



NC 73

Transportation / Land Use Corridor Plan

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Lincoln County Chamber of Commerce

The Steering Committee for this project included:

Terry Arellano, NCDOT-SWP
Steve Bissinger, Kannapolis
Erin Burris, Cornelius
Mike Ciriello, Huntersville
Desmond Cole, Mecklenburg County
Phil Conrad, Cabarrus-Rowan MPO
Bob Cook, MUMPO
Bill Coxe, Huntersville
Linda Dosse, NCDOT-SWP
Bill Duston, Centralina COG
Bill Finger, CDOT

Jack Flaherty, NC Public Trans. Div.
Karen Floyd, Cornelius
Tim Gibbs, CDOT
Lindsey Hobbs, Davidson
Mike Holder, NCDOT Div. 12
Frank Jacobus, Huntersville
Meredith Judy, Davidson
Charles Knox, Lake Norman Chamber
Kris Krider, Davidson
Sarah LaBelle, Cabarrus Co. Chamber
Mike Legg, Kannapolis

Rodger Lentz, Cabarrus County
Jonathan Marshall, Cabarrus County
Rick Mason, NCDOT
Barry Matherly, Lincoln Economic Dev.
Association
Barry McKinnon, Lincoln County
Bo Moore, Lincoln Co. Chamber
Brian Nadolny, CATS
Steve Osborne, Concord
Benton Payne, NCDOT Div. 10
Dawn Qiu, LNRPO

Bill Russell, Lake Norman Chamber
Jack Simoneau, Huntersville
Brian Sisson, Huntersville
Gary Spangler, NCDOT Div. 12
Tom Thrower, NCDOT Div. 10
Lisa Valdez, Kannapolis
David Whitley, Concord
Aldie Whitmore, NCDOT Div. 10
Anthony Wyatt, NCDOT
Rebecca Yarbrough, LNRPO
Jeff Young, Concord

The Consulting Team for this project included:

HNTB North Carolina, PC
HNTB Washington
Thomas R. Hammer, Ph.D.
S/K Transportation Consultants, Inc.
University of North Carolina at Charlotte, Center for Transportation Studies

Executive Summary

The NC 73 Transportation/Land Use Corridor Plan is a coordinated land use and multi-modal transportation plan for a 35 mile corridor sponsored by three counties, five municipalities, three chambers of commerce, two metropolitan planning organizations, one rural planning organizations, two NCDOT divisions and NCDOT's Transportation Planning Branch. It is an innovative project, for implementation jointly by the local governments and the North Carolina DOT, integrating the local jurisdictions land use plans with strategic regional transportation needs.

The NC 73 Corridor

Not a "one size fits all plan," the corridor is addressed in fifteen separate segments, ranging from 2 miles to 4 miles in length, that reflect the various environmental and community contexts throughout the corridor.

Population growth in the corridor is driving the need for a coordinated plan. Population increases ranging from 50% to 230% are projected for the various areas of the corridor by 2025. This will result in corresponding increases in traffic pressures for NC 73, which

could reach 50,000 vehicles per day crossing the Catawba River in the middle of the corridor, and 60,000 per day at I-77.

The plan incorporates the current land use plans from the communities in the corridor: Lincoln County, Cornelius, Davidson, Cabarrus County, Kannapolis and Concord. Huntersville's existing zoning was used as the indication of its future land use.

The framework for the NC 73 Transportation/Land Use Corridor Plan is set by both the communities' future land use plans and all the future transportation projects planned. Future major transportation projects considered include the future Lincolnton Beltway, the new NC 16, the I-485 Charlotte Outer Loop, Vance Road Extension, CATS North Corridor commuter rail and express bus service, Prosperity Church Road Extension, and Kannapolis Parkway. Other projects indicated on the Thoroughfare Plans were considered, as well.

Road Typologies

A series of road typologies have been developed as part of the NC 73 Corridor

Transportation/Land Use Plan. The purpose of these typologies is to allow a variety of road designs to fit the varying land use and environmental contexts along the corridor, while continuing to function as a continuous travel route. The typologies provide a range from two travel lanes to six travel lanes, in order to meet the anticipated traffic volumes in different locations throughout the corridor.

As part of the access management strategy, all of the NC 73 typologies have medians, to help control the locations of left turns from abutting properties onto NC 73, of left turns from NC 73 to cross streets, and of allowable U turns at desirable locations.

Accommodation of pedestrians and bicycles is incorporated into most of the road typologies. Trees are located between the roadway pavement and sidewalks wherever possible, to provide a safe and attractive pedestrian environment.

The typologies deliberately do not rigidly follow NCDOT design standards in all cases, although most elements will comply. Eleven foot travel lanes are proposed throughout the corridor, which will be appropriate to the proposed speed limits. NCDOT is urged to

follow emerging guidance for adapting their design standards to the intended context of the NC 73 Corridor, such as Flexibility in Highway Design, A Guide for Achieving Flexibility in Highway Design, and the NCDOT Context Sensitive Solutions Goals and Working Guidelines.

Four intersection and interchange typologies have been included. The intent of these typologies is to illustrate one way to achieve the strategic goals of managing traffic at specific locations. The actual design and application of each of these intersection/ interchange typologies will be determined in the Preliminary Engineering/ Environmental phase.

The typologies used are the ideally desirable roadway type. They should be followed by the counties and municipalities in reviewing development plans, to assure that adequate right-of-way is preserved for the eventual full development of the roadway. They should be used by NCDOT as the desirable configuration of the roadway to achieve the access management efficiency of roadway operations, and to be compatible with the intended land uses which will emerge in the corridor. There will undoubtedly be situations

where conditions will constrain the ability to fully realize the typology. Generally, for situations where existing development or environmental conditions are narrower than the full proposed right-of-way width, the space between the curb and the right-of-way line is generous to allow the roadway designer to fit the typology to the location and situation for which it is proposed.

Access Management

The Access Management Strategy for the NC 73 Corridor is built around a number of elements which are applied consistently throughout the corridor. The intent of these is to help minimize the size of the road typologies used in each segment, as well as to realize the benefits of safety, efficiency and aesthetics. These elements are indicated on the segment plans, and should be followed when the various segments are being designed as an inherent part of the NC 73 Corridor Transportation/Land Use Plan.

There are additional techniques which should be applied to individual properties and situations and they are being planned. The NCDOT should design the roadway to incor-

porate these techniques, and the local jurisdictions should enforce these techniques through their development regulation and approval processes. Since these techniques should be applied on a case-by-case basis, they are incorporated into this plan as guidelines for NCDOT and the local jurisdictions in the Technical Appendix.

Segment Plans

There are fifteen segment plans for the NC 73 Corridor, from 2 to 4 miles in length. The segment plans include proposed road typologies, access management features, anticipated future land uses, and proposed road design and land use actions.

The segment plans illustrate the intent of the plan to achieve a road network that will serve the existing and planned land uses in the corridor, that will be adequate for the levels of traffic anticipated in 2025, and that will serve transit, pedestrians and bicycles, as well as cars and trucks.

The plans, with the descriptions of transportation criteria and access to adjacent land uses are strategic in nature. They are

meant to provide guidance to local communities in order to preserve adequate rights-of-way, to require managed access to existing and new development, and to coordinate other related transportation facilities. They are also meant as a guide to NCDOT to follow as a basis for engineering design.

The final features and dimensions of all of the plan elements will be determined in the Environmental, Preliminary Engineering and Final Engineering phases of project development.

Implementation

Each of thirteen participating jurisdictions and agencies were requested to approve a Memorandum of Understanding for the NC 73 Corridor Transportation/Land Use Plan, committing themselves to follow the recommendations of the Plan and to cooperate with each other in implementing the Plan. The Memorandum of Understanding is not a legal contract. Rather, it is a statement of intent by each jurisdiction. The approval of the Memorandum of Understanding can generally be considered to be acknowledgement that they:

- * Adopt the MOU, as a statement of intent on behalf of the jurisdiction;
- * Adopt a Council of Planning, agreeing to appoint a participant who can represent the jurisdiction's interests in the plan, can work cooperatively with the other jurisdictions, and can oversee the implementation of the recommendations within the jurisdiction;
- * Accept the recommendations within their jurisdiction as guidance for land use and other actions to implement the Plan; and
- * Acknowledge that their portion of NC 73 and any related roads in their jurisdiction is an integral part of an overall Corridor, and that actions taken that affect NC 73 within their jurisdiction that affect NC 73 in other jurisdictions as well, and must be made cooperatively.

Funding, Design and Construction

The key to implementation of the roadway improvements is having the NC 73 Corridor on the NCDOT Transportation Improvement Program (TIP). The TIP is the programming document for expenditures of State and Federal transportation funds. It identifies priorities for planning, design, right-of-way,

and construction of roadway projects throughout the State, through a very prescribed process.

Currently, two sections of NC 73 are on the TIP, but neither is funded. The two sections are:

- * TIP No. R-2236 A, from I-77 to Davidson-Concord Road in Mecklenburg County, and
- * TIP No. R-2706 from SR 1356 in Lincoln County to SR 2145 in Mecklenburg County.

A project can only be recommended for inclusion on the TIP through the mutual concurrence of the Metropolitan Planning Organization (MPO) and NCDOT. Each MPO develops its own needs list which is submitted to the NCDOT. Through a series of joint meetings, a Local TIP (LTIP) is developed. Because of the equity formula and the requirement for fiscal constraint, only the highest priority needs are likely to be included in the State TIP.

There are two steps that will be necessary to have all of NC 73 added to the TIP List:

1. NCDOT Feasibility Study.
2. Add NC 73 to the Local TIP

Jurisdiction Responsibilities

Local jurisdictions will be responsible for implementing the land use portions of the Plan. The kind of commitments that will be needed include:

- * Maintain their land use plans, or make changes with the concurrence of the Council of Planning that the changes would not have an adverse effect on the rest of the corridor;
- * Undertake area plans at locations identified in the segment plans;
- * Coordination with abutting jurisdictions to undertake area plans and to participate in the Council of Planning;
- * Preserve the right-of-way necessary for the appropriate road typology;
- * Follow the access guidelines as part of the land use and zoning approval process; and
- * Require that some roads be funded and built as part of developments.

The local jurisdictions will likely be requested to take responsibility for implementing some aspects of the roadway projects. This could place responsibility on local jurisdictions for some of the following:

- * Require some pedestrian/bike trails as part of development approvals;
- * Possibly pay for landscape and urban design elements;
- * Possibly pay for sidewalks and pedestrian/bike trails;
- * Maybe some right of way acquisition; and
- * Possibly maintenance of “amenities” in the right-of-way.

The Centralina Council of Governments commitment includes:

- * Participation in the NC 73 Council of Planning; and
- * “Reminding” member communities of their commitments

The MPO and RPO commitment includes:

- * Transportation Plan amendments as necessary to incorporate NC 73 elements;
- * Supporting the NC 73 Corridor Plan through inclusion of the Corridor on the LTIP; and
- * Working for inclusion of the NC 73 Corridor on the State TIP.

The NCDOT commitment includes:

- * Making its “best effort” to include the recommendations set forth in the NC 73 Corridor Plan in its long range planning for the corridor; and
- * Following the road typologies, access management strategy and segment plan recommendations as guidelines for the design of NC 73 projects.

Recommendations for the Council of Planning

- * COG as Convener and Staff
- * Communication Protocol among Jurisdictions
- * Small Area Plan Updates
- * Developing Funding Priorities
- * Update of Corridor Plan

Recommended TIP Projects

State and Federal guidelines for TIP projects require that they begin and end at “logical termini,” referring generally to major roads or highways where notable changes in traffic

volumes could be expected to occur. The “logical termini” of these recommended project locations in most instances result in TIP projects that overlap jurisdictions. It is anticipated that this overlap will encourage the continued and ongoing cooperation of the various county, municipal, MPO/RPO, NCDOT division and private sector jurisdictions and agencies in order to secure funding for the projects which directly affect each of them.

1. US 321 to new NC 16, Lincoln County.
This could potentially be two TIP projects:
 - 1a. US 321 to Airport Road, Lincoln County, and
 - 1b. Airport Road to new NC 16
2. New NC 16 to new Gilead Road (SR 2136), Lincoln and Mecklenburg Counties.
3. New Gilead Road (SR 2136) to Davidson-Concord Road (SR 2693), Mecklenburg County.
4. Davidson-Concord Road (SR 2693) to Odell School Road (SR 1601), Mecklenburg and Cabarrus Counties.
5. Odell School Road (SR 1601) to I-85, Cabarrus County.
6. Gilead Road (SR 2136) from NC 73 to I-77, Mecklenburg County.

7. Gilead Road (SR 2136), Huntersville-Concord Road (SR 2448) and Ramah Church Road (SR 2439) from I-77 to the proposed Prosperity Church Road Extension, Mecklenburg County.
8. Catawba Avenue (SR 5544) and Westmoreland Road (SR 2147) from NC 73 to US 21, Mecklenburg County.
9. US 21, Bailey Road and Davidson-Concord Road (SR 2693) from Westmoreland Road to NC 73, Mecklenburg County.

Recommended TIP Project Priorities

The priorities for the TIP projects are shown separately for NCDOT Division 10 and Division 12, since they are accounted separately under the equity formula.

Division 10 Priorities

- Priority 1: New Gilead Road (SR 2136) to Davidson-Concord Road (SR 2693), Mecklenburg County.
- Priority 2: New NC 16 to new Gilead Road (SR 2136), Lincoln and Mecklenburg Counties.

- Priority 3: Davidson-Concord Road (SR 2693) to Odell School Road (SR 1601), Mecklenburg and Cabarrus Counties.
- Priority 4: Odell School Road (SR 1601) to I-85, Cabarrus County.
- Priority 5: Gilead Road (SR 2136) from NC 73 to I-77, Mecklenburg County
- Priority 6: Catawba Avenue (SR 5544) and Westmoreland Road (SR 2147) from NC 73 to US 21, Mecklenburg County.
- Priority 7: Gilead Road (SR 2136), Huntersville-Concord Road (SR 2448) and Ramah Church Road (SR 2439) from I-77 to the proposed Prosperity Church Road Extension, Mecklenburg County.
- Priority 8: US 21, Bailey Road and Davidson-Concord Road (SR 2693) from Westmoreland Road to NC 73, Mecklenburg County.

Division 12 Priorities

- Priority 1: New NC 16 to new Gilead Road (SR 2136), Lincoln and Mecklenburg Counties.
- Priority 2: US 321 to new NC 16, Lincoln County.

Introduction

Background

In February 2003, the North Carolina Department of Transportation (NCDOT) engaged the Centralina Council of Governments (COG) to administer a grant to study the NC 73 Corridor from Interstate Highway 85 in Cabarrus County to US Highway 321 in Lincoln County. Funds for this Corridor Study came from NCDOT, as well as from the counties, the municipalities and private sector sources along the Corridor. The term generally refers to the area lying within one-half (1/2) mile of the centerline of the NC 73 right of way between the highway's intersections with Interstate 85 in Cabarrus County, and with US 321 in Lincoln County, and within 1/2 mile of other roads identified in the NC 73 Transportation/Land Use Corridor Plan as being roadways directly related to the NC 73 Corridor.

The impetus for the NC 73 Transportation/Land Use Corridor Plan was the recognition that increased development pressures along the Corridor, and the resulting vehicular activity, have overwhelmed the roadway's capacity to serve as a reliable transportation facility for its many users. Moreover, all of the funding partners recognized two key factors: 1) considerable physical improvement will be

required to keep the corridor functional; and 2) the current and foreseeable land uses along the Corridor must be evaluated before undertaking any capital investment in making changes to the roadway itself.

Beginning with this broad consensus, Centralina COG and NCDOT selected a team of consultants to undertake the details of this study. The contract of these planning services was executed in April 2003, and the planning team's analysis began shortly thereafter.

Project Overview, Purpose and Need of the Study

The NC 73 Corridor is one of two east-west highways serving the rapidly growing area around Lake Norman, in the North Carolina Piedmont. It functions as a two-lane corridor approximately 20 miles north of Charlotte that extends for 35 miles from US 321 in Lincoln County to I-85 in Cabarrus County. Although much of the development surrounding the corridor remains scattered among rural settings, significant development and suburban growth is occurring along the corridor. The corridor traverses eight different governmental

jurisdictions. Increased traffic volume and uncoordinated land use patterns have created significant transportation and land use issues for residents and property owners within Cabarrus, Lincoln and Mecklenburg Counties.

A systematic plan is therefore necessary in controlling traffic volumes and access management, minimizing impacts to homes and businesses along the corridor, and most importantly, preserving the vitality of the roadway. As such, the three participating counties and five municipalities (Concord, Cornelius, Davidson, Huntersville and Kannapolis), have teamed with regional planners, business organizations, consultants, and NCDOT to design a comprehensive transportation and land use plan that will exemplify the character of each individual community, while also fusing the entire corridor.

Project Goal

The overall goal was to design a comprehensive land use, urban design, and transportation plan that incorporates existing and anticipated land use and transportation patterns for the eight local governments along the corridor. Most importantly, the plan was

tailored to meet the needs and demands of individual communities, while also promoting cohesion along the entire corridor.

- * To develop a comprehensive transportation plan that serves existing and projected future land uses along the corridor

Project Outcome

The key outcome of the NC 73 Corridor study was having all participating communities and Elected Officials adopt a Memorandum of Understanding indicating their intent to follow the plan's land use and transportation recommendations. The NCDOT will then follow the strategic plan for the roadway so that roadway development over time will be coordinated with each community's land use plan.

Corridor Study Area

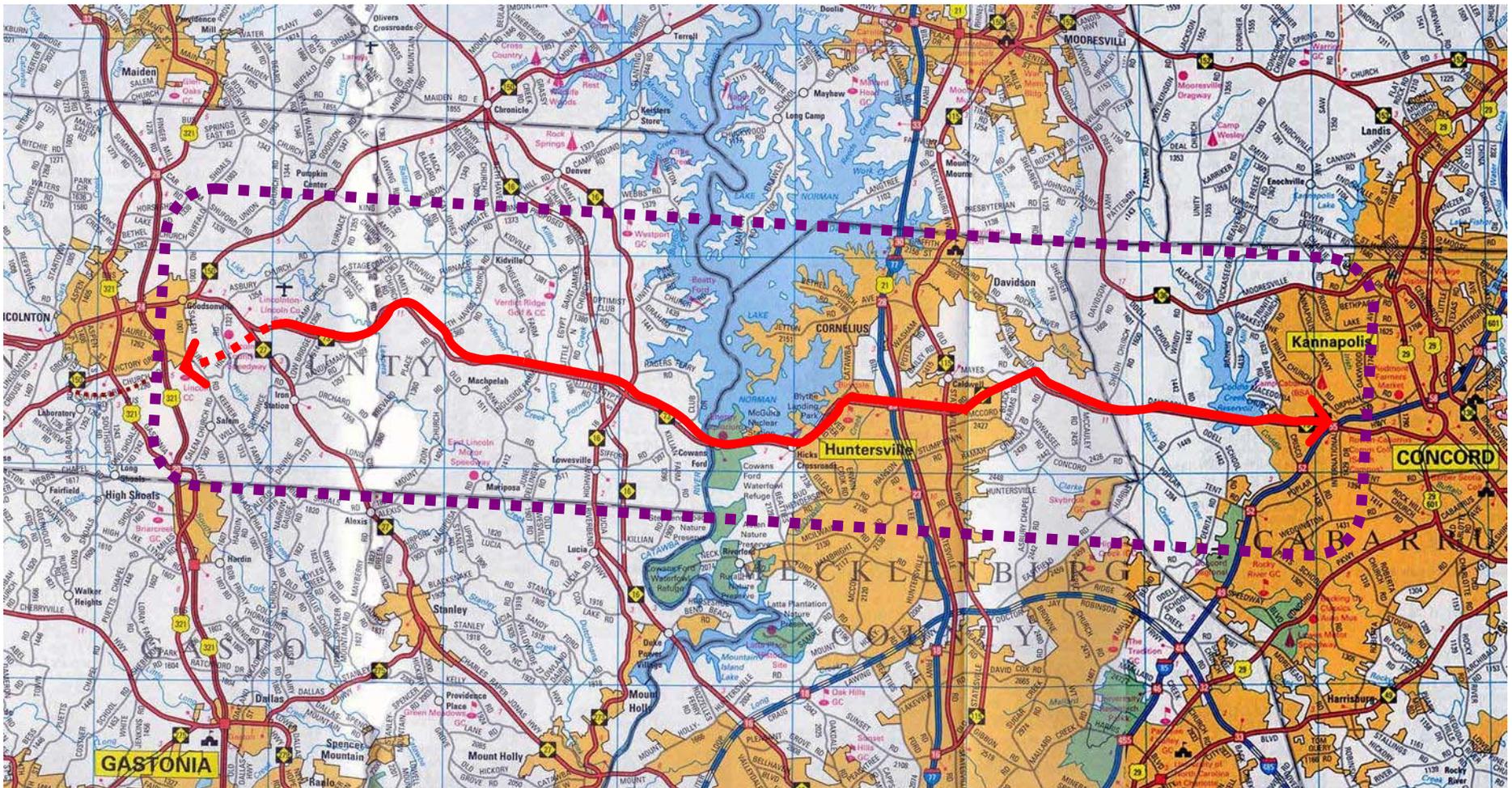
The study area included the portion of NC 73 from I-85 in Concord and Kannapolis to US 321 in Lincolnton. It is one of two east-west highways serving rapidly growing communities in the North Carolina Piedmont. It spans Cabarrus, Lincoln, and Mecklenburg Counties.

