Chapter 2 – Existing Conditions

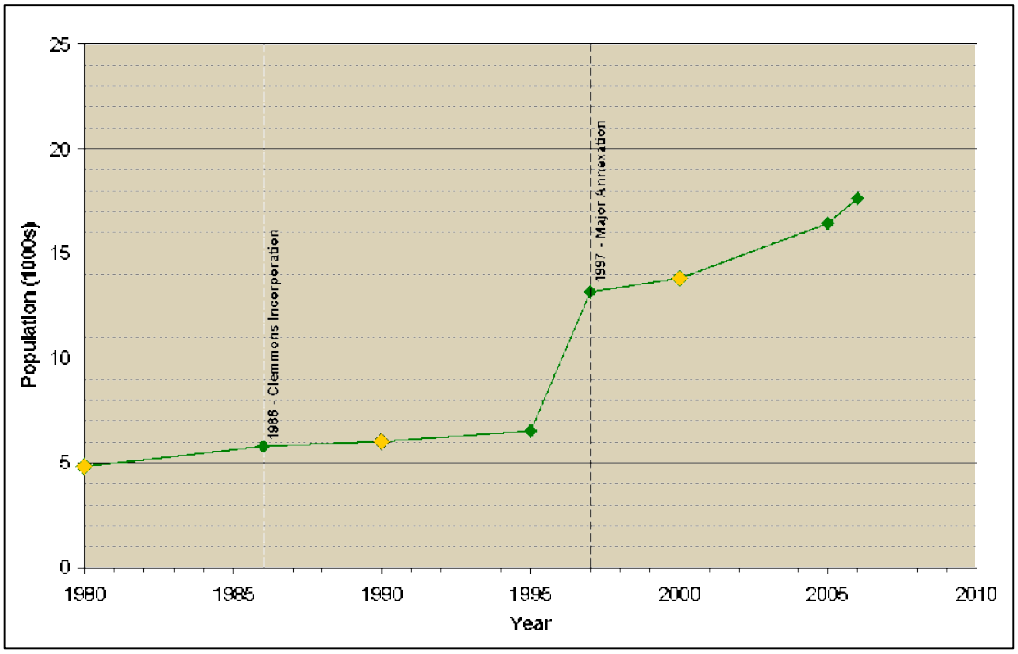
Introduction

As mentioned in **Chapter 1**, Clemmons and the immediate surrounding areas have experienced tremendous growth in recent years. This trend is expected to continue as Clemmons reinforces its reputation as a dynamic community by addressing new challenges and providing valuable opportunities. As a part of the growing Triad community, Clemmons is in an excellent position to address emerging issues.

Developing the Clemmons Village Transportation Plan is one indication of the community's efforts to deal with growth proactively. This potential for growth is shown by the expanse of the plan's study area (illustrated in **Figure 2.1**). The interactions with the neighboring Town of Lewisville, City of Winston-Salem, Tanglewood Park, Davidson County, and Davie County are imperative to the success of this plan.

This plan addresses the area's transportation needs by identifying both general and specific transportation system improvement recommendations and strategies. It is important to acknowledge that these recommendations are intended to support a diversified transportation system that considers not only the automobile, but also the bicyclist, the pedestrian, and the transit patron. The Clemmons Village Transportation Plan considers the Village's previous and on-going planning work, including the *Clemmons Area Development Guide, Unified Development Ordinance,* and other small area land use plans and development guides prepared in coordination with these documents.

The population of Clemmons grew at a steady pace from 1980 to 2000 after accounting for a major annexation in 1997, but recent projections show that the pace may be increasing.



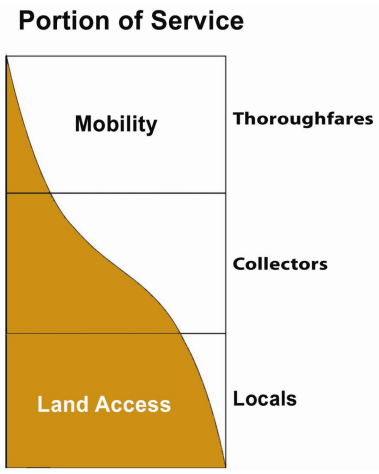
This plan is not intended to simply plan for the sake of planning, but to identify ways to implement projects to benefit and build the community. As a result, the Clemmons Village Transportation Plan considers practical issues and includes discussion on strategies, methods, and sources of funding for implementation.

Roadway Element

Functional Classification

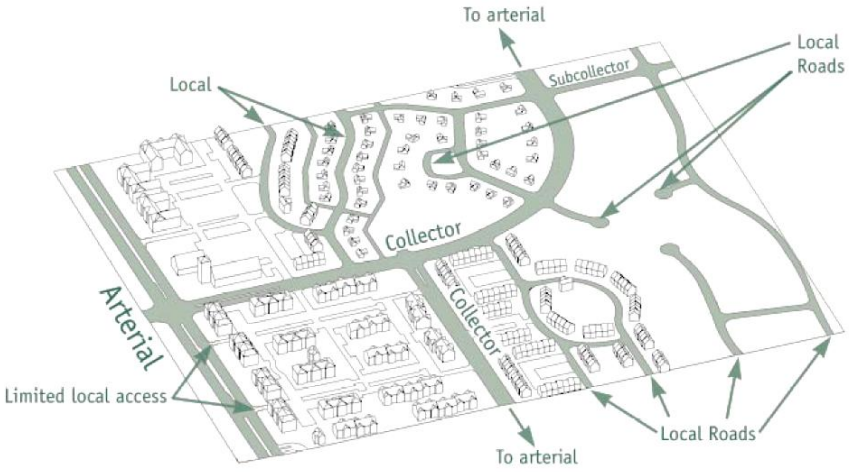
Functional classification is the process by which streets of different characteristics and usage are grouped into broad categories depending on the service they are intended to provide. These categories are defined by the roadway character and traffic operation of streets. NCDOT criteria were used to evaluate and identify existing and future highways. Classifying Clemmons's street system required close examination of roles that each street performs in the overall transportation system. Classification groups typically include:

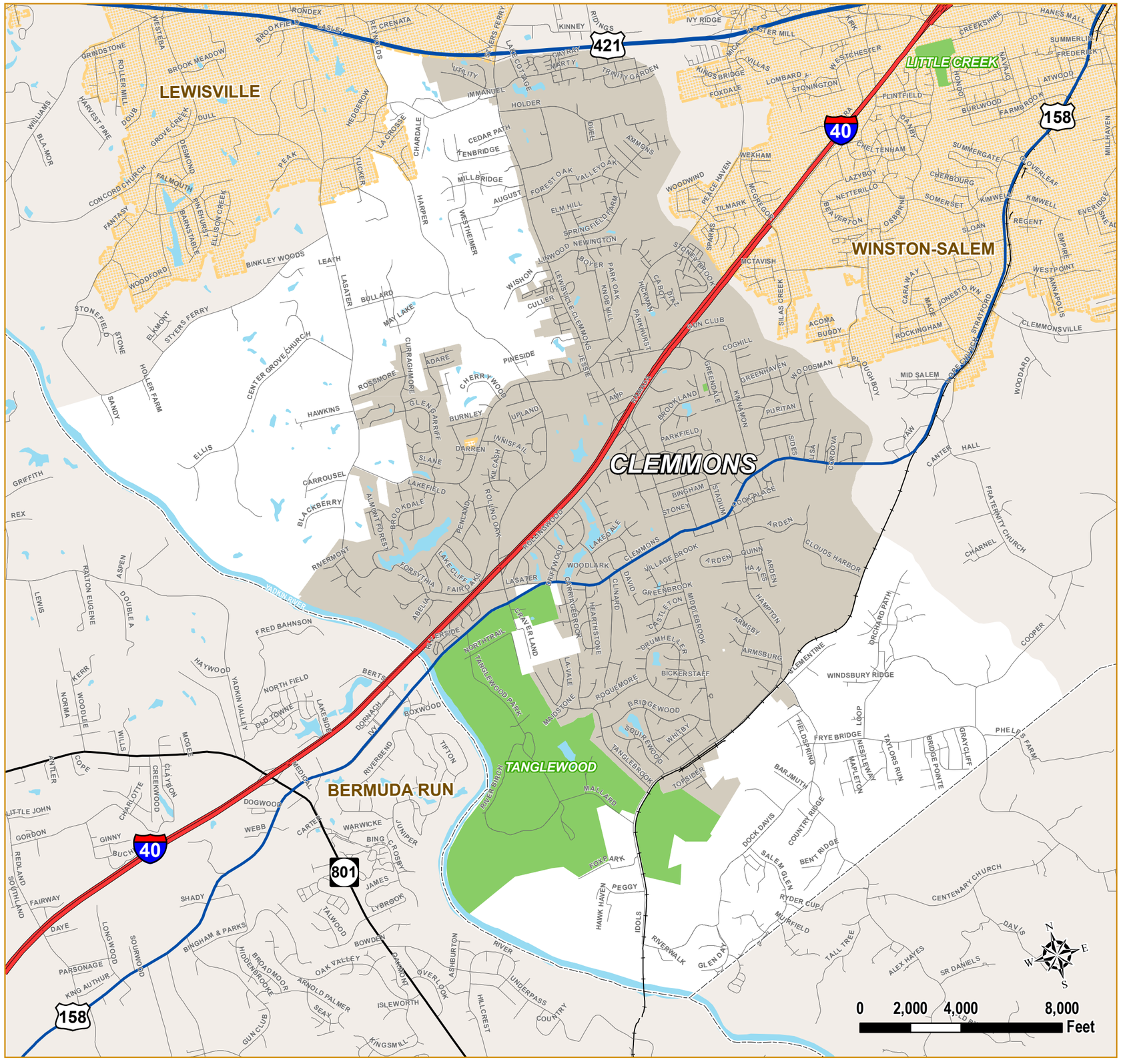
- **Thoroughfares** — These facilities provide high mobility, operate at higher speeds (45 mph and above), provide significant roadway capacity, have a great degree of access control, and serve longer distances. Arterials include facilities with full access control such as freeways and expressways, as well as boulevards and major thoroughfares. Examples of arterials include Interstate I-40, US 421, and US Highway 158 (Clemmons Road).
- **Collectors** — These facilities bridge the gap between arterials and local streets by gathering traffic from the locals and expediting their movement. They provide critical connections in the roadway network. Collectors operate at lower posted speeds (35 mph or less) and serve shorter distances than arterials. Examples of collectors include Tanglebrook Trail and Ridgecrest Drive.
- **Locals** — These facilities provide greater access and the least amount of mobility. They are typically connected to one another or to collector streets and provide a high level of access to adjacent land uses/development (i.e., frequent driveways). Locals serve short distance travel and have low posted speed limits (25 mph to 35 mph). Most subdivision streets are considered local streets.



Ideally, certain street types operate as a function of mobility and access, based on size and location. Problems such as congestion and speeding often occur when operations fall outside that balance.

Clemmons's existing thoroughfare plan is shown in **Figure 2.2** and outlines the functional classifications of the streets within the Village's transportation system.





CLEMMONS
Village Transportation Plan
Staging the Future for Mobility and Livability

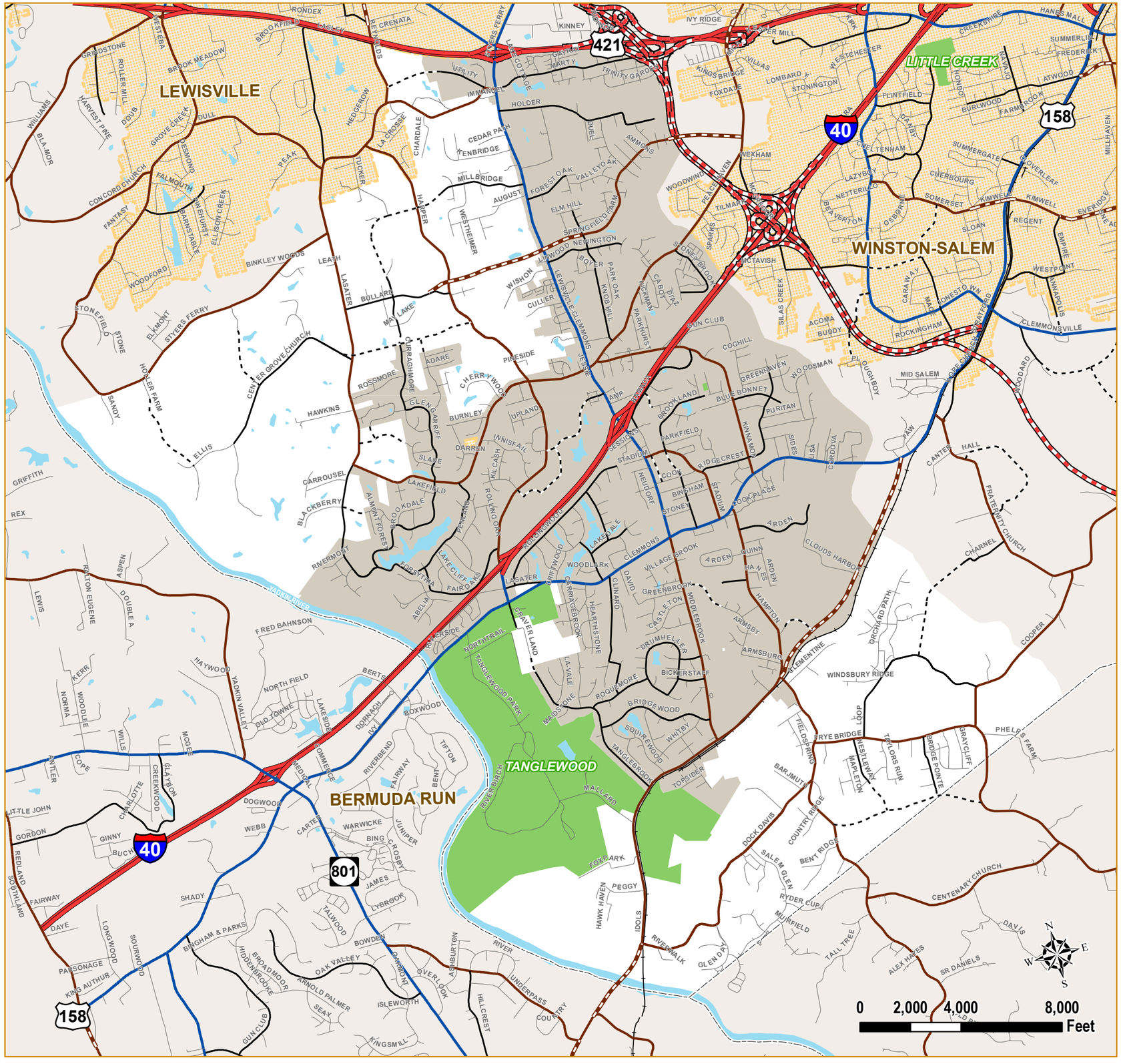
Legend

- Interstate
- US Highway
- State Highway
- Street
- Railroad
- Study Area
- Clemmons
- Neighboring Community
- County Boundary
- Body of Water
- Park

Kimley-Horn and Associates, Inc.

Study Area

Figure 2.1



CLEMMONS
Village Transportation Plan
Staging the Future for Mobility and Livability

Legend

Existing Throughfare Plan

- Freeway/Expressway
- Major Thoroughfare
- Minor Thoroughfare
- Collector Street
- Local Street
- Proposed Freeway/Expressway
- Proposed Major Thoroughfare
- Proposed Minor Thoroughfare
- Proposed Collector Street
- Railroad

- Study Area
- Clemmons
- Neighboring Community
- County Boundary
- Body of Water
- Park

THE VILLAGE OF CLEMMONS FORSYTH CO., N.C. FOUNDED 1968 INCORPORATED 1998

Kimley-Horn and Associates, Inc.

Existing Thoroughfare Plan

Figure 2.2

Classification Criteria

To classify Clemmons streets, a set of qualitative and quantitative criteria was applied uniformly to the street system. These criteria were provided by the NCDOT Transportation Planning Branch and included information relating to access (and control), intersection control, mobility function, types of trips served, number of travel lanes, and other characteristics that define the particular class street. These classifications were used when considering possible facility upgrades and recommendations. The NCDOT classification criteria follow.

