MARKING (90 MILS)	LF	4344	$ 1.00	$ 4,344.00
4" WHITE SKIP PAINT PAVEMENT MARKING LINES	LF	504	$ 0.35	$ 176.40

4" WHITE DASH PAINT PAVEMENT MARKING LINES	LF	927	$ 0.35	$ 324.45
4" WHITE SOLID PAINT PAVEMENT MARKING LINES	LF	1125	$ 0.75	$ 843.75
24" WHITE PAINT PAVEMENT MARKING LINES	LF	3957	$ 3.00	$ 11,871.00
PAINT PAVEMENT MARKING CHARACTER	EA	24	$ 50.00	$ 1,200.00
4" YELLOW SKIP PAINT PAVEMENT MARKING	LF	1422	$ 0.35	$ 497.70
4" YELLOW SOLID PAINT PAVEMENT MARKING	LF	13032	$ 0.75	$ 9,774.00
PAINT PAVEMENT MARKING SYMBOL	LF	108	$ 100.00	$ 10,800.00
REMOVAL OF PAVEMENT MARKING SYMBOLS & CH	LF	1500	$ 2.30	$ 3,450.00
LANDSCAPING	AC	2.15	$ 20,000.00	$ 43,000.00
BUS STOP WITH PULLOUT	LS	2	$ 30,000.00	$ 60,000.00
BUS STOP INLINE WITH SHELTER	LS	2	$ 10,000.00	$ 20,000.00
STORMWATER	LS	1	$ 750,000.00	$ 750,000.00
EROSION CONTROL	LS	1	$ 200,000.00	$ 200,000.00

Project Subtotal	$ 3,952,703.89
12% Engineering	$ 474,325.00
10% Utility Relocation	$ 395,271.00
Utility Undergrounding	$ 3,955,600.00
10% Right-of-Way Acquisition	$ 395,271.00
Rounded Total	$ 9,173,200.00

Specific Notes:	
Unit costs are based on data from RS Means, NCDOT Bid Tabs, and Estimator's Judgment.	
All costs are in 2019 dollars and should be inflated as necessary for use in future construction years.	

TOOLE DESIGN

172 E. MAIN STREET
SUITE 300
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Preliminary Estimate- Anthony Street Roundabout

5/22/2019

Item	Units	Qty	*Unit Cost	Item Cost
MOBILIZATION	LS	1	$ 200,000.00	$ 200,000.00
CONST. SURVEYING	EA	1	$ 50,000.00	$ 50,000.00
TRAFFIC CONTROL	LS	1	$ 100,000.00	$ 100,000.00
REMOVAL OF PAVEMENT, CURB, ASPHALT, AND OTHER	LS	1	$ 150,000.00	$ 150,000.00
EARTHWORK	CY	10000	$ 25.00	$ 250,000.00
CONCRETE CURB-MOUNTABLE	LF	444	$ 30.00	$ 13,320.00
1.5' CONCRETE CURB & GUTTER	LF	1633	$ 10.00	$ 16,330.00
6" CONCRETE CURB	LF	233	$ 8.00	$ 1,864.00
8" CONCRETE TRUCK APRON	SY	562	$ 120.00	$ 67,440.00
CONCRETE CURB RAMP	EA	4	$ 2,000.00	$ 8,000.00
4" CONCRETE ISLAND COVER	SY	251	$ 100.00	$ 25,100.00
DETECTABLE WARNING MATERIAL	SF	327	$ 45.00	$ 14,715.00
GRADED AGGREGATE BASE COURSE (6" UNIFORM)	TON	1607	$ 40.00	$ 64,288.50
ASPHALT INTERMEDIATE COURSE (4" UNIFORM)	TON	540	$ 100.00	$ 54,019.17
ASPHALT SURFACE COURSE (2" UNIFORM)	TON	393	$ 120.00	$ 47,144.90
LIQUID ASPHALT BINDER 64-22	TON	56	$ 900.00	$ 50,385.56
4" YELLOW SOLID THERMOPLASTIC PAVEMENT MARKING LINES (90 MILS)	LF	1527	$ 1.00	$ 1,527.00
4" YELLOW SKIP THERMOPLASTIC PAVEMENT MARKING LINES (90 MILS)	LF	161	$ 0.75	$ 120.75
4" WHITE DASH THERMOPLASTIC PAVEMENT MARKING LINES (90 MILS)	LF	66	$ 0.75	$ 49.50
24" WHITE THERMOPLASTIC PAVEMENT MARKING LINES (120 MILS)	LF	220	$ 8.00	$ 1,760.00
THERMOPLASTIC PAVEMENT MARKING SYMBOL (90 MILS)	EA	20	$ 130.00	$ 2,600.00
4" YELLOW SOLID PAINT PAVEMENT MARKING LINES	LF	4581	$ 0.75	$ 3,435.75
4" YELLOW SKIP PAINT PAVEMENT MARKING LINES	LF	483	$ 0.35	$ 169.05
4" WHITE DASH PAINT PAVEMENT MARKING LINES	LF	198	$ 0.35	$ 69.30

24" WHITE PAINT PAVEMENT MARKING LINES	LF	660	$ 3.00	$ 1,980.00
PAINT PAVEMENT MARKING SYMBOL	LF	20	$ 100.00	$ 2,000.00
REMOVAL OF PAVEMENT MARKING SYMBOLS &	LF	500	$ 2.30	$ 1,150.00
LANDSCAPING	AC	0.25	$ 20,000.00	$ 5,000.00
STORMWATER	LS	1	$ 100,000.00	$ 100,000.00
EROSION CONTROL	LS	1	$ 50,000.00	$ 50,000.00

Project Subtotal	$ 1,282,468.47
12% Engineering	$ 153,897.00
10% Utility Relocation	$ 128,247.00
15% Right-of-Way Acquisition	$ 192,371.00
Rounded Total	$ 1,757,000.00

Specific Notes:	
Unit costs are based on data from RS Means, NCDOT Bid Tabs, and Estimator's Judgment.	
All costs are in 2019 dollars and should be inflated as necessary for use in future construction years.	

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Preliminary Estimate- Maple Avenue Phase 3

5/22/2019

Item	Units	Qty	*Unit Cost	Item Cost
MOBILIZATION	LS	1	$ 700,000.00	$ 700,000.00
CONST. SURVEYING	EA	1	$ 150,000.00	$ 150,000.00
TRAFFIC CONTROL	LS	1	$ 200,000.00	$ 200,000.00
REMOVAL OF PAVEMENT, CURB, ASPHALT, AND OTHER	LS	1	$ 250,000.00	$ 250,000.00
EARTHWORK	CY	20000	$ 25.00	$ 500,000.00
1.5' CONCRETE CURB & GUTTER	LF	10929	$ 10.00	$ 109,290.00
6" CONCRETE CURB	LF	2932	$ 8.00	$ 23,456.00
CONCRETE CURB-MOUNTABLE	LF	490	$ 30.00	$ 14,700.00
4" CONCRETE SIDEWALK	SY	88	$ 55.00	$ 4,840.00
CONCRETE CURB RAMP	EA	66	$ 2,000.00	$ 132,000.00
8" CONCRETE TRUCK APRON	SY	572	$ 120.00	$ 68,640.00
4" CONCRETE ISLAND COVER	SY	258	$ 100.00	$ 25,800.00
DETECTABLE WARNING MATERIAL	SF	1160	$ 45.00	$ 52,200.00
PATCHING EXISTING PAVEMENT	TON	195	$ 150.00	$ 29,205.00
GRADED AGGREGATE BASE COURSE (6" UNIFORM)	TON	5575	$ 40.00	$ 223,009.50
ASPHALT INTERMEDIATE COURSE (4" UNIFORM)	TON	938	$ 100.00	$ 93,806.17
ASPHALT SURFACE COURSE (2" UNIFORM)	TON	2618	$ 120.00	$ 314,182.00
LIQUID ASPHALT BINDER 64-22	TON	225	$ 900.00	$ 202,551.03
4" WHITE SOLID THERMOPLASTIC PAVEMENT MARKING LINES (90 MILS)	LF	719	$ 1.00	$ 719.00
4" WHITE DASH THERMOPLASTIC PAVEMENT MARKING LINES	LF	108	$ 0.75	$ 81.00
8" WHITE THERMOPLASTIC PAVEMENT MARKING LINES (120 MILS)	LF	55	$ 4.00	$ 220.00
24" WHITE THERMOPLASTIC PAVEMENT MARKING LINES (120 MILS)	LF	2683	$ 8.00	$ 21,464.00
THERMOPLASTIC PAVEMENT MARKING CHARACTER (120 MILS)	EA	62	$ 130.00	$ 8,060.00
THERMOPLASTIC PAVEMENT MARKING CHARACTER (120 MILS)	EA	49	$ 10.00	$ 490.00
4" YELLOW SKIP THERMOPLASTIC PAVEMENT	LF	186	$ 0.75	$ 139.50

4" YELLOW SOLID THERMOPLASTIC PAVEMENT	LF	9088	$ 1.00	$ 9,088.00
4" WHITE SOLID PAINT PAVEMENT MARKING LINES	LF	2157	$ 0.75	$ 1,617.75
4" WHITE DASH PAINT PAVEMENT MARKING LINES	LF	265.00	$ 0.35	$ 92.75
8" WHITE PAINT PAVEMENT MARKING LINES	LF	165	$ 1.00	$ 165.00
24" WHITE PAINT PAVEMENT MARKING LINES	LF	8049	$ 3.00	$ 24,147.00
PAINT PAVEMENT MARKING SYMBOL	LF	20	$ 100.00	$ 2,000.00
4" YELLOW SKIP PAINT PAVEMENT MARKING	LF	558	$ 0.35	$ 195.30
4" YELLOW SOLID PAINT PAVEMENT MARKING	LF	27264	$ 0.75	$ 20,448.00
REMOVAL OF PAVEMENT MARKING SYMBOLS & CH	LF	1250	$ 2.30	$ 2,875.00
LANDSCAPING	AC	1.02	$ 20,000.00	$ 20,400.00
BUS STOP WITH PULLOUT	LS	2	$ 30,000.00	$ 60,000.00
BUS STOP INLINE WITH SHELTER	LS	2	$ 10,000.00	$ 20,000.00
TRAFFFIC SIGNALS	EA	6	$ 300,000.00	$ 1,800,000.00
STORMWATER	LS	1	$ 750,000.00	$ 750,000.00
EROSION CONTROL	LS	1	$ 100,000.00	$ 100,000.00

Project Subtotal	$ 5,935,882.00
12% Engineering	$ 712,306.00
10% Utility Relocation	$ 593,589.00
Utility Undergrounding	$ 3,273,600.00
10% Right-of-Way Acquisition	$ 593,589.00
Rounded Total	$ 11,109,000.00

Specific Notes:	
Unit costs are based on data from RS Means, NCDOT Bid Tabs, and Estimator's Judgment.	
All costs are in 2019 dollars and should be inflated as necessary for use in future construction years.	