Project Objectives

The objectives established at the outset of the project by the funding partners were:

- * To support local land use and transportation plans;
- * To promote functional access management tools along the roadway;
- * To improve and preserve the function of the roadway while supporting economic development along the corridor; and

NC 73 Corridor



Public Involvement

The goals of the Public Involvement process for the NC 73 Corridor included: 1) involving key groups (i.e. steering committee members, local governments, NCDOT, and the general public, etc.) in order to learn the desires of each community along the corridor, 2) informing key groups about the study process and results, and 3) integrating public feedback into the draft plan. The following groups were included as key stakeholders for this study:

- * Consultant Team;
- * Corridor Steering Committee (comprised of local governments, regional planners, community representatives, and business organizations);
- * Elected Officials; and
- * General Public

The Corridor Steering Committee met on a monthly basis, and meetings with Elected Officials were held from December 2003 through February 2004. The first round of public meetings was held in each participating county in November 2003. They served to inform the public of the purpose of and need for the study, as well as to gain insight into the needs of the individual communities and local residents along the corridor. The second round

of public meetings was held in March 2004. These meetings served to get comments on the draft comprehensive land use and transportation plan for the corridor.

The following materials were also used to promote effective Public Involvement:

- * Monthly Corridor Newsletter emailed to residents, Home Owner's Associations, Elected Officials, and Corridor Steering Committee along the corridor, and also posted on city/county websites for general public review;
- * Media Releases sent to print, television, radio organizations surrounding the communities along the corridor; and
- * Corridor Flyer and Postcard announcing the public meetings held in November, 2003 and March, 2004

Memorandum of Understanding

A Memorandum of Understanding (MOU), asked local communities to commit to the study's land use and transportation recommendations. The MOU was presented to participating jurisdictions for adoption in May

and June 2004.

The Parties asked to adopt the Memorandum of Understanding were:

- * The municipalities and the counties having jurisdiction over land use ordinances and the determinations whether land uses along the NC 73 Corridor are in compliance with such ordinances.
- * The inter-governmental planning organizations having jurisdiction for transportation planning along the NC 73 Corridor.
- * Centralina COG
- * NCDOT

Each Party was asked to commit to adopt and abide by the component of the Plan that falls within that Party's land use jurisdiction (including its extra-territorial jurisdiction) along the Corridor.

Each Party was asked to understand that its commitment to its respective component of the Plan will induce other Parties to make similar commitments for their respective segments of the Plan insofar as that Party has jurisdiction over the land uses within its Plan segment. Based on this understanding, each Party was asked to commit its best efforts to maintain its land use designations as shown in its

respective segment of the Plan and to follow recommendations of the Plan as they relate to land development along the Corridor.

The Plan designates certain areas along the Corridor where further planning is needed. In most cases, those areas require collaboration among various Parties where their land use jurisdiction boundaries abut. In such cases, each Party was asked to commit its best efforts to undertake that collaborative planning, including providing direction to its planning staff and/ or consultants engaged for such planning purposes. At the conclusion of any such collaborative planning process, each Party is asked to commit to adopt and abide by the land use ordinances determined appropriate and consistent with the Corridor Plan.

The transportation planning organizations were asked to support the NC 73 Corridor Plan through inclusion on the local Transportation Improvement Program (TIP), and to work for its inclusion on the State TIP. The NCDOT was asked to include the Plan's recommendations in long range planning for the corridor and to follow it as a guideline for final design. The Centralina COG was asked to participate in ongoing planning for the corridor and to "remind" its member communities of their commitments.

All parties were asked to recognize that future governmental entities may not be contractually bound by the adoption of this Memorandum of Understanding. In recognition of this limitation, the Parties were asked to commit to review the status of land use decisions along the Corridor periodically. Furthermore, all Parties, in good faith, were asked to commit to meet regularly with other Parties with whom they share adjacent land use jurisdiction along the Corridor. The intent of this commitment is to promote periodic discussions of municipal and/or county goals, plans and strategies for maintaining effective development patterns and transportation flow along NC 73.

Corridor Context

Existing Context Land Use

Existing Land Use West of Catawba River

1. Agricultural, Vacant, and Residential Uses
Lincoln County remains mostly rural with large tracts of vacant land. Numerous working farms are designated as an agricultural land use category. These parcels are receiving tax breaks under the present use value system for Lincoln County because they create a commercial agriculture product. The City of Lincolnton has the highest density of housing. Along the NC 73 corridor, there are multi-family developments, subdivisions, and scattered single family home sites. Between NC 16 and Lake Norman, a large number of subdivisions have been built in part because the supply of land on the eastern side of Lake Norman has been decreasing. Most of these subdivisions are medium density.

Residential land uses are shown in five categories:

Rural – 2 acres or greater per parcel

Low Single Family – 1 acre to less than 2 acres per parcel

Medium Single Family – ¼ acre to less than 1 acre per parcel

High Single Family – less than ¼ acre per parcel

Multi-Family – multi-family developments such as townhomes, apartments, and condominiums

2. Industrial and Commercial developments

Within the City of Lincolnton, there is a mixture of commercial and industrial uses along NC 73. There are a few industrial developments along NC 73 that are closer to Lincolnton, and just east of the Lincolnton airport (IPJ Regional Airport), which is just north of NC 73. Along NC 27, just north of the proposed NC 73 Connector are a number of commercial parcels, and to the south is a large industrial property, the Timken Plant.

The land between NC 27 and NC 16 is largely rural and remains mostly undeveloped.

To the southwest of NC 16 and NC 73 are two large industrial parcels. The first parcel is the Duke Power Plant and the other is the Lake Norman Quarry. The north side of NC 73 along NC 16 has experienced a significant amount of growth over the last ten years. Commercial development has occurred along NC 16 following the subdivisions that have developed around the west side of Lake Norman.

3. Institutional Uses

A large number of institutional uses, which include schools, churches, and government

buildings, are within the City of Lincolnton. There are a few schools and churches that are along NC 73, and there are several churches along NC 16.

4. Parks and Open Space

There are several golf courses on the eastern side of Lincoln County, two of which are along Lake Norman. Tuckers Grove Campground is on the north side of NC 73 at Beth Haven Church Road. On the west side of the Catawba River is a large preserved area of open space.

LEGEND

— EXISTING NC-73

..... FUTURE NC-73

▭ LINCOLNTON

▭ WATER BODIES

EXISTING LAND USE

▭ RURAL

▭ LOW SINGLE FAMILY

▭ MEDIUM SINGLE FAMILY

▭ HIGH SINGLE FAMILY

▭ MULTI-FAMILY

▭ COMMERCIAL

▭ INDUSTRIAL

▭ INSTITUTIONAL

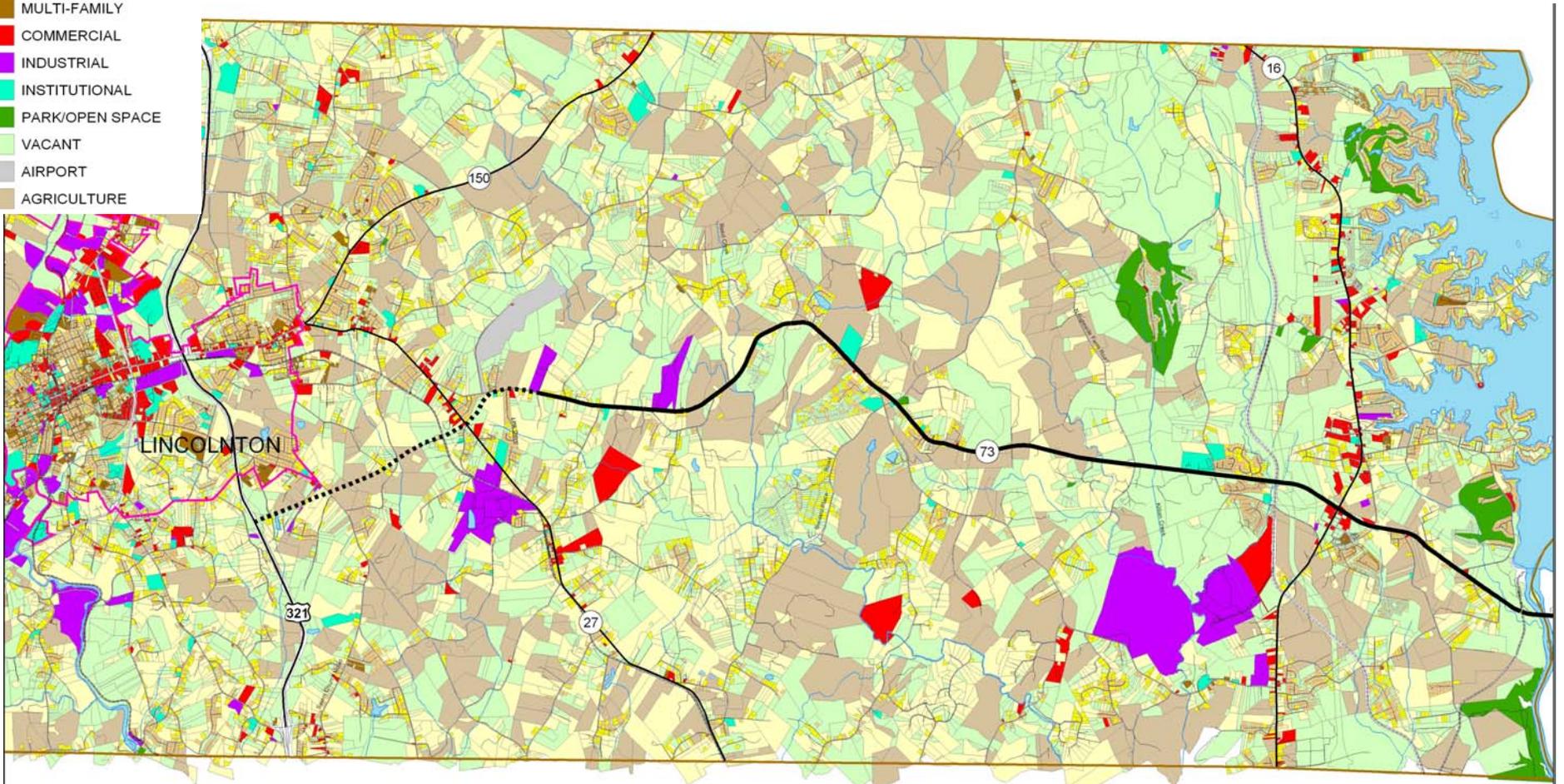
▭ PARK/OPEN SPACE

▭ VACANT

▭ AIRPORT

▭ AGRICULTURE

Existing Land Use West of Catawba River



Existing Land Use East of Catawba River

1. Agricultural, Vacant, and Residential Uses

The NC 73 Corridor on the eastern side of the Catawba River, through Mecklenburg and Cabarrus Counties, is much more developed than the western side of the river. However, there are still large vacant tracts of land mainly within unincorporated areas of the counties and some working farms. Higher density residential developments are within the Towns of Davidson, Cornelius, Huntersville (especially around the NC 73, NC 115, and I-77 interchanges), Charlotte, and Concord. Most of Kannapolis that is within the study area is still vacant, with some low to medium density residential developments.

Residential land uses are shown in five categories:

Rural – 2 acres or greater per parcel

Low Single Family – 1 acre to less than 2 acres per parcel

Medium Single Family – ¼ acre to less than 1 acre per parcel

High Single Family – less than ¼ acre per parcel

Multi-Family – multi-family developments such as townhomes, apartments, and condominiums

2. Industrial, Commercial, and Office Developments

At the western edge of Mecklenburg County on

the north side of NC 73 is the McGuire Nuclear Power Plant. Along I-77 at Gilead Road is the Huntersville Business Park, and at NC 115 and Stumptown Road is the North Charlotte Business Park. Along NC 73 at I-77 in Huntersville, there are several commercial and office developments including Birkdale Village and Northcross Shopping Center. There are numerous commercial, office, and some industrial developments along West Catawba Avenue at I-77 in Cornelius. Also in Cornelius there are scattered smaller scale commercial and office developments along Main Street, which continue into the Town of Davidson along Main Street. The City of Concord has a regional airport on the west side of I-85 with several business parks and industrial developments surrounding it. To the southeast of I-85 are several large industrial developments within Concord as well. At the interchange of I-85 and NC 73 in the southeast corner within Concord is an International Business Park, and to the northwest within Kannapolis is the Dogwood Industrial Park.

3. Institutional Uses

Institutional uses that include schools, churches, and government buildings, can be found scattered throughout both Mecklenburg and Cabarrus Counties. However, the government and school buildings are more concentrated

within the incorporated municipalities.

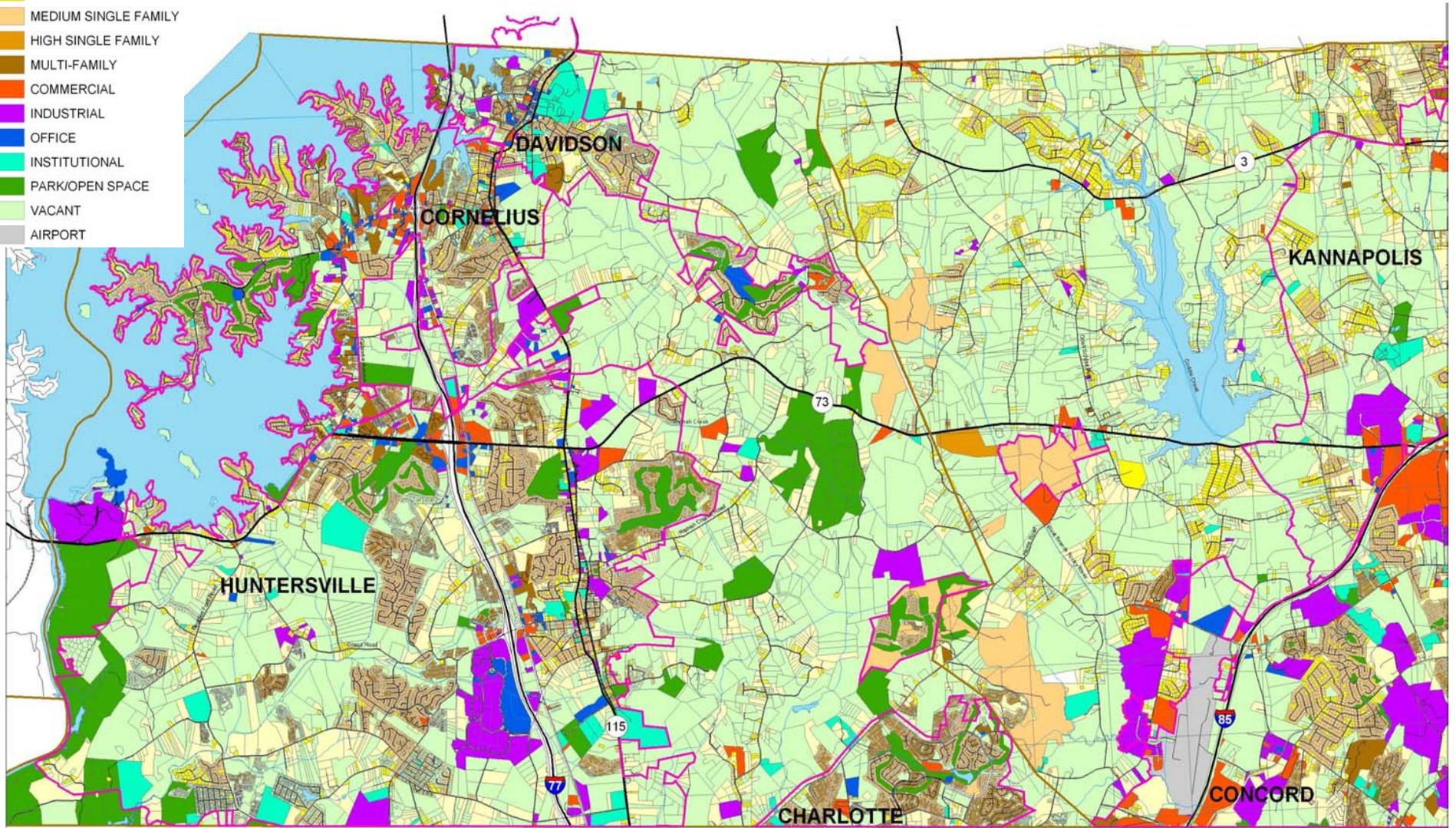
4. Parks and Open Spaces

The western portion of Mecklenburg County along the Catawba River has several nature preserves and wildlife refuges. Mecklenburg County also has a number of golf courses from Lake Norman in Davidson to both north and south of NC 73. Throughout the study area in Mecklenburg County, there are several areas that are preserved for open space with a conservation easement. For the portion of Cabarrus County that is within this study area, there are a few parks and some open spaces that are mixed among subdivisions.

LEGEND

-  NC 73
-  MUNICIPALITIES
-  WATER BODIES
- EXISTING LAND USE**
-  RURAL
-  LOW SINGLE FAMILY
-  MEDIUM SINGLE FAMILY
-  HIGH SINGLE FAMILY
-  MULTI-FAMILY
-  COMMERCIAL
-  INDUSTRIAL
-  OFFICE
-  INSTITUTIONAL
-  PARK/OPEN SPACE
-  VACANT
-  AIRPORT

Existing Land Use East of Catawba River



Public Facilities

Public Facilities West of Catawba River

A large portion of the public facilities in Lincoln County are within the City of Lincoln. Historically, this is where the larger and denser population has resided within the County. As growth has started to extend and concentrate on the eastern portion of Lincoln County along NC 16 and Lake Norman, new public facilities have followed.

1. Fire Stations

There are several fire stations within the City of Lincoln, along with one to the south and to the north of the City. To service the growth occurring on the eastern side of Lincoln County, a fire station is also located just east of NC 16 on the south side of NC 73.

2. Schools

A number of the schools within Lincoln County are inside the city limits of Lincoln, but schools have been built to serve the rural areas of the County as well. The more recent growth within the eastern portion of Lincoln County has made the addition of new schools to the area necessary. Iron Station Elementary is located just south of NC 73 on the northern side of NC 27 to service the Iron Station area. Just east of NC 150 to the north of NC 73 are Pumpkin Center Elementary and Middle Schools to serve the Pumpkin Center vicinity. Along NC 73 to the west of Beth Haven Church Road is East Lincoln

Middle School. Also along NC 73 to the west of NC 16, are East Lincoln High School and Catawba Springs Elementary School to help serve the growing eastern portion of Lincoln County. On the west side of NC 16 north of NC 73 is Rock Springs Elementary School for the Denver community. Finally, just west of the future NC 16 alignment is the location for the new St. James Elementary school to further help with the growing eastern population.