Table 2.1 Roadway Classification Criteria

	Freeways	Expressways
Functional Purpose	• High mobility • High volume • High speed	• High mobility • High volume • Medium-high speed
Posted Speed Limit	• 55 mph or greater	• 45 to 60 mph
Cross-Section	• Min. 4 lanes with continuous median	• Min. 4 lanes with median
Multi-Modal Elements	• High occupancy vehicle (HOV) / High occupancy toll (HOT) lanes • Busways • Truck lanes • Park-and-Ride Facilities at or near interchanges • Adjacent shared use paths (separate from roadway; outside ROW)	• HOV lanes • Busways • Very wide paved shoulders (rural) • Adjacent hared use paths (separate from roadway; within ROW)
Type of Access Control	• Full	• Limited or partial
Access Management	• Interchange spacing (urban = 1 mi; non-urban = 3 mi.) • Full control of access for 1,000 ft at interchanges • Use of frontage roads and rear service roads • Median breaks for emergency access only	• Interchange / full access intersection spacing (2,500 ft) • Median breaks only at intersections or to permit u-turns • Use of frontage roads and rear service roads • Use of acceleration/deceleration or right-turn roadways
Intersecting Facilities	• Interchange or grade separation (no signals or at-grade intersections)	• Interchange • Right-in/right-out and/or left-over or grade separation (no signalization for through traffic)
Driveways	• Not allowed	• Right-in/right-out only; direct driveway access via service roads or other alt. connections

Table 2.1 Roadway Classification Criteria (continued)

	Major Thoroughfares	Minor Thoroughfares/Collectors
Functional Purpose	• Moderate mobility • Moderate access • Moderate volume • Moderate speed	• Balanced mobility and access • Moderate volume • Low to moderate speed
Posted Speed Limit	• 30 to 55 mph	• 25 to 45 mph
Cross-Section	• 2 or more lanes with median	• 2 lanes with or without landscaped or continuous median
Multi-Modal Elements	• Bus stops • Bike lanes (urban) or wide paved shoulders (rural) • Sidewalks (urban)	• Bus stops • Bike lanes/wide outside lanes (urban) or wide paved shoulders (rural) • Sidewalks (urban)
Type of Access Control	• Partial to none	• None
Access Management	• 2-lane facilities may have medians with crossovers • Medians with turn lanes and appropriately spaced median breaks • Optional use of acceleration/deceleration lanes • Shared driveways and cross-connectivity encouraged for abutting properties	• Continuous left turn lanes • Shared driveways and cross-connectivity encouraged for abutting properties
Intersecting Facilities	• At-grade intersections and driveways • Interchange at special locations with high volumes	• Intersections and driveways
Driveways	• Primarily right-in/right-out (some in combination with median leftovers • Major driveways may be full movement when access not possible using an alternate roadway	• Full movement on 2-lane with center turn lane as permitted by the current NCDOT Driveway Manual

System Deficiencies

Figure 2.3 illustrates 2005 average annual daily traffic (AADT) volumes in vehicles per day (vpd) on roadways in the Clemmons area. Corridors that displayed noticeably high traffic volumes included sections of the following:

- Interstate I-40 east of Peace Haven Road – 63,000 vpd
- Interstate I-40 west of Lewisville-Clemmons Road – 57,000 vpd
- US Highway 421 east of Peace Haven Road – 54,000 vpd
- Lewisville-Clemmons Road south of Interstate I-40 – 38,000 vpd
- Lewisville-Clemmons Road south of US Highway 421 – 25,000 vpd
- Clemmons Road east of Kinnamon Road – 17,000 vpd
- Peace Haven Road east of Lewisville-Clemmons Road – 12,000 vpd

The rapid growth of Clemmons has resulted in peak hour traffic congestion along many roadway corridors. During morning and afternoon peak travel periods, sections of commuter corridors are frequently congested. In some cases, travel speed is even reduced to a crawl. Several roadways in the study area that are heavily congested include sections of Lewisville-Clemmons Road, Clemmons Road, Interstate I-40 and US Highway 421. These roadways can experience heavy traffic and considerable delays during peak hours. **Figure 2.4** illustrates existing levels of service based on peak hour volume-to-capacity (V/C) ratios.

According to the Highway Capacity Manual, level-of-service (LOS) is a measure used to describe the operation conditions that drivers experience in a traffic stream. Level–of-service is designated by letter, similar to grades in school, with A representing the best conditions and F the worst. LOS A is generally free-flow with few delays, while LOS F constitutes highly congested, stop-and-go conditions. LOS D or better is generally considered acceptable. At LOS D, the roadway is busy, but traffic is still flowing at a reasonable speed.

Traffic Safety and Crash History

Assessing traffic safety is a key component to any successful transportation plan, and a thorough examination of crash history and traffic patterns can typically predict key locations where an improvement in traffic safety will be beneficial. According to data published by the NCDOT, the cost of an average crash to the community is typically $47,000.[1] This cost includes medical care, emergency services, victim work loss, employer cost, travel delay, property damage, and the overall quality of life. Costs for various types of crashes are provided in **Table 2.2**. Crash Type A refers to injuries that are disabling, Type B injuries are those which are evident, but not disabling, and Type C injuries are possible injuries, perhaps not reported at the time of the crash.

Table 2.2 NCDOT Cost per Crash Statistics

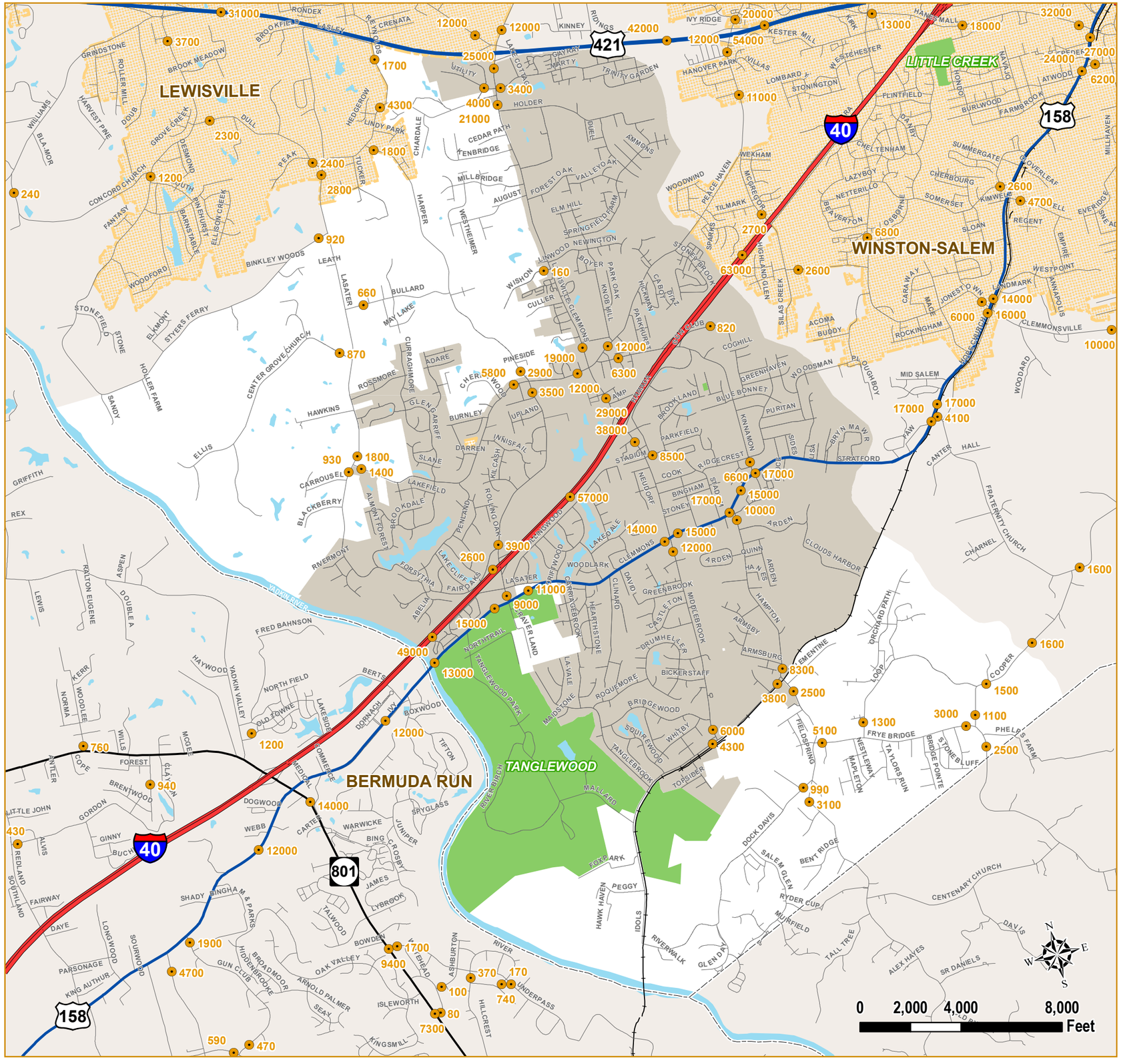
Crash Type	Cost Per Crash (2006 dollars)	
	Monetary	Comprehensive
Fatal Crash	$1,400,000	$4,000,000
A Injury Crash	$75,000	$240,000
B Injury Crash	$28,000	$69,000
C Injury Crash	$16,000	$33,000
Property Damage Only Crash	$4,100	$4,700
Average Crash	$19,000	$47,000
Non-Fatal Injury Crash	$21,000	$51,000
Severe Injury Crash (F+A)	$530,000	$1,500,000
Moderate Injury Crash (B+C)	$19,000	$43,000

Source: http://www.ncdot.org/doh/preconstruct/traffic/safety/ses/costs/2006crashcosts.pdf

A traditional approach to determining locations for safety countermeasures involves a thorough study of the number of crashes in a location and the associated crash rate for the location. The Clemmons analysis built on this approach, while factoring in other key components such as the overall severity of crashes, crash type, and facility type. The inclusion of these components creates a priority ranking system to ensure money earmarked for safety projects is spent in the most efficient and cost-effective manner.

Crashes on segments of roadway and intersections of major roadways were examined, as described in the following pages.

[1] Data for NCDOT Crash Cost based on 2006 dollars (published August 7, 2007)



CLEMMONS
Village Transportation Plan
Staging the Future for Mobility and Livability

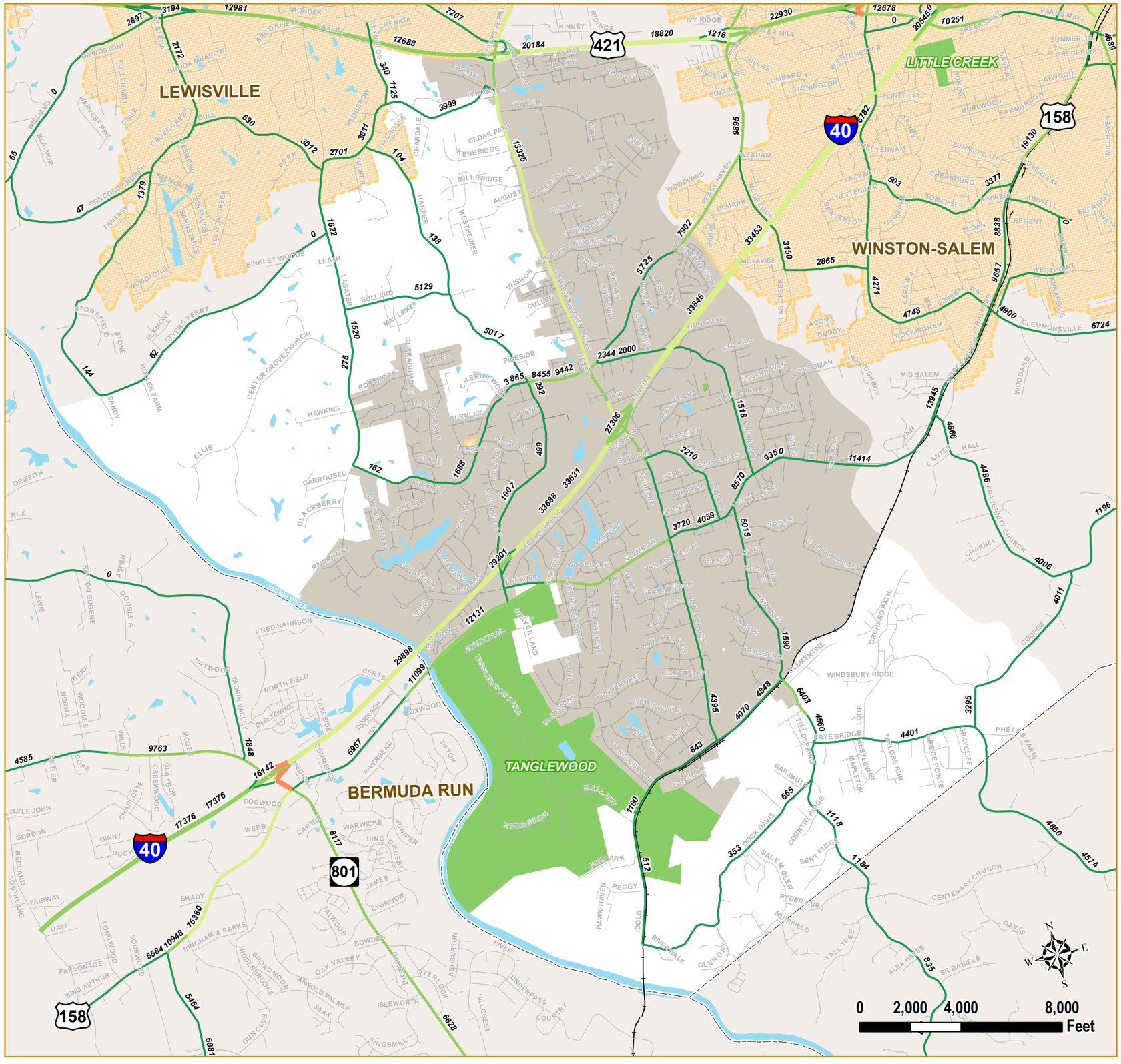
Legend

- 2005 AADT Count Location
- Interstate
- US Highway
- State Highway
- Street
- Railroad
- Study Area
- Clemmons
- Neighboring Community
- County Boundary
- Body of Water
- Park

Kimley-Horn and Associates, Inc.

2005 AADT Volumes (NCDOT)

Figure 2.3



CLEMMONS
Village Transportation Plan
Staging the Future for Mobility and Livability

Legend

2002 Model Level-of-Service

- LOS A
- LOS B
- LOS C
- LOS D
- LOS E
- LOS F
- ##### Model Traffic Volume

- Study Area
- Clemmons
- Neighboring Community
- County Boundary
- Body of Water
- Park
- Railroad

Kimley-Horn and Associates, Inc.

2002 Triad Model Level-of-Service

Figure 2.4

Segment Data

NCDOT provided corridor-based crash data for 18 roadway segments in the Clemmons area. This data represented all crashes between June 1, 2004 and May 31, 2007. Priority rankings were developed using a scoring method based on AADT[2], total crashes, equivalent property damage only (EPDO) index[3] and severity index[4], crash rate[5] and how it compares with similar roadways around the state[5]. A score was assigned representing each characteristic based on a local distribution of the characteristic itself. The top ten priority rankings for this analysis are shown in **Table 2.3**.