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Preliminary Estimate- Worth Street Roundabout

5/22/2019

Item	Units	Qty	*Unit Cost	Item Cost
MOBILIZATION	LS	1	$ 200,000.00	$ 200,000.00
CONST. SURVEYING	EA	1	$ 75,000.00	$ 75,000.00
TRAFFIC CONTROL	LS	1	$ 150,000.00	$ 150,000.00
REMOVAL OF PAVEMENT, CURB, ASPHALT, AND OTHER	LS	1	$ 200,000.00	$ 200,000.00
EARTHWORK	CY	20000	$ 25.00	$ 500,000.00
CONCRETE CURB-MOUNTABLE	LF	842	$ 30.00	$ 25,260.00
1.5' CONCRETE CURB & GUTTER	LF	1263	$ 10.00	$ 12,630.00
6" CONCRETE CURB	LF	652	$ 8.00	$ 5,216.00
8" CONCRETE TRUCK APRON	SY	827	$ 120.00	$ 99,280.00
CONCRETE CURB RAMP	EA	6	$ 2,000.00	$ 12,000.00
4" CONCRETE SIDEWALK	SY	486	$ 55.00	$ 26,730.00
4" CONCRETE ISLAND COVER	SY	112	$ 100.00	$ 11,200.00
MEDIAN REFUGE	SY	11	$ 55.00	$ 605.00
DETECTABLE WARNING MATERIAL	SF	240	$ 45.00	$ 10,800.00
GRADED AGGREGATE BASE COURSE (6" UNIFORM)	TON	1074	$ 40.00	$ 42,969.00
ASPHALT INTERMEDIATE COURSE (4" UNIFORM)	TON	525	$ 100.00	$ 52,517.67
ASPHALT SURFACE COURSE (2" UNIFORM)	TON	263	$ 120.00	$ 31,510.60
LIQUID ASPHALT BINDER 64-22	TON	47	$ 900.00	$ 42,539.31
4" WHITE DASH THERMOPLASTIC PAVEMENT MARKING LINES (90 MILS)	LF	58	$ 0.75	$ 43.50
24" WHITE THERMOPLASTIC PAVEMENT MARKING LINES (120 MILS)	LF	170	$ 8.00	$ 1,360.00
THERMOPLASTIC PAVEMENT MARKING CHARACTER (120 MILS)	EA	20	$ 130.00	$ 2,600.00
4" YELLOW SOLID THERMOPLASTIC PAVEMENT MARKING (90 MILS)	LF	1333	$ 1.00	$ 1,333.00
4" WHITE DASH PAINT PAVEMENT MARKING LINES	LF	174	0.35	$ 60.90
24" WHITE PAINT PAVEMENT MARKING LINES	LF	510	3	$ 1,530.00

4" YELLOW SOLID PAINT PAVEMENT MARKING LINES	LF	3999	0.75	$ 2,999.25
LANDSCAPING	AC	0.16	$ 20,000.00	$ 3,200.00
STORMWATER	LS	1	$ 125,000.00	$ 125,000.00
EROSION CONTROL	LS	1	$ 100,000.00	$ 100,000.00

Project Subtotal	$ 1,736,384.23
12% Engineering	$ 208,367.00
10% Utility Relocation	$ 173,639.00
10% Right-of-Way Acquisition	$ 173,639.00
Rounded Total	$ 2,292,100.00

Specific Notes:	
Unit costs are based on data from RS Means, NCDOT Bid Tabs, and Estimator's Judgment.	
All costs are in 2019 dollars and should be inflated as necessary for use in future construction years.	

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Preliminary Estimate- Maple Avenue Phase 4

5/22/2019

Item	Units	Qty	*Unit Cost	Item Cost
MOBILIZATION	LS	1	$ 300,000.00	$ 300,000.00
CONST. SURVEYING	EA	1	$ 100,000.00	$ 100,000.00
TRAFFIC CONTROL	LS	1	$ 100,000.00	$ 100,000.00
REMOVAL OF PAVEMENT, CURB, ASPHALT, AND OTHER	LS	1	$ 150,000.00	$ 150,000.00
EARTHWORK	CY	10000	$ 25.00	$ 250,000.00
1.5' CONCRETE CURB & GUTTER	LF	3726	$ 10.00	$ 37,260.00
6" CONCRETE CURB	LF	2613	$ 8.00	$ 20,904.00
CONCRETE CURB RAMP	EA	14	$ 2,000.00	$ 28,000.00
4" CONCRETE ISLAND COVER	SY	16	$ 100.00	$ 1,600.00
DETECTABLE WARNING MATERIAL	SF	152	$ 45.00	$ 6,840.00
GRADED AGGREGATE BASE COURSE (6" UNIFORM)	TON	1186	$ 40.00	$ 47,430.00
ASPHALT SURFACE COURSE (2" UNIFORM)	TON	1228	$ 120.00	$ 147,360.40
PATCHING EXISTING PAVEMENT	TON	145	$ 150.00	$ 21,790.31
LIQUID ASPHALT BINDER 64-22	TON	82	$ 900.00	$ 74,156.69
4" WHITE SKIP THERMOPLASTIC PAVEMENT MARKING LINES (90 MILS)	LF	804	$ 0.75	$ 603.00
4" WHITE DASH THERMOPLASTIC PAVEMENT MARKING LINES (90 MILS)	LF	110	$ 0.75	$ 82.50
4" WHITE SOLID THERMOPLASTIC PAVEMENT MARKING LINES (90 MILS)	LF	948	$ 1.00	$ 948.00
8" WHITE SOLID THERMOPLASTIC PAVEMENT MARKING LINES (90 MILS)	LF	92	$ 4.00	$ 368.00
24" WHITE THERMOPLASTIC PAVEMENT MARKING LINES (120 MILS)	LF	1002	$ 8.00	$ 8,016.00
THERMOPLASTIC PAVEMENT MARKING CHARACTER (120 MILS)	EA	39	$ 130.00	$ 5,070.00
4" YELLOW SOLID THERMOPLASTIC PAVEMENT MARKING (90 MILS)	LF	350	$ 1.00	$ 350.00
4" WHITE SKIP PAINT PAVEMENT MARKING LINES	LF	2412	$ 0.35	$ 844.20
4" WHITE DASH PAINT PAVEMENT MARKING LINES	LF	330	$ 0.35	$ 115.50

4" WHITE SOLID PAINT PAVEMENT MARKING LINES	LF	2844	$ 0.75	$ 2,133.00
8" WHITE SOLID PAINT PAVEMENT MARKING LINES	LF	276	$ 1.00	$ 276.00
24" WHITE PAINT PAVEMENT MARKING LINES	LF	3006	$ 3.00	$ 9,018.00
PAINT PAVEMENT MARKING CHARACTER	EA	39	$ 50.00	$ 1,950.00
4" YELLOW SOLID PAINT PAVEMENT MARKING	LF	1050	$ 1.00	$ 1,050.00
REMOVAL OF PAVEMENT MARKING SYMBOLS &	LF	2000	$ 2.30	$ 4,600.00
LANDSCAPING	AC	0.7	$ 20,000.00	$ 14,000.00
BUS STOP INLINE WITH SHELTER	LS	1	$ 10,000.00	$ 10,000.00
TRAFFFIC SIGNALS	EA	1	$ 300,000.00	$ 300,000.00
STORMWATER	LS	1	$ 300,000.00	$ 300,000.00
EROSION CONTROL	LS	1	$ 100,000.00	$ 100,000.00

Project Subtotal	$ 2,044,765.61
12% Engineering	$ 245,372.00
10% Utility Relocation	$ 204,477.00
Utility Undergrounding	$ 1,159,400.00
10% Right-of-Way Acquisition	$ 204,477.00
Rounded Total	$ 3,858,500.00

Specific Notes:	
Unit costs are based on data from RS Means, NCDOT Bid Tabs, and Estimator's Judgment.	
All costs are in 2019 dollars and should be inflated as necessary for use in future construction years.	