3. Churches

Numerous churches are scattered throughout Lincoln County. There are several churches that are located on NC 73, and a growing number of churches along and to the east of NC 16 to support the growing residential population.

4. Historic Properties

There are several historic properties along or near NC 73 within Lincoln County. The Rehobeth Iron Furnace is just north of NC 73 on the western side of the large curve in NC 73. Tuckers Grove Campground is also on the north side of NC 73 at Beth Haven Church Road. Tuckers Grove is a Civil War era religious campground for the African Methodist Episcopal Church and is still utilized today. Just south of the campground on the south side of NC 73 is the Machpelah Church and Cemetery. To the north of the campground along Beth Haven Church Road is the William A. Graham Jr.

Round Barn. To the east along NC 73 at Ingleside Farm Road is the Ingleside Farm that includes a historic mansion from the 1800's.

5. Parks and Open Space

Within the City of Lincoln there are a few smaller urban parks. Growth and interest within the eastern portion of Lincoln County has spurred the development of several golf course communities. West of NC 16 on the north side of NC 73 is an Optimist club, and a future East Lincoln Park that will consist of 35 acres and a recreation center. On the southeastern edge of Lincoln County is the Mountain Island Property Park consisting of over 240 acres of open space that has been preserved as a permanent conservation easement and is owned by Lincoln County.

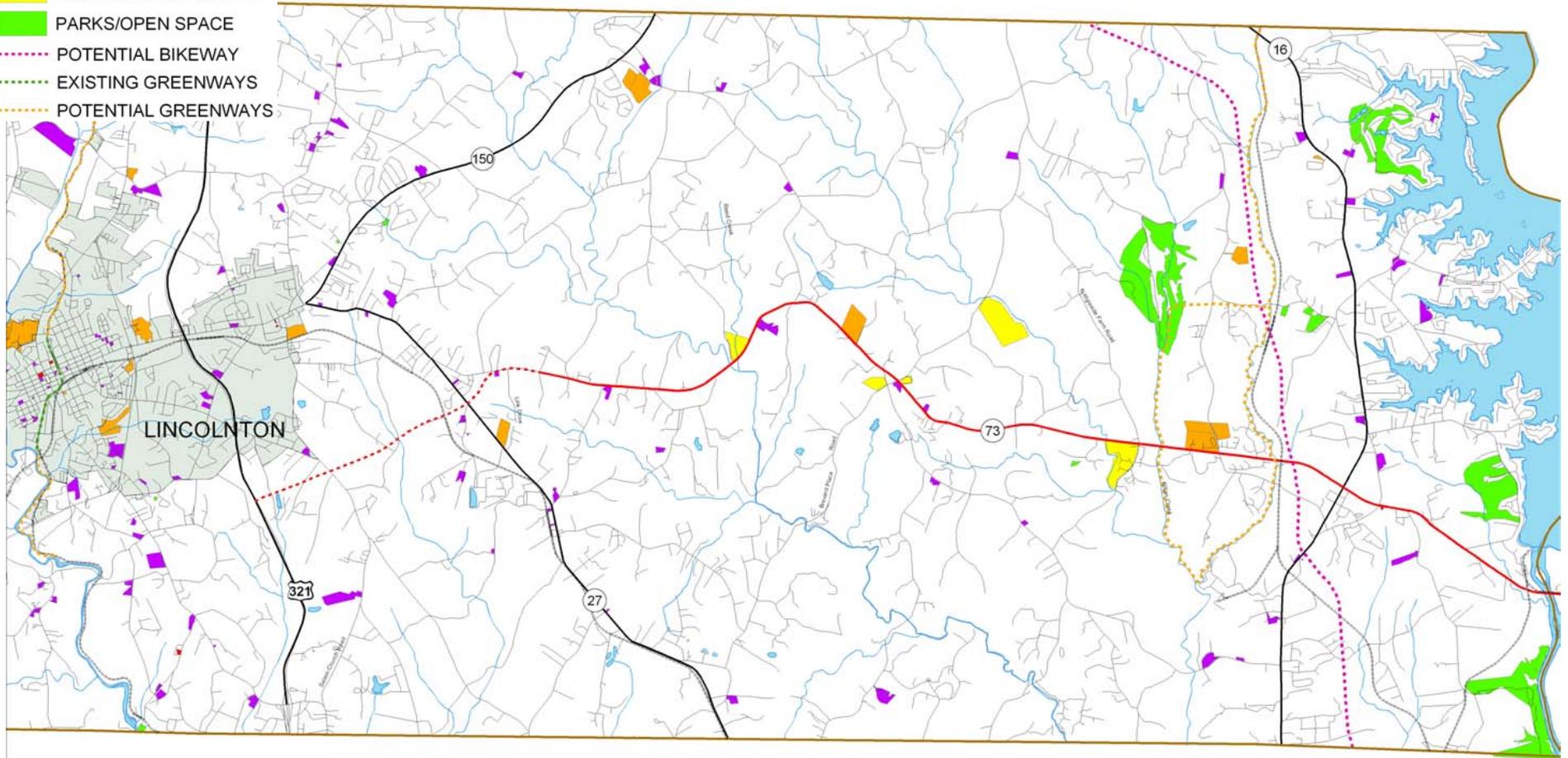
6. Greenways and Bikeways

The Marcia H. Clonginger Rail Trail is an existing greenway, which runs north-south to the east of the courthouse in downtown Lincoln. There are plans for this greenway to continue further to the north and south. In the eastern portion of Lincoln County there are no existing greenways or bikeways. Currently, there are plans for a greenway loop to follow along Killian Creek and circle around following Forney Creek. Plans also indicate a future bikeway that will follow the new alignment for NC 16.

LEGEND

- EXISTING NC-73
- - - FUTURE NC-73
- ▭ COUNTY BOUNDARIES
- ▭ WATER BODIES
- ▭ FIRE STATIONS
- ▭ SCHOOLS
- ▭ CHURCHES
- ▭ HISTORIC PROPERTIES
- ▭ PARKS/OPEN SPACE
- - - POTENTIAL BIKEWAY
- - - EXISTING GREENWAYS
- - - POTENTIAL GREENWAYS

Public Facilities West of Catawba River



Public Facilities

Public Facilities East of Catawba River

1. Fire Stations

Fire stations are located within the incorporated municipalities. Within Davidson and Cornelius, the fire stations are along Main Street. In Huntersville, the station is on NC 115. There is a fire station along NC 73 at Odell School Road within the City of Concord. In Charlotte and Kannapolis, the fire stations are located outside of the study area.

2. Schools

Almost all of the schools within the study area are within a municipality. On the west side of Beatties Ford Road in Huntersville is Bradley Middle School. Huntersville Elementary is located along Gilead Road, between I-77 and NC 115. South of Gilead Road on NC 115 is the Central Piedmont Community College North Campus. Further south along NC 115 are Alexander Middle School and Blythe Elementary School. Along Stumptown Road between I-77 and NC 115 is a private school. In Cornelius on West Catawba Avenue is Cornelius Elementary. Within Davidson are several schools including Davidson Elementary, Davidson I. B. Middle School, a private school, and Davidson College,

which encompasses a large piece of property north of Davidson Concord Road and east of Main Street. Within the City of Concord is Odell Elementary School at NC 73 and Odell School Road, Harris Road Middle School on Harris Road, and Cannon School on Poplar Tent Road. Cox Mill Elementary is located west of I-85 in the unincorporated area of Cabarrus County. Rowan-Cabarrus Community College South Campus is within Kannapolis at the northwest corner of NC 73 and I-85. Also within Kannapolis are Northwest Cabarrus Middle and High School off of Trinity Church Road.

3. Churches

Churches are scattered throughout Mecklenburg and Cabarrus Counties within the municipalities and the unincorporated areas.

4. Historic Properties

Within Huntersville, there are several historic properties including Sunnyside (Ingleside) east of Beatties Ford Road, Rural Hill Plantation and the Holly Bend house west of Beatties Ford Road, and the Benjamin W. Davidson House. West of I-77 at Gilead Road, also within Huntersville, are the historic properties of Cedar Grove, Hugh Torrance House and Store, and the James G. Torrance Mill. On Gilead Road east of I-77 is the Agriculture Education Building at

Huntersville Elementary School, and along Main Street in Huntersville are the former Band of Huntersville and the Charles and Laura Alexander House. East of Main Street on Huntersville Concord Road is the historic John F. Ewart Farm property. Downtown Davidson contains several historic properties including the Chairman Blake House, Helper Hotel (Carolina Inn), Oak Row and Elm Row at Davidson College, Eumenean and Philanthropic Halls at Davidson College, and a proposed Davidson Historic District. Along Davidson Concord Road there are several historic properties, one of which is Beaver Dam. The Robert Potts, Jr. House is just east of Cornelius. Along Ramah Church Road, just south of NC 73 is the historic Ramah Presbyterian Church and Cemetery. On both sides of NC 73 just west of the Mecklenburg and Cabarrus County line are two historic properties, the Old Store (Mary Bost) and the North Register House (Milsaps). Within Cabarrus County, just north of NC 73 is the John E. Presley House. Just south of NC 73 is the historic house Mint Hill.

5. Parks and Open Space

Along the eastern side of the Catawba River are several preservation areas including the Cowans Ford Waterfowl Refuge, Stephens Road Nature Preserve, Rural Hill Nature Preserve, and Auten Nature Preserve. Within Huntersville, there is

Blythe Park, Huntersville Athletic Park, North Mecklenburg Park, Birkdale Golf Course, and Northstone Park and Golf Course. In the Town of Cornelius are the Peninsula Club Golf Course, Jetton Park, Ramsey Creek Park, Smithville Park, and several boat launch areas. Within Davidson, there is the River Run Country Club and Golf Course and Fisher Park. Just west of the Mecklenburg and Cabarrus County line is a Catawba Lands Conservancy property called Brackett Bluff, and also west of the County line is the White Property that is on the north side of NC 73. Just south on NC 73 is the Cornelius-Davidson-Huntersville District Park, along with several other properties that have conservation easements. Within Charlotte is the Highland Creek Golf Course. In the City of Kannapolis, there is a campground called Camp Cabarrus.

6. Greenways and Bikeways

Although most roads do not have striped bike lanes, there are several designated on-road bike routes that are considered to be routes where bicycles and automobiles can share the roads included in these routes. Roads included in these routes within Huntersville are Beatties Ford Road, Bud Henderson Road, Gilead Road, Hambright Road, McCoy Road, Mt. Holly Huntersville Road, Statesville Road, McCord Road, Ramah Church Road, Huntersville-Concord Road, and NC 73 from the Catawba

River to just east of the Huntersville Town limits. Existing striped bike lanes within Huntersville are in two places, along Winfield Creek Parkway running from Gilead Road and on NC 73 just in front of Birkdale Village to McDowell Creek. An off-road bikeway in Davidson that runs along Davidson Concord Road from Kimberly Road to Beaver Dam is not built at this time but is funded through NCDOT Enhancement Funds. On-road bike routes in Cabarrus County include Davidson Road, Mooresville Road, Archer Road, Plum Road, Tuckasegee Road, Rainbow Drive, Poplar Tent Road, and Pitts School Road within Concord. The second bicycle category is a result of the Liveable Community Blueprints for Cabarrus County that shows potential bikeways for the future. Routes included for potential bikeways are the Rocky River on the western portion of the county that connects to Clarke Creek, the Rocky River Spur to connect Harris Middle School to Odell Elementary School, Odell School Road bikeway, Coddle Creek to connect to Cannon School, Afton Run, Irish Buffalo Creek, and Don Howell Lake Spur to connect the Coddle Creek Reservoir to Afton Run and Irish Buffalo Creek along Rowan-Cabarrus Community College.

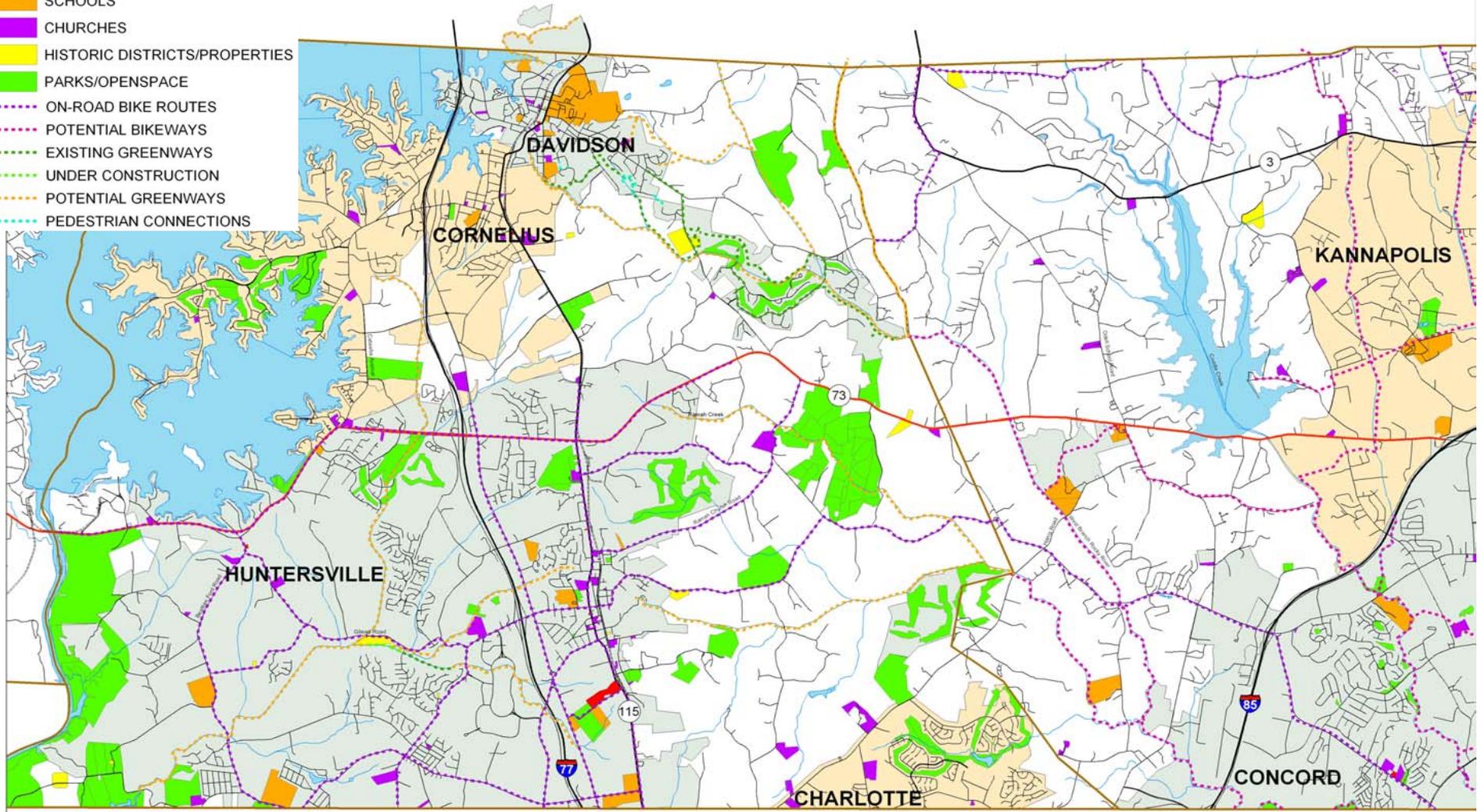
There is an existing greenway within the Town of Huntersville called the Torrence Creek Greenway that is just south of Gilead Road. An

addition to the greenway is under construction, and future potential extensions of the greenway are planned. Also within the Town of Huntersville are plans for a potential greenway along McDowell Creek, to run from the southwest portion of Huntersville to Cornelius. A second planned greenway would start on the eastern side of Huntersville along the South Prong Clarke Creek to connect to the future Ramah Creek Greenway. A potential greenway in the Town of Davidson will run along the South Prong River connecting to the future greenway along the Rocky River. The Southeast Davidson Greenway, which will run along Avinger Lane to the South Prong of the Rocky River, is not built at this time but is funded through NCDOT Enhancement Funds. Also within the Davidson vicinity are potential greenways along the West Branch Rocky River and along the shoreline of Lake Norman.

LEGEND

- NC 73
- COUNTY BOUNDARIES
- WATER BODIES
- FIRE STATIONS
- SCHOOLS
- CHURCHES
- HISTORIC DISTRICTS/PROPERTIES
- PARKS/OPENSOURCE
- ⋯ ON-ROAD BIKE ROUTES
- ⋯ POTENTIAL BIKEWAYS
- ⋯ EXISTING GREENWAYS
- ⋯ UNDER CONSTRUCTION
- ⋯ POTENTIAL GREENWAYS
- ⋯ PEDESTRIAN CONNECTIONS

Public Facilities East of Catawba River



Water Resources

Water Resources West of Catawba River

1. Wetlands and Floodplains

Most of the wetlands in the area, as identified from the National Wetland Inventory GIS shapefile, are along the rivers, creeks, lake, and ponds, or fall within the 100 year floodplain. There are five floodplains that follow creeks and a river, and that cross NC 73, including Leepers/Reed Creek, Anderson Creek, Killian Creek, Forney Creek, and the Catawba River. The floodplain that follows Hoyle Creek will cross the future NC 73 Connector as currently planned.

2. Water Supply Watersheds

Within Lincoln County east of the City of Lincolnton, there are five different class IV Water Supply Watersheds. These watersheds include the South Fork Catawba River (East Schoals), South Fork Catawba River (Dal./Gas./Ranlo), and Hoyle Creek that are to the west of NC 27. To the east of NC 16 are Mountain Island Lake and Lake Norman watersheds, which both contain critical areas that are along Lake Norman and the Catawba River. The area between NC 27 and NC 16 does not include a water supply watershed.

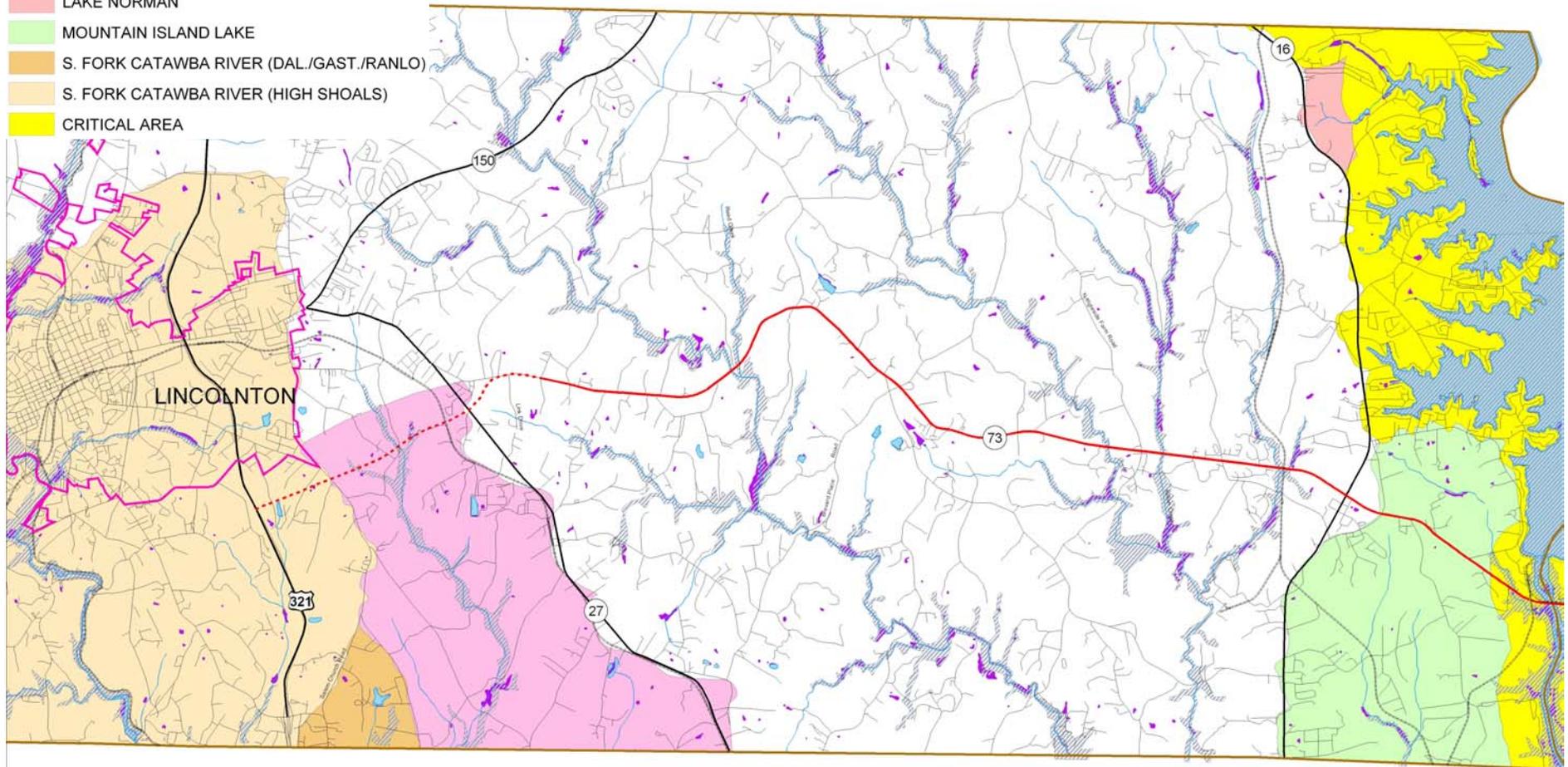
LEGEND

- EXISTING NC-73
- - - FUTURE NC-73
- LINCOLNTON
- WATER BODIES
- WETLANDS
- 100 YEAR FLOODPLAIN

WATER SUPPLY WATERSHED IV

- HOYLE CREEK
- LAKE NORMAN
- MOUNTAIN ISLAND LAKE
- S. FORK CATAWBA RIVER (DAL./GAST./RANLO)
- S. FORK CATAWBA RIVER (HIGH SHOALS)
- CRITICAL AREA

Water Resources West of Catawba River



Water Resources East of Catawba River

1. Wetlands and Floodplains

Most wetlands are found within rivers, creeks, lakes, and the 100 year flood plain. There are five floodplains that cross NC 73 within the study area that follow McDowell Creek, Ramah Creek, Rocky River, Coddle Creek, and Afton Run.