Table 2.3 Segment Priority Rankings (Crash Data Analyzed June 1, 2004 to May 31, 2007)

No.	Corridor	Extents	AADT[2]	Crashes	EPDO[3] (Severity[4])	Crash Rate[5] (Statewide Comparison[6])	Priority Score[7]
1	Lewisville-Clemmons Rd.	US 158/Clemmons Rd. to US 421 WB Ramps	25,100	488	2,021.28 (4.14)	446.1 (+44.0, 11%)	44
2	US 421	I40/I40 Business to Williams Rd/Concord Church Rd.	20,000	280	1,731.88 (6.19)	210.3 (+67.7, 48%)	41
3	I-40	Davie County Line to I-40 Business/US 421	59,700	201	797.44 (3.97)	49.1 (-88.9, 64%)	39
4	Styers Ferry Rd.	Dull Rd. to Lewisville-Clemmons Rd.	4,100	56	437.84 (7.82)	721.0 (+418.2, 138%)	36
5	US 158/ Clemmons Rd.	Davie County Line to Fraternity Church Rd.	15,300	151	627.56 (4.16)	198.5 (varies but lower for all segments)	36
6	Peace Haven Rd.	Lasater Rd. (SR 1100) to US 421 WB Ramps	10,800	130	448.20 (3.45)	209.8 (-261.7, 56%)	35
7	Harper Rd.	Styers Ferry Rd. to US 158/Clemmons Rd.	2,300	61	345.16 (5.66)	569.9 (+98.4, 21%)	33
8	Marty Ln.	Lewisville-Clemmons Rd. to Oak Creek Ct.	3,400	43	319.76 (7.44)	1,050.0 (+578.5, 122%)	32
9	Kinnamon Rd.	Peace Haven Rd. to US 158/Clemmons Rd.	6,500	41	197.88 (4.83)	314.8 (-156.7, 33%)	32
10	Lewisville-Clemmons Rd./ Middlebrook Dr.	Idols Rd. to US 158/Clemmons Rd.	10,200	40	159.88 (4.00)	232.6 (-238.9, 51%)	30

[2] AADT taken from crash data provided by NCDOT Traffic Survey Unit

[3] EDPO index = 76.8*(Fatal + Type A Injury) + 8.4*(Type B Injury +Type C Injury) + Property Damage Only Crashes

[4] Severity index = EPDO index / # of crashes

[5] Segment Crash Rate = (Total crashes*1,000,000)/(AADT*365 days per year*3-year analysis period*length of segment); reported as crashes per million vehicle miles traveled (MVM)

[6] Compared to statewide crash rates from urban roadways of similar designation and laneage

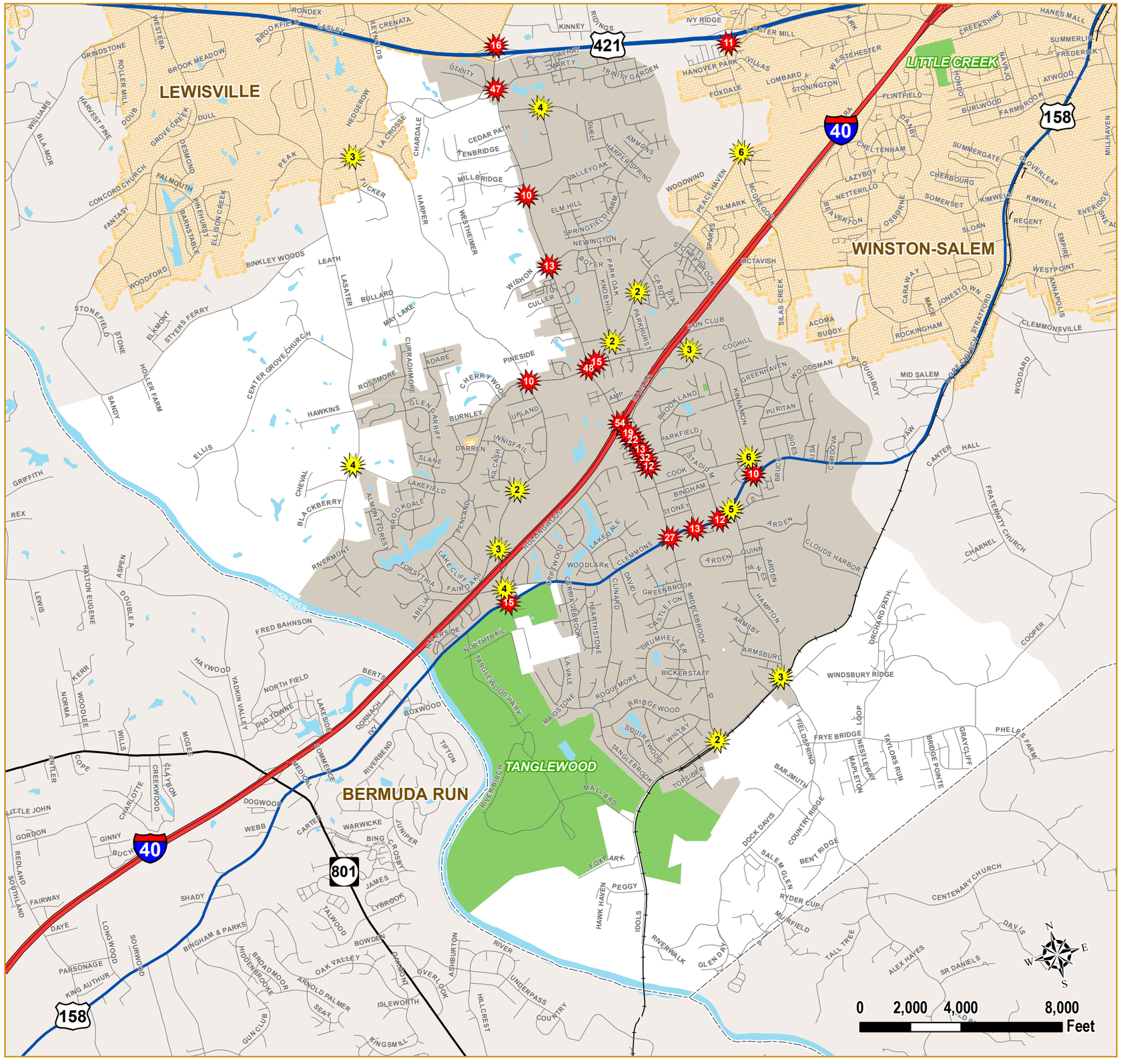
[7] Out of maximum score of 50

Intersection Data

The 18 Clemmons area intersections with ten or more crashes over a three year period were analyzed based on the NCDOT segment data for the same analysis period. The priority rankings were developed using a scoring method based on total crashes, equivalent property damage only (EPDO) rate, and functional classification. **Figure 2.5** displays the high crash locations. The priority rankings for this analysis are provided in **Table 2.4**.

Table 2.4. Intersection Priority Rankings (Crash Data Analyzed June 1, 2004 to May 31, 2007)

Rank	Intersection	Crashes	EPDO	Severity Index	Priority Score
1	Lewisville-Clemmons Rd. at I-40 Interchange	54	218.28	4.04	24
2	Lewisville-Clemmons Rd. at Styers Ferry Rd.	47	353.36	7.52	24
3	Lewisville-Clemmons Rd. at Peace Haven Rd.	48	129.40	2.70	23
4	Lewisville-Clemmons Rd. at Stadium Dr.	32	120.80	3.78	21
5	Lewisville-Clemmons Rd. at Sessions Ct.	22	59.00	2.68	19
6	Lewisville-Clemmons Rd. at US 158 Clemmons Rd.	27	56.60	2.10	18
7	US 158 Clemmons Rd. at Spangenberg Ave./James St.	13	57.40	4.42	16
8	Lewisville-Clemmons Rd. at Linwood Dr./ Wishon Rd.	13	50.00	3.85	15
9	US 158 Clemmons Rd. at Stadium Dr.	12	56.40	4.70	14
10	Lewisville-Clemmons Rd. at Westwood Village Dr.	13	42.60	3.28	13



CLEMMONS Village Transportation Plan

Staging the Future for Mobility and Livability

Legend

Crash Location (with Total Crashes*)

- High Crash Intersection
- Crash Intersection
- Interstate
- US Highway
- State Highway
- Street
- Railroad

- Study Area
- Clemmons
- Neighboring Community
- County Boundary
- Body of Water
- Park

*Crash locations shown with total crashes between June 1, 2004 and May 31, 2007.

Kimley-Horn and Associates, Inc.

Crash Locations

Figure 2.5

Bicycle and Pedestrian Element

Transportation plans once focused solely on roadway solutions, with planners and local officials concentrating on commuter traffic and travel patterns. Yet community travel is not limited to morning and afternoon rush hours, and each trip does not begin and end in the driver's seat. In the quest for an improved quality of life, we now strive for livable communities that balance travel between modes. A common theme of any livable community is how well it accommodates pedestrians and cyclists, for both recreational and more utilitarian trips.

The value of walking and bicycling has numerous benefits, including:

- Personal benefits — Cardiovascular fitness and cost savings
- Societal benefits — Reduced vehicle miles of travel, improved public health through a cleaner environment and healthier citizens, and improved mobility for those without access to private automobiles
- Environmental benefits — Reduced air and noise pollution and fewer parking lots/spaces/structures

In addition, results from surveys conducted during the development of the *Clemmons Area Development Guide (CADG)* and the *Clemmons Village Transportation Plan* show repeatedly that Village residents want to see a greater investment in pedestrian and bicycle facilities. Citizens requested increased construction of sidewalks, biking and walking trails, and greenways in four of the five surveys on growth-related topics presented during public meetings for the *CADG*. Members of the VTP Advisory Committee took a survey of transportation issues, and gave both bicycle facilities and sidewalks/crosswalks an average rating of 1.8 out of 5 points. Only transit services received a lower rating in the survey. The group also spent 30% of a hypothetical Village transportation budget on sidewalks, greenways, or on-road bike facilities.

Sidewalks

Understanding the benefits of an interconnected pedestrian network, the Village of Clemmons has included pedestrian needs in their Unified Development Ordinance (UDO). The UDO considers pedestrian interactions with zoning designations, street designs, and subdivision requirements.

Pedestrians walking near in downtown Clemmons

The Winston-Salem Urban Area Metropolitan Planning Organization (WSUAMPO) has prepared several different plans to account for the needs of pedestrians. The *Winston-Salem Urban Area Sidewalk and Pedestrian Facilities Plan* was developed in 2007 to serve the regional needs of the communities within the WSUAMPO. This document identifies the conditions of pedestrian elements when the plan was prepared, as well as recommendations for improvements to the non-vehicular transportation network. It also discusses the study area context with regard to the social

environment, as well as other factors affecting the existing and proposed non-vehicular environment.

The vision statement for the *Winston-Salem Urban Area Sidewalk and Pedestrian Facilities Plan* is: "The Winston-Salem Urban Area is a pedestrian friendly community where sidewalks offer a mode of transportation that provides access for all, promotes healthy lifestyles, and improves air quality." Goals for the development of this plan included:

- Facility Quality – To increase the number of pedestrian facilities: sidewalks, crosswalks, pedestrian safety improvements at intersections, and other related amenities.
- Facility Quality – To improve the quality of both existing and future pedestrian facilities, especially in those areas where facilities are missing or in poor condition.
- Safety and Security – To enhance real and perceived pedestrian safety while increasing pedestrian activity.
- Coordination – To assure that those people and agencies responsible for providing transportation and land use options assume pedestrian considerations in their everyday policies and practices.
- Quality of Life – To encourage healthier lifestyles.

The Village of Clemmons requires sidewalks in their UDO. However, like most other growing communities, gaps exist throughout the sidewalk network that need to be filled. As development transitions from higher to relatively lower intensities, sidewalks become less frequent. **Figure 2.6** displays the existing sidewalk and pedestrian facilities. The Village of Clemmons would like to build upon regional efforts in order to create a recommended pedestrian network that addresses local needs.

Pedestrian crash reports from NCDOT indicate that 21 pedestrian crashes were reported between 1997 and 2005 in the Village of Clemmons, an average of more than two per year. These crashes included no fatalities, three disabling injuries, five evident injuries, and thirteen possible injuries.

Bikeways

Although Clemmons does not have an extensive network of bicycle facilities and routes at this time, the existing sidewalk network, low volume streets, and area parks provide opportunities for bicycle trips. **Figure 2.6** displays the existing bicycle facilities and routes.

For advanced and more experienced recreational cyclists, the extensive network of roads — with comparatively lower traffic volumes and moderate traffic speeds — provides opportunities for bicycles to mix with vehicular traffic. Forsyth County has developed a system of signed bicycle routes connecting many points in the county. Clemmons is connected with these bicycle routes, which include the NC

Bike route signing on Styers Ferry Road

Mountains to Sea Route and the Spin Loop. The Mountains to Sea Route currently utilizes Hampton Road, Clemmons Road, and Lasater Road within the study area but does not include any facilities other than signed routes. By utilizing this route cyclists can connect to other parts of North Carolina, from the Great Smoky Mountains to the Outer Banks, using a variety of types of bicycle facilities. In the Clemmons area, experienced cyclists routinely use these routes and the surrounding rural road network for bicycling.

Though the existing roadway network is utilized, many experienced and less experienced bicyclists have expressed concern for their safety. NCDOT reports indicate that 8 crashes involving bicyclists were reported in Clemmons between 1997 and 2005, approximately one per year. These crashes involved no fatalities, one disabling injury, two evident injuries, and four possible injuries. Six of the eight crashes occurred on a state secondary route.

The Winston-Salem Urban Area MPO completed a bicycle plan in September 2005. These recommendations range from widened shoulders and bike lanes to sidepaths and rails-to-trails initiatives. If implemented, these recommendations would enhance the existing signed bike route network and would connect activity centers within the Village of Clemmons. However, the only portions of the plan projected to be implemented within the short-term are sections of Lewisville-Clemmons Road and Clemmons Road, as well as signage improvements along the current signed routes in the area. The 2005 MPO Comprehensive Bicycle Master Plan also included some strategies for education, encouragement, and enforcement initiatives. These initiatives should be examined to identify which strategies best fit the needs and desires of the Clemmons community.

Yadkin River Trail headed south to Tanglewood under the US 158 bridge

Greenways

Clemmons currently does not have a greenway system, but the Winston-Salem Urban Area MPO Comprehensive Bicycle Master Plan (September 2005) identifies a number of potential future greenway corridors. In addition, an independent Greenway Plan was conducted for Winston-Salem and Forsyth County in June 2003. Greenway facilities, also called 'multi-use paths', generally are independent of the road network. When running parallel to existing streets, the paths are different from sidewalks not only in their width and intended user group, but also in that they typically do not share right-of-way with streets.

Greenways can be paved or have a crushed gravel surface, but are generally designed in an environmentally sensitive and aesthetically pleasing fashion. Around the state, greenways have been designed along creeks, through utility easements or via 'rails-to-trails' conversions. As the Village of Clemmons grows, greenways are an important element to conserve a positive attitude towards the environment and enable residents to enjoy paths through nature on bikes or by foot. Greenways also are an ideal outlet for exercise trips and are commonly associated with community-building athletic events such as 5K and 10K runs.

The current greenway and bicycle plans include recommendations for proposed greenways in the Clemmons area. However, all of the proposed greenways in

the Village of Clemmons are ranked as long-term priorities. For a more detailed discussion and design criteria of greenways, refer to the *Winston-Salem and Forsyth County 2015 Greenway Plan* and the *Winston-Salem Urban Area MPO Comprehensive Bicycle Master Plan*. The proposed greenways from those documents are also included in **Chapter 4** of this report. The future Mountains to Sea route is planned to be redirected through planned greenways in the Clemmons area, including the future Muddy Creek and Salem Creek Greenways.

Transit Element

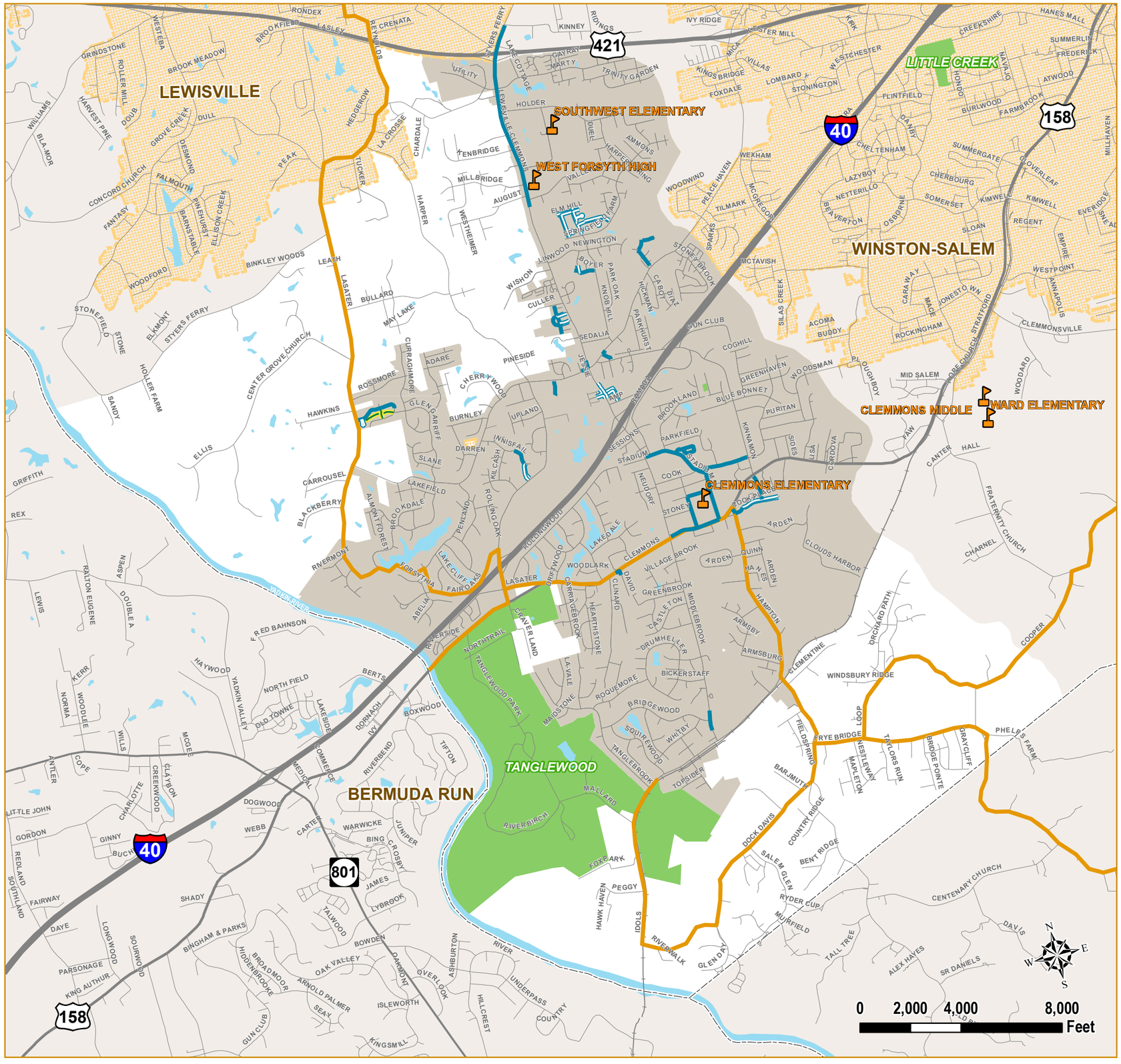
Travel by private vehicle is — and will continue to be — the predominant mode of transportation for the majority of residents of Clemmons. As a result, it will remain a primary focus of long-range transportation planning. Transportation plans, however, must also consider pedestrians, bicycles, and public transportation as they set the course of transportation in a community in the years to come. Existing public transit systems available in and around the study area are explained in detail below.