TOOLE DESIGN

172 E. MAIN STREET
SUITE 300
SPARTANBURG, SC 29306

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Preliminary Estimate-Anthony Road Roundabout

5/22/2019

Item	Units	Qty	*Unit Cost	Item Cost
MOBILIZATION	LS	1	$ 200,000.00	$ 200,000.00
CONST. SURVEYING	EA	1	$ 50,000.00	$ 50,000.00
TRAFFIC CONTROL	LS	1	$ 100,000.00	$ 100,000.00
REMOVAL OF PAVEMENT, CURB, ASPHALT, AND OTHER	LS	1	$ 150,000.00	$ 150,000.00
EARTHWORK	CY	10000	$ 25.00	$ 250,000.00
CONCRETE CURB-MOUNTABLE	LF	333	$ 30.00	$ 9,990.00
1.5' CONCRETE CURB & GUTTER	LF	944	$ 10.00	$ 9,440.00
6" CONCRETE CURB	LF	690	$ 8.00	$ 5,520.00
8" CONCRETE TRUCK APRON	SY	466	$ 120.00	$ 55,920.00
4" CONCRETE SIDEWALK	SY	625	$ 55.00	$ 34,375.00
4" CONCRETE ISLAND COVER	SY	77	$ 100.00	$ 7,700.00
6" CONCRETE DRIVEWAY	SY	54	$ 120.00	$ 6,480.00
DETECTABLE WARNING MATERIAL	SF	240	$ 45.00	$ 10,800.00
GRADED AGGREGATE BASE COURSE (6" UNIFORM)	TON	955	$ 40.00	$ 38,205.00
ASPHALT INTERMEDIATE COURSE (4" UNIFORM)	TON	467	$ 100.00	$ 46,695.00
ASPHALT SURFACE COURSE (2" UNIFORM)	TON	233	$ 120.00	$ 28,017.00
LIQUID ASPHALT BINDER 64-22	TON	42	$ 900.00	$ 37,822.95
24" WHITE THERMOPLASTIC PAVEMENT MARKING LINES (120 MILS)	LF	120	$ 8.00	$ 960.00
4" WHITE DASH THERMOPLASTIC PAVEMENT MARKING LINES (90 MILS)	LF	187	$ 0.75	$ 140.25
4" WHITE SKIP THERMOPLASTIC PAVEMENT MARKING LINES (90 MILS)	LF	43	$ 0.75	$ 32.25
4" YELLOW SOLID THERMOPLASTIC PAVEMENT MARKING (90 MILS)	LF	727	$ 1.00	$ 727.00
4" WHITE SKIP PAINT PAVEMENT MARKING LINES	LF	129	$ 0.35	$ 45.15

4" WHITE DASH PAINT PAVEMENT MARKING LINES	LF	561	$ 0.35	$ 196.35
24" WHITE PAINT PAVEMENT MARKING LINES	LF	360	$ 3.00	$ 1,080.00
4" YELLOW SOLID PAINT PAVEMENT MARKING	LF	2181	$ 0.75	$ 1,635.75
THERMOPLASTIC PAVEMENT MARKING CHARACTER (120 MILS)	EA	15	$ 130.00	$ 1,950.00
REMOVAL OF PAVEMENT MARKING SYMBOLS & CHARACTERS	LF	1000	$ 2.30	$ 2,300.00
LANDSCAPING	AC	0.025	$ 20,000.00	$ 500.00
STORMWATER	LS	1	$ 50,000.00	$ 50,000.00
EROSION CONTROL	LS	1	$ 50,000.00	$ 50,000.00

Project Subtotal	$ 1,150,531.70
12% Engineering	$ 138,064.00
10% Utility Relocation	$ 115,054.00
15% Right-of-Way Acquisition	$ 172,580.00
Rounded Total	$ 1,576,300.00

Specific Notes:	
Unit costs are based on data from RS Means, NCDOT Bid Tabs, and Estimator's Judgment.	
All costs are in 2019 dollars and should be inflated as necessary for use in future construction years.	

TOOLE DESIGN

172 E. MAIN STREET
SUITE 300
SPARTANBURG, SC 29306

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Preliminary Estimate- Catalyst Site A

5/22/2019

Item	Units	Qty	*Unit Cost	Item Cost
MOBILIZATION	LS	1	$ 400,000.00	$ 400,000.00
CONST. SURVEYING	EA	1	$ 50,000.00	$ 50,000.00
TRAFFIC CONTROL	LS	1	$ 100,000.00	$ 100,000.00
REMOVAL OF PAVEMENT, CURB, ASPHALT, AND OTHER	LS	1	$ 150,000.00	$ 150,000.00
EARTHWORK	CY	25000	$ 25.00	$ 625,000.00
CONCRETE CURB RAMP	EA	6	$ 2,000.00	$ 12,000.00
CONCRETE SIDEWALK, 4"	SY	778	$ 55.00	$ 42,790.00
1.5' CONCRETE CURB & GUTTER	LF	1035	$ 10.00	$ 10,350.00
6" CONCRETE CURB	LF	4682	$ 8.00	$ 37,456.00
CONCRETE BRICK PAVERS	SF	50057	$ 24.00	$ 1,201,368.00
GRADED AGGREGATE BASE COURSE (6" UNIFORM)	TON	8707	$ 40.00	$ 348,274.50
ASPHALT INTERMEDIATE COURSE (4" UNIFORM)	TON	228	$ 100.00	$ 22,828.67
ASPHALT SURFACE COURSE (2" UNIFORM)	TON	1669	$ 120.00	$ 200,338.60
LIQUID ASPHALT BINDER 64-22	TON	114	$ 900.00	$ 102,479.85
DETECTABLE WARNING MATERIAL	SF	96	$ 45.00	$ 4,320.00
4" WHITE SOLID THERMOPLASTIC PAVEMENT MARKING LINES (90 MILS)	LF	7947	$ 1.00	$ 7,947.00
4" YELLOW SOLID THERMOPLASTIC PAVEMENT MARKING (90 MILS)	LF	960	$ 1.00	$ 960.00
4" WHITE SOLID PAINT PAVEMENT MARKING LINES	LF	15894	$ 0.35	$ 5,562.90
4" YELLOW SOLID PAINT PAVEMENT MARKING LINE	LF	1920	$ 0.35	$ 672.00
REMOVAL OF PAVEMENT MARKING SYMBOLS & CH	LF	2500	$ 2.30	$ 5,750.00
LANDSCAPING	AC	3.34	$ 20,000.00	$ 66,800.00

STORMWATER	LS	1	$ 100,000.00	$ 100,000.00
EROSION CONTROL	LS	1	$ 50,000.00	$ 50,000.00

Project Subtotal	$ 3,544,897.52
12% Engineering	$ 425,388.00
10% Utility Relocation	$ 354,490.00
10% Right-of-Way Acquisition	$ 354,490.00
Rounded Total	$ 4,679,300.00

Specific Notes:
Unit costs are based on data from RS Means, NCDOT Bid Tabs, and Estimator's Judgment.
All costs are in 2019 dollars and should be inflated as necessary for use in future construction years.

TOOLE DESIGN

172 E. MAIN STREET
SUITE 300
SPARTANBURG, SC 29306

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Preliminary Estimate- Catalyst Site B

5/22/2019

Item	Units	Qty	*Unit Cost	Item Cost
MOBILIZATION	LS	1	$ 400,000.00	$ 400,000.00
CONST. SURVEYING	EA	1	$ 50,000.00	$ 50,000.00
TRAFFIC CONTROL	LS	1	$ 100,000.00	$ 100,000.00
REMOVAL OF PAVEMENT, CURB, ASPHALT, AND OTHER	LS	1	$ 150,000.00	$ 150,000.00
EARTHWORK	CY	25000	$ 25.00	$ 625,000.00
CONCRETE SIDEWALK, 4"	SY	1401	$ 55.00	$ 77,055.00
1.5' CONCRETE CURB & GUTTER	LF	3395	$ 10.00	$ 33,950.00
6" CONCRETE CURB	LF	5765	$ 8.00	$ 46,120.00
CONCRETE BRICK PAVERS	SF	23053	$ 24.00	$ 553,272.00
GRADED AGGREGATE BASE COURSE (6" UNIFORM)	TON	8321	$ 40.00	$ 332,835.00
ASPHALT INTERMEDIATE COURSE (4" UNIFORM)	TON	803	$ 100.00	$ 80,274.33
ASPHALT SURFACE COURSE (2" UNIFORM)	TON	1823	$ 120.00	$ 218,720.70
LIQUID ASPHALT BINDER 64-22	TON	158	$ 900.00	$ 141,772.46
4" WHITE SKIP THERMOPLASTIC PAVEMENT MARKING LINES (90 MILS)	LF	40	$ 0.75	$ 30.00
4" WHITE SOLID THERMOPLASTIC PAVEMENT MARKING LINES (90 MILS)	LF	7518	$ 1.00	$ 7,518.00
4" YELLOW SOLID THERMOPLASTIC PAVEMENT MARKING (90 MILS)	LF	1613	$ 1.00	$ 1,613.00
4" WHITE SKIP PAINT PAVEMENT MARKING LINES	LF	80	$ 0.35	$ 28.00
4" WHITE SOLID PAINT PAVEMENT MARKING LINES	LF	15036	$ 0.35	$ 5,262.60
4" YELLOW SOLID PAINT PAVEMENT MARKING LINE	LF	3226	$ 0.35	$ 1,129.10
REMOVAL OF PAVEMENT MARKING SYMBOLS & CH	LF	2500	$ 2.30	$ 5,750.00
LANDSCAPING	AC	3.17	$ 20,000.00	$ 63,400.00

STORMWATER	LS	1	$ 100,000.00	$ 100,000.00
EROSION CONTROL	LS	1	$ 50,000.00	$ 50,000.00

Project Subtotal	$ 3,043,730.19
12% Engineering	$ 365,248.00
10% Utility Relocation	$ 304,374.00
10% Right-of-Way Acquisition	$ 304,374.00
Rounded Total	$ 4,017,800.00

Specific Notes:
Unit costs are based on data from RS Means, NCDOT Bid Tabs, and Estimator's Judgment.
All costs are in 2019 dollars and should be inflated as necessary for use in future construction years.