2. Water Supply Watersheds

The western portion of Mecklenburg County is within the Mountain Island Lake Water Supply IV Watershed. This watershed includes a critical area all along the shore of Lake Norman and the Catawba River. A portion of Cabarrus County is within the Coddle Creek Water Supply II Watershed, with a critical area all around the Coddle Creek Reservoir.

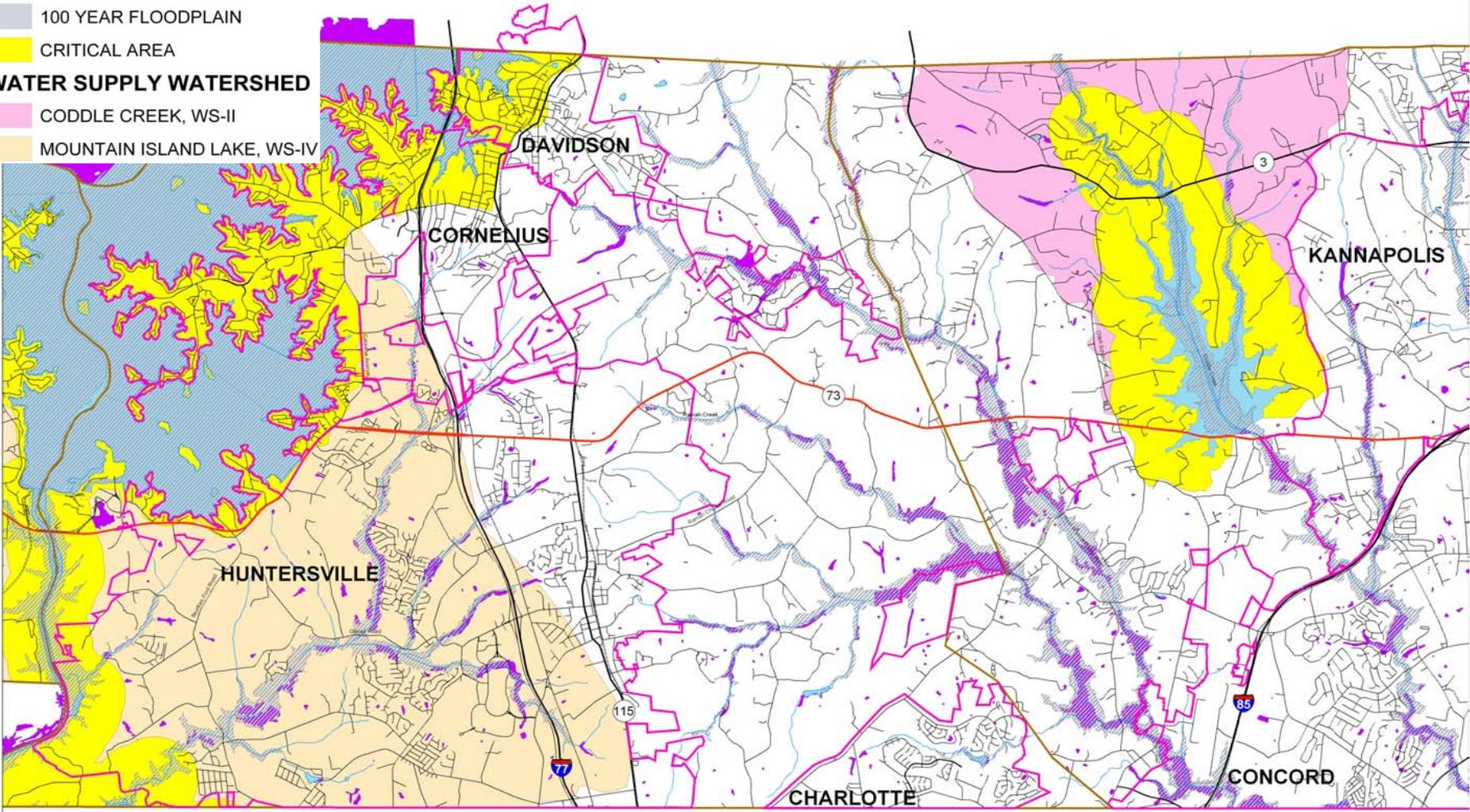
Water Resources East of Catawba River

LEGEND

- NC 73
- MUNICIPALITIES
- WATER BODIES
- WETLANDS
- 100 YEAR FLOODPLAIN
- CRITICAL AREA

WATER SUPPLY WATERSHED

- CODDLE CREEK, WS-II
- MOUNTAIN ISLAND LAKE, WS-IV



Utilities

Utilities West of Catawba River

1. Wastewater System

Lincoln County has two wastewater treatment districts. The first district is the City of Lincoln Sewer District, which is owned and operated by the City to serve the area in and around Lincoln. The other sewer district is the East Lincoln Sewer District to provide service to the eastern portion of Lincoln County, and is owned and operated by the County. The wastewater treatment plant for Lincoln is located just south of the City along the South Fork Catawba River, while the plant for East Lincoln Sewer District is located along Forney Creek at NC 73. A connection to the City of Lincoln sewer system was provided to the Timken Plant, which is southwest of NC 27 to replace its package treatment plant.

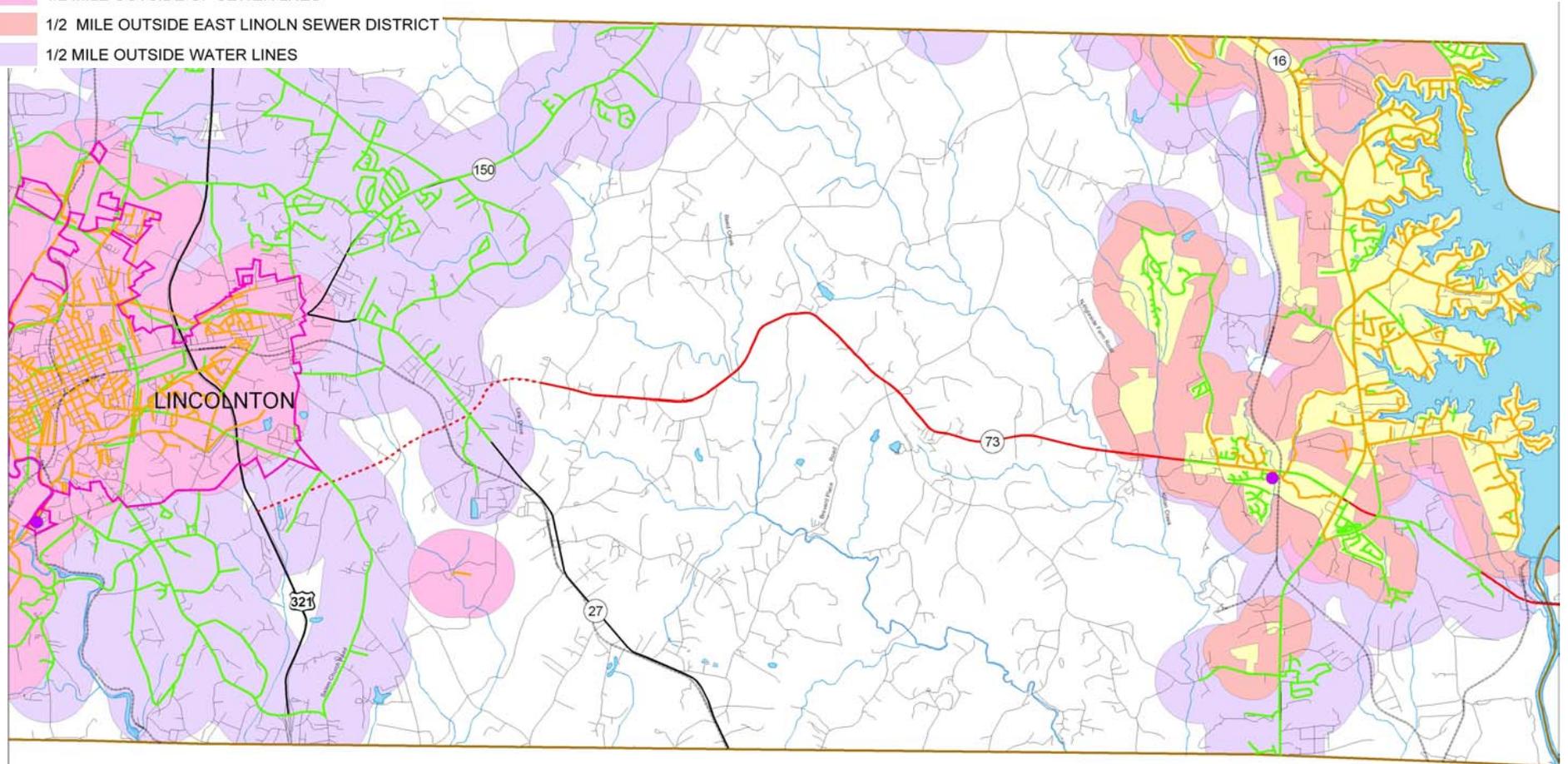
2. Water System

Lincoln County is also served by two water districts. One is for the City of Lincoln and its vicinity. The other is for the East Lincoln District and is owned and operated by the County. The water source for the City is the South Fork River, and the source for Lincoln County is Lake Norman.

LEGEND

- EXISTING NC-73
- - - FUTURE NC-73
- LINCOLNTON
- WATER BODIES
- WASTE WATER TREATMENT PLANT
- WATER LINES
- SEWER LINES
- EAST LINCOLN SEWER DISTRICT
- 1/2 MILE OUTSIDE OF SEWER LINES
- 1/2 MILE OUTSIDE EAST LINCOLN SEWER DISTRICT
- 1/2 MILE OUTSIDE WATER LINES

Utilities West of Catawba River



Utilities East of Catawba River

1. Wastewater System

Mecklenburg County's wastewater system is owned and operated by Charlotte-Mecklenburg Utilities District (CMUD) and provides service to Charlotte, Cornelius, Davidson, Huntersville, and portions of unincorporated Mecklenburg County. Both the City of Concord and Kannapolis provide a wastewater system for their residents. The Water and Sewer Authority of Cabarrus County provide a wastewater system for Cabarrus County.

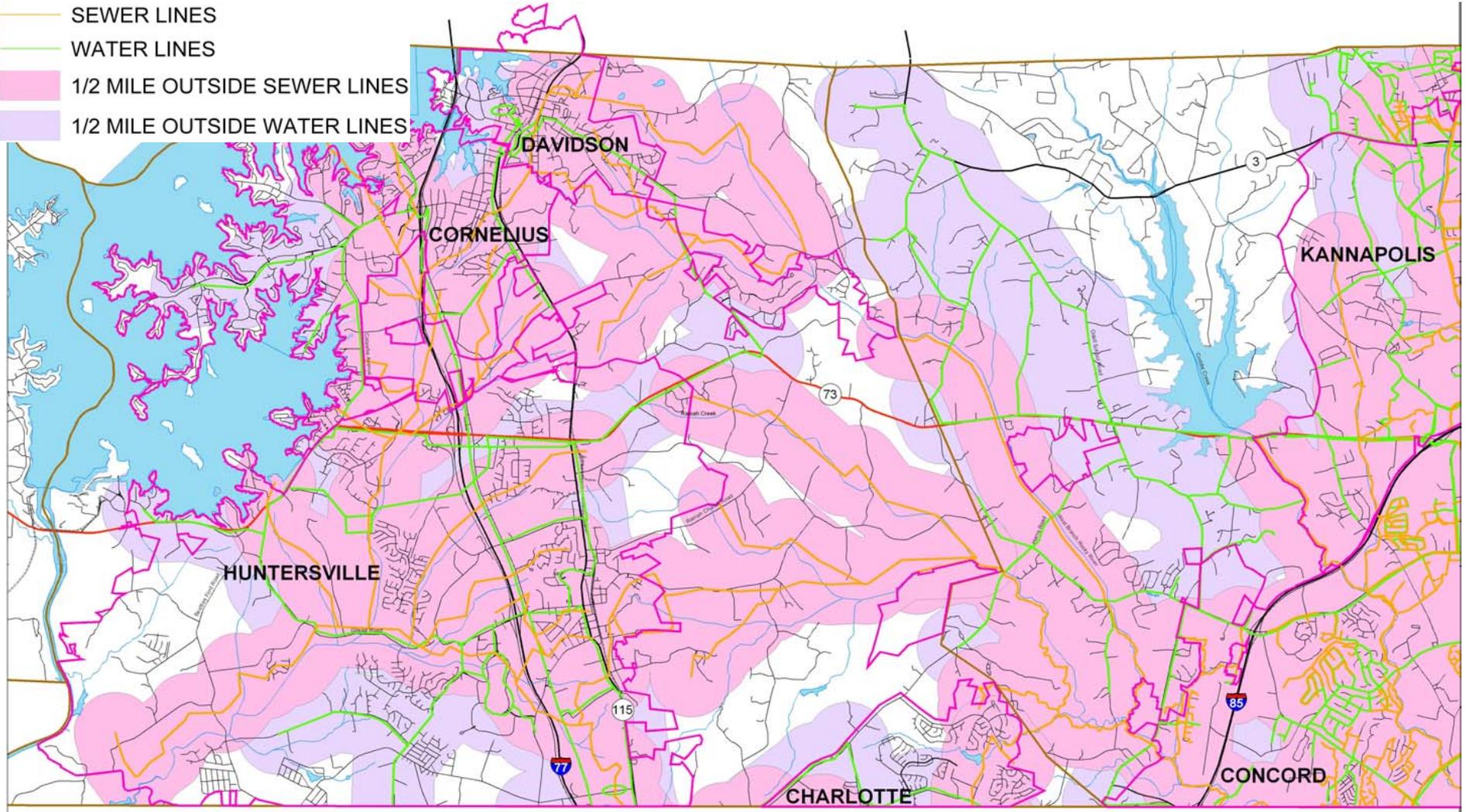
2. Water System

CMUD also operates the water system for Charlotte, Cornelius, Davidson, Huntersville, and some of the unincorporated areas of Mecklenburg County. The water source for CMUD is Mountain Island Lake and Lake Norman. The Water and Sewer Authority of Cabarrus County operates the Coddle Creek Reservoir and the Cities of Concord and Kannapolis provide their own treatment and billing. Kannapolis also provides its own water from the Kannapolis Lake, but with drought conditions over the last several years, the Coddle Creek Reservoir has been used as a secondary source. Emergency water can also be accessed through an agreement with Charlotte that provides a pipeline through Concord to Kannapolis. Kannapolis also provides water for most of the northwestern portion of Cabarrus County.

Utilities East of Catawba River

LEGEND

- NC 73
- MUNICIPALITIES
- WATER BODIES
- SEWER LINES
- WATER LINES
- 1/2 MILE OUTSIDE SEWER LINES
- 1/2 MILE OUTSIDE WATER LINES



Zoning

Zoning West of Catawba River

Zoning districts were simplified into four basic categories for analysis and comparison purposes.

1. Agriculture

Most of the land between NC 27 and NC 16 is zoned as agriculture.

2. Residential

Residential land uses have been divided into five categories:

Residential – 1 to 2 acre parcels

Residential – ½ acre to less than 1 acre parcels

Residential – ¼ acre to less than ½ acre parcels

Residential – less than ¼ acre parcels

Multi-family – multi-family developments, such as townhomes, apartments, and condominiums

The downtown area of the City of Lincolnton has the highest density zoning of parcels less than ¼ acre and some multi-family zoning. The southeast portion of Lincolnton's zoning ranges from ¼ acre to less than ½ acre per parcel. Just outside of Lincolnton, the area is zoned at a lower density of ½ acre to less than 1 acre per parcel. The area even further out is zoned for 1 to 2 acre parcels, and this zoning is scattered

throughout the more rural parts of the County. Areas along NC 16 and Lake Norman are also zoned mainly for 1 to 2 acre parcels, except for the neighborhood around the Westport Golf Course, which is zoned for ¼ acre to less than ½ acre parcels and a few multi-family zoned areas along the lake.

3. Business

Business zoning is focused in two areas of Lincoln County. The first focus area of business zoning is within the City of Lincolnton, and the second area is along NC 16. These are the two areas that have the largest concentration of population and the highest amount of traffic.

4. Industrial

Industrial zoning is concentrated around three different areas. The first concentration of industrial zoning is within the City of Lincolnton, the second is where NC 73 and NC 27 merge near the Lincolnton/Lincoln County Regional Airport, and the third is along the CSX Railroad line and NC 16. All three of these areas have easy access to transportation and/or employees.