Overview

Public transportation includes modes ranging from taxis and shuttles to commercial airlines and inter- and intra-city buses, all of which can have a greater or lesser impact on our lives on any given day. Public transit, on the other hand, is local and greatly affects the daily lives of those who rely on it to get to and from work, to and from medical appointments, to and from the grocery store — in other words, to and from any location that otherwise might be reached by private automobile.

The Nationwide Personal Transportation Survey indicated that mobility constraints affect subgroups of the population, creating a mobility gap between those with access to jobs, services, recreation, and other services, and those whose access is limited or non-existent. Improvements in public transportation can help bridge the mobility gap.

Transit services that are on-time, reliable, efficient, popular, and customer-responsive provide real travel choices and bridge the gap between the mobility-constrained and those who move about freely. It is hoped that in the future, public transportation will become a travel mode of choice for a greater portion of the population and reduce reliance on the private automobile. For this to become a reality, continued investment needs to be made in public transportation to provide and improve service.



CLEMMONS Village Transportation Plan

Staging the Future for Mobility and Livability

Legend

Bicycle & Pedestrian Facilities

Existing Facility

- Sidewalk, One Side
- Sidewalk, Both Sides
- Multi-Use Path
- Signed Bike Route
- Schools

- Interstate
- US Highway
- State Highway
- Street
- Railroad
- Study Area
- Clemmons
- Neighboring Community
- County Boundary
- Body of Water
- Park

Kimley-Horn and Associates, Inc.

Existing Bicycle and Pedestrian Facilities

Figure 2.6

Existing Services

Transit in the Village of Clemmons currently consists of available for-hire taxi services, a door-to-door paratransit service for those with mobility constraints, and a ridesharing vanpool program provided by Piedmont Area Regional Transit. There are no airports in Clemmons; however, the region is served by the Smith Reynolds Airport in Winston-Salem and the larger Piedmont Triad International Airport in Greensboro.

Taxis

Two taxi service businesses currently operate in Clemmons, with several more companies operating in the Winston-Salem area. The number of taxicabs in the Village does not directly correlate to any level of anticipated ridership for transit. The fact that a number of cabs are operating, however, supports the assumption that people are in need of alternatives to private automobile transportation in Clemmons.

Winston-Salem Transit Authority (WSTA)

The Winston-Salem Transit Authority (WSTA) is the operator of Trans-AID, a countywide human transportation service for those individuals qualifying for services — usually the elderly, disabled, and Medicaid recipients. The county-wide service responds to demand, and users call the service to arrange trips. Service is available Monday through Friday from 8:00 a.m. to 5:00 p.m. There is no weekend service available for the Village of Clemmons. This service operates with approximately 20 vehicles and focuses on serving disabled riders who cannot ride the fixed-route service, Medicaid recipients, and the over 60 population. Fees are $0.50 each way for trips countywide. The fare is typically covered by Medicaid for those passengers who qualify.

WSTA also operates the fixed-route county-wide bus service for Forsyth County. However, Clemmons is not served by any of the existing bus routes, with the nearest route ending about one mile east of the Town limits on US 158 at Somerset Road.

Piedmont Authority for Regional Transportation (PART)

The Piedmont Authority for Regional Transportation operates a series of express routes connecting the Triad area to the Triangle and other nearby cities. None of these routes directly serve Clemmons. In addition, PART coordinates a vanpool service. Vanpools consist of a driver and at least ten additional commuters who live at least ten miles from their workplace. PART will lease a van to the group for their use. Current vanpool routes do not serve the Clemmons area but the Village is within the service area and new routes can be started by application with PART.

Passenger Rail

Daily passenger rail service for the region is available at the Greensboro and High point Amtrak stations for three routes:

- Crescent Route (Trains 19/20): daily service — New Orleans and New York
- Carolinian Route (Trains 79/80): daily service — Charlotte and New York
- Piedmont Route (Trains 73/74): daily AM service from Raleigh to Charlotte and PM service from Charlotte to Raleigh

In partnership with NCDOT, PART operates a shuttle service between the Winston-Salem Transportation Center and the High Point station to meet morning trains 73 & 80 and evening trains 74 & 79. The service travels between downtown Winston-Salem and the High Point Amtrak Station.

Passenger Air

Air travel must also be considered when discussing the public transportation options in the Clemmons area. There are no airports within the Village of Clemmons; however, two significant general aviation/commercial airports are located within proximity of the Village. Smith Reynolds Airport in Winston-Salem is located approximately 14 miles northeast of Clemmons and services travel in the region. The larger Piedmont Triad International Airport in Greensboro is located approximately 30 miles east of Clemmons and is served by eight airlines, flying to twenty-six locations.

Freight Element

The use of transportation to move goods through and between communities is often overlooked by the general public. Freight activities play a vital role in our economy, which is increasingly dependent on our ability to transfer goods to market efficiently. Identifying elements of the transportation system to facilitate safe and efficient movement of freight is an important activity within the long-range transportation planning process.

Idols Road parallels the Norfolk- Southern railway south of the Village Center

The movement of freight often occurs using different modes and transportation system elements that include:

- Highways (using trucks, vans, cars)
- Railroads
- Airports (air transport)
- Maritime ports (ships)
- Pipelines

Historically, freight movement in the Clemmons area has been by rail.

The Norfolk Southern rail line parallels Idols Road on the southern border of Clemmons. This rail line connects Clemmons to the established rail system throughout the United States.

Clemmons is also serviced by highway transport and regionally by air. Interstate 40, US Highway 158, and US Highway 421 are being established as the primary highway freight routes to and from Clemmons. An increase in movement of highway freight will increase congestion as well as impact pavement conditions on these facilities. Air transport is also accessible via the Smith Reynolds Airport in Winston-Salem and the Piedmont Triad International Airport in Greensboro.

The Village of Clemmons has a strong interest in improving the economic outlook of its citizen and businesses. A portion of the local economy already depends on access to a good transportation system, including light industry and the numerous local and national retailers in the area. Continuing to provide a transportation system that is efficient and has the ability to move freight will be vital to the future success of the Village.

Freight Trends

Trucks and rail account for 64% of the nation's domestic freight volume, up from 57% in 1960. The rest of the volume is carried by pipelines, waterways, and air transport. The volume of freight carried by truck has increased dramatically, rising from 19% to 28%. The increasing truck percentage accounts for all of the aforementioned increase and decreases by rail, whose share fell minimally over the last half century— from 38% to 37% of volume.

In terms of total ton mileage, freight carried by railroads has increased more than the other modes. In spite of this increase, freight railroads have been experiencing a decreasing market share for decades as a result of movement of freight by truck. The trend of freight movement by truck has facilitated "just in time" delivery; it has increased truck traffic, however, and correspondingly worsened traffic congestion on many highways.

Truck traffic and turning movement are important considerations at the I-40 interchange with Lewisville-Clemmons Road

It is logical to assume that the continued loss of rail freight market share to movement of freight by truck will significantly impact many strategic and over-used highway corridors. The difficulty and continued scarcity of funding to improve many of these roadway corridors may mean that existing levels of congestion will worsen, the temporal and monetary cost of moving goods by truck will increase, and the overall economic loss due to time in congestion will increase.

Highway Freight

The movement of freight is primarily focused on the largest transportation arteries — interstates, expressways, freeways, and major highways — many of which run through urban areas and have direct access to railroads. In Clemmons, Interstate 40 and US Highways 158 and 421 serve as the primary

highway routes for freight movement. Interstate I-40 is one of the major east-west highway corridors in the nation, connecting Statesville in the west and Greensboro in the east, and ultimately running between Wilmington, NC and Los Angeles, CA. US Highway 158 runs predominantly east/west, connecting Mocksville in the west with Reidsville, Roxboro, Elizabeth City, and the Outer Banks to the east. US Highway 421 is also an east/west route, connecting Bristol, TN, Boone, and I-77 in the west to Kernersville in the east. North/south traffic is served primarily by Lewisville-Clemmons Road.

For Clemmons, identifying truck routes in the area is important for delivery service to local businesses and freight operations to industrial customers located primarily on the south of the Village Center.

Rail Freight

Rail freight service to Clemmons is used extensively. The rail line running along the southern border of Clemmons is owned by Norfolk Southern and provides services to neighboring industrial plants and operations. Approximately one train passes through Clemmons every week. This train serves the Poindexter Lumber Company.

Active rail lines within the study area are shown in **Figure 2.1** at the beginning of this chapter.

Environmental Impacts

Yadkin River

The screening of potential environmental and community impacts at the system planning level is intended to identify potentially negative impacts at the earliest possible stage. Revisions to the preliminary plan can help minimize or even avoid impacts once they have been identified. If revisions are not feasible and the environmental or community impact is significant, a community may find it preferable to eliminate the proposed project. Because individual projects can significantly affect other projects, these issues must be resolved as early as possible to avoid wasting valuable time and resources. Considering these elements results in a transportation plan that not only minimizes negative impacts on the natural and manufactured environments, but also is timely and cost-effective in its implementation.

The overwhelming majority of environmental impacts are associated with roadway projects in the transportation plan. This is understandable when considering the extensive disruption caused by the construction of several permanent roadways. Sidewalks and bicycle facilities are much more limited in the magnitude of their impacts, due to smaller cross-sections and greater flexibility in being able to avoid problem areas. Furthermore, pedestrian and bicycle facilities are often built in conjunction with roadway facilities, and have only marginal impacts, if any, beyond those of the roadway. In general, transit

Main entrance to Tanglewood Park

impacts tend to be positive because increased service tends to reduce vehicle miles traveled (VMT) and improve accessibility in disadvantaged neighborhoods.

The plan's environmental screening process is divided into two parts. The first focuses on overall impacts on the natural and built environment. The second section addresses specific issues related to environmental justice.

Natural and Built Environment

As the Clemmons area continues to urbanize and growth continues to occur, impacts to the environment are inevitable. Managing and minimizing impacts to the environment will be critical during the development of new infrastructure. Some natural features, however, should be maintained not only to satisfy residents' desire for a high quality of life that includes clean drinking water and open spaces, but also to satisfy state and federal environmental policies and agencies. **Figure 2.7** depicts important environmental features within the Clemmons area, including wetlands, floodplains, bodies of water, parks, schools, historic sites, and hazardous waste sites. These natural and cultural features should be preserved and were considered during this planning process.

Figure 2.8 depicts the topography of the Clemmons area by showing the intensity (percentage) of slope. This information guides the establishment of planning level alignments for new location roads. The slope intensity is considered because costs for building roadway facilities can be reduced by building them in areas that are relatively flat and as a result require reduced earthwork. In addition, the alignments are more realistic which increases defensibility of the plan and reduces the conflict during the NEPA process.

Environmental Justice

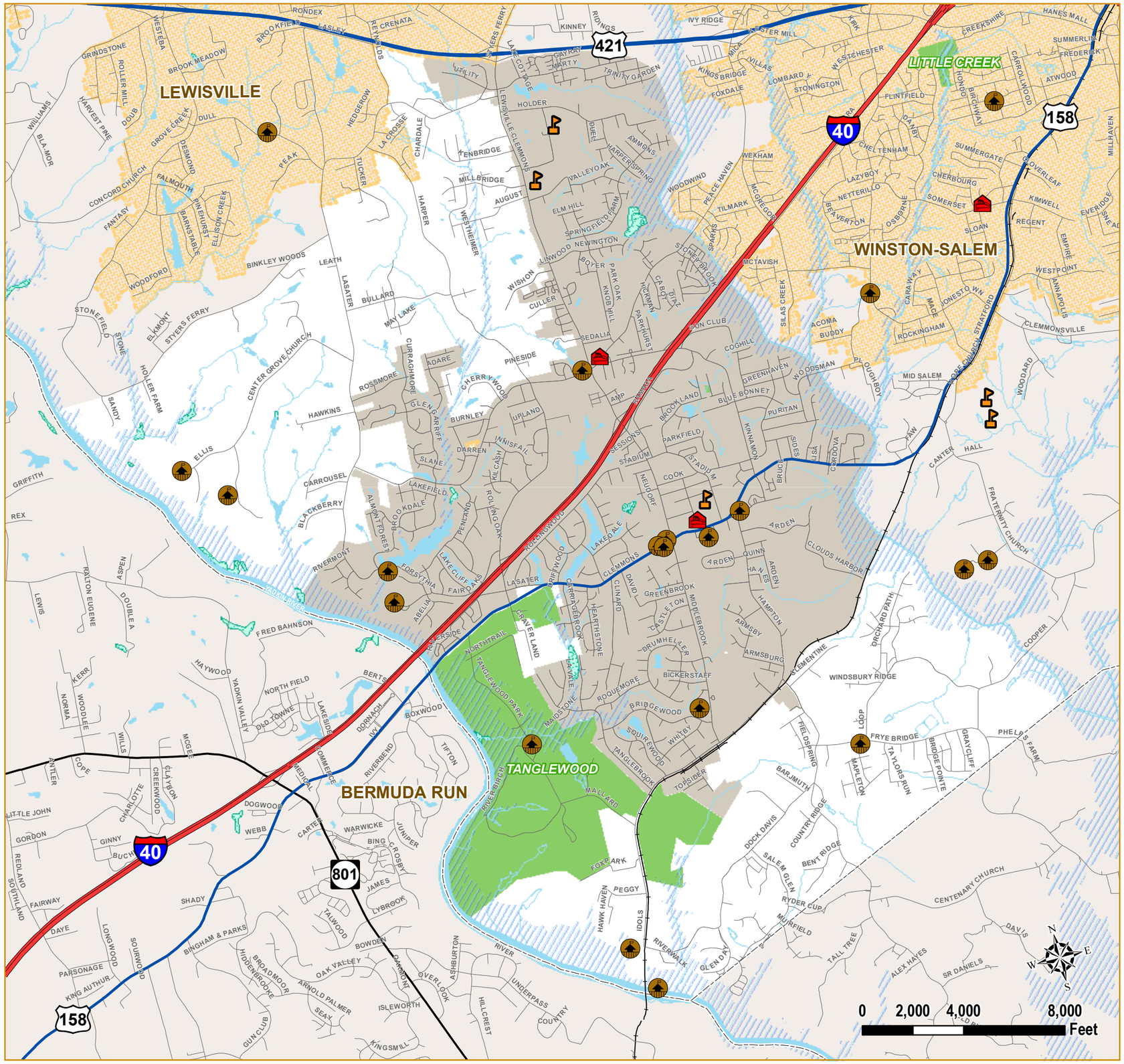
Environmental justice describes practices intended to avoid the use of federal funds for projects that generate disproportionate or discriminatory adverse impacts on minority or low-income populations. This effort is consistent with Title IV of the 1964 Civil Rights Act and is promoted by the U.S. Department of Transportation (USDOT) as an integral part of the long-range transportation planning process, as well as individual project planning and design. The environmental justice assessment incorporated in the Clemmons Village Transportation Plan was based on three basic principles, derived from guidance issued by the USDOT:

- The planning process should avoid, minimize, or mitigate environmental impacts (including economic, social, and human health impacts) that affect minority and low-income populations with disproportionate severity

- Transportation benefits should not be delayed, reduced, or denied to minority and low-income populations
- Any community potentially affected by outcomes of the transportation planning process should be provided with the opportunity for complete and equitable participation in decision-making

As part of the Clemmons Village Transportation Plan, 2000 Census data was used to identify the geographic distribution of low-income and minority populations. This allowed the positive and negative effects of various transportation investments in the transportation plan to be assessed. **Figure 2.9** shows the population within the study area by ethnicity, which is defined by the Census Bureau as either Hispanic or not Hispanic. **Figure 2.10** illustrates the percentage of total minority population in each Census block. Census participants are presented with unlimited choices for race, and the Census Bureau defines minorities as any race that is not White, including but not limited to African-American, Asian, Native American, or people who identify themselves as belonging to two or more races. **Figure 2.11** shows the percent of the population below the poverty level, which is determined by the Census Bureau based on income versus a poverty threshold, which varies according to family size and ages of members.