APPENDIX D

NCDOT P5.0 Criteria

Table D-1 | P5.0 Scoring Criteria for Regional Impact Highway Projects

FUNDING CATEGORY	QUANTITATIVE DATA	LOCAL INPUT	
		Division Input	MPO/RPO Input
Regional Impact	**Benefit/Cost = 20%** Measurement of travel time savings and safety benefits the project is expected to provide over 10 years compared to the cost of the project to NCDOT.	15%	15%
	Congestion = 20% Measurement of the Peak ADT traffic volume on the roadway compared to the existing capacity of the roadway, weighted by the total traffic volume along the roadway (i.e., 80% Existing Volume/Capacity Ratio; 20% Existing Volume).		
	Safety = 10% Measurement of the number, severity, and density of crashes along the roadway and calculate future safety benefits.		
	Accessibility/Connectivity = 10% Measurement of county economic distress indicators and whether the project upgrades how the roadway functions. Goal of improving access to opportunity in rural and less-affluent areas and improving interconnectivity of the transportation network.		
	Freight = 10% Measurement of existing truck volume and whether or not the roadway is part of a future interstate highway.		
	TOTAL (Quantitative Data + Local Input) = 100%		

Table D-2 | P5.0 Scoring Criteria for Division Needs Highway Projects

FUNDING CATEGORY	QUANTITATIVE DATA	LOCAL INPUT	
		Division Input	MPO/RPO Input
Division Needs Division 7	**Benefit/Cost = 15%** Measurement of travel time savings and safety benefits the project is expected to provide over 10 years compared to the cost of the project to NCDOT.	25%	25%
	Congestion = 15% Measurement of the Peak ADT traffic volume on the roadway compared to the existing capacity of the roadway.		
	Safety = 15% Measurement of the number, severity, and density of crashes along the roadway.		
	Accessibility/Connectivity = 5% Measurement of county economic distress indicators and whether the project upgrades how the roadway functions. Goal of improving access to opportunity in rural and less-affluent areas and improving interconnectivity of the transportation network.		
	TOTAL (Quantitative Data + Local Input) = 100%		

Table D-3 | P5.0 Scoring Criteria for Division Needs Bicycle and Pedestrian Projects

FUNDING CATEGORY	QUANTITATIVE DATA	LOCAL INPUT	
		Division Input	MPO/RPO Input
Division Needs	**Safety = 15%** (Number of crashes x 40%) + (Posted speed limit x 20%) + (Crash severity x 20%) + (Project safety benefit x 20%)	25%	25%
	Access = 20% (Destination type x 50%) + (Distance to prime destination x 50%)		
	Demand Density = 10% Number of households and employees per square mile near facility.		
	Connectivity = 10% Degree of bike/ped separation from roadway, connectivity to a similar or better project type, part of/connection to a national/state/regional bike route.		
	Cost Effectiveness = 5% (Safety + Access + Demand + Connectivity)/Cost to NCDOT		
	TOTAL (Quantitative Data + Local Input) = 100%		

Table D-4 | P5.0 Scoring Criteria for Division Needs Public Transportation Facilities Projects

FUNDING CATEGORY	QUANTITATIVE DATA	LOCAL INPUT	
		Division Input	MPO/RPO Input
Division Needs	**Impact = 15%** Number of trips affected by the project	25%	25%
	Demand Density = 10% Ridership growth trend for previous five years		
	Efficiency = 10% Total trips/Total revenue seat hours		
	Cost Effectiveness = 15% Additional trips/(Cost to NCDOT/Lifespan of project)		
	TOTAL (Quantitative Data + Local Input) = 100%		

APPENDIX E

Utility Placement Comparative Costs and Renderings

UTILITY PLACEMENT COMPARITIVE COSTS AND RENDERINGS

Cost estimates generated for the *Renew Maple Avenue* corridor recommendations assume full undergrounding of current overhead utilities. Per-mile costs for the other options are provided in **Table E-1** below; costs were derived based on discussions with utility providers, similar previous experience, and engineering judgment. To assist in determining which option has the best cost to benefit, a series of costs and photo renderings were prepared considering each relocation type and are included on the following pages.

Table E-1 | Power and Communication Line Relocation Costs

RELOCATION TYPE	NOTES	UNIT	UNIT COST
Aboveground clean-up	• Utilities remain aboveground on poles • Remove aerial transverse crossings	Per Mile	$1,200,000
Aboveground consolidation	• Utilities remain aboveground on poles • Remove aerial transverse crossings • Consolidate lines/poles to one side of street	Per Mile	$2,400,000
Underground relocation	• Relocate all utilities underground	Per Mile	$3,600,000

MAINTAIN EXISTING UTILITY PLACEMENT

Figure E-1 | Mixed District Photo Rendering Maintaining Existing Utility Placement

Table E-2 | Potential Funding/In-Kind Sources Breakdown by Project
Maintaining Existing Utility Placement

MAP ID	PROJECT [a]	POTENTIAL FUNDING/IN-KIND SOURCES				
		City of Burlington	NCDOT	FTA [b]	New Leaf Society [c]	Total
A	Maple Avenue Phase 1	$1,600,000	$13,830,000 [d]	$200,000	$190,000	$15,820,000
B	Maple Avenue Phase 2	$500,000	$4,380,000	$300,000	$40,000	$5,220,000
C	Anthony Street Roundabout	$690,000	$1,060,000	$0	$10,000	$1,760,000
D	Maple Avenue Phase 3	$7,520,000	$0	$300,000	$20,000	$7,840,000
E	Worth Street Roundabout	$2,280,000	$0	$0	$10,000	$2,290,000
F	Maple Avenue Phase 4	$300,000	$2,280,000	$100,000	$20,000	$2,700,000
G	Anthony Road Roundabout	$620,000	$950,000	$0	$10,000	$1,580,000
	TOTAL	**$13,510,000**	**$22,500,000**	**$900,000**	**$300,000**	**$37,210,000**

[a] Does not include catalyst sites, as they would occur as public-private partnerships; the breakdown of funding is not predictable, as a development agreement(s) would be negotiated.

[b] Transit funding is competitive and may impact funding for operations.

[c] Value of in-kind donation; actual cost would be significantly lower.

[d] Includes $1.6M that was previously programmed in the STIP for the intersection of Maple Avenue and Chapel Hill Road/Harden Street (NC 54).

ABOVEGROUND CLEAN-UP

Figure E-2 | Mixed District Photo Rendering with Aboveground Clean-up

Table E-3 | Potential Funding/In-Kind Sources Breakdown by Project with Aboveground Clean-up

MAP ID	PROJECT [a]	POTENTIAL FUNDING/IN-KIND SOURCES				
		City of Burlington	NCDOT	FTA [b]	New Leaf Society [c]	Total
A	Maple Avenue Phase 1	$1,940,000	$13,830,000 [d]	$200,000	$190,000	$16,160,000
B	Maple Avenue Phase 2	$1,820,000	$4,380,000	$300,000	$40,000	$6,540,000
C	Anthony Street Roundabout	$690,000	$1,060,000	$0	$10,000	$1,760,000
D	Maple Avenue Phase 3	$8,610,000	$0	$300,000	$20,000	$8,930,000
E	Worth Street Roundabout	$2,280,000	$0	$0	$10,000	$2,290,000
F	Maple Avenue Phase 4	$690,000	$2,280,000	$100,000	$20,000	$3,090,000
G	Anthony Road Roundabout	$620,000	$950,000	$0	$10,000	$1,580,000
	TOTAL	**$16,650,000**	**$22,500,000**	**$900,000**	**$300,000**	**$40,350,000**

[a] Does not include catalyst sites, as they would occur as public-private partnerships; the breakdown of funding is not predictable, as a development agreement(s) would be negotiated.

[b] Transit funding is competitive and may impact funding for operations.

[c] Value of in-kind donation; actual cost would be significantly lower.

[d] Includes $1.6M that was previously programmed in the STIP for the intersection of Maple Avenue and Chapel Hill Road/Harden Street (NC 54).

ABOVEGROUND CONSOLIDATION

Figure E-3 | Mixed District Photo Rendering with Aboveground Consolidation

Table E-4 | Potential Funding/In-Kind Sources Breakdown by Project with Aboveground Consolidation

MAP ID	PROJECT [a]	POTENTIAL FUNDING/IN-KIND SOURCES				
		City of Burlington	NCDOT	FTA [b]	New Leaf Society [c]	Total
A	Maple Avenue Phase 1	$2,280,000	$13,830,000 [d]	$200,000	$190,000	$16,500,000
B	Maple Avenue Phase 2	$3,140,000	$4,380,000	$300,000	$40,000	$7,860,000
C	Anthony Street Roundabout	$690,000	$1,060,000	$0	$10,000	$1,760,000
D	Maple Avenue Phase 3	$9,700,000	$0	$300,000	$20,000	$10,020,000
E	Worth Street Roundabout	$2,280,000	$0	$0	$10,000	$2,290,000
F	Maple Avenue Phase 4	$1,070,000	$2,280,000	$100,000	$20,000	$3,470,000
G	Anthony Road Roundabout	$620,000	$950,000	$0	$10,000	$1,580,000
	TOTAL	**$19,780,000**	**$22,500,000**	**$900,000**	**$300,000**	**$43,480,000**

[a] Does not include catalyst sites, as they would occur as public-private partnerships; the breakdown of funding is not predictable, as a development agreement(s) would be negotiated.

[b] Transit funding is competitive and may impact funding for operations.

[c] Value of in-kind donation; actual cost would be significantly lower.

[d] Includes $1.6M that was previously programmed in the STIP for the intersection of Maple Avenue and Chapel Hill Road/Harden Street (NC 54).