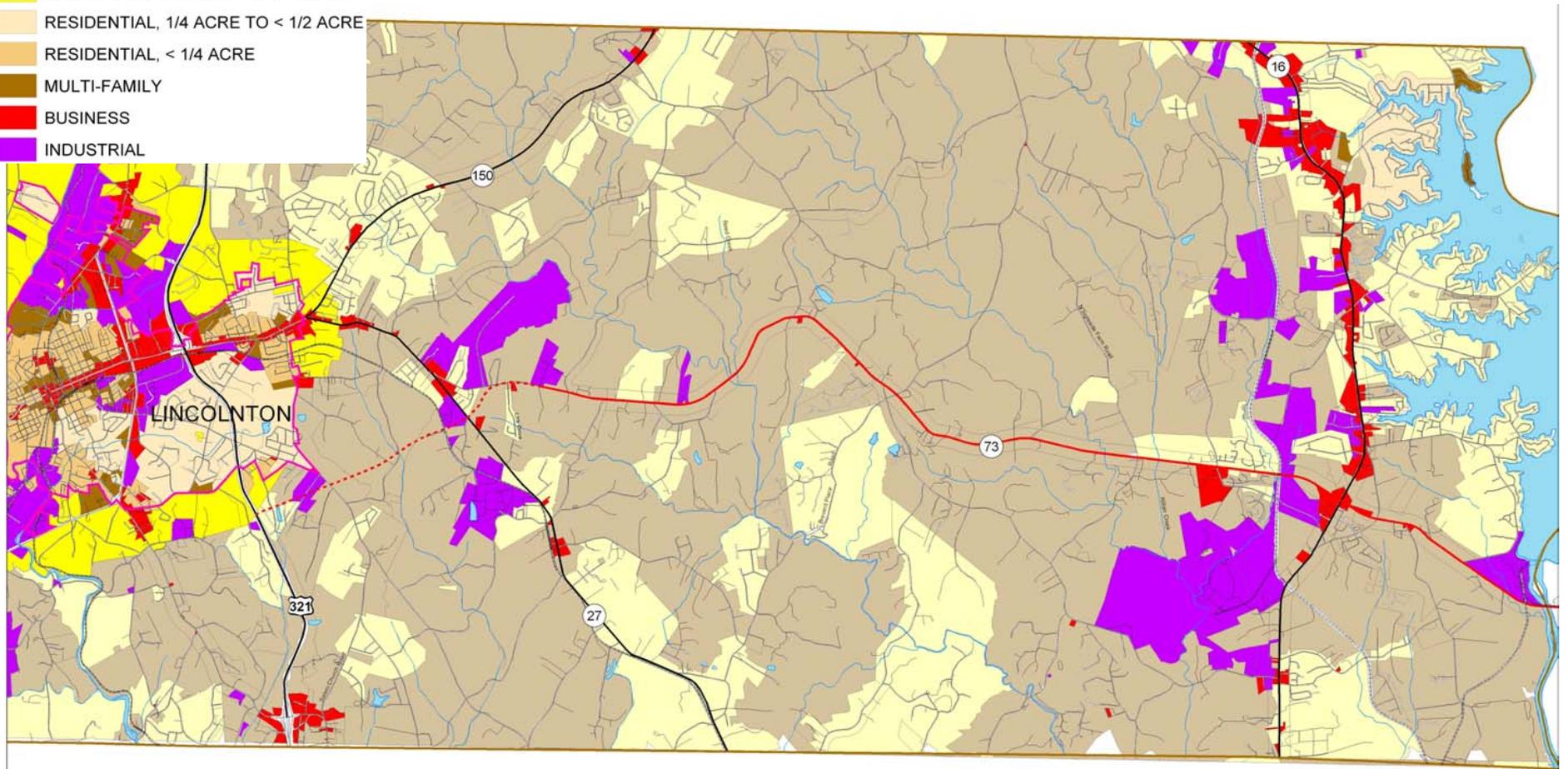
LEGEND

- EXISTING NC-73
- - - FUTURE NC-73
- LINCOLNTON
- WATER BODIES

ZONING

- AGRICULTURE
- RESIDENTIAL, 1 TO 2 ACRES
- RESIDENTIAL, 1/2 ACRE TO < 1 ACRE
- RESIDENTIAL, 1/4 ACRE TO < 1/2 ACRE
- RESIDENTIAL, < 1/4 ACRE
- MULTI-FAMILY
- BUSINESS
- INDUSTRIAL

Zoning West of Catawba River



Zoning East of Catawba River

Zoning districts were simplified into six basic categories for analysis and comparison purposes.

1. Agriculture

A good portion of the City of Kannapolis that is within the study area is zoned as agriculture. No other areas east of the Catawba River are zoned as agriculture.

2. Residential

Residential land uses have been divided into seven categories:

Residential/Open Space – residential subdivision requiring dedications of open space within their developments

Residential – 1 to 2 acre parcels

Residential – ½ acre to less than 1 acre parcels

Residential – ¼ acre to less than ½ acre parcels

Residential – less than ¼ acre parcels

Single family/Multi-family – allow for a mixture of single family and multi-family housing

Multi-family – multi-family developments, such as townhomes, apartments, and condominiums

The residential/open space zoning category is found within the Towns of Davidson and Huntersville. This zoning category requires that a specified amount of open space be preserved when creating a residential subdivision. For

residential zoning of 1 to 2 acres, the only two areas with this zoning are within the City of Kannapolis just to the north of NC 73, and the City of Concord just south of NC 73. The areas zoned as ½ acre to less than 1 acre are within Cornelius along the critical area of Mountain Island Lake, the eastern portion of Davidson, the Coddle Creek Watershed in Cabarrus County, and a few areas within the Cities of Charlotte and Concord. Areas that are zoned as ¼ acre to less than ½ acre are within Huntersville just outside of I-77 and NC 115, beyond the single family/multi-family zoning. Within Cabarrus County along the Mecklenburg County line is also zoned as ¼ acre to less than 1 acre, along with an area in the northern portion of the study area within Kannapolis. A good portion of Cornelius and Davidson are zoned as less than ¼ acre parcels. The single family/multi-family zoning category is within Huntersville along I-77, NC 115, and NC 73. Multi-family zoning is located within the City of Concord, southeast of I-85.

3. Mixed Use

Mixed use zoning allows for several different types of land uses together including single family residential, multi-family residential, commercial, and office. This type of zoning also allows for a more walkable environment. This zoning is utilized in several areas in Cornelius

including the area along NC 115 and West Catawba Avenue. The Town of Davidson and the City of Charlotte also have areas that utilize this type of zoning.

4. Business

Concentrations of business zoning are found in Mecklenburg County along I-77 at its interchanges, along NC 115 in Huntersville and Davidson, along NC 73 in Huntersville, and along West Catawba Avenue in Cornelius. Business zoning within Cabarrus County is concentrated at NC 73 and Odell School Road, and I-85 and its interchanges.

5. Industrial

Industrial zoning concentrations are found within Mecklenburg County along NC 73 at the Catawba River, and along NC 115 in Huntersville and Cornelius. Within Cabarrus County, industrial zoning is concentrated around the Concord airport, along I-85, and where I-85 and NC 73 intersect.

6. Institutional

There are a few properties zoned as institutional that are for government purposes.

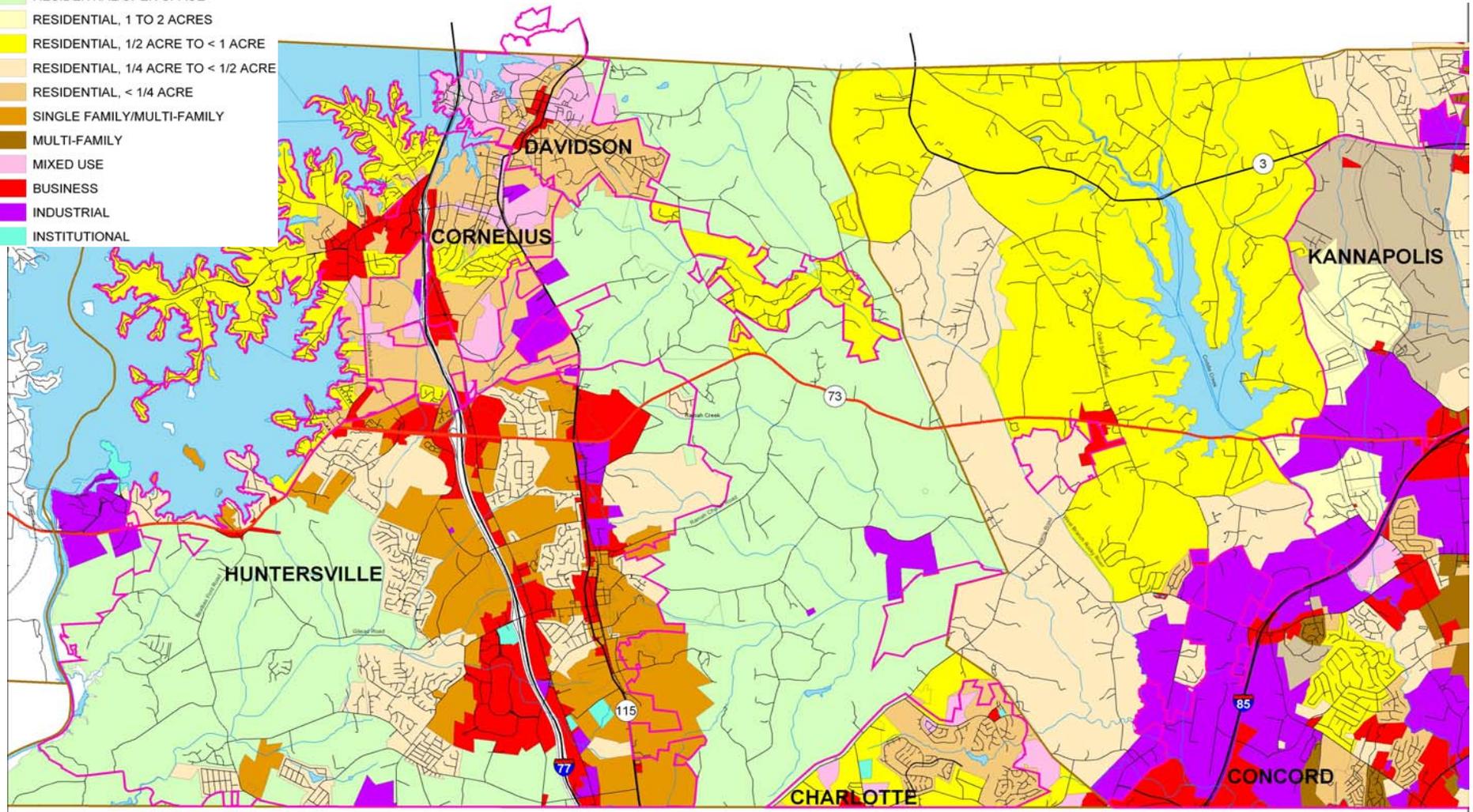
LEGEND

- NC 73
- MUNICIPALITIES
- WATER BODIES

ZONING

- AGRICULTURE
- RESIDENTIAL/OPEN SPACE
- RESIDENTIAL, 1 TO 2 ACRES
- RESIDENTIAL, 1/2 ACRE TO < 1 ACRE
- RESIDENTIAL, 1/4 ACRE TO < 1/2 ACRE
- RESIDENTIAL, < 1/4 ACRE
- SINGLE FAMILY/MULTI-FAMILY
- MULTI-FAMILY
- MIXED USE
- BUSINESS
- INDUSTRIAL
- INSTITUTIONAL

Zoning East of Catawba River



Demographic Projections

Very rapid growth is anticipated for the entire Charlotte region. Based on national prospects and extrapolated regional-national relationships, the regional population is expected to increase from 1,986,903 persons in 2002 to 3,474,000 persons in 2030, with employment rising from 1,081,764 jobs to 1,890,000 jobs over the same period.

It happens that the NC 73 corridor spans the region’s hottest growth area. The future expansion of the metropolis will have a somewhat northward tilt, with a growth epicenter located somewhere around Harris Boulevard rather than downtown Charlotte. This will put the NC 73 corridor under perhaps more growth pressure than any other comparably sized district in North Carolina.

Along with the existing growth momentum in

Cabarrus, north Mecklenburg and south Iredell counties, the reasons for this expected northward tilt include a favorable mix of economic activity and a relative concentration of upper-income households. The income situation is shown below. The share of households in the NC 73 corridor occupying the upper third of the regional income distribution rose from 40% to 46% during the 1990s, and is projected to rise even higher over the next two decades. (The presence of Lake Norman is of course a factor.) A widely observed pattern is that jobs of all kinds tend to follow upper-income households – because they contain the people who decide where jobs will go – which in turn yields still more residential and economic development.

Both population and employment in the Route 73 corridor expanded by around 5% per year during the 1990’s. Future percentage rates of increase are expected to be lower, but in absolute terms the corridor will keep gaining

progressively larger growth increments until sometime in the late 2020s. The gains so far have been heavily concentrated in area 3 (along I-77), but growth will progressively spread east and west over time.

The projected population for the NC 73 Corridor, by analysis area based on census tracts, is shown in the following two diagrams.

The full detailed demographic analysis is included in the Technical Appendix of this report.

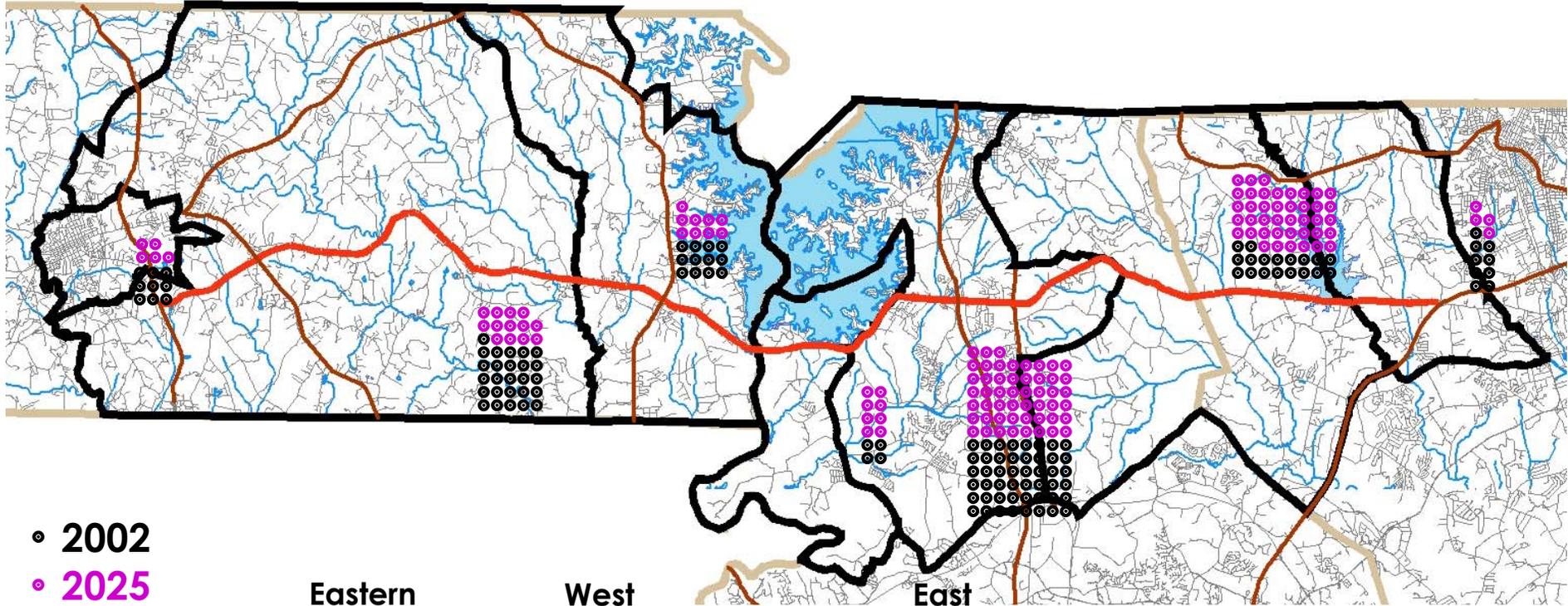
HOUSEHOLDS BY POSITION IN REGIONAL INCOME DISTRIBUTION

	1990	2000	2005	2010	2015	2020	2025	2030	2035
Lower Third	6,763	9,688	10,907	12,495	14,466	16,848	19,669	22,956	26,736
Middle Third	7,741	11,646	14,045	17,460	21,506	26,060	31,001	36,205	41,550
Upper Third	9,550	18,112	22,691	27,929	34,011	40,558	47,189	53,525	59,185
Total	24,053	39,446	47,643	57,884	69,983	83,467	97,859	112,686	127,471
Upper Share	39.7%	45.9%	47.6%	48.2%	48.6%	48.6%	48.2%	47.5%	46.4%

Demographic Summary - Population Estimates

	Number of Persons									Annual Compound Rate of Change			
	1990	2000	2002	2010	2015	2020	2025	2030	2035	90-00	00-10	10-20	20-30
Lincolnton	8,340	8,827	8,902	9,786	10,858	12,172	13,599	15,008	16,269	0.6%	1.0%	2.2%	2.1%
Eastern Lincoln Co.	19,601	24,405	25,275	30,198	33,959	38,295	43,123	48,144	53,413	2.2%	2.2%	2.4%	2.3%
West Lake Norman	6,855	10,416	11,029	15,701	18,997	22,245	25,237	28,554	32,149	4.3%	4.2%	3.5%	2.5%
Catawba River	1,857	3,523	3,864	5,954	7,891	10,047	12,202	14,133	15,618	6.6%	5.4%	5.4%	3.5%
East Lake Norman	14,629	36,464	40,913	59,610	72,412	85,543	98,558	111,015	122,471	9.6%	5.0%	3.7%	2.6%
Mecklenburg/ Cabarrus	9,136	14,141	15,215	24,971	34,545	46,044	58,843	72,320	85,849	4.5%	5.9%	6.3%	4.6%
Kannapolis/ Concord	5,323	7,463	7,977	9,649	10,607	11,725	13,188	15,184	17,900	3.4%	2.6%	2.0%	2.6%
Corridor	65,741	105,239	113,175	155,869	189,269	226,071	264,750	304,357	343,669	4.8%	4.0%	3.8%	3.0%

Demographic Areas of NC 73 Corridor



- 2002
- 2025

Lincolnton	Eastern Lincoln County	West Lake Norman	Catawba River	East Lake Norman	Mecklenburg/Cabarrus	Kannapolis/Concord
9,000	26,000	12,000	4,500	47,500	18,000	8,700
14,000	40,000	20,000	12,000	99,000	59,000	13,000

Future Land Use

West of Catawba River

Future land use plans for the counties and municipalities along the NC 73 corridor are in varying stages. Lincoln County has a Comprehensive Land Use Plan that was adopted on October 15, 2001. In this Comprehensive Plan is a description of projected growth in terms of land consumption, and the physical form or shape of new development. The plan distinguishes those areas that are most suitable for future development, and describes the types of land uses that will be most appropriate in the future.

The Infrastructure Initiatives for East Lincoln County includes areas within ½-mile of a water and sewer line. One goal included in the Comprehensive Plan is that higher density development should be located where excess capacity exists, within an area where systems can be upgraded for additional capacity or within a specified distance of existing facilities (½-mile from water and sewer, ½-mile from a principal road, and near other community facilities). The Infrastructure Initiatives also indicates that several improvements should be made to the road network, including (but not limited to) the upgrade of roads linking areas on either side of future and existing NC 16, extending airport

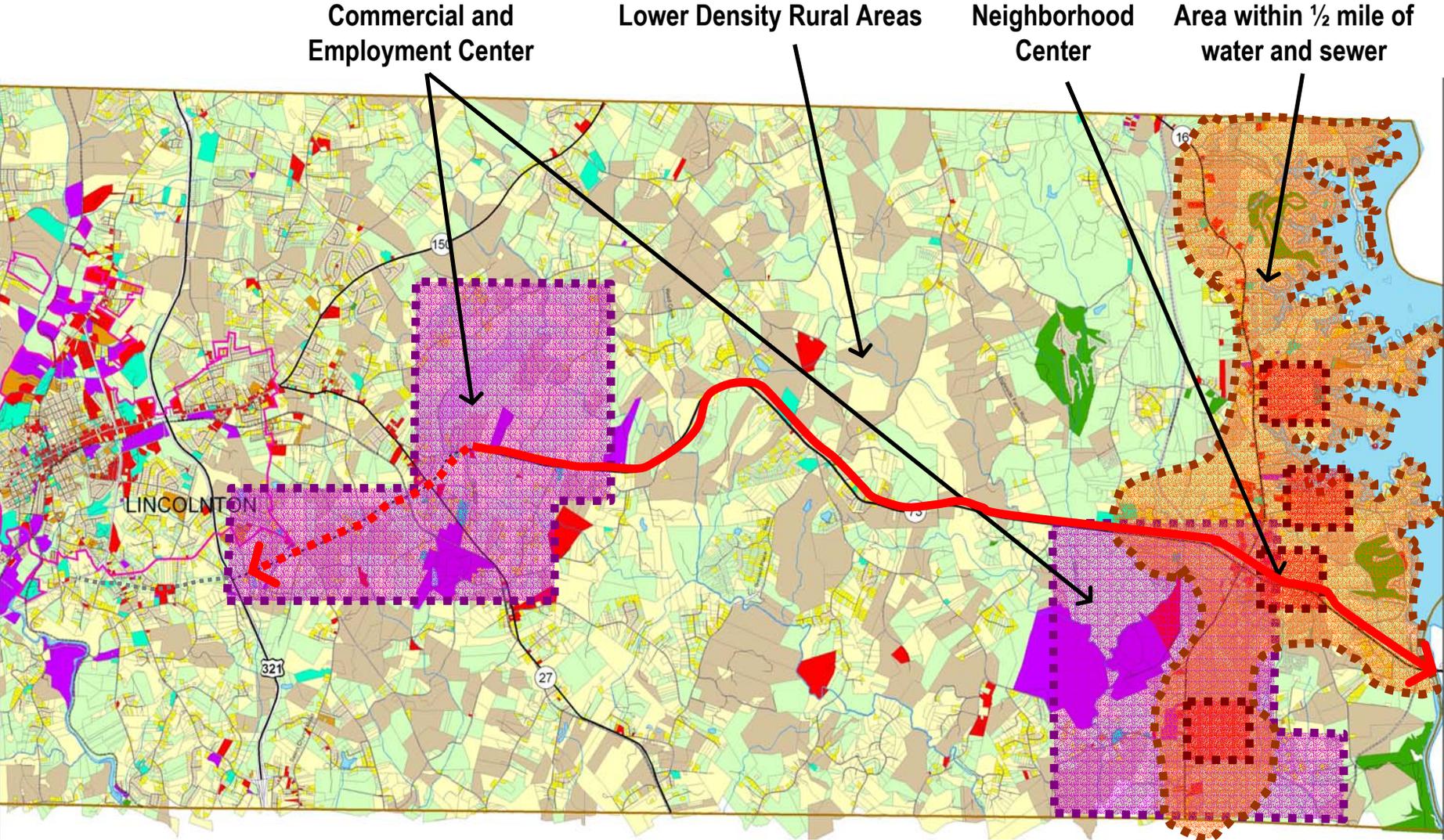
access to the proposed thoroughfare or bypass that will connect US 321/NC 150 and NC 73, and reservation of land for the proposed Loop Road around Lincolnton.