While it is impossible to construct any type of infrastructure without any impacts, careful planning and early consideration will help the Clemmons Village Transportation Plan to effectively manage community impacts as projects are implemented. It is important to note that the environmental justice screening conducted for this study is not intended to quantify specific impacts. Instead, it is intended to provide guidance during plan development to make sure it is equitable in terms of both costs and benefits. In addition, this screening identifies projects in the transportation plans that, due to proximity, have the potential to affect communities of special interest. When individual studies begin as part of project implementation, more detailed analysis, including field surveys, will be needed to identify and minimize specific community impacts on a project-by-project basis.



CLEMMONS
Village Transportation Plan
Staging the Future for Mobility and Livability

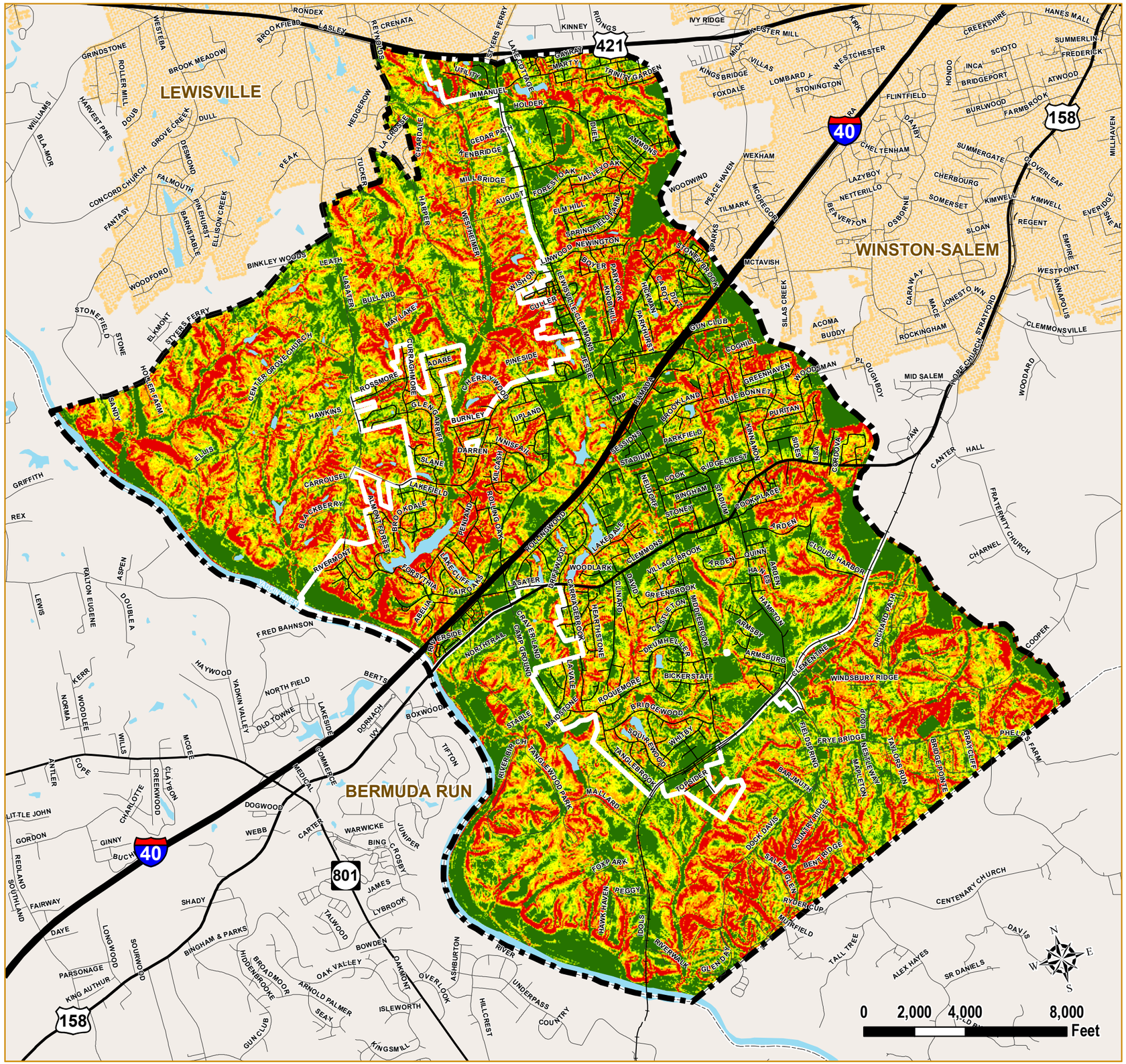
Legend

- Non-Vascular Plant
- Vascular Plant
- Vertabrate Animal
- Invertabrate Animal
- Specific Animal Habitat
- Natural Community
- Fire Station
- School
- Cultural Site
- Historical District
- Stream
- Wetland
- Body of Water
- 100-Year Floodplain
- Interstate
- US Highway
- State Highway
- Street
- Railroad
- Study Area
- Clemmons
- Neighboring Community
- County Boundary
- Park

Kimley-Horn and Associates, Inc.

Environmental Features

Figure 2.7



CLEMMONS
Village Transportation Plan
Staging the Future for Mobility and Livability

Legend

Slope Intensity

- Less than 5%
- 5% to 7%
- 7% to 10%
- 10% to 15%
- More than 15%

- Interstate
- US Highway
- State Highway
- Street
- Railroad
- Study Area
- Clemmons
- Neighboring Community
- County Boundary

Kimley-Horn and Associates, Inc.

Slope Intensity

Figure 2.8

CLEMMONS
Village Transportation Plan
Staging the Future for Mobility and Livability

Legend

Percent Hispanic

- Less than 5%
- 5% to 10%
- 10% to 25%
- More than 25%

- Interstate
- US Highway
- State Highway
- Street
- Railroad
- Study Area
- Clemmons
- County Boundary

0 2,000 4,000 8,000 Feet

Kimley-Horn and Associates, Inc.

Percent Hispanic

Figure 2.9

CLEMMONS
Village Transportation Plan
Staging the Future for Mobility and Livability

Legend

Percent Minority

- Less than 10%
- 10% to 25%
- 25% to 50%
- More than 50%

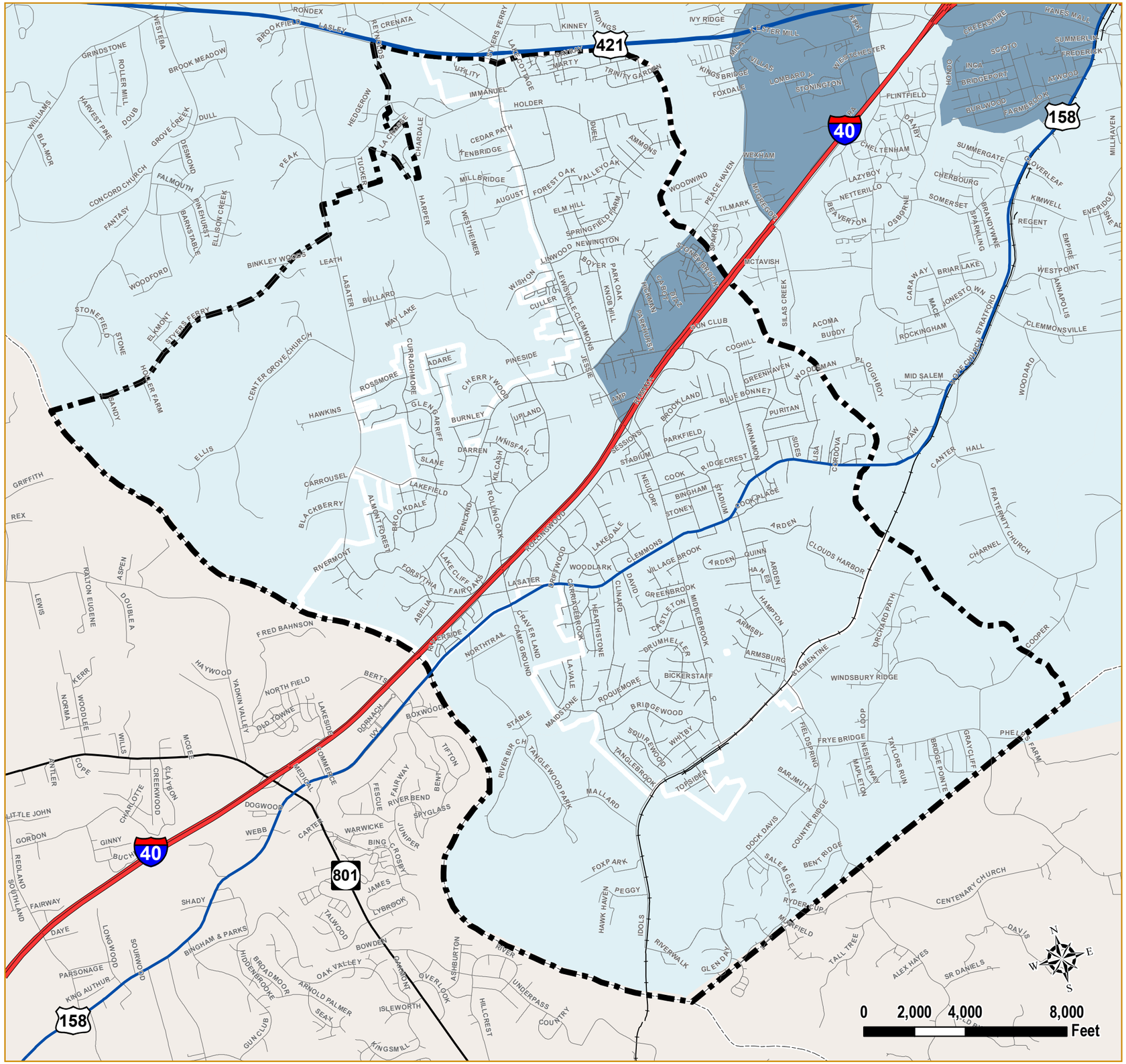
- Interstate
- US Highway
- State Highway
- Street
- Railroad
- Study Area
- Clemmons
- County Boundary

0 2,000 4,000 8,000 Feet

Kimley-Horn and Associates, Inc.

Percent Minority

Figure 2.10



CLEMMONS
Village Transportation Plan
Staging the Future for Mobility and Livability

Legend

Percent Below Poverty
- Less than 10%
- 10% to 25%
- More than 25%

- Interstate
- US Highway
- State Highway
- Street
- Railroad
- Study Area
- Clemmons
- County Boundary

Kimley-Horn and Associates, Inc.

Percent Below Poverty

Figure 2.11

Planning Guidelines

During the transportation plan development, the project team used available data to avoid and minimize impacts to known environmental features. By collecting and considering this data early in the planning process, this plan expects to lessen environmental impacts and reduce potential conflicts during the permitting process. In addition, when considering new roadway alignments and extensions, a guiding set of principles were used to make sure that the following environmental considerations were adhered to:

- Avoid steep slopes and otherwise unsuitable topography
- Minimize impacts to the built environment
- Avoid Federal Emergency Management Agency designated floodplains
- Minimize the number of wetland (National Wetland Inventory) impacts
- Minimize the amount of each wetland impact (e.g., don't cross a wide wetland when a narrower one can be crossed)
- Minimize the number of stream crossings
- Minimize the length of stream crossings
- Minimize impacts to school sites
- Minimize the number and size of impacts to historic features and districts
- Minimize the number and size of impacts to threatened and endangered species
- Minimize the number and size of impacts to hazardous waste sites
- Minimize the number and size of impacts to superfund sites
- Minimize/avoid impacts to neighborhoods
- Avoid unnecessary or disproportionate impacts to minority communities
- Avoid impacts to parks and designated open spaces
- Minimize the number of new facilities in critical watershed areas
- Consider existing development patterns in planned projects and policy
- Utilize existing stub streets for connections to planned streets to the greatest extent possible

Existing Community Strategic Corridors

Based on demonstrated challenges as well as perceived congestion and safety problems, the VTP Advisory Committee identified five community strategic corridors requiring closer consideration and study. The strategic corridors were divided into eight distinct corridor segments, listed below, and analyzed for potential improvements:

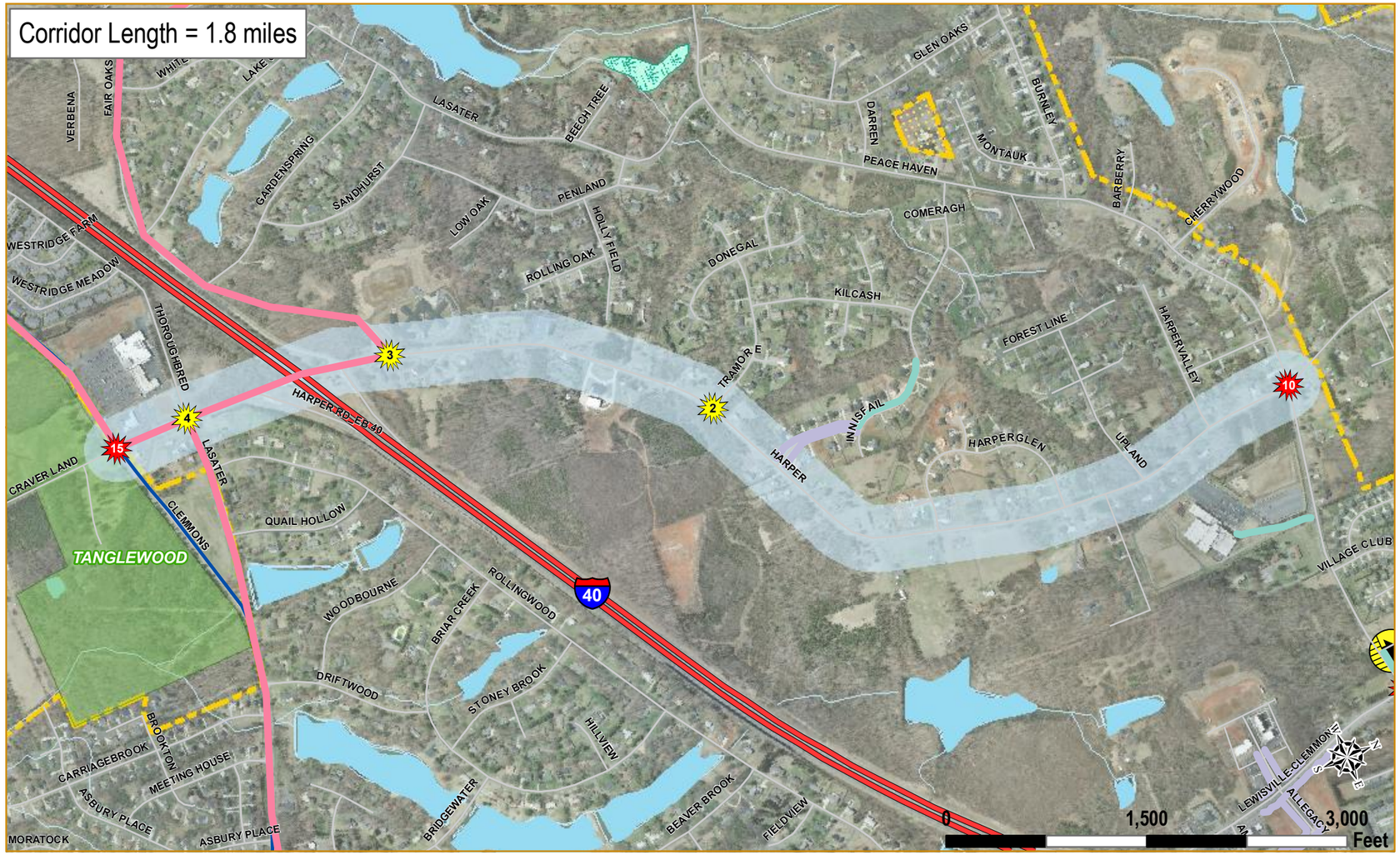
- Harper Road – Clemmons Road to Peace Haven Road
- Kinnamon Road – Peace Haven Road to Stratford Road
- Lewisville-Clemmons Road (North) – Southwest School Road to I-40
- Lewisville-Clemmons Road (South) – I-40 to Clemmons Road
- Peace Haven Road (West) – western Village line to Lewisville-Clemmons Road
- Peace Haven Road (East) – Lewisville-Clemmons Road to eastern Village line
- US 158/Clemmons Road (West) – Yadkin River to Lewisville-Clemmons Road
- US 158/Clemmons Road (East) – Lewisville-Clemmons Road to eastern Village line

Existing Conditions

Members of the VTP Advisory Committee were actively involved in defining and evaluating strategic transportation corridors in the study area. Through data collection efforts and creative input from these volunteers, it was possible to tailor the corridor vision statements to the needs in the community.