UNDERGROUND RELOCATION

Figure E-4 | Mixed District Photo Rendering with Underground Relocation

Table E-5 | Potential Funding/In-Kind Sources Breakdown by Project with Underground Relocation

MAP ID	PROJECT [a]	POTENTIAL FUNDING/IN-KIND SOURCES				
		City of Burlington	NCDOT	FTA [b]	New Leaf Society [c]	Total
A	Maple Avenue Phase 1	$2,620,000	$13,830,000 [d]	$200,000	$190,000	$16,840,000
B	Maple Avenue Phase 2	$4,450,000	$4,380,000	$300,000	$40,000	$9,170,000
C	Anthony Street Roundabout	$690,000	$1,060,000	$0	$10,000	$1,760,000
D	Maple Avenue Phase 3	$10,790,000	$0	$300,000	$20,000	$11,110,000
E	Worth Street Roundabout	$2,280,000	$0	$0	$10,000	$2,290,000
F	Maple Avenue Phase 4	$1,460,000	$2,280,000	$100,000	$20,000	$3,860,000
G	Anthony Road Roundabout	$620,000	$950,000	$0	$10,000	$1,580,000
	TOTAL	**$22,910,000**	**$22,500,000**	**$900,000**	**$300,000**	**$46,610,000**

[a] Does not include catalyst sites, as they would occur as public-private partnerships; the breakdown of funding is not predictable, as a development agreement(s) would be negotiated.

[b] Transit funding is competitive and may impact funding for operations.

[c] Value of in-kind donation; actual cost would be significantly lower.

[d] Includes $1.6M that was previously programmed in the STIP for the intersection of Maple Avenue and Chapel Hill Road/Harden Street (NC 54).

APPENDIX F

Fiscal Impact Assessment

DRAFT FOR REVIEW AND DISCUSSION

Maple Avenue Catalyst Sites A and B Redevelopment Fiscal Impact Analysis

City of Burlington

March 5, 2019

Prepared By:

DPFG
DEVELOPMENT PLANNING & FINANCING GROUP, INC.

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EXECUTIVE SUMMARY

Based on the development program assumed in this report, the net annual fiscal benefit from the redevelopment of Catalyst Site A ("Site A") and Catalyst Site B ("Site B"), after completion of the improvements attributable to these sites, is presented in Table 1. The net annual fiscal benefit is projected to increase by $302,000.

Executive Summary Table 1: Maple Avenue Catalyst Site Redevelopment Net Fiscal Impact

Category	BEFORE IMPROVEMENTS	AFTER IMPROVEMENTS
Revenues		
Property Taxes (1):		
Real	$ 212,000	$ 410,000
Business Personal	31,000	59,000
Motor Vehicle	-	17,000
Other Revenues	2,000	122,000
Total Revenues	$ 245,000	$ 608,000
Expenditures		
Police	59,000	104,000
Fire	9,000	25,000
Total Expenditures	$ 68,000	$ 129,000
Net Fiscal Benefit	$ 177,000	$ 479,000
Incremental Net Fiscal Benefit		$ 302,000

(1) Tax revenues reflect a collection rate of 97.3 percent.
Source: DPFG, 2019

Table 2 compares the estimated $8.7 million cost of the catalyst site improvements to the projected tax value of those sites.

Executive Summary Table 2: Maple Avenue Catalyst Site Investment

Category	BEFORE IMPROVEMENTS	AFTER IMPROVEMENTS
Real Property Tax Base	$ 36,566,000	$ 70,571,000
Incremental Real Property Tax Base Increase		$ 34,005,000
Catalyst Site Improvement Cost:		
Site A		$ 4,680,000
Site B		4,020,000
Total Catalyst Site Improvement Cost		$ 8,700,000
Tax Base Increase Relative to Improvement Cost		391%

Source: Toole Design, DPFG, 2019

PROJECT DESCRIPTION

In the "Renew Maple Avenue Corridor Initiative Market & Economic Assessment," Rose Associates identified three catalyst sites with the greatest opportunity for retrofit and revitalization. This companion report focuses on two of those catalyst sites and estimates the fiscal and economic impact resulting from the potential redevelopment.

The master plan, prepared by Toole Design, is shown in Figure 1.

Figure 1: Maple Avenue Catalyst Sites

Note: The plan shown above is a draft and is currently being revised to remove the parking garages. Therefore, this analysis does not consider the garages.
Source: Toole Design, 2019

Catalyst Site A consists of the area west of Maple Avenue, and Catalyst Site B consists of the area east of Maple Avenue. The potential programming of these sites was provided by Toole Design and Rose Associates.

Table 1 compares the existing land uses in Site A, which are expected to be retained, to those of the site after redevelopment.

Table 1: Site A Land Uses

	Existing Sq Ft	Future Sq Ft
New Land Uses:		
New Flex Office/Light Industrial	N/A	243,000
New Retail	N/A	48,671
New Fast Food	N/A	5,498
New Casual Dining	N/A	18,200
Alamance Community College Expansion	N/A	54,352
Total New Land Uses		369,721
Relocate Onsite Existing Land Uses:		
Retail	39,200	39,200
Fast Food	3,364	3,364
Day Care	23,985	23,985
Total Relocated Onsite Existing Land Uses	66,549	66,549
Existing Land Uses:		
Retail	90,129	90,129
Fast Food	3,638	3,638
Alamance Community College	45,648	45,648
Other	76,027	76,027
Total Existing Land Uses	215,442	215,442
Total Site A	281,991	651,712

Source: Toole Design, Rose Associates, 2019

Table 2 compares the existing land uses in Site B, which are expected to be retained, to those of the site after redevelopment.

Table 2: Site B Land Uses

Land Use	Existing Sq. Ft. Rooms Units	Future Sq. Ft. Rooms Units
New Land Uses:		
Casual Dining	N/A	11,000
Retail	N/A	10,000
Total New Land Uses		21,000
Multifamily	N/A	220
Relocate Onsite Existing Land Uses:		
Retail	15,000	15,000
Existing Land Uses		
Grocery Store	31,146	31,146
Antique Store	104,480	104,480
Hotel	80,454	80,454
Fast Food	2,676	2,676
Other	166,701	166,701
Total Existing Land Uses	385,457	385,457
Total Site B	400,457	421,457

Source: Toole Design, Rose Associates, 2019

Based on the contemplated changes in land uses, DPFG projected the estimated impact on the general fund revenues and expenditures of the City of Burlington ("City").

NET FISCAL IMPACT

General Fund Revenues

The realization of the economic development opportunities in Site A and Site B will impact the City's real and business personal property tax revenues, motor vehicle tax revenues, and sales tax revenues.

Property Tax Revenues

Table 3 compares the projected real property tax revenues of Site A and Site B. The tax value of new land uses is based on estimates from the Alamance County Tax Office. Parcels for which no new uses are anticipated are valued at the current tax value.

Table 3: Site A and Site B Real Property Tax Revenues

Real Property Tax Revenue	BEFORE IMPROVEMENTS	AFTER IMPROVEMENTS
Site A Real Property Taxable Value	$ 17,614,396	$ 34,923,000
Burlington Property Tax Rate	0.5973	0.5973
Burlington Annual Real Property Taxes	$ 105,000	$ 209,000
Collection Rate	97.3%	97.3%
Net Burlington Annual Real Property Taxes	$ 102,000	$ 203,000
Real Property Tax Revenue	**BEFORE IMPROVEMENTS**	**AFTER IMPROVEMENTS**
Site B Real Property Taxable Value	$ 18,951,606	$ 35,648,000
Burlington Property Tax Rate	0.5973	0.5973
Burlington Annual Real Property Taxes	$ 113,000	$ 213,000
Collection Rate	97.3%	97.3%
Net Burlington Annual Real Property Taxes	$ 110,000	$ 207,000

Source: City of Burlington, Alamance County Tax Office, DPFG 2019

Table 4 reflects the projected business personal property taxes of Site A and Site B.

Table 4: Site A and Site B Business Personal Property Taxes

Business Personal Property Tax Revenue	BEFORE IMPROVEMENTS	AFTER IMPROVEMENTS
Site A Real Property Taxable Value	$ 17,614,396	$ 34,923,000
Business Personal Property Percentage	14%	14%
Total Taxable Value	$ 2,525,000	$ 5,007,000
Burlington Property Tax Rate	0.5973	0.5973
Burlington Annual Business Personal Property Taxes	$ 15,000	$ 30,000
Collection Rate	97.3%	97.3%
Net Burlington Annual Business Personal Property Taxes	$ 15,000	$ 29,000
Business Personal Property Tax Revenue	**BEFORE IMPROVEMENTS**	**AFTER IMPROVEMENTS**
Site B Real Property Taxable Value	$ 18,951,606	$ 35,648,000
Business Personal Property Percentage	14%	14%
Total Taxable Value	$ 2,717,000	$ 5,111,000
Burlington Property Tax Rate	0.5973	0.5973
Burlington Annual Business Personal Property Taxes	$ 16,000	$ 31,000
Collection Rate	97.3%	97.3%
Net Burlington Annual Business Personal Property Taxes	$ 16,000	$ 30,000

Source: City of Burlington, Alamance County Tax Office, DPFG 2019

As shown in Table 5, new residents living in the 220 multifamily units in Site B will generate additional motor vehicle property tax revenue for the City.

Table 5: Site B Motor Vehicle Property Tax Revenue

Motor Vehicle Property Tax Revenue	BEFORE IMPROVEMENTS	AFTER IMPROVEMENTS
Burlington Motor Vehicle Taxable Value	$ 423,145,893	$ 423,145,893
Burlington Population	52,426	52,426
Motor Vehicle Value per Person	$ 8,071	$ 8,071
Site B Resident Population	7	357
Motor Vehicle Taxable Value	$ 56,000	$ 2,881,000
Burlington Property Tax Rate	0.5973	0.5973
Burlington Annual Motor Vehicle Taxes	$ -	$ 17,000
Collection Rate	97.3%	97.3%
Net Burlington Annual Motor Vehicle Taxes	$ -	$ 17,000

Source: City of Burlington, DPFG 2019

Other Revenues

For purposes of this analysis, it is assumed that revenues distributed to the City on a per capita basis will continue at current levels. As such the new residents in the 220 multifamily units will generate additional revenue for the City as shown in Table 6.