The Composite Plan for Central Lincoln County and East Lincoln County provides for commercial and employment centers along the proposed NC 73 Bypass, around the Lincolnton-Lincoln County Airport, and along existing and proposed NC 16 south of NC 73. The commercial and employment centers have potential for a high concentration of commercial, office, industrial and business uses. These centers would typically be part of planned developments designed to include regional employers and retailers, in locations close to major arterial roads and major transportation centers (such as railroad and airports). These areas should be located where land is suitable for more intense development, where soil conditions and topography allow, and where water and sewer exist.

The Composite Plan also identifies several neighborhood centers, which could accommodate a mix of uses, predominantly commercial, to serve the local community. These neighborhood centers may also accommodate other community facilities. The Comprehensive Plan also indicates that commercial development should be

concentrated around existing commercial uses, with linkage of parking lots and driveways, emphasis on streetscape design, and introduction of residential mixed-use projects. The lower density rural areas in between Lincolnton and Ingleside Farm Road are not specifically identified in the Comprehensive Plan; however, these areas appear to call for primarily lower density residential uses. Lincoln County does not have density restrictions at the time of this study.

Future Land Use West of Catawba River



East of Catawba River

The Cornelius Land Use Plan dated July 24, 2002 identifies the area along NC 73 and West Catawba Avenue as a pedestrian-friendly, livable corridor. The intent is to preserve any environmentally sensitive or visually important areas, and to protect the distinctly rural nature of Westmoreland Road by using access management techniques.

Huntersville has no future land use map or plan, but the Town's vision is shown graphically on a Factors Influencing Growth Map and a Zoning District Map. Huntersville designates that area around the interchange of NC 73 and I-77 as an Area of Special Interest. The Zoning District Map indicates that most of the area around this interchange is zoned Highway Commercial, and allows for auto-dependant uses that serve the local community and those traveling on the interstate. The Zoning District Map also indicates a Corporate Business District, which provides for large businesses and light industrial uses, in the southwest quadrant of the interchange.

There are three Transit-Oriented Development nodes along NC 115. There is one at Caldwell Station, one at Sam Furr Road and one at Anchor Mills. The Charlotte Area Transit System (CATS) has identified these three areas as potential stations for the commuter rail line that

will eventually be constructed between the City of Charlotte and Iredell County. CATS is currently preparing station area plans for each of these locations.

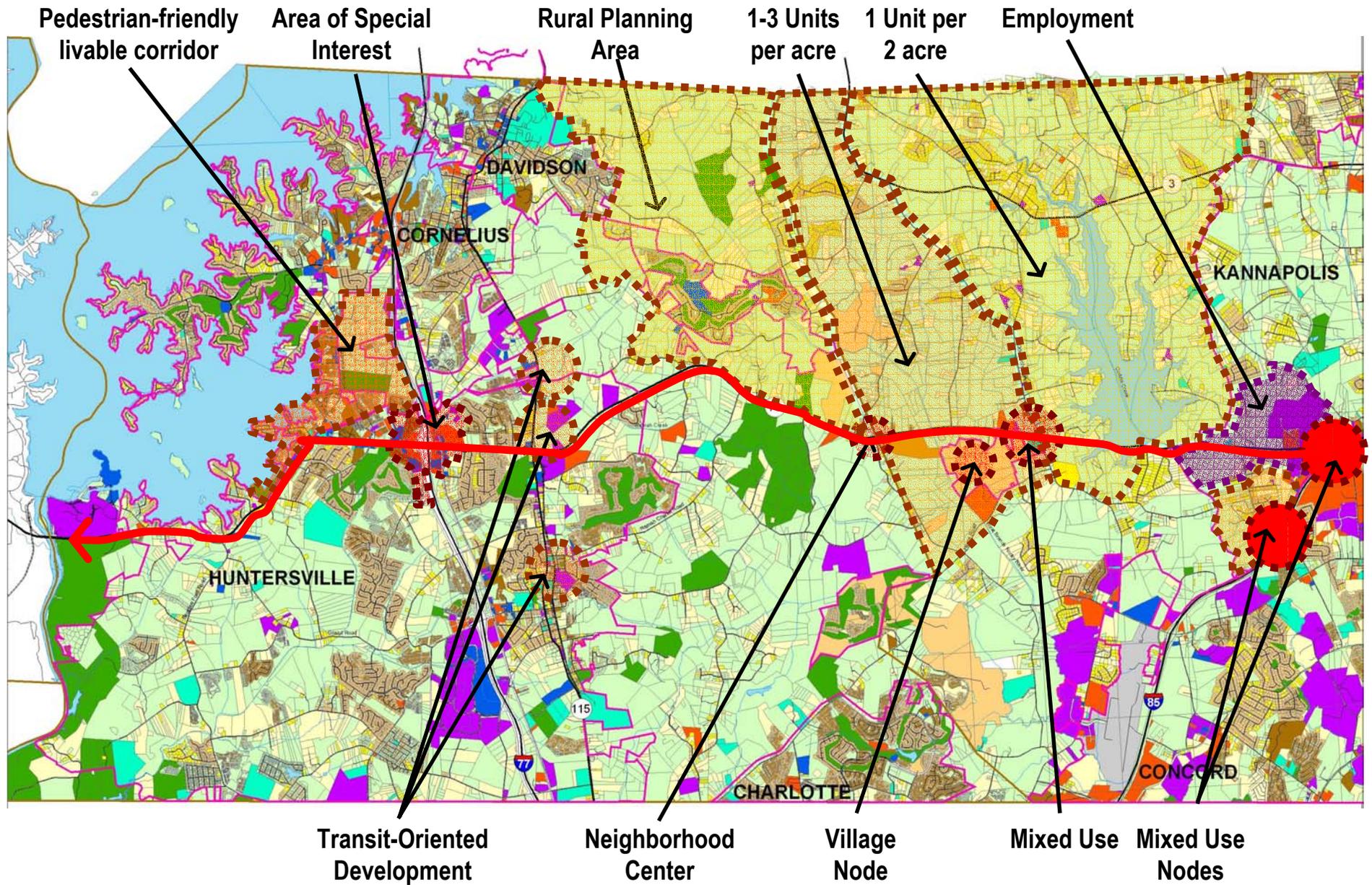
The Town of Davidson has designated most of the land north of NC 73 and east of the Town Limits as a rural planning area. Because of the concern for loss of farmland, compact neighborhoods with substantial open space are required. By preserving open space and restricting the proliferation of segregated single-use developments, the rural character should be maintained. The base density allowed for TND-Os and residential subdivisions is 2 dwelling units per acre (DU/AC), 1 DU/2 AC in low-impact subdivisions and farmhouse clusters, 1 DU/20 AC in conservation easement subdivisions, and 1 DU/5 AC in rural subdivisions. Density bonuses are available if more than the required open space (land equal to 50% of the gross area of development) is protected.

The draft of Cabarrus County's Northwestern Plan Area Future Land Use indicates that the area from the Mecklenburg County line eastward to Odell School Road is predominantly residential, with densities of 1-3 DU/AC. The area around the Coddle Creek Reservoir is primarily reserved for residential uses of 1 DU/2 AC. A Neighborhood Center is to be located at Poplar Tent Road, and Mixed-Use Centers are

to be located at NC 73/Odell School Road, I-85/NC 73 and at the Kannapolis Parkway and I-85. In addition, an Employment Center is identified along the Kannapolis Parkway, mostly north of NC 73. This area is also identified in the Coddle Creek District Plan (September 1999) as one of the prime locations for manufacturing, warehousing, distribution, office and limited retail uses. Access to the Kannapolis Parkway, NC 73 and I-85 make it a significant potential development area.

According to the City of Concord draft Land Use Map (January 2003), a Village Node will be located in the area around Moss Creek, in the southwest quadrant of the intersection at NC 73 and Odell School Road. This area surrounding Moss Creek is designated as single-family related uses. The Village Nodes are to be relatively small mixed-use centers located at major intersections of more minor roadways. These centers may include commercial uses surrounded by residential uses, and could contain single-family houses, town homes, patio homes, or office uses. The single-family residential areas have densities of less than 4 DU/AC.

Future Land Use East of Catawba River



Existing and Future Traffic

Existing traffic data on NC 73 and connecting roads was obtained from NCDOT and information provided by the participating agencies. Some gaps in the count information located along NC 73 was caused by the fact that the I-77 interchange was not built until 1997. Therefore, there have not been any counts completed in those sections before 1997.

Future traffic on the study-area transportation network was estimated in a Transportation Needs Workshop, to determine anticipated capacity needs. Future-year “base” condition traffic volumes were based on future land use assumptions, for a base year consistent with the land use assumptions and the demographic projections for the project (see Technical Appendix), in order to produce assumed daily traffic volumes for NC 73. The scope of the project did not include creation of a new travel demand model or adaptation either of the MPO models. Traffic was represented by assumed daily traffic volumes on major roadway segments.

Participants in the Transportation Needs Workshop included: Anna Brigman (City of Charlotte Department of Transportation), Bill Finger (CDOT), Bill Coxe (Huntersville), Linda Dosse (NCDOT-Transportation Planning Branch), Bob Binford (Mecklenburg County),

Danny Rogers (MUMPO), Dawn Qiu (LNRPO), Tom Thrower (NCDOT-Division 10), Mike Holder (NCDOT-Division 12), and Rodger Lentz (Cabarrus County).

A linear regression analysis was used to create the 2003 and 2025 traffic forecasts. The linear regression data was for comparison purposes only. Following the Workshop, a higher short-term compound growth rate was used, and then a lower long-term compound growth percentage was applied for the study segments. A spreadsheet was created with 1991 and 2000/2001 counts, the respective compound annual growth rates, and the 2025 AADT projections using this methodology.

Some parameters and limitations of the forecasting methodology included:

- * The analysis segments 4, 5, and 6 exhibited a constraint, because the traffic traveling in these sections are generally passing through to get to and from the neighboring counties or “cutting around the lake”, and are not traveling from one end of the project study area to the other. The key constraint is the Catawba River Bridge.
- * It was determined that, for the future 2025 ADT assumptions, there will be a traffic increase along NC 73 due to transit usage in

the Huntersville area, but specific projections were attempted for this study.

- * The growth of traffic on NC 150 is likely to continue, because it is the only facility providing cross-connectivity over Lake Norman near the study area.
- * For use in determining high growth area possibilities in the area around Odell School Road, the sewer line boundaries should be checked, and possibly extended.
- * Two unfunded TIP projects are located in study area segments 3 and 4. The unfunded TIP projects may realign NC 73 from Reinhardt Circle to the Old Plank Road area to the east, and widen NC 73 to at least 4-lanes to the Mecklenburg county line.
- * There will also be a new 4-lane divided facility in Huntersville which will connect to NC 73. This project, known as Vance Road, will not be completed until after 2025.
- * The workshop group collectively wrote out “expert judgment” traffic projections using above methodologies for the 2025 design year scenario. Specific topics of interest for each study segment are listed on the next page.

Workshop Topics of Interest

Segment	Key Issues
1	<ul style="list-style-type: none"> • NC 150 traffic volumes will likely be quite heavy in the future, also. • Assume traffic volumes to be in the range of 26,000 – 45,000. • 2-lane segment of NC 27 from NC 150 to NC 73 should be upgraded to four lanes. • Assume a four-lane new Bypass facility • Assume a 60%/40% split of traffic between NC 27 and NC 150 • Assume an even split of remaining NC 27 traffic onto new NC 73 Bypass • Assume that subtracting this traffic from Segment 2 NC 73 traffic estimates in the vicinity will result in equating to NC 27 traffic south of the new NC 73 crossing
2	<ul style="list-style-type: none"> • Assume a "low" volume point in the middle of this segment • Assume traffic volumes to be in the range of 16,000 – 18,000. • Assume the potential of a relocated facility (Unfunded TIP Project), especially if a thruway concept is favored in this area or Segment 3
3	<ul style="list-style-type: none"> • Assume traffic volumes to be in the range of 20,000 – 24,000, as was forecast by the compound traffic volume growth estimates. However, the east end of segment 3 was adjusted to match segment 4 (30,000). • Assume completion of an unfunded TIP project to widen facility to at least four travel lanes from this segment to Mecklenburg County Line.
4	<ul style="list-style-type: none"> • Compound traffic growth projections from past growth figures begin to deviate from acceptable future year results. This occurs for Segments 5 through 9, and many results aren't available for those segments due to a lack of past year data. An agreed upon "mixed" compound growth rate was used from this point forward – usually representing a high short-term percentage and a lower long-term percentage. • Assuming traffic volumes to be grown 9% for the first 10 years, and then 2% for the remaining years results in a 30,000 ADT in this segment. • The effects of realigned NC 16 and potential high growth in this segment need to be accounted, as well as the 50,000 ADT estimate at the Catawba River Bridge. • Therefore, traffic was estimated to be 29,000 west of NC 16; 36,000 between old and new NC 16; 43,000 east of Pilot Knob Road; and 45,000 in the vicinity of Club Drive.
5	<ul style="list-style-type: none"> • Assume traffic volumes to be grown 8% for the first 10 years, and then 3% for the remaining 14 years equates to approximately 50,000 ADT. • Assume the critical "highest point" to be inflexible at the Catawba River Bridge. • Noted that the MUMPO 2025 LRTP model's ADT to be 43,000 at the Lincoln County Line.
6	<ul style="list-style-type: none"> • Assume 50,000 ADT continues from Segment 5 • Assume a new 4-lane divided facility in Huntersville which will connect to NC 73 and down to the I-485 Loop. This project, known as Vance Road, will not be completed until after 2025, but is forecast to carry an ADT of 27,000 – 30,000. • Assume traffic volume reduces to 42,000 because of Vance Road.
7	<ul style="list-style-type: none"> • Assume the ADT critical high point to be 56,000 at the I-77 interchange (2 percent compound growth per year to 2025). • Assume that additional traffic added to 42,000 ADT from Segment 6 results in 45,000 ADT just west of Birkdale development and about 50,000 at the Birkdale development. • Assume a significant reduction of NC 73 traffic at US 21 – reduce forecast to 43,000 on NC 73. • Assuming traffic volumes to be grown 9% for the first 4 years, and then 2% for the remaining years results in a 40,000 ADT just west of NC 115 (Old Statesville Rd). • Assume a volume reduction to 32,000 east of NC 115. • A possible future sewer line extension to the east of this segment will likely favorably impact growth.
8	<ul style="list-style-type: none"> • Continue a 32,000 ADT to Davidson-Concord Road. • Increase projection to 38,000 ADT with additional Davidson-Concord Road traffic. • Assume an ADT drop of 8,000 at Poplar Tent Road as traffic uses it to access areas to the south and east. • Assume traffic volumes to be grown 5.8% for the first 10 years, and then 2% for the remaining years resulting in an ADT of 30,000 near Poplar Tent Road. • Assume a "low point" volume of 28,000 just west of Odell School Road and increase traffic to 30,000 to the east of Odell School Road, as it will slowly build to I-85 interchange. • Assume watershed conservation district will limit development to the north of NC 73.
9	<ul style="list-style-type: none"> • Assume an increase to 39,000 between the West Side Bypass and I-85, and assume volumes remain consistent to the vicinity of I-85. • Assume highest traffic volume on NC 73 nearest I-85 interchange to be 44,000 vehicles per day.

Forecasted volumes were based on a number of assumptions, including the assumption that Vance Road would be constructed and that no restriction on roadway type or capacity was made when estimating the volumes along NC 73.

Some of the key conclusions and observations of the Transportation Needs Workshop and the Steering Committee were:

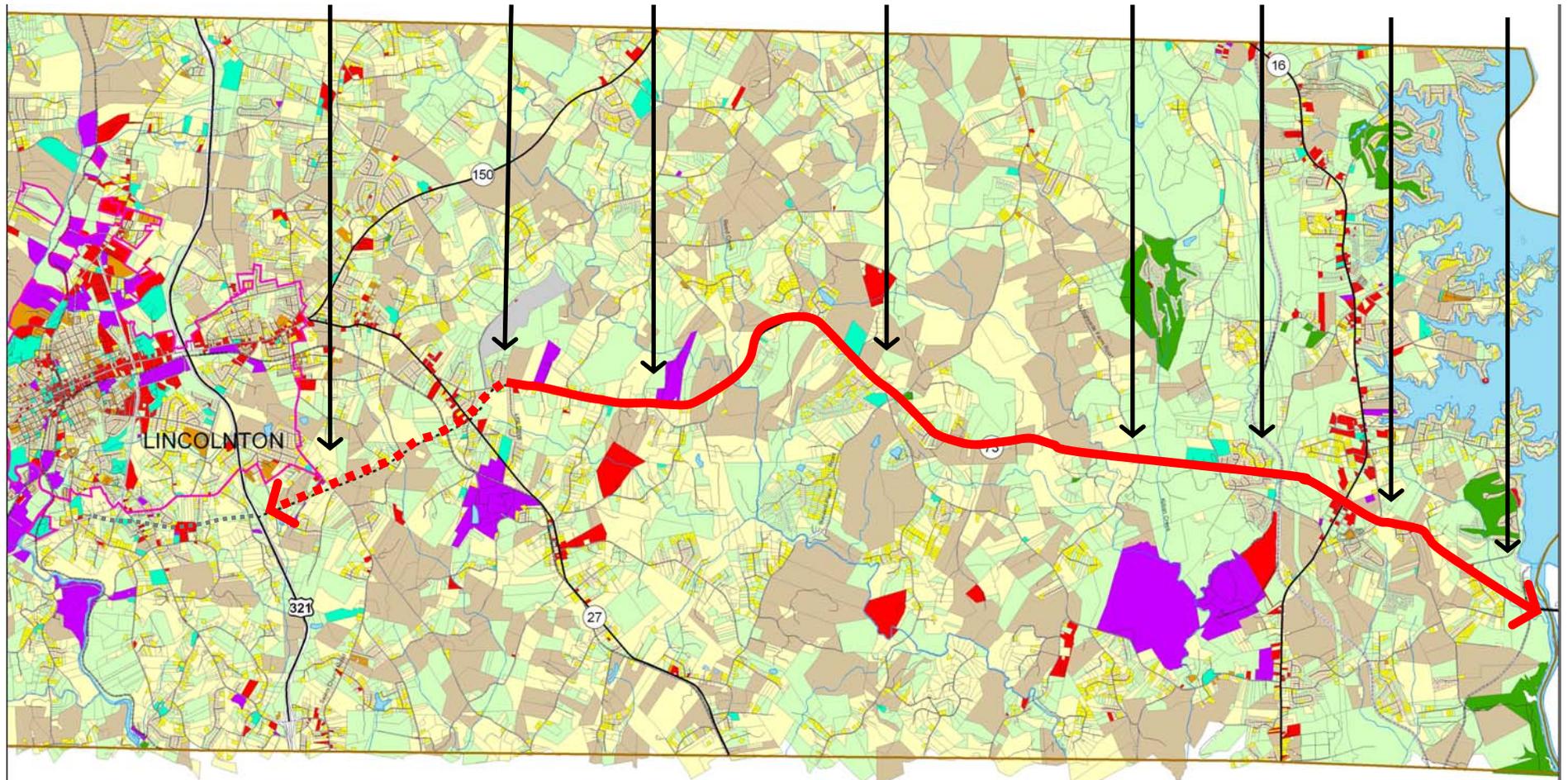
- * Based on forecasted traffic volumes, the major areas of concern appeared to be in the Huntersville “downtown area” near I-77 and near NC 16 in Lincoln County. The question will be how much congestion people are willing to tolerate in these areas.
- * Forecasted “thruway” volumes were the same as forecasted “linked center” volumes; however, the “thruway” concept was based on the assumption of greater access-control, higher speeds and future development occurring off of the roadway. These assumptions result in higher capacities for the “thruway” sections in many segments.
- * Forecasted traffic growth projections may be subject to more scrutiny near the Rocky River, as new sewer service will be available and there may be an acceleration of growth.