In the process of examining the transportation needs along the vision corridors, the volunteers from the Citizens' Advisory Committee performed field visits, assessed the current conditions and took pictures of perceived deficiencies.

Figures 2.12 to **2.19** represent the existing conditions for each of the strategic corridors. Issues specific to each corridor have been identified, in addition to relevant challenges and potential impacts. Each figure shows a map outlining the corridor, existing functional classification, environmental features and intersection with high crash occurrence. The figures furthermore include some pictures and a summary of issues identified during field visits.



CLEMMONS Village Transportation Plan

Staging the Future for Mobility and Livability

Legend

- High Crash Intersection
- Crash Intersection
- Historic Place
- Historical District
- Park
- Body of Water
- Wetland
- Study Area
- Clemmons
- Neighboring Community
- County Boundary
- Strategic Corridor Buffer

Roadways

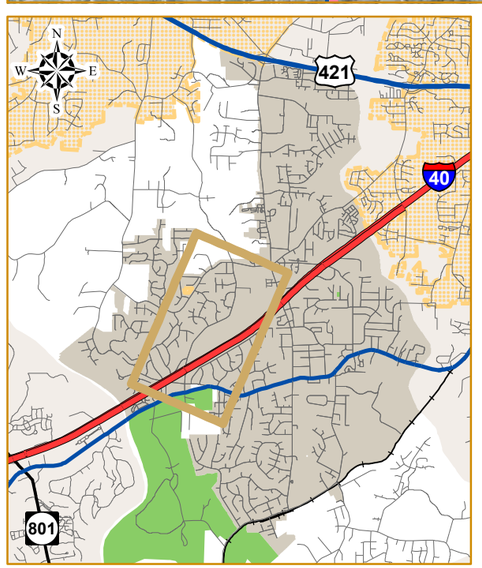
- Interstate
- US Highway
- State Highway
- Street

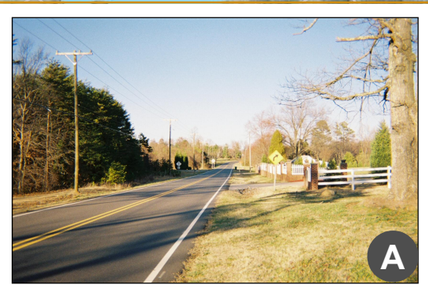
Bicycle & Pedestrian Facilities

- Sidewalk, One Side
- Sidewalk, Both Sides
- Multi-Use Path
- Signed Bike Route

For more detailed information, please see:

- Figure 2.5 - Crash Locations
- Figure 2.6 - Existing Bicycle and Pedestrian Facilities
- Figure 2.7 - Environmental Features





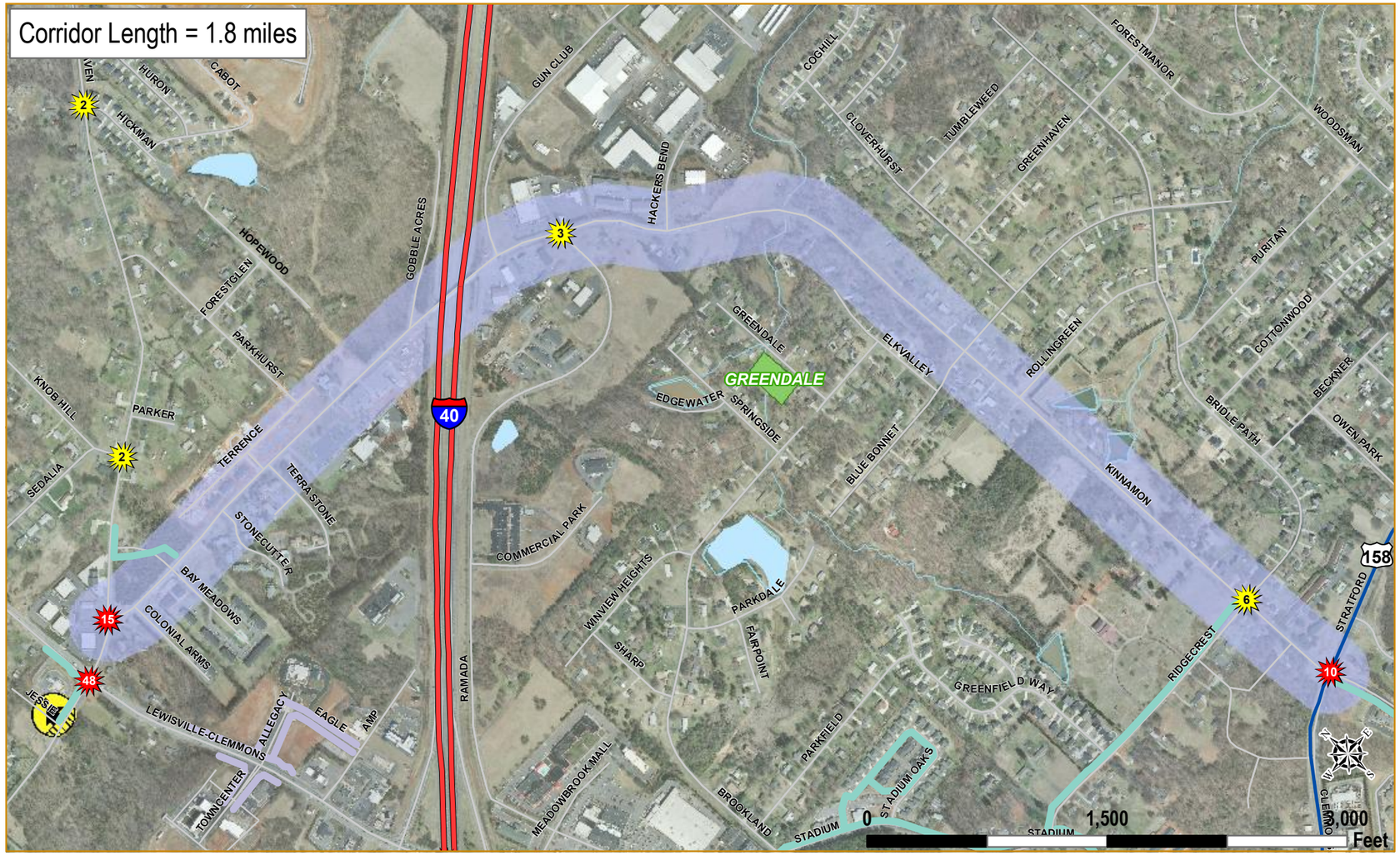
Corridor Description and Issues Identified

- Long stretches of rural road allow speeding
- Some blind shoulders/driveways with limited visibility
- No bicycle or pedestrian amenities exist
- Need to upgrade intersection with Peace Haven Road (traffic signal or roundabout)
- Access problems at Fair Oaks Road; Increased traffic

THE VILLAGE OF CLEMMONS FORSYTH CO., N.C. FOUNDED 1905 INCORPORATED 1995

Kimley-Horn and Associates, Inc.

Figure 2.12
Community Strategic Corridors
Harper Road



CLEMMONS Village Transportation Plan

Staging the Future for Mobility and Livability

Legend

- High Crash Intersection
- Crash Intersection
- Historic Place
- Historical District
- Park
- Body of Water
- Wetland
- Study Area
- Clemmons
- Neighboring Community
- County Boundary
- Strategic Corridor Buffer

Roadways

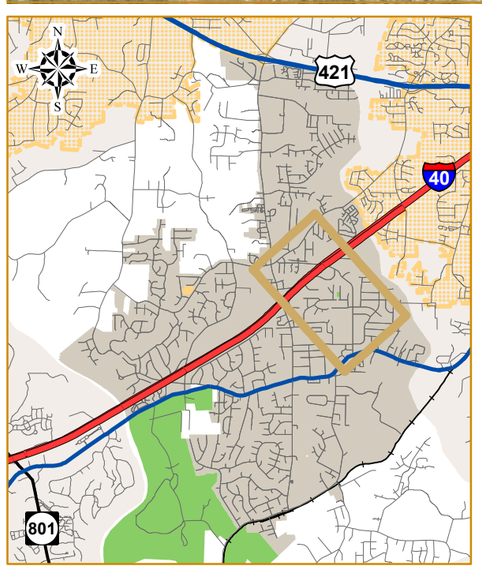
- Interstate
- US Highway
- State Highway
- Street

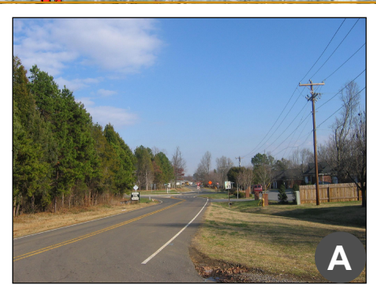
Bicycle & Pedestrian Facilities

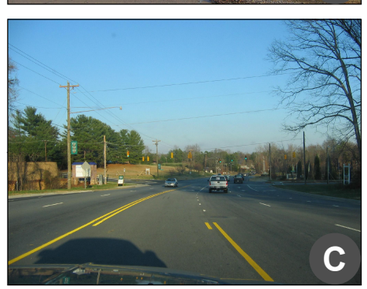
- Sidewalk, One Side
- Sidewalk, Both Sides
- Multi-Use Path
- Signed Bike Route

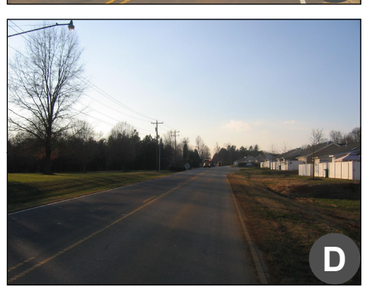
For more detailed information, please see:

- Figure 2.5 - Crash Locations
- Figure 2.6 - Existing Bicycle and Pedestrian Facilities
- Figure 2.7 - Environmental Features









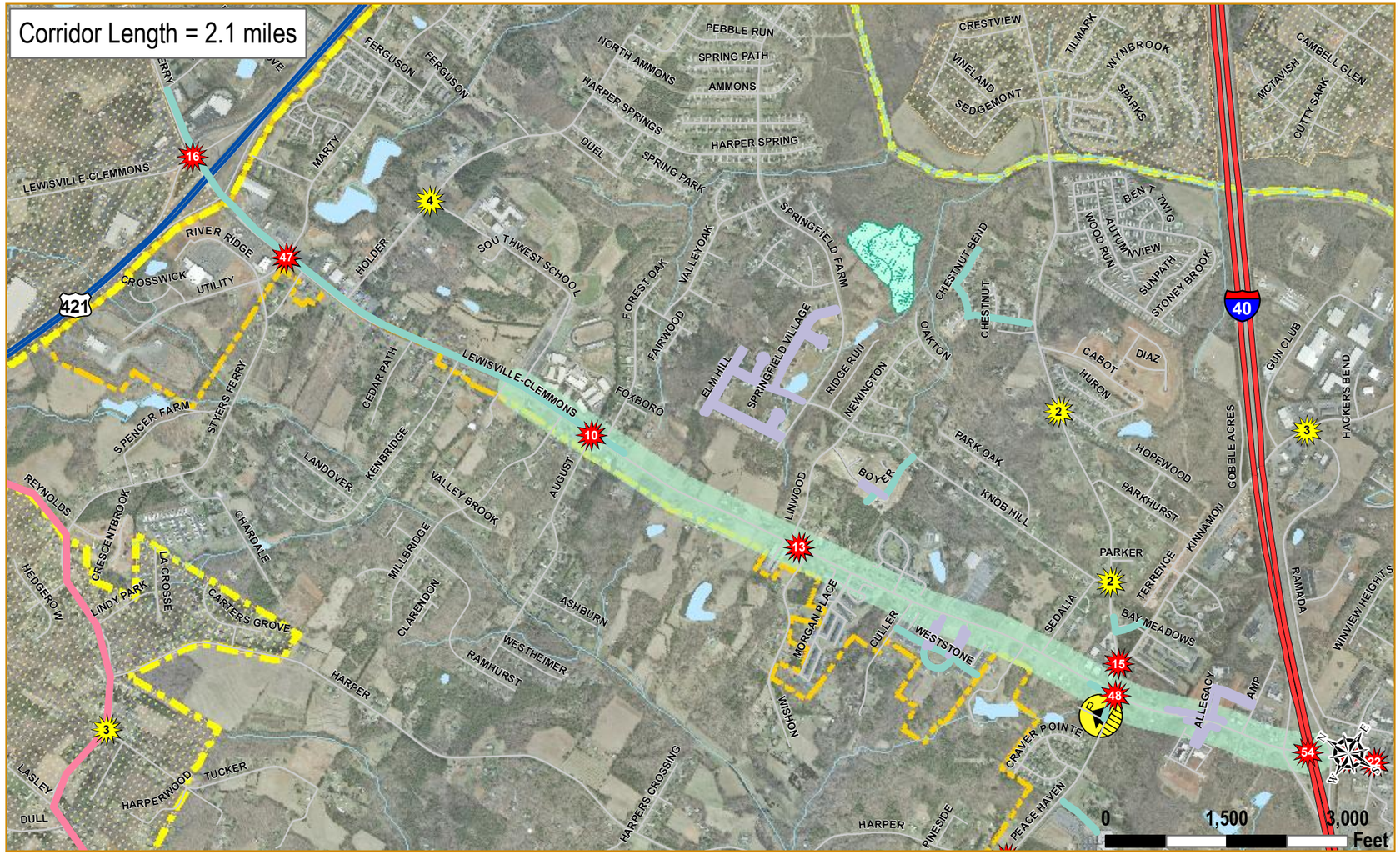
Corridor Description and Issues Identified

- Narrow, down hill curve between Ramada Drive and Blue Bonnet Lane may require a reduction in posted speed limit
- Pedestrians can get stranded in middle of intersection when trying to cross US 158; Need pedestrian amenities
- Potential developments could add to congestion and safety concerns

THE VILLAGE OF CLEMMONS FORSYTH CO., N.C.

Kimley-Horn and Associates, Inc.