Table 6: Site B Other Revenues

Other Revenues	SITE A BEFORE IMPROVEMENTS Annual Other Revenues	SITE A AFTER IMPROVEMENTS Annual Other Revenues	SITE B BEFORE IMPROVEMENTS Annual Other Revenues	SITE B AFTER IMPROVEMENTS Annual Other Revenues
FY 2019 Budgeted Revenues:				
State Shared Taxes	$ 5,658,600	$ 5,658,600	$ 5,658,600	$ 5,658,600
Local Option Sales Tax	11,923,519	11,923,519	11,923,519	11,923,519
Cable TV Franchise Tax	350,000	350,000	350,000	350,000
Total	$ 17,932,119	$ 17,932,119	$ 17,932,119	$ 17,932,119
Burlington Population	52,426	52,426	52,426	52,426
Other Revenues per Capita	$ 342	$ 342	$ 342	$ 342
Study Area Population	-	-	7	357
Annual Other Revenues	$ -	$ -	$ 2,000	$ 122,000
		Incremental Revenue		$ 120,000

Source: NC Department of Revenue, City of Burlington, DPFG 2019

General Fund Expenditures

Based on discussions with City staff, the programming planned for Site A and Site B will primarily affect demand for service of the Police and Fire departments. Based on discussions with Toole Design, the catalyst site improvements are likely to have a neutral impact on Public Works. It is assumed the impact from the 220 new multifamily units on Parks and Recreation is immaterial.

Police Services

The Police department provided calls for service and the annual cost per call for Site A and Site B based on existing land uses. DPFG used a functional population methodology to project calls for service for the sites post-redevelopment. Demand for police service is expected to increase based on the intensity of the uses programmed for the currently underutilized area.

Table 7: Site A and Site B Annual Police Expenditures

Police Services	SITE A BEFORE IMPROVEMENTS Annual Police	SITE B BEFORE IMPROVEMENTS Annual Police	SITE A AFTER IMPROVEMENTS Annual Police	SITE B AFTER IMPROVEMENTS Annual Police	TOTAL BEFORE IMPROVEMENTS Annual Police	TOTAL AFTER IMPROVEMENTS Annual Police
Calls for Service	800	500				
Cost per Call	$ 45	$ 45				
Annual Cost Police Services	$ 36,224	$ 22,640				
Existing Functional Population	509	189				
Cost Per Functional Population	$ 71	$ 120	$ 71	$ 120		
Study Area Functional Population	509	189	714	441	698	1,155
Police Services	$ 36,000	$ 23,000	$ 51,000	$ 53,000	$ 59,000	$ 104,000
				Incremental Cost		$ 45,000

Source: City of Burlington, DPFG 2019

Fire Services

The Fire department provided calls for service and the annual cost per call for Site A and Site B for existing land uses. Based on comparable land uses, the Fire department projected calls for service post-redevelopment. Because the area is currently underutilized, demand for fire service is anticipated to increase due to the intensities of the land uses planned post-redevelopment.

Table 8: Site A and Site B Annual Fire Expenditures

Fire Services	SITE A BEFORE IMPROVEMENTS Annual Fire	SITE A AFTER IMPROVEMENTS Annual Fire	SITE B BEFORE IMPROVEMENTS Annual Fire	SITE B AFTER IMPROVEMENTS Annual Fire	TOTAL BEFORE IMPROVEMENTS Annual Fire	TOTAL AFTER IMPROVEMENTS Annual Fire
Calls For Service	31	74	14	54	45	128
Cost per Call	$ 193	$ 193	$ 193	$ 193	$ 193	$ 193
Annual Cost Fire Service	$ 5,976	$ 14,000	$ 2,699	$ 10,000	$ 9,000	$ 25,000
				Incremental Cost		$ 16,000

Source: City of Burlington, DPFG 2019

Net Fiscal Impact

Based on the assumptions documented in this report, the net annual fiscal benefit of Site A and Site B is projected to be $479,000 annually, or a net incremental increase of $302,000.

Table 9: Site A and Site B Net Fiscal Impact

Category	BEFORE IMPROVEMENTS	AFTER IMPROVEMENTS
Revenues		
Property Taxes (1):		
Real	$ 212,000	$ 410,000
Business Personal	31,000	59,000
Motor Vehicle	-	17,000
Other Revenues	2,000	122,000
Total Revenues	$ 245,000	$ 608,000
Expenditures		
Police	59,000	104,000
Fire	9,000	25,000
Total Expenditures	$ 68,000	$ 129,000
Net Fiscal Benefit	$ 177,000	$ 479,000
Incremental Net Fiscal Benefit		$ 302,000

(1) Tax revenues reflect a collection rate of 97.3 percent.
Source: DPFG 2019

Toole Design estimates the catalyst site improvements will cost approximately $8.7 million. The projected increase in the real tax base of Site A and Site B is compared to the catalyst site investment in Table 10.

Table 10: Maple Avenue Catalyst Site Investment

Category	BEFORE IMPROVEMENTS	AFTER IMPROVEMENTS
Real Property Tax Base	$ 36,566,000	$ 70,571,000
Incremental Real Property Tax Base Increase		$ 34,005,000
Catalyst Site Improvement Cost:		
Site A		$ 4,680,000
Site B		4,020,000
Total Catalyst Site Improvement Cost		$ 8,700,000
Tax Base Increase Relative to Improvement Cost		391%

Source: Toole Design, DPFG 2019

In total, 106 new permanent ongoing jobs are projected for the Site A and Site B redevelopment areas. In addition, new temporary jobs will be generated during the construction of the catalyst site improvements and the redevelopment activities. These jobs are temporary in that they end once construction is complete.

Table 11: Site A and Site B Jobs Increase

Area	Before Jobs	After Jobs	Net Increase
Site A	348	480	132
Site B	237	211	(26)
Net Increase	585	691	106

Source: City of Burlington, DPFG 2019

KEY ASSUMPTIONS

Full-Time Equivalent Population

Incorporating full-time equivalent functional population methodology into per capita calculations provides a framework for more reasonable and equitable projections. According to the *Fiscal Impact Analysis Model Training Manual (FIAM)*, "Local city/county governments receive revenues from land, development and the activities of their populations of residents, workers, and visitors. Local city/county governments also render services to all residents, to all who are working in the city/county and to all visitors to the city/county. Therefore, on the cost side of the equation, counties incur costs to provide services to residents, those employed in the city/county, and to visitors. At various times during a 24-hour period, a resident may become a person employed in the city/county, and then later in the day may be a resident again. To such an individual, the city/county has rendered services for a full 24 hours. Other residents may leave the city/county to work in another city/county. In this case, the city/county only provides services to that person when they are physically in the city/county. Some who work in the city/county may not live in the city/county. City/county services are only provided to those workers when they are in the city/county. Finally, visitors receive service during the whole period of their visit, but obviously not when they leave the city/county.

To properly measure the services provided to each of these groups, a weighting procedure is needed that reflects the duration of time each group is resident in the city/county. This calculation provides us with the full-time equivalent (FTE) population, employees and visitors. For residents and workers, the model assumes a working period of 2,000 hours per year. In this way, the fiscal impact of the FTE residents, employees and visitors can be properly identified."

Enterprise Funds

The impacts of self-supporting funds (e.g. enterprise funds) were not included in this analysis as is typical in fiscal impact analysis. Utility rates and capacity fees are established through independent studies. Public utilities generally benefit from economies of scale (i.e. more customers) since rate structures are dependent upon recovering infrastructure costs which are considered fixed from a cost accounting perspective.

Constant Dollar Approach

All revenues and expenditures are based on constant 2019 dollars, and the analysis includes no inflation during the project's buildout. A constant dollar approach is commonly used in fiscal impact analysis to avoid the difficulty of forecasting and interpreting results expressed in inflated dollars. Consideration of inflation in fiscal impact analysis requires local governments to perform sophisticated financial modeling in order to produce credible assumptions. Most do not have the resources to conduct such modeling. The constant dollar approach applies to all estimates in this analysis: property values, incomes, sales, City revenues, and City operating and capital expenditures.

FINANCING OPTIONS

The City will likely investigate several funding options for the catalyst site and broader improvements. The major authorized borrowing mechanisms are listed below, along with a brief description of each of their authorized forms of security.

- *General Obligation Bonds* (G.S. 159, Art. 4)–Authorizes a local government to pledge its full faith and credit or unlimited taxing power as security for the bonds.
- *Revenue Bonds* (including Special Assessment Revenue Bonds) (G.S. 159, Art. 5; G.S. 153A, Art. 9A; G.S. 160A, Art. 10A)—Authorizes a local government to pledge the revenues from the debt-financed asset or system and to pledge the asset that is being financed. Also authorizes a local government to pledge the revenues generated from special assessments imposed on private property to pay for certain capital projects that benefit those private properties.
- *Installment Purchase Financings* (G.S. 160A-20)—Authorizes a local government to pledge the asset that is being financed.
- *Special Obligation Bonds* (G.S. 159I)—Authorizes a local government to pledge any unrestricted revenue sources other than local taxes under the unit's control. Also authorizes a local government to pledge the asset that is being financed.
- *Project Development Financings* (G.S. 159, Art. 6)—Authorizes a local government to pledge the incremental increase in property tax proceeds generated, at least in part, by new development in a defined area. (Note that this is not a pledge of a unit's taxing power. And, the pledge of the incremental property tax proceeds is specifically authorized by NC Const. Art. 5, Sect. 14.) Also authorizes a local government to pledge the asset or assets that are being financed and any additional unrestricted revenue sources other than local taxes under the unit's control.

Among these authorized debt mechanisms, the only one that requires voter approval, pursuant to the constitutional limitation, is the issuance of general obligation bonds because it is the only mechanism that authorizes a pledge of the full faith and credit of the unit.[1][2]

The City currently has an outstanding installment purchase contract related to the purchase various pieces of equipment and general obligation debt which was used for the acquisition of public safety equipment and the construction of water and sewer facilities. The general obligation bonds are collateralized by the full faith, credit, and taxing power of the City.