- * The forecasted numbers in the “network” concept through Huntersville represent the complexity of anticipating traffic in this area without the benefit of a regional model. There will likely not be an equal distribution of traffic on all parallel routes, and half of the new traffic could stay on NC 73, perhaps a quarter of the traffic could go to Westmoreland Road and a quarter to Stumptown Road.
- * The Steering Committee agreed that congestion is more tolerable if there are options, and there should be a balance between the tolerance for more lanes and the tolerance for more congestion.

The existing and anticipated traffic volumes through the corridor are indicated in the following diagrams, and in more detail in the Technical Appendix. Traffic volumes are indicated in Average Annual Daily Traffic (AADT) estimates.

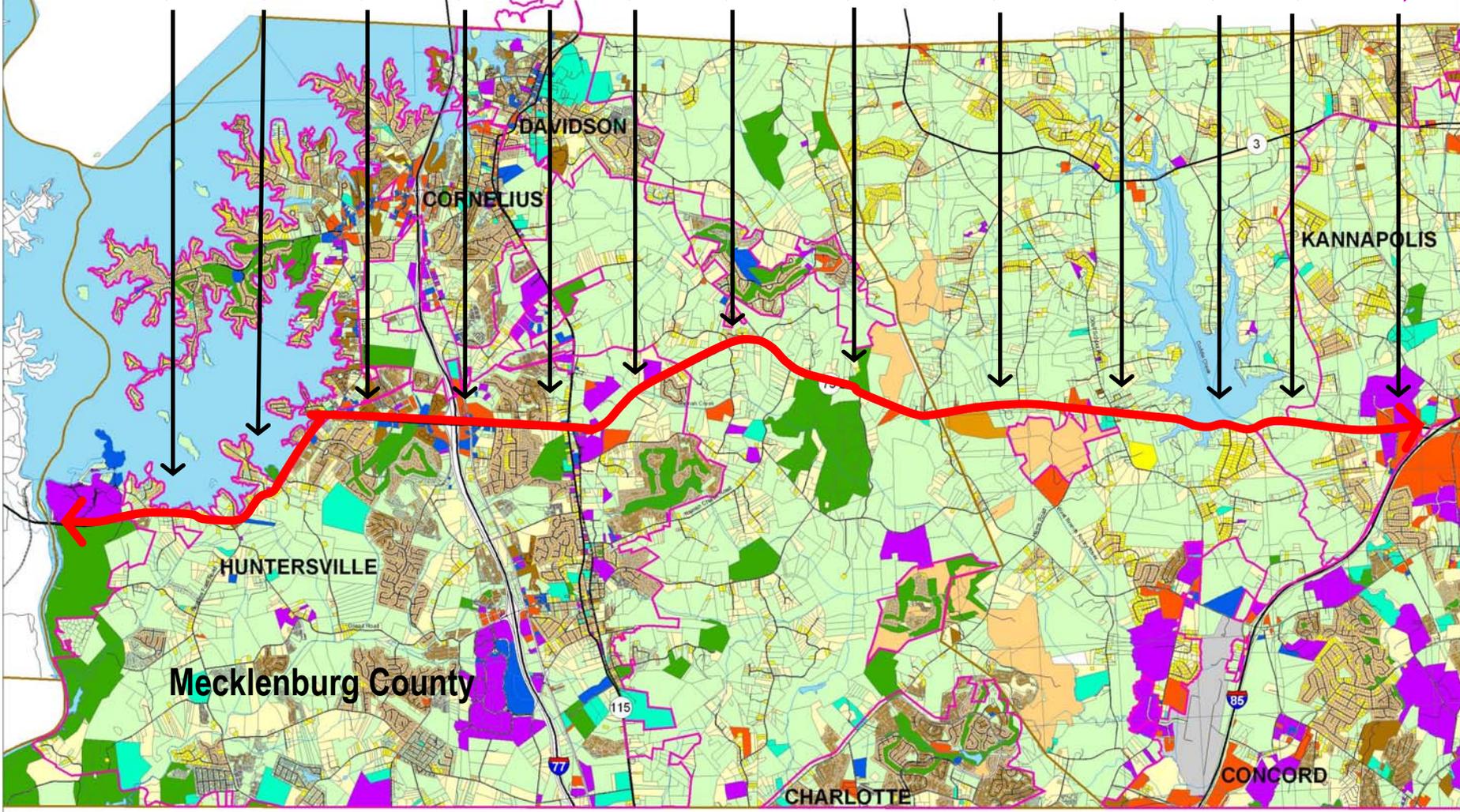
Future Traffic West of Catawba River

Existing	0	7,600	6,400	6,600	7,100	8,400	15,000	15,000
Future	14,000	14,000	18,000	20,000	29,000	36,000	43,000	45,000



Future Traffic East of Catawba River

Existing	15,000	20,000	22,000	34,000	18,000	15,000	15,000	16,000	15,000	12,000	12,000	16,000	21,000
Future	50,000	42,000	45,000	56,000	40,000	32,000	32,000	38,000	30,000	28,000	30,000	39,000	44,000



Major Transportation Plans

West of Catawba River

Northeast and Northwest Loop

The 1998 Lincolnton Thoroughfare Plan Study and Report, prepared by the Transportation Planning Branch of the North Carolina Department of Transportation for the City of Lincolnton, was adopted in 1996. Included in this document is the Lincolnton Urban Area Transportation Plan map (dated July 11, 1996), which shows a proposed major thoroughfare or loop that will encircle Lincolnton. The Northeast Loop will begin at the proposed NC 73 Extension/Bypass near Hill Road, and will become the Northwest Loop, which will merge with NC 150 at Confederate Road. This loop facility is ultimately expected to be a four-lane, divided, controlled-access freeway, but only two lanes will be constructed initially.

NC 150 Relocation

The Lincolnton Urban Area Transportation Plan map also shows a proposed relocation of NC 150 from Laboratory Road to US 321 (where it will merge with the proposed NC 73 Extension/Bypass). This new facility is expected to be a four-lane, divided, controlled-access freeway, and it will serve as part of the Northeast Loop.

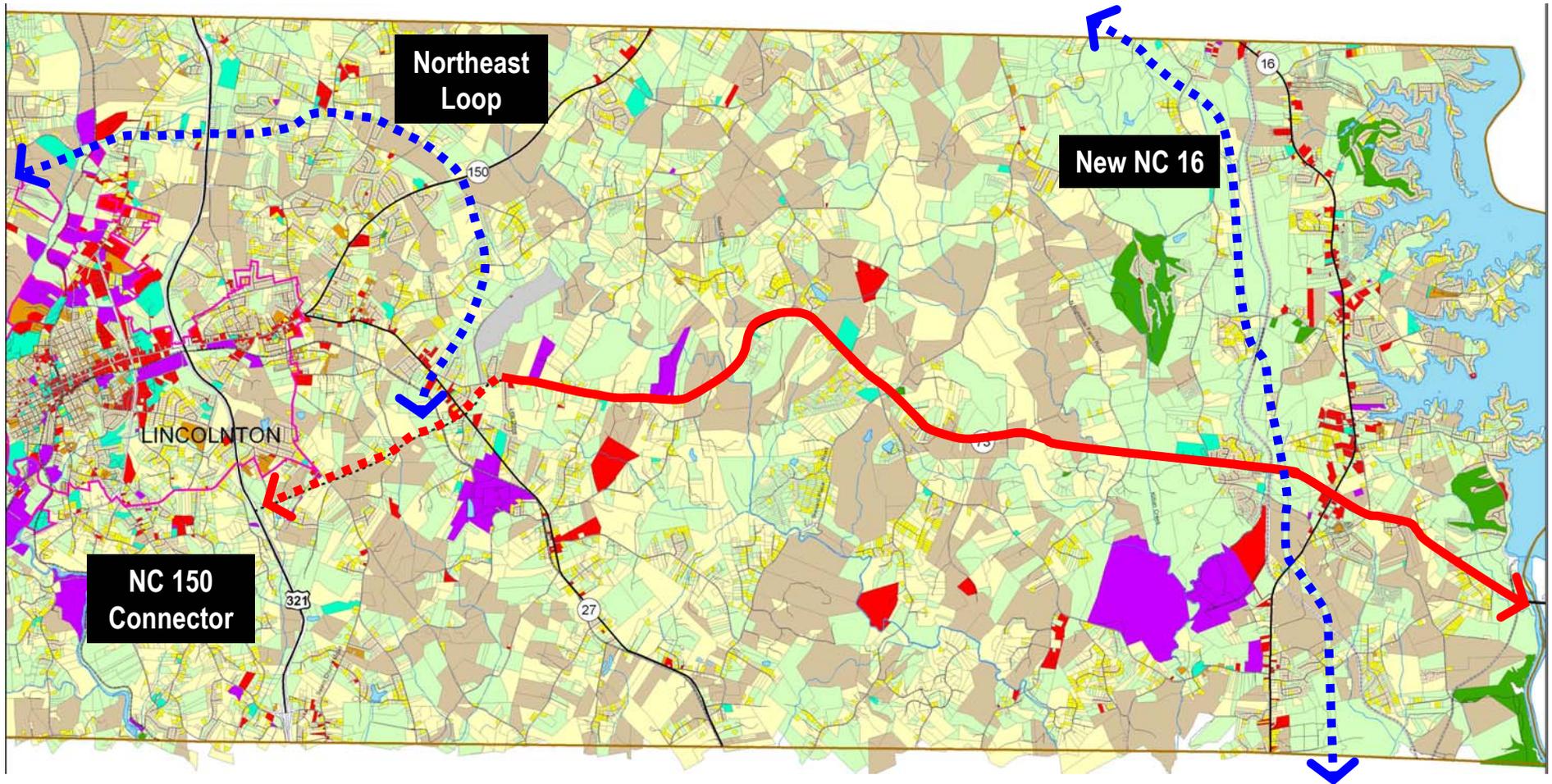
This project is also part of the North Carolina Department of Transportation's (NCDOT)

Transportation Improvement Program (TIP). TIP R-617 is the partial relocation and widening of NC 150 from NC 279 at Cherryville to relocated US 321. The section of this roadway between existing US 321 Business (Gastonia Highway) and US 321 Bypass (Lincolnton Bypass) will include an interchange at Smith Farm Road/US 321. This section is scheduled to be let for construction in 2004.

NC 16 Relocation and Widening

Another NCDOT TIP project(s) is the proposed relocation and/or widening of NC 16 between the community of Lucia in Gaston County, through the eastern portion of Lincoln County, to the Newton-Conover Loop in Catawba County. Through Lincoln County, NC 16 will be relocated, and the proposed cross section is a four-lane divided, limited access expressway. The portion of this new roadway from Gaston County to NC 73 was under construction at the time of this study, and is scheduled for completion in 2004, while the portion of the new route from NC 73 to existing NC 16 just north of NC 150 is expected to be let for construction in 2004. An interchange is being constructed at the intersection of relocated NC 16 and NC 73.

Major Transportation Plans West of Catawba River



East of Catawba River Vance Road Extension

The Mecklenburg-Union Metropolitan Planning Organization's (MUMPO) Transportation Plan, dated November 16, 1994, includes an extension of Vance Road from its current end point at Mt. Holly-Huntersville Road to Gilead Road. The southern half of this proposed major thoroughfare on new location is a Horizon Year 2020 project.

Ervin Cook Road Extension

The Thoroughfare Plan includes an extension of Ervin Cook Road from the proposed extension of Stumptown Road (see below) to Birkdale Commons Parkway, and southward from Gilead Road to the Vance Road extension. This proposed minor thoroughfare is not included on either the Horizon Year 2010 or 2020 map.

Stumptown Road (Hugh Torance Parkway) Extension

The Transportation Plan also includes a relocation and extension of Stumptown Road from a point just west of I-77 to a location near NC 73 and Beatties Ford Road. Only a small portion of this proposed minor thoroughfare is on the Horizon Year 2010 map.

Prosperity Church Road Extension

The Transportation Plan shows an extension of Prosperity Church Road from its current end

point at Eastfield Road to a location near NC 73 and Davidson-Concord Road. This proposed major thoroughfare is not included on either the Horizon Year 2010 or 2020 map. The Town of Huntersville plans to initiate a feasibility study for this extension in 2004.

I-485

The MUMPO Horizon Year 2010 map includes the I-485 loop on the north side of the City of Charlotte. This proposed six-lane freeway between I-85 and points west of I-77 is also included in the NCDOT's TIP (R-2248). It is complete in some locations and under construction in others. The segment from I-77 east to I-85 is scheduled for completion in 2009.

Westside Bypass (Kannapolis Parkway)

The Westside Bypass is a proposed four-lane thoroughfare (except for a five-lane section at Crisco Road) from NC 49 to NC 152. This new roadway is included in the Long Range Transportation Plan 2000-2025 for the Cabarrus/Rowan Urban Area Metropolitan Planning Organization, and is also part of the TIP Program (U-2009 and R-2246). TIP U-2009 is that portion of the Westside Bypass from south of I-85 to SR 1616 (Tuckaseegee Road) near the Rowan County border. The Westside Bypass south of NC 73 to I-85 has been completed. TIP R-2246 is the continuation of the Westside Bypass from a point south of I-85 to NC 49. Part of this project is

currently under construction.

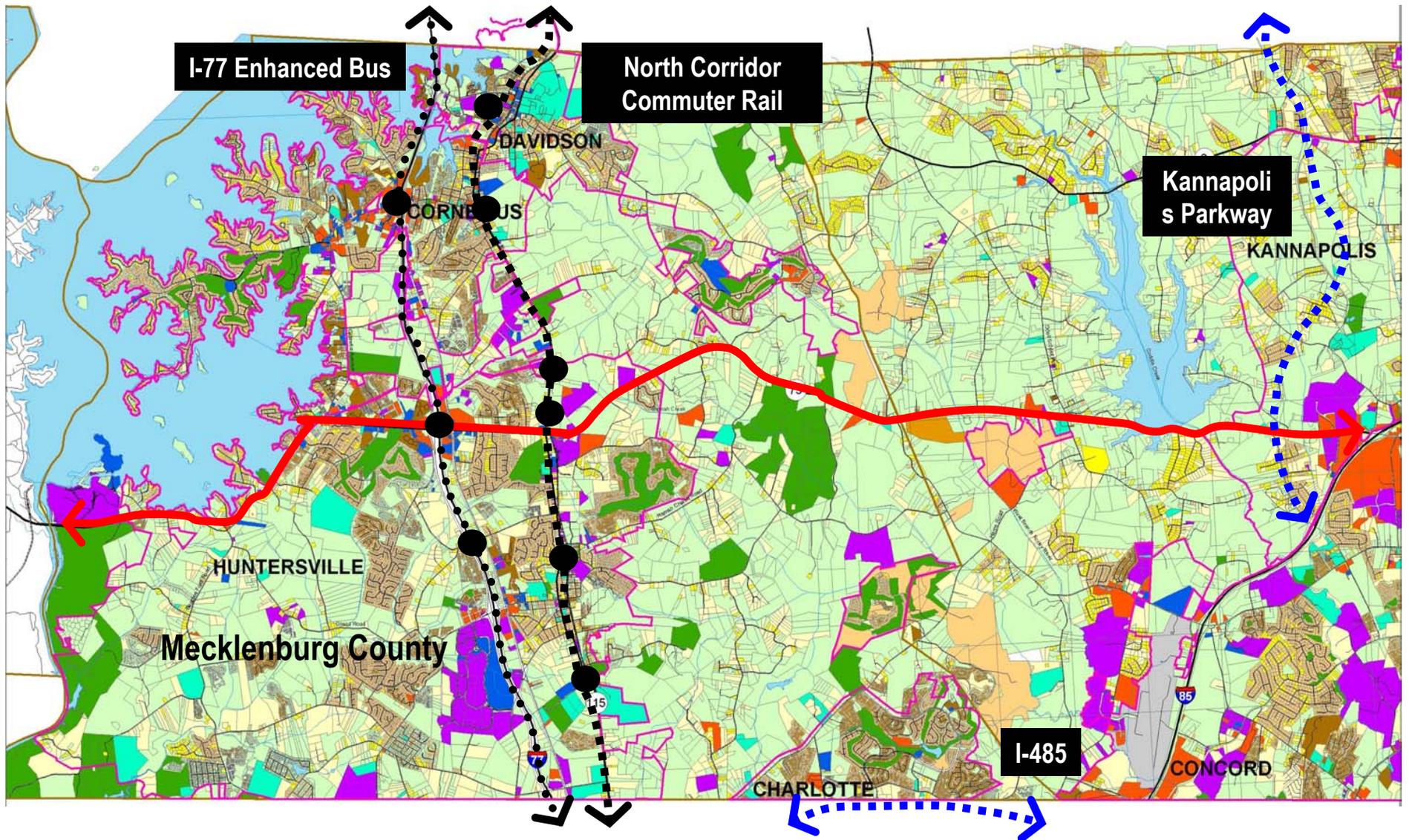
Charlotte Area Transit System (CATS) North Corridor Commuter Rail and Enhanced Bus Service

The System Plan, adopted by the Metropolitan Transit Commission in 2003, recommended commuter rail service for the North corridor to take advantage of the little-used Norfolk Southern "O" line. This recommendation supports the adopted land use regulations and policies of Charlotte, Huntersville, Cornelius, and Davidson that focus new development east of I-77 at stations located along the "O" line.

The System Plan also recommended enhanced bus services along I-77 to take advantage of High Occupancy Vehicle (HOV) lanes presently being constructed by NCDOT as part of the I-77 widening project. CATS will construct new Park 'N Ride lots near I-77 interchanges.

Under NCDOT's current schedule for I-77 widening, the North Corridor HOV lanes will be completed to I-485 by 2004. North Corridor commuter rail service would be implemented within the next 10 years.

Major Transportation Plans East of Catawba River



Corridor Plan

Vision Statement

The citizens and individual communities along NC 73 together with the NCDOT recognize their mutual responsibility for the preservation and enhancement of this vital shared resource. They pledge that in 25 years the corridor between Lincolnton and Concord will effectively balance growth and economic vitality with regional and local transportation needs.

Individual community character will flourish while natural resources are preserved. All modes of movement of people and goods by foot, bicycle, automobile, truck, and transit will be accommodated in the corridor and integrated with the land use along it. Performance standards will be agreed upon and land use and public investment decisions will be guided by them.