Figure 2.13
Community Strategic Corridors
Kinnamon Road



CLEMMONS
Village Transportation Plan
Staging the Future for Mobility and Livability

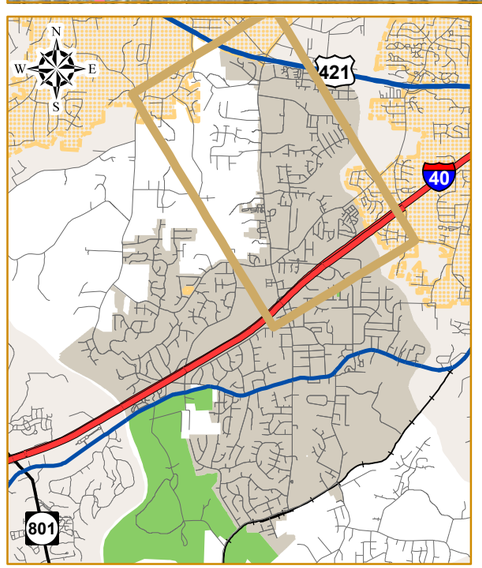
Legend

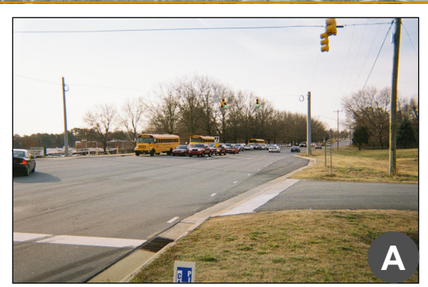
- High Crash Intersection
- Crash Intersection
- Historic Place
- Historical District
- Park
- Body of Water
- Wetland
- Study Area
- Clemmons
- Neighboring Community
- County Boundary
- Strategic Corridor Buffer

Roadways
- Interstate
- US Highway
- State Highway
- Street

Bicycle & Pedestrian Facilities
- Sidewalk, One Side
- Sidewalk, Both Sides
- Multi-Use Path
- Signed Bike Route

For more detailed information, please see:
- Figure 2.5 - Crash Locations
- Figure 2.6 - Existing Bicycle and Pedestrian Facilities
- Figure 2.7 - Environmental Features





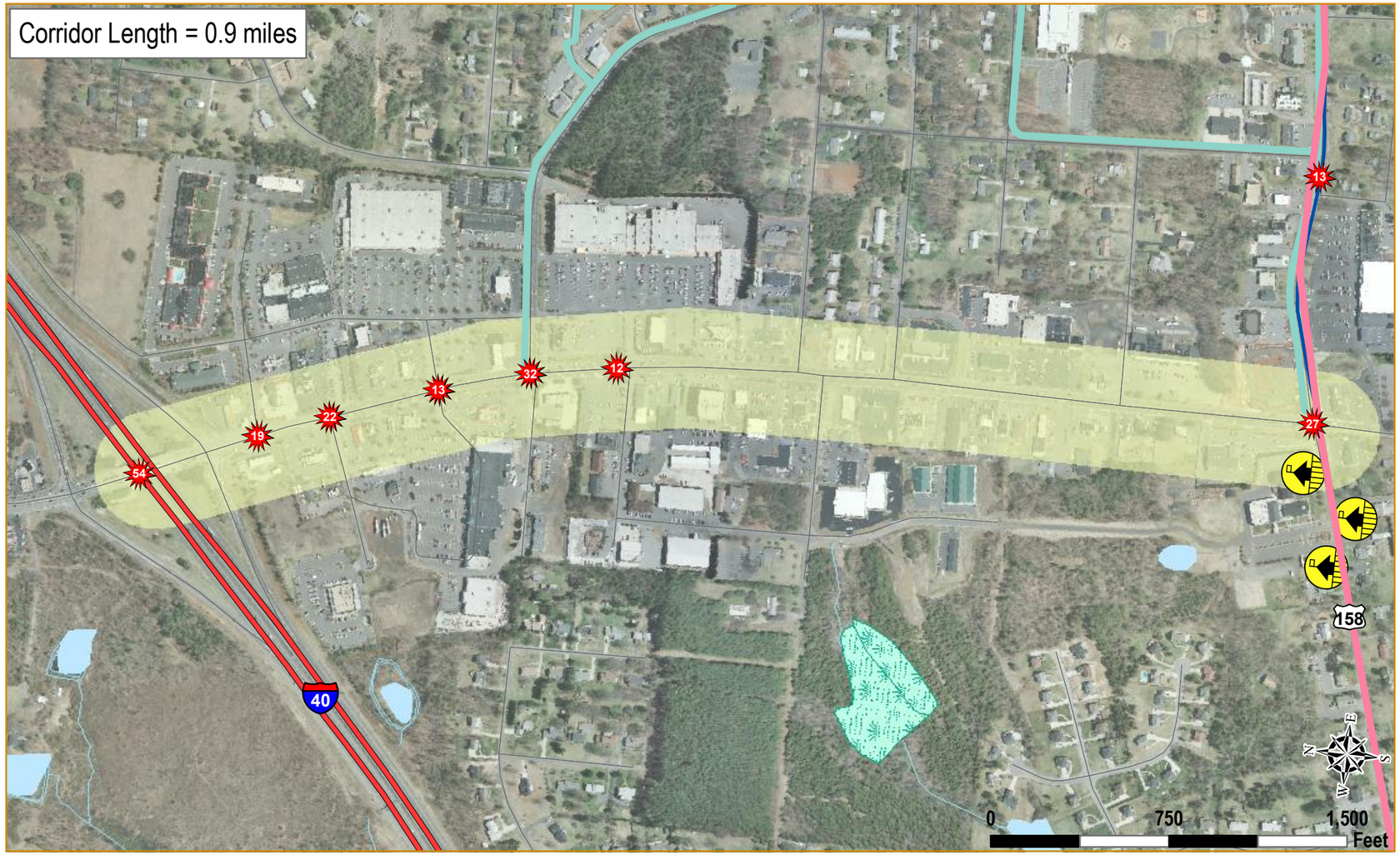
Corridor Description and Issues Identified

- Median breaks and curb cuts create poor traffic conditions and increase safety concerns
- No pedestrian facilities for crossing Lewisville-Clemmons Road
- Traffic congestion and safety problems occur at Holder Road
- 5-lane section between Sedalia Drive and Peace Haven Road is hazardous

THE VILLAGE OF CLEMMONS FORSYTH CO., N.C. FOUNDED 1902 INCORPORATED 1990

Kimley-Horn and Associates, Inc.

Figure 2.14
Community Strategic Corridors
Lewisville-Clemmons Road North



CLEMMONS
Village Transportation Plan
Staging the Future for Mobility and Livability

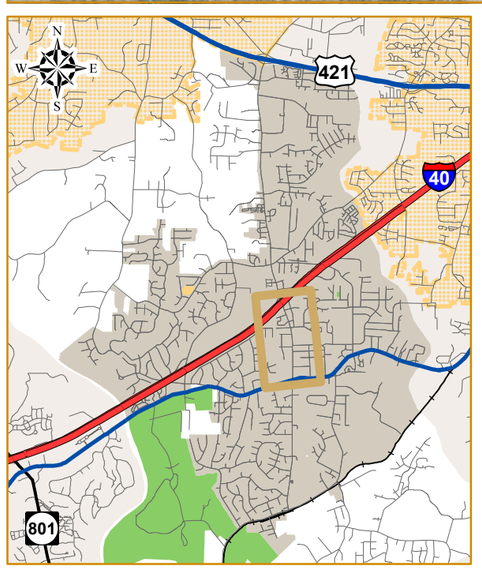
Legend

- High Crash Intersection
- Crash Intersection
- Historic Place
- Historical District
- Park
- Body of Water
- Wetland
- Study Area
- Clemmons
- Neighboring Community
- County Boundary
- Strategic Corridor Buffer

Roadways
- Interstate
- US Highway
- State Highway
- Street

Bicycle & Pedestrian Facilities
- Sidewalk, One Side
- Sidewalk, Both Sides
- Multi-Use Path
- Signed Bike Route

For more detailed information, please see:
- Figure 2.5 - Crash Locations
- Figure 2.6 - Existing Bicycle and Pedestrian Facilities
- Figure 2.7 - Environmental Features



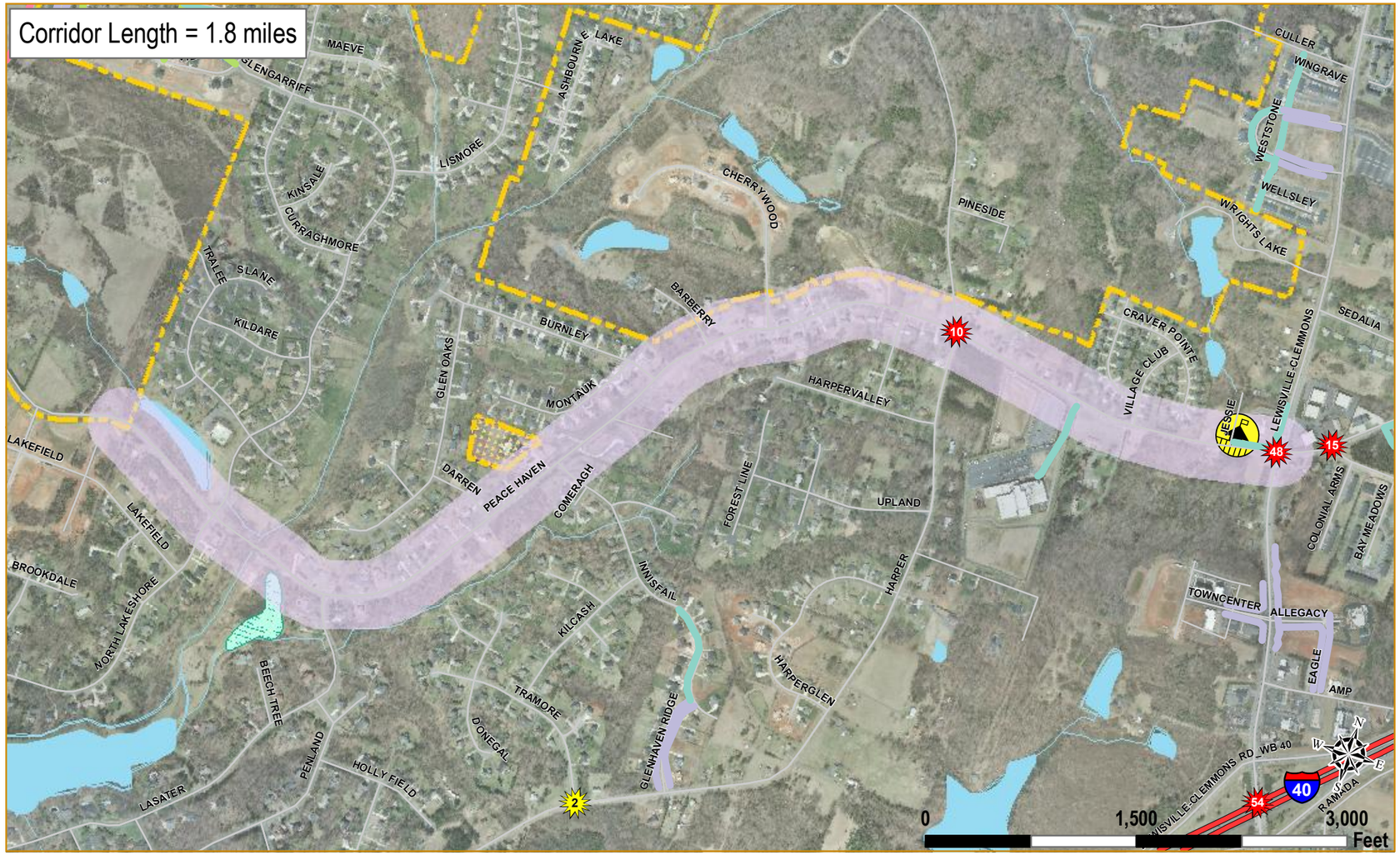
Corridor Description and Issues Identified

- Safety concerns due to high traffic volumes, too many driveways, and unrestricted left-turns in both directions
- Objects in right-of-way limit visibility
- Elevation changes at intersections and driveways reduce visibility
- Narrow roads at intersections hamper truck access and limit right turns on red lights

THE VILLAGE OF CLEMMONS FORSYTH CO., N.C. FOUNDED 1923 INCORPORATED 1998

Kimley-Horn and Associates, Inc.

Figure 2.15
Community Strategic Corridors
Lewisville-Clemmons Road South



CLEMMONS Village Transportation Plan

Staging the Future for Mobility and Livability

Legend

- High Crash Intersection
- Crash Intersection
- Historic Place
- Historical District
- Park
- Body of Water
- Wetland
- Study Area
- Clemmons
- Neighboring Community
- County Boundary
- Strategic Corridor Buffer

Roadways

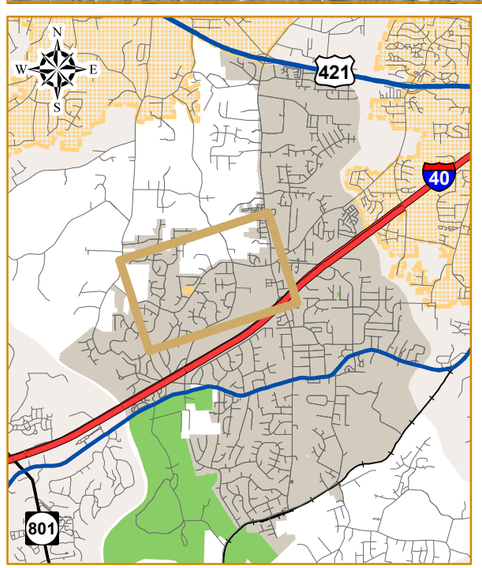
- Interstate
- US Highway
- State Highway

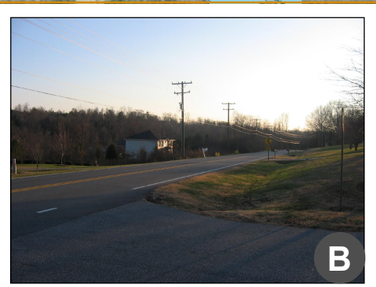
Bicycle & Pedestrian Facilities

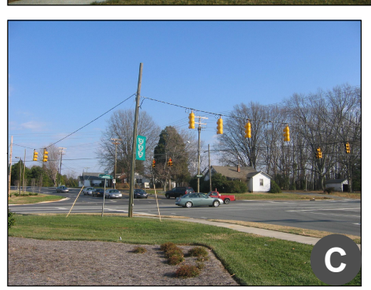
- Sidewalk, One Side
- Sidewalk, Both Sides
- Multi-Use Path
- Signed Bike Route

For more detailed information, please see:

- Figure 2.5 - Crash Locations
- Figure 2.6 - Existing Bicycle and Pedestrian Facilities
- Figure 2.7 - Environmental Features







Corridor Description and Issues Identified

- Peace Haven Road at Lewisville-Clemmons Road - safety concerns due to turn lane queues, proximity to other intersections, and presence of emergency vehicles
- Need to improve lighting and intersection warning signs for intersection with Harper Road
- From Harper Road to North Lakeshore Drive - safety concerns due to steep grades, curves, and narrow cross section

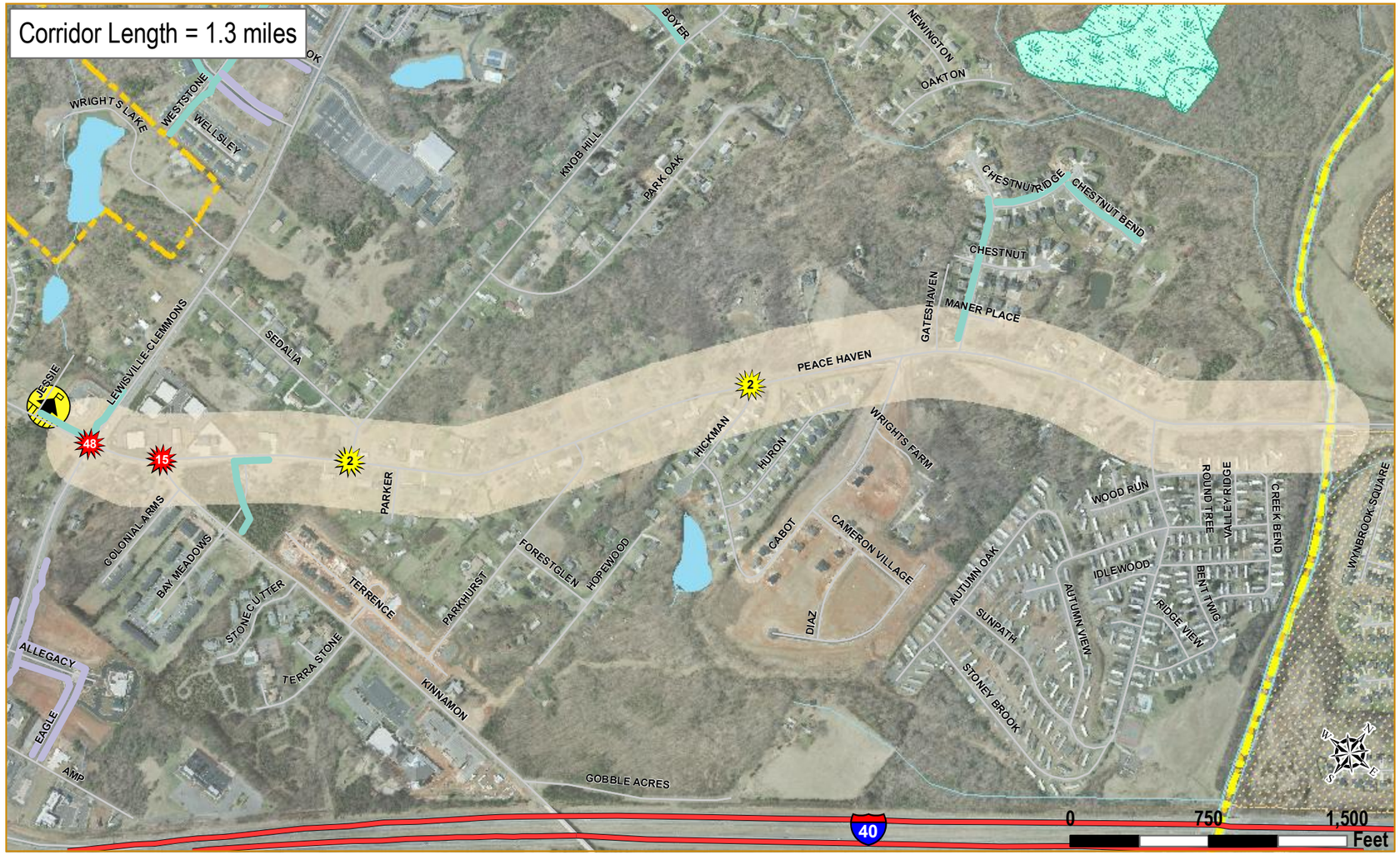
THE VILLAGE OF CLEMMONS FORSYTH CO., N.C.