[1] https://www.sog.unc.edu/blogs/coates-canons/legality-non-voted-debt-finance-capital-projects

[2] There are some exceptions to the voter referendum requirement even if the unit pledges its taxing power. The two most significant exceptions are refunding bonds—whereby the unit issues general obligation bonds to refund outstanding general obligation debt—and two-thirds bonds—whereby the unit issues general obligation bonds in an amount that does not exceed two-thirds of the amount by which the unit's outstanding indebtedness was reduced during the preceding fiscal year. (Note that there are certain statutory restrictions on the uses of proceeds from refunding bonds and two-thirds bonds.)

SUPPORTING TABLES

Supporting Table 1: City of Burlington Inputs

Burlington	Jurisdiction
	August 2018 Population
51,703	City of Burlington Population (NCDOR) - Alamance
723	City of Burlington Population (NCDOR) - Guilford
52,426	Total City of Burlington Population
24%	Enrolled in School - All Schools
12,380	Estimated Students - City Population
4,242	Alamance Community College Total Enrollment
2,030	City Enrolled in College
2,212	Nonresidents Enrolled om College
12,380	Estimated Students - City Population
14,592	Estimated Total City Student Population
12:1	ACC Student/Faculty Ratio
53,997	City of Burlington Population (ESRI)
52,709	City of Burlington Population (2017 CAFR)
24,769	Working Population
0.5973	Tax rate per $100
0.05746	Portion for Debt Service Reserve
97.3%	Collection %
$ 414,026,130	2017-18 Motor Vehicle Value (NCDOR) - Alamance
9,119,763	2017-18 Motor Vehicle Value (NCDOR) - Guilford
$ 423,145,893	Total 2017-18 Motor Vehicle Value
$ 523,661,079	Taxable Personal Property - Not Motor Vehicle
$ 3,652,503,962	Real Property Tax Value
14%	Percentage
	Per Capita Revenues
$ 5,658,600	State Shared Taxes
$ 11,923,519	Local Option Sales Tax
$ 350,000	Cable TV Franchise Tax

	Annual Police Cost
$ 36,224	Site A - Pre
$ 22,640	Site B - Pre
800	Site A - Pre Calls for Service
500	Site B - Pre Calls for Service
$ 45.28	Site A Cost per Call
$ 45.28	Site B Cost per Call
	Annual Fire Cost
31	Site A - Pre Calls for Service
14	Site B - Pre Calls for Service
$ 192.76	Site A Cost per Call
$ 192.76	Site B Cost per Call

Source: City of Burlington, DPFG 2019

Supporting Table 2: Fire Department Calls for Services

Comparables	Comps: Incidents 2015-17	3-Year Projections	Sq Feet	Description	Site
BK, Bojangles, Hardees*	7	23	12,500	Fast Food	A
ACC**	11	22	100,000	Community College	A
Tapco/Koury Building***	8	19	243,000	Flex Office/Light Industrial	A
LabCorp Office 430 Spring St.	-	-	-	Office	A
Harris Teeter	32	114	178,000	Retail	A
Cracker Barrel, Golden Corale, San Marcos****	51	37	18,200	Casual Dining	A
Assumed		3	23,985	Day Care	A
Assumed		3	76,027	Church, Nichols Dodge	A
Total	109	221	651,712		
Average Annual Calls for Service		74			

Comparables	Comps: Incidents 2015-17	3-Year Projections	Sq Feet/ Rooms	Description	Site
Best Western	19	19	130	Hotel	B
			80,454	Hotel Sq Ft	
Woodland Heights (240 apts)	70	51	220	Multifamily	B
BJ's	15	5	25,000	Retail	B
BK, Bojangles, Hardees*	7	5	2,676	Fast Food	B
Cracker Barrel, Golden Corale, San Marcos****	51	22	11,000	Casual Dining	B
Harris Teeter	32	20	31,146	Grocery Store	B
BJ's	15	20	104,480	Antique Store	B
Assumed		3	83,637	Manufacturing	B
Assumed		3	17,236	Mini-warehouse	B
Assumed		3	23,488	Church	B
Assumed		3	1,104	Office	B
Assumed		3	4,663	Single-Family	B
BJ's	15	7	36,573	Retail	B
Total	224	163	421,457		
Average Annual Calls for Service		54			

Source: City of Burlington, DPFG 2019

Supporting Table 3: Persons per Housing Unit

Housing Type	Units	Units	Persons	Persons per Unit
1, detached	15,626			
1, attached	1,017	16,643	38,839	2.33
2	980			
3 or 4	1,366			
5 to 9	1,526			
10 to 19	1,475			
20 to 49	792			
50 or more	554	6,693	10,640	1.59
Mobile Home	770	770	2,117	2.75
Boat, RV, Van	-	-		
	24,106	24,106	51,596	2.14

Source: U.S. Census Bureau, City of Burlington, DPFG 2019

Supporting Table 4: Tax Value per Square Foot

	Alamance County Property Appraiser
$ 37.40	Flex Office/Light Industrial
$ 107.98	Fast Food
$ 190.57	Casual Dining
$ 93.18	Site A Retail
$ 83.53	Site B Retail
$ 66,841.00	Apartments, per unit
$ 165.62	Daycare (Existing Study Area Comp)

Supporting Table 5: Functional Population Site A Before

Functional Population				
Description	Burlington Population	Functional Population Coefficient	Functional Population	%
Working	24,769	0.5417	13,417	
Students	12,380	0.6250	7,738	
Non-Working	14,554	0.8333	12,128	
Permanent Population	51,703	0.6437	33,283	56%
Jobs by Place of Work				
Agriculture Forestry, Fishing, & Hunting	35	0.3790	13	
Construction	848	0.2710	230	
Manufacturing	5,214	0.2700	1,408	
Wholesale Trade	571	0.2710	155	
Retail Trade	7,271	1.1730	8,529	
Transportation,Warehousing & Utilities	1,016	0.2710	275	
Information	459	0.2710	124	
Finance, Insurance, Real Estate, Rental & Leasing	2,526	0.2920	738	
Professional, Scientific, Management, Administrative & Waste Management	2,253	0.2710	611	
Education, Health, and Social Services	9,125	0.5680	5,183	
Arts, Entertainment, Recreation, Accommodation, & Food Services	4,978	0.5680	2,828	
Other Services - except public administration	1,898	0.5680	1,078	
Public Administration	1,698	0.4970	844	
Total	37,892	0.5810	22,016	37%
Students	14,592	0.2679	3,909	7%
	Functional Population		59,208	100%

Site A	Site A Population	Functional Population Coefficient	Functional Population
Projected Residents	-	0.6437	-
Projected ACC Students	680	0.2679	182
Projected Employees			
Retail Trade	214	1.1730	251
Education, Health, and Social Services	23	0.5680	13
Arts, Entertainment, Recreation, Accommodation, & Food Services	86	0.5680	49
Other Services - except public administration	25	0.5680	14
Total Employees	348	0.9397	327
Total Functional Population	1,028		509

Source: Alamance County Community College, City of Burlington, DPFG, 2019

Supporting Table 6: Functional Population Site A After

Functional Population				
Description	Burlington Population	Functional Population Coefficient	Functional Population	%
Working	24,769	0.5417	13,417	
Students	12,380	0.6250	7,738	
Non-Working	14,554	0.8333	12,128	
Permanent Population	51,703	0.6437	33,283	56%
Jobs by Place of Work				
Agriculture Forestry, Fishing, & Hunting	35	0.3790	13	
Construction	848	0.2710	230	
Manufacturing	5,214	0.2700	1,408	
Wholesale Trade	571	0.2710	155	
Retail Trade	7,271	1.1730	8,529	
Transportation,Warehousing & Utilities	1,016	0.2710	275	
Information	459	0.2710	124	
Finance, Insurance, Real Estate, Rental & Leasing	2,526	0.2920	738	
Professional, Scientific, Management, Administrative & Waste Management	2,253	0.2710	611	
Education, Health, and Social Services	9,125	0.5680	5,183	
Arts, Entertainment, Recreation, Accommodation, & Food Services	4,978	0.5680	2,828	
Other Services - except public administration	1,898	0.5680	1,078	
Public Administration	1,698	0.4970	844	
Total	37,892	0.5810	22,016	37%
Students	14,592	0.2679	3,909	7%
	Functional Population		59,208	100%

Site A	Site A Population	Functional Population Coefficient	Functional Population
Projected Residents	-	0.6437	-
Projected ACC Students	872	0.2679	234
Projected Employees			
Manufacturing	458	0.2700	124
Retail Trade	198	1.1730	232
Education, Health, and Social Services	28	0.5680	16
Arts, Entertainment, Recreation, Accommodation, & Food Services	168	0.5680	95
Other Services - except public administration	23	0.5680	13
Total Employees	875	0.5486	480
Total Functional Population	1,747		714

Source: Alamance County Community College, City of Burlington, DPFG, 2019

Supporting Table 7: Functional Population Site B Before

Functional Population				
Description	Burlington Population	Functional Population Coefficient	Functional Population	%
Working	24,769	0.5417	13,417	
Students	12,380	0.6250	7,738	
Non-Working	14,554	0.8333	12,128	
Permanent Population	51,703	0.6437	33,283	56%
Jobs by Place of Work				
Agriculture Forestry, Fishing, & Hunting	35	0.3790	13	
Construction	848	0.2710	230	
Manufacturing	5,214	0.2700	1,408	
Wholesale Trade	571	0.2710	155	
Retail Trade	7,271	1.1730	8,529	
Transportation,Warehousing & Utilities	1,016	0.2710	275	
Information	459	0.2710	124	
Finance, Insurance, Real Estate, Rental & Leasing	2,526	0.2920	738	
Professional, Scientific, Management, Administrative & Waste Management	2,253	0.2710	611	
Education, Health, and Social Services	9,125	0.5680	5,183	
Arts, Entertainment, Recreation, Accommodation, & Food Services	4,978	0.5680	2,828	
Other Services - except public administration	1,898	0.5680	1,078	
Public Administration	1,698	0.4970	844	
Total	37,892	0.5810	22,016	37%
Students	14,592	0.2679	3,909	7%
	Functional Population		59,208	100%

Site B	Site B Population	Functional Population Coefficient	Functional Population
Projected Residents	7	0.6437	5
Projected Employees			
Manufacturing	60	0.2700	
Retail Trade	137	1.1730	161
Education, Health, and Social Services		0.5680	-
Arts, Entertainment, Recreation, Accommodation, & Food Services	31	0.5680	18
Other Services - except public administration	9	0.5680	5
Total Employees	237	0.7764	184
Total Functional Population	244		189

Source: City of Burlington, DPFG, 2019

Supporting Table 8: Functional Population Site B After

Functional Population				
Description	Burlington Population	Functional Population Coefficient	Functional Population	%
Working	24,769	0.5417	13,417	
Students	12,380	0.6250	7,738	
Non-Working	14,554	0.8333	12,128	
Permanent Population	51,703	0.6437	33,283	56%
Jobs by Place of Work				
Agriculture Forestry, Fishing, & Hunting	35	0.3790	13	
Construction	848	0.2710	230	
Manufacturing	5,214	0.2700	1,408	
Wholesale Trade	571	0.2710	155	
Retail Trade	7,271	1.1730	8,529	
Transportation,Warehousing & Utilities	1,016	0.2710	275	
Information	459	0.2710	124	
Finance, Insurance, Real Estate, Rental & Leasing	2,526	0.2920	738	
Professional, Scientific, Management, Administrative & Waste Management	2,253	0.2710	611	
Education, Health, and Social Services	9,125	0.5680	5,183	
Arts, Entertainment, Recreation, Accommodation, & Food Services	4,978	0.5680	2,828	
Other Services - except public administration	1,898	0.5680	1,078	
Public Administration	1,698	0.4970	844	
Total	37,892	0.5810	22,016	37%
Students	14,592	0.2679	3,909	7%
	Functional Population		59,208	100%

Site B	Site B Population	Functional Population Coefficient	Functional Population
Projected Residents	357	0.6437	230
Projected Employees			
Manufacturing	60	0.2700	16
Retail Trade	137	1.1730	161
Arts, Entertainment, Recreation, Accommodation, & Food Services	51	0.5680	29
Other Services - except public administration	9	0.5680	5
Total Employees	257	0.8210	211
Total Functional Population	614		441

Source: City of Burlington, DPFG, 2019

Supporting Table 9: Site B Residential Population

Housing Type	Units	Person per Housing Unit	Persons
Existing:			
Single Family Homes	3	2.33	7
Future:			
Single Family Homes	3	2.33	7
Multifamily	220	1.59	350
Total Site B Population	223		357
Net Population Increase			350

Source: U.S. Census Bureau, DPFG, 2019

Supporting Table 10: Site A Real Property Tax Values

	Existing Sq Ft	Future Sq Ft	Existing Tax Value	Tax Value per Sq Ft	Future Tax Value
New Land Uses:					
New Flex Office/Light Industrial	N/A	243,000	N/A	$ 37.40	$ 9,088,000
New Retail	N/A	48,671	N/A	$ 93.18	4,535,000
New Fast Food	N/A	5,498	N/A	$ 107.98	594,000
New Casual Dining	N/A	18,200	N/A	$ 190.57	3,468,000
Alamance Community College Expansion	N/A	54,352	N/A	$ -	-
Total New Land Uses		369,721			$ 17,685,000
Relocate Onsite Existing Land Uses:					
Retail	39,200	39,200	N/A	$ 93.18	$ 3,653,000
Fast Food	3,364	3,364	N/A	$ 107.98	363,000
Day Care	23,985	23,985	N/A	$ 165.62	3,972,000
Total Relocated Onsite Existing Land Uses	66,549	66,549			$ 7,988,000

	Existing Sq Ft	Future Sq Ft	Existing Tax Value	Hypothetical Appreciation %	Future Tax Value
Existing Land Uses:					
Retail	90,129	90,129	$ 5,792,575		$ 5,793,000
Fast Food	3,638	3,638	438,239		438,000
Alamance Community College	45,648	45,648	-		-
Other	76,027	76,027	3,019,350		3,019,000
Total Existing Land Uses	215,442	215,442	$ 9,250,164		$ 9,250,000
Total Site A	281,991	651,712	$ 9,250,164		$ 34,923,000

Source: Alamance County Tax Office, DPFG, 2019

Supporting Table 11: Site A Employment

Land Use	Existing Sq Ft	Future Sq Ft	Existing Employees	Sq Ft per Employee	Future Employees
New Land Uses:					
New Flex Office/Light Industrial	N/A	243,000	N/A	530	458
New Retail	N/A	48,671	N/A	550	88
New Fast Food	N/A	5,498	N/A	121	45
New Casual Dining	N/A	18,200	N/A	435	42
Alamance Community College Expansion	N/A	54,352	N/A		5
Total New Land Uses		369,721			638
Relocate Onsite Existing Land Uses:					
Retail	39,200	39,200	10		10
Fast Food	3,364	3,364	51		51
Day Care	23,985	23,985	18		18
	66,549	66,549	79		79
	Sq Ft	Future Sq Ft	Existing Employees		Future Employees
Existing Land Uses:					
Retail	90,129	90,129	52		52
Fast Food	3,638	3,638	30		30
Alamance Community College	45,648	45,648	23		23
Other	76,027	76,027	53		53
Total Existing Land Uses	215,442	215,442	158		158

Source: City of Burlington, DPFG, 2019

Supporting Table 12: Site B Real Property Tax Values

Land Use	Existing Sq. Ft. Rooms Units	Future Sq. Ft. Rooms Units	Existing Tax Value	Tax Value per Sq Ft	Future Tax Value
New Land Uses:					
Casual Dining	N/A	11,000	N/A	$ 190.57	$ 2,096,000
Retail	N/A	10,000	N/A	$ 83.53	835,000
Total New Land Uses		21,000			$ 2,931,000
Multifamily	N/A	220	N/A	$ 66,841	14,705,000
Relocate Onsite Existing Land Uses:					
Retail	15,000	15,000	N/A	$ 83.53	1,253,000

	Existing Sq. Ft. Units	Future Sq. Ft. Units	Existing Tax Value	Hypothetical Appreciation %	Future Tax Value
Existing Land Uses					
Grocery Store	31,146	31,146	$ 1,872,864		$ 1,873,000
Antique Store	104,480	104,480	2,080,137		2,080,000
Hotel	80,454	80,454	1,712,312		1,712,000
Fast Food	2,676	2,676	700,223		700,000
Other	166,701	166,701	10,394,404		10,394,000
Total Existing Land Uses	385,457	385,457	$ 16,759,940		$ 16,759,000
Total Site B	400,457	421,457			$ 35,648,000

Source: Alamance County Tax Office, DPFG, 2019

Supporting Table 13: Site B Employment

Land Use	Existing Sq. Ft. Units	Future Sq. Ft. Units	Existing Employees	Sq Ft per Employee	Future Employees
New Land Uses:					
Casual Dining	N/A	11,000	N/A	435	25
Retail	N/A	10,000	N/A	550	18
Total Retail		21,000			43
Multifamily	N/A	220	N/A		
Relocate Onsite Existing Land Uses:					
Retail	15,000	15,000	12		12

Land Use	Existing Sq. Ft. Units	Future Sq. Ft. Units	Existing Employees	Future Employees
Existing Land Uses				
Grocery Store	31,146	31,146	55	55
Antique Store	104,480	104,480	10	10
Hotel	80,454	80,454	6	6
Fast Food	2,676	2,676	20	20
Retail	36,573	36,573	42	42
Other	130,128	130,128	69	69
	385,457	385,457	202	202
Relocated Offsite Land Uses	20,027	-	23	-
Total Site B	420,484	421,457	237	257

Source: City of Burlington, DPFG, 2019

GENERAL AND LIMITING CONDITIONS

Every reasonable effort has been made to ensure that the data contained in this report are accurate as of the date of this study; however, factors exist that are outside the control of DPFG and that may affect the estimates and/or projections noted herein. This study is based on estimates, assumptions and other information developed by DPFG from its independent research effort, general knowledge of the industry, and information provided by and consultations with the client and the client's representatives. No responsibility is assumed for inaccuracies in reporting by the client, the client's agent and representatives, or any other data source used in preparing or presenting this study.

This report is based on information that was current as of March 2019, and DPFG has not undertaken any update of its research effort since such date.

Because future events and circumstances, many of which are not known as of the date of this study, may affect the estimates contained therein, no warranty or representation is made by DPFG that any of the projected values or results contained in this study will actually be achieved.

Possession of this study does not carry with it the right of publication thereof or to use the name of DPFG in any manner without first obtaining the prior written consent of DPFG. No abstracting, excerpting or summarization of this study may be made without first obtaining the prior written consent of DPFG. Further, DPFG has served solely in the capacity of consultant and has not rendered any expert opinions. This report is not to be used in conjunction with any public or private offering of securities, debt, equity, or other similar purpose where it may be relied upon to any degree by any person other than the client, nor is any third party entitled to rely upon this report, without first obtaining the prior written consent of DPFG. This study may not be used for purposes other than that for which it is prepared or for which prior written consent has first been obtained from DPFG. Any changes made to the study, or any use of the study not specifically prescribed under agreement between the parties or otherwise expressly approved by DPFG, shall be at the sole risk of the party making such changes or adopting such use.

This study is qualified in its entirety by, and should be considered in light of, these limitations, conditions and considerations.

RENEW MAPLE AVENUE

A CITY OF BURLINGTON CORRIDOR INITIATIVE