Kimley-Horn and Associates, Inc.

Figure 2.16

Community Strategic Corridors

Peace Haven Road West



CLEMMONS Village Transportation Plan

Staging the Future for Mobility and Livability

Legend

- High Crash Intersection
- Crash Intersection
- Historic Place
- Historical District
- Park
- Body of Water
- Wetland
- Study Area
- Clemmons
- Neighboring Community
- County Boundary
- Strategic Corridor Buffer

Roadways

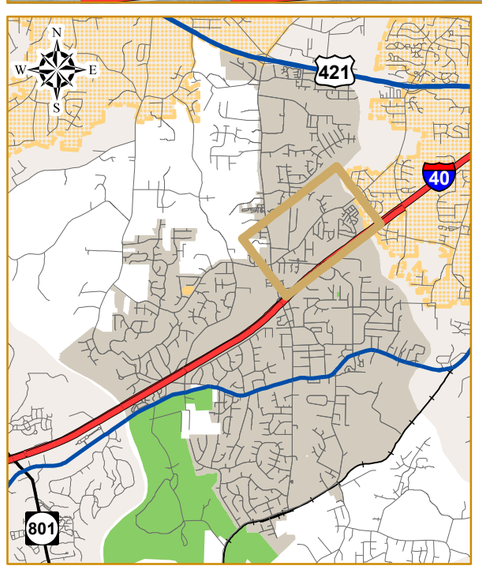
- Interstate
- US Highway
- State Highway
- Street

Bicycle & Pedestrian Facilities

- Sidewalk, One Side
- Sidewalk, Both Sides
- Multi-Use Path
- Signed Bike Route

For more detailed information, please see:

- Figure 2.5 - Crash Locations
- Figure 2.6 - Existing Bicycle and Pedestrian Facilities
- Figure 2.7 - Environmental Features



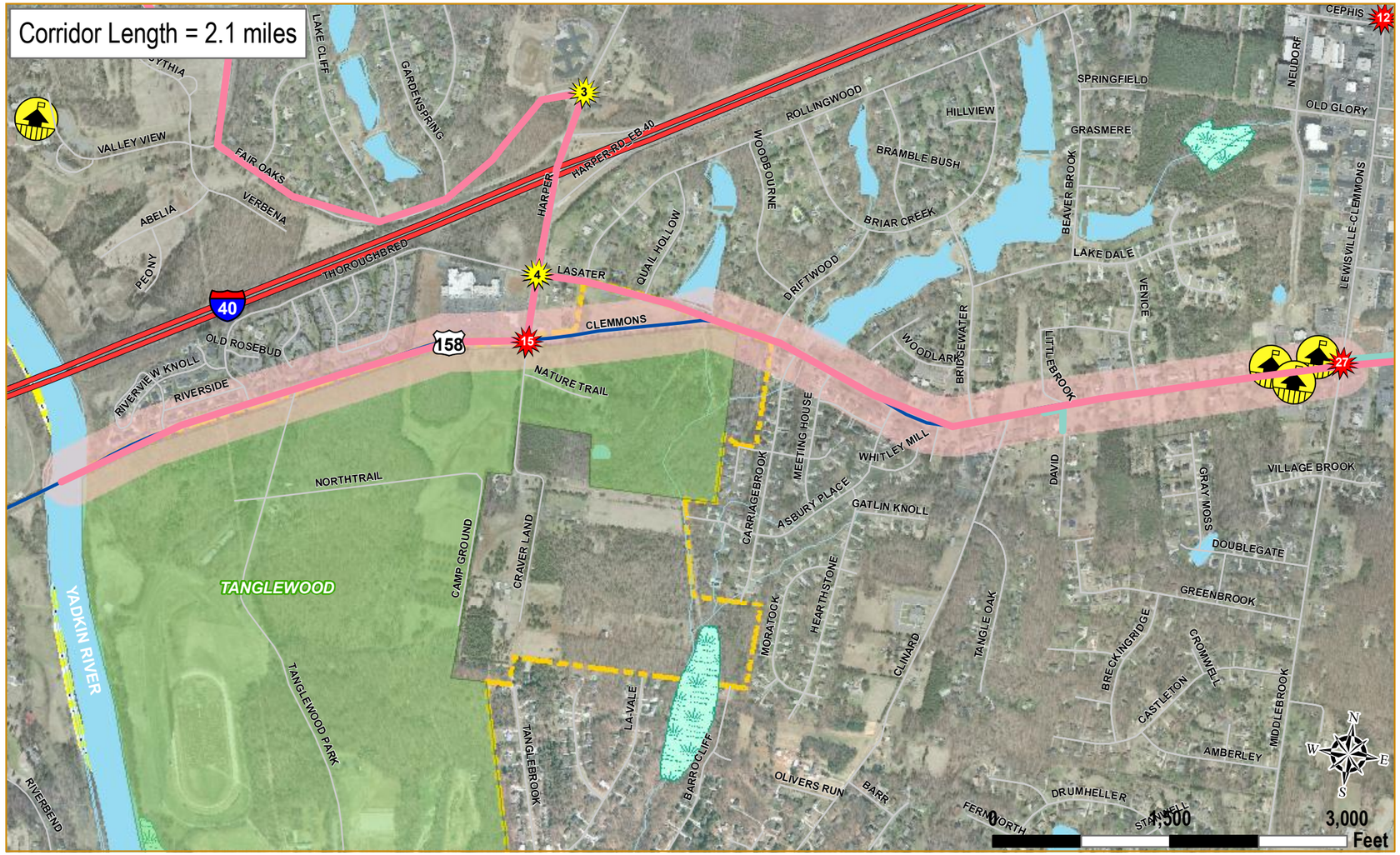
Corridor Description and Issues Identified

- Shoulder damage as trucks approach the Peace Haven Road/ Kinnamon Road roundabout
- Roundabout poorly lit
- Horizontal curves and steep approaches create safety concerns at side street intersections

THE VILLAGE OF CLEMMONS FORSYTH CO., N.C. FOUNDED 1923 INCORPORATED 1998

Kimley-Horn and Associates, Inc.

Figure 2.17
Community Strategic Corridors
Peace Haven Road East



CLEMMONS
Village Transportation Plan
Staging the Future for Mobility and Livability

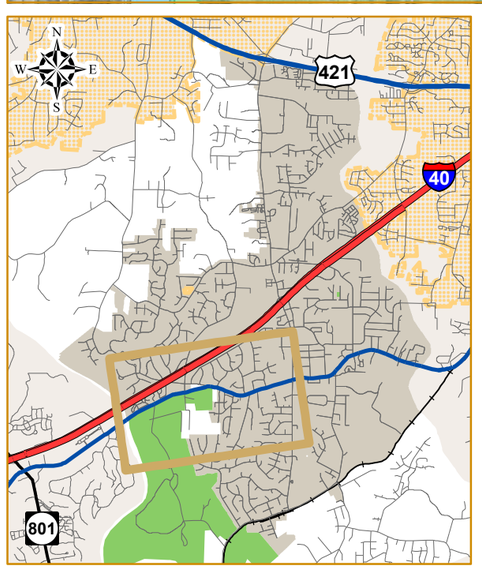
Legend

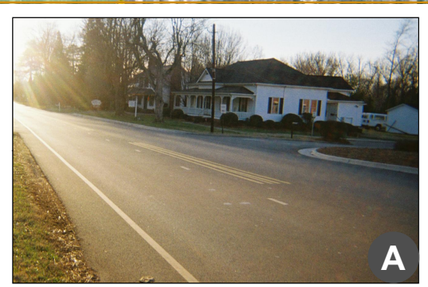
- High Crash Intersection
- Crash Intersection
- Historic Place
- Historical District
- Park
- Body of Water
- Wetland
- Study Area
- Clemmons
- Neighboring Community
- County Boundary
- Strategic Corridor Buffer

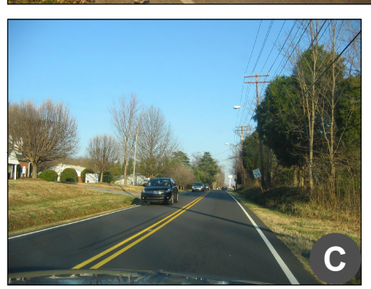
Roadways
- Interstate
- US Highway
- State Highway
- Street

Bicycle & Pedestrian Facilities
- Sidewalk, One Side
- Sidewalk, Both Sides
- Multi-Use Path
- Signed Bike Route

For more detailed information, please see:
- Figure 2.5 - Crash Locations
- Figure 2.6 - Existing Bicycle and Pedestrian Facilities
- Figure 2.7 - Environmental Features







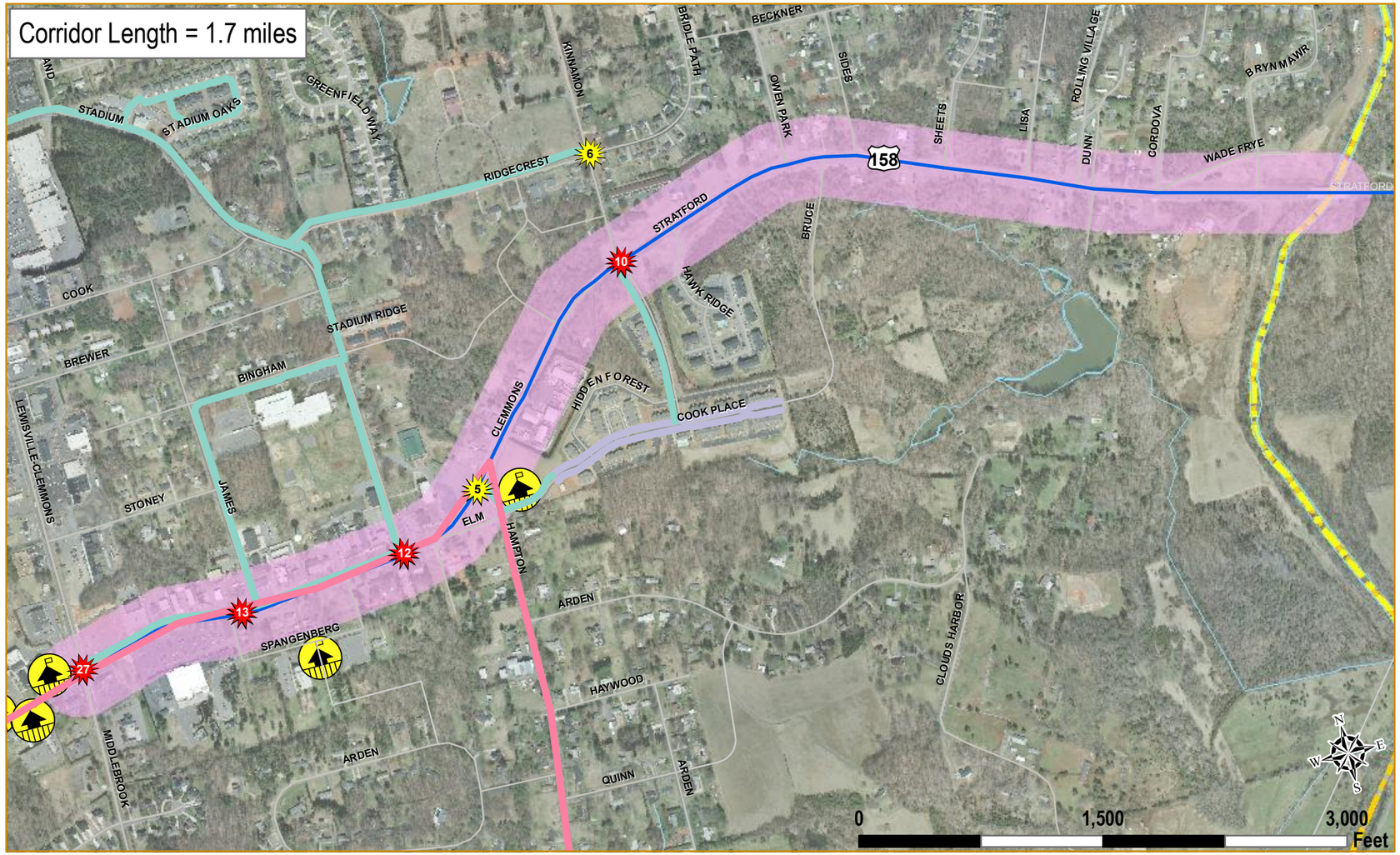
Corridor Description and Issues Identified

- Inconsistent cross section (2, 3 and 4 lanes)
- Odd angle at intersection with Lasater Road could be improved
- Corridor needs sidewalks and greenway connections
- Improved lighting needed between Harper Road and Lasater Road
- Some sight line issues due to grade and curves between Meeting House Lane and Harper Road

THE VILLAGE OF CLEMMONS FORSYTH CO., N.C. FOUNDED 1902 INCORPORATED 1998

Kimley-Horn and Associates, Inc.

Figure 2.18
Community Strategic Corridors
US 158/Clemmons Road West



CLEMMONS
Village Transportation Plan
Staging the Future for Mobility and Livability

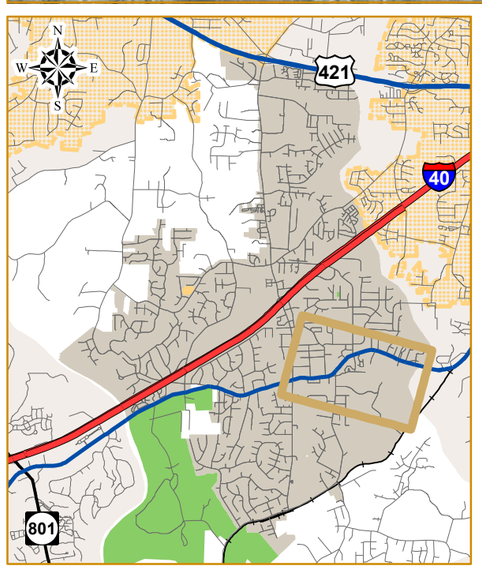
Legend

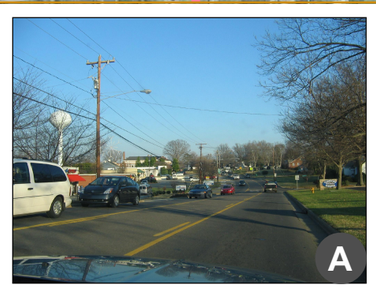
- High Crash Intersection
- Crash Intersection
- Historic Place
- Historical District
- Park
- Body of Water
- Wetland
- Study Area
- Clemmons
- Neighboring Community
- County Boundary
- Strategic Corridor Buffer

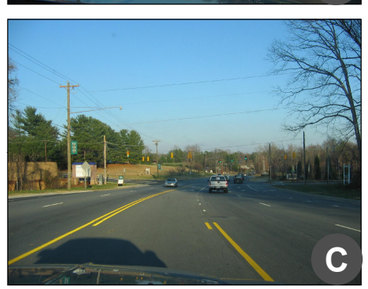
Roadways
- Interstate
- US Highways
- State Highways
- Streets

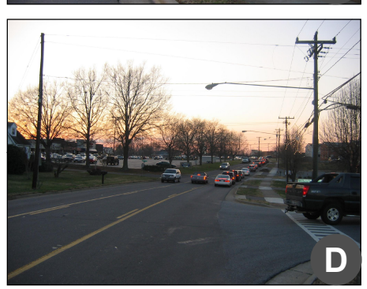
Bicycle & Pedestrian Facilities
- Sidewalk, One Side
- Sidewalk, Both Sides
- Multi-Use Path
- Signed Bike Route

For more detailed information, please see:
- Figure 2.5 - Crash Locations
- Figure 2.6 - Existing Bicycle and Pedestrian Facilities
- Figure 2.7 - Environmental Features









Corridor Description and Issues Identified

- Two distinct segments divided by Hampton Road
- U-turns at Lewisville-Clemmons Road intersection are a problem
- Accomodating pedestrians is a concern

THE VILLAGE OF CLEMMONS FORSYTH CO., N.C. FOUNDED 1902 INCORPORATED 1995

Kimley-Horn and Associates, Inc.

Figure 2.19
Community Strategic Corridors
US 158/Clemmons Road East