Corridor Framework

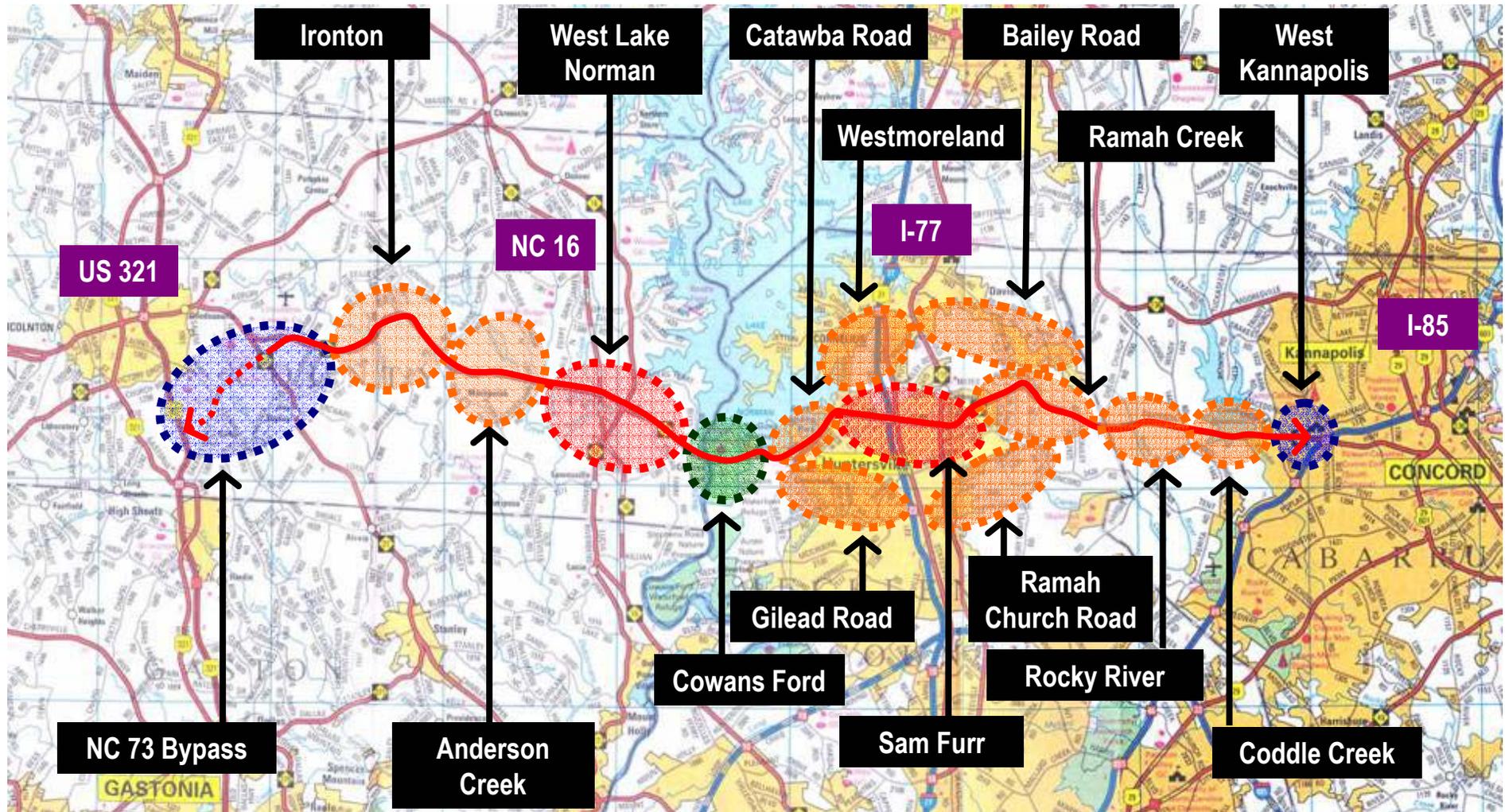
Corridor Segments

The NC 73 Corridor Transportation/Land Use Plan is not a “one size fits all plan.” Recognizing that the corridor consists of communities, natural areas and growth conditions that vary from place to place, the corridor plan was developed as a series of segment plans. There are 15 different segments, ranging from less than two miles to more than three miles in length. Their current context ranges from mature suburban to semi-rural, but they share two things in common:

- * They are all connected by and affected by NC 73, and
- * They are all going to grow rapidly and extensively over the next twenty years.

The location of each of the segments on the corridor is shown on the facing map.

Corridor Framework – Corridor Segments



Corridor Framework

West of the Catawba River

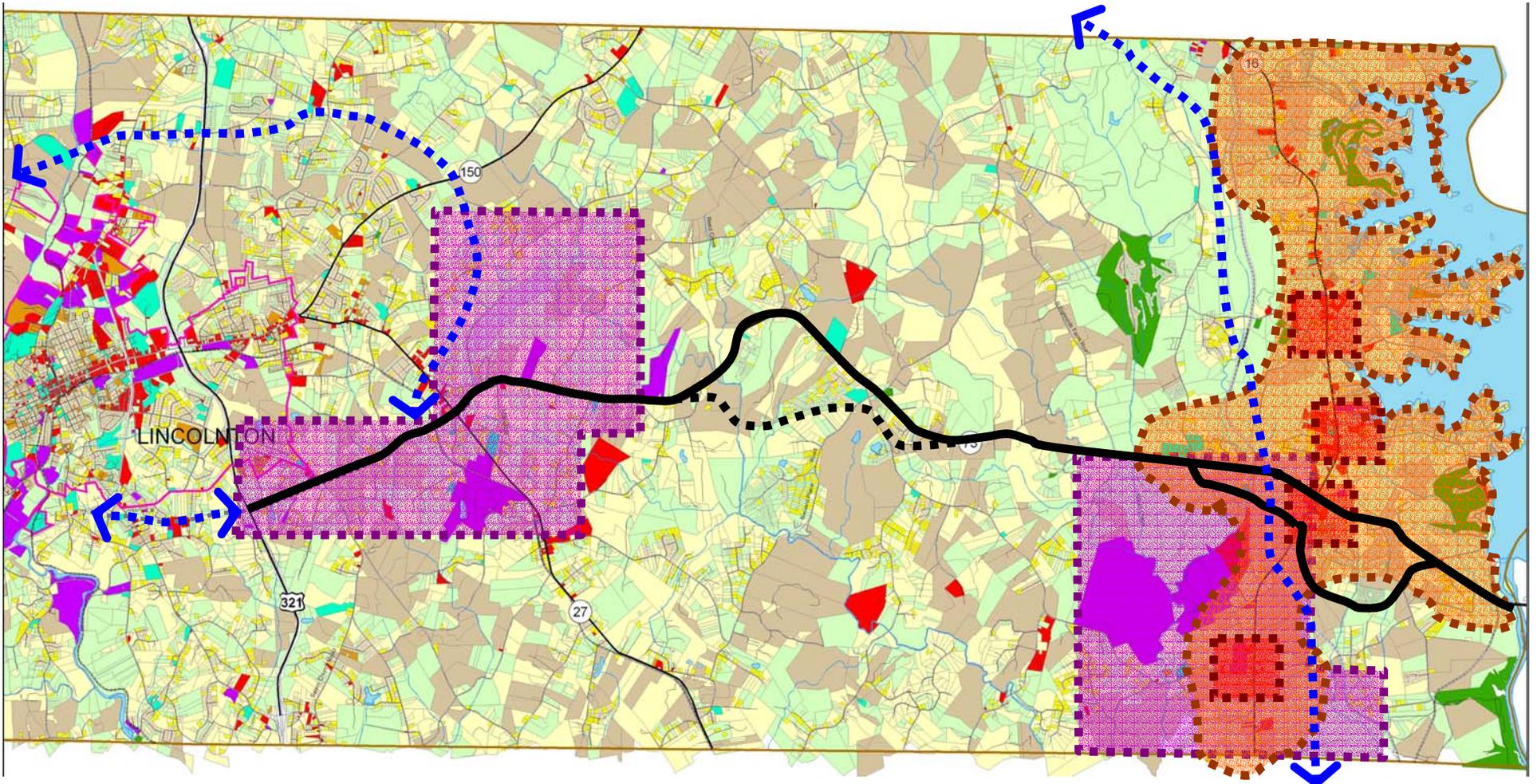
From US 321 south of Lincolnton, NC 73 will be on a new alignment, joining with the existing NC 73 near the entrance to the Lincoln County Airport. This area is planned to become an employment and commercial development area. The growth will be further reinforced in the future by the planned Lincolnton Loop highway, and by the Rt. 150 extension, both of which will tie into the new NC 73 Bypass.

The central part of the corridor in Lincoln County is planned to have low density growth, since no sanitary sewer service is planned. NC 73 will either follow its existing alignment through all this area, or, as an alternative, would be on a new alignment south of the existing road through part of the area, to avoid disruption and displacement of the many residences along the existing road.

The area along the west side of Lake Norman is planned to have both water and sewer service, and will continue to experience rapid suburbanization. Lincoln County plans for neighborhood centers along the existing NC 16, including a center at NC 73. South of NC 73 and west of NC 16 is planned to become a commercial and employment center. The new

NC 16, currently under construction, will increase access to Charlotte, I-485 and the rest of the region, supporting the continued growth of the area and changing traffic patterns. A limited network with a southern loop road through and around the neighborhood center will provide some relief to anticipated traffic levels on NC 73, avoiding the need for NC 73 to be more than 6 lanes through this area.

Corridor Framework – West of Catawba River



Corridor Framework

East of the Catawba River

East of the Catawba River is a complex planning area, due to the several abutting jurisdictions. The future land use plans of Cornelius, Davidson, Cabarrus County, Kannapolis and Concord, along with the existing zoning of Huntersville and Charlotte Area Transit System (CATS) transit oriented development, have been combined to indicate future land use along NC 73. Successful implementation of the NC 73 Corridor Transportation/Land Use Plan will be dependent on very pro-active cooperation among all of these jurisdictions.

The traffic volume across the Catawba River in 2025 is anticipated to be 50,000 cars per day. Because of right of way and environmental constraints, NC 73 will have to remain on its existing alignment through this area. With aggressive access management, four lanes of traffic can accommodate the traffic volume, allowing the river crossing to be one new two-lane bridge, assuming that the existing two-lane bridge can be refurbished.

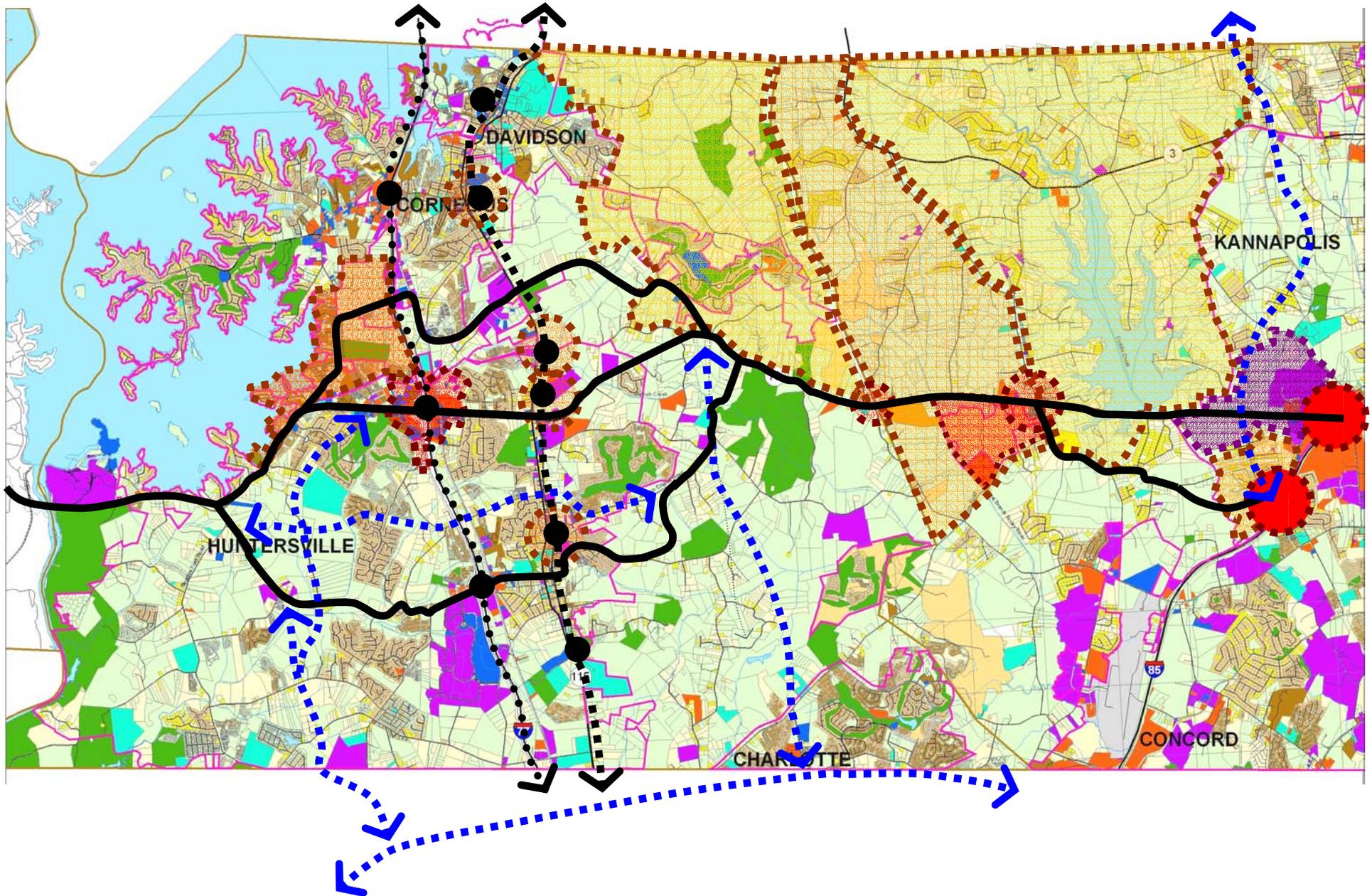
If all of the increased traffic were to use Sam Furr Road, which is NC 73 through

Huntersville, it would require at least an eight-lane major arterial or possibly some form of expressway. This would be in conflict with the quality of the residential and commercial development west of I-77, and destructive of the residential neighborhoods and retail developments east of I-77. To avoid this scale of road, a limited network is proposed through Huntersville, from about the current intersection with Beatties Ford Road to the vicinity of Ramah Church Road. This limited network would use Gilead Road, Huntersville-Concord Road and Ramah Church Road for a southern leg. It would use Catawba Avenue, Westmoreland Road, Bailey Road and Davidson-Concord Road for a northern leg. These two legs, in combination with a planned network of other arterials that are part of the MUMPO Transportation Plan, would limit the size of Sam Furr to six lanes through the commercial area east and west of I-77. While these would still be smaller roads than Sam Furr Road, they would still impose a change in scale of roadway adjacent to existing and planned residential developments. However, the proposed road typologies would be in keeping with suburban scale roads that will be compatible with the eventual growth in the area.

From Ramah Church Road to Odell School Road, NC 73 would remain on its existing alignment. This area is expected to experience significant residential growth, but in different forms in the various communities it serves. There will be a neighborhood center at Poplar Tent Church Road/Shiloh Church Road, and a Mixed Use Village Center at Odell School Road, where NC 73 will have to change to an urban scale.

From Odell School Road eastward, a limited network is proposed, with a southern connection to I-85 providing some relief to traffic along NC 73. This area in the future is planned to be low density residential around Coddle Creek Reservoir, business development around the new Kannapolis Parkway, and campus development or corporate park near the NC 73 connection to I-85.

Corridor Framework – East of Catawba River



Road Typologies

A series of road typologies have been developed as part of the NC 73 Corridor Transportation/Land Use Plan. The purpose of these typologies is to allow a variety of road designs to fit the varying land use and environmental contexts along the corridor, while continuing to function as a continuous travel route. The typologies provide a range from two travel lanes to six travel lanes, in order to meet the anticipated traffic volumes in different locations throughout the corridor.

As part of the access management strategy, all of the NC 73 typologies have medians, to help control the locations of left turns from abutting properties onto NC 73, of left turns from NC 73 to cross streets, and of allowable U turns at desirable locations.

Accommodation of pedestrians and bicycles is incorporated into most of the road typologies, as appropriate to the surrounding context and the nature of the anticipated traffic. Trees are located between the roadway pavement and sidewalks wherever possible, to provide a safe and attractive pedestrian environment.

The typologies deliberately do not rigidly follow NCDOT design standards in all cases, although most elements will comply. Eleven foot travel lanes are proposed throughout the corridor, which will be appropriate to the proposed speed limits. The distance between the edge of travel lanes and trees complies with AASHTO standards, but will not always comply with the recent NCDOT guidelines for tree planting, which were changed in 2004. NCDOT is urged to follow emerging guidance for adapting their design standards to the intended context of the NC 73 Corridor, such as Flexibility in Highway Design, A Guide for Achieving Flexibility in Highway Design, and the NCDOT Context Sensitive Solutions Goals and Working Guidelines.

Four intersection and interchange typologies have been included. The intent of these typologies is to illustrate one way to achieve the strategic goals of managing traffic at specific locations. The actual design and application of each of these intersection/ interchange typologies will have to be determined in the Preliminary Engineering/ Environmental phase of NC 73 development.

The typologies used are the ideally desirable roadway type. They should be followed by the counties and municipalities in reviewing development plans, to assure that adequate right-of-way is preserved for the eventual full development of the roadway. They should be used by NCDOT as the desirable configuration of the roadway to achieve the access management efficiency of roadway operations, and to be compatible with the intended land uses which will emerge in the corridor. There will undoubtedly be situations where topography, environmental constraints, existing development, or right-of-way availability will constrain the ability to fully realize the typology. At the time the plan was being prepared, investigation of the corridor indicated that each typology could be adapted to the locations for which it was proposed. Generally, for situations where existing development or environmental conditions are narrower than the full proposed right-of-way width, the space between the curb and the right-of-way line is generous to allow the roadway designer to fit the typology to the location and situation for which it is proposed.

Road Typologies – 4 Lane Highway

Location

The 4 lane highway typology is intended for use as a limited access facility. It will be appropriate for new alignment situations where it would transition from another limited access facility to a controlled access roadway.

Context

This typology is appropriate for relatively undeveloped areas where a new roadway can be built without unacceptable levels of disruption to existing communities or development, and with acceptable levels of environmental impact. For the NC 73 Corridor, it is proposed only as a new connection in western Lincoln County, south of Lincolnton.

Speed Limit

This typology is intended to be posted for 55 mph speed limits.

Traffic Levels

Because it is a limited access highway, the 4 lane highway can accommodate traffic levels in excess of 50,000 Average Annual Daily

Traffic (AADT).

Right-of-Way

The right-of-way indicated for this typology could vary, depending on topography and drainage requirements. The right-of-way indicated should be considered a minimum right-of-way requirement.

Pedestrians and Bicycles

Pedestrians and bicycles are not appropriate on this road typology, due to the speed of traffic. Any pedestrian and/or bicycle provisions through sections of the corridor in which this typology is used should be accommodated separately, out of the right-of-way.

Transit

Any transit service on this typology would likely be bus service. Any stops, stations, or transfer points through sections of the corridor in which this typology is used should also be accommodated separately, out of the right-of-way.

Drainage

Drainage for this typology would be surface drainage in swales beside the roadway and/or in the median. Because the drainage will depend on topography and will be determined in the Preliminary Engineering/ Environmental phase, the dimensions indicated for drainage swales should be considered as minimums.

Shoulders and/or Curbs

Paved shoulders as indicated are appropriate for this typology.

Median Landscape

Landscape could be provided in the median. Because of the proposed speed limit for this typology, any landscape should conform to NCDOT's landscape guidelines.

Landscape in the Right-of-Way

Landscape could be provided in the right-of-way adjacent to the roadway. Because of the proposed speed limit for this typology, any landscape should conform to NCDOT's landscape guidelines.

Landscape Outside the Right-of-Way

Any landscape outside the right-of-way, such as buffers or aesthetic treatments between the highway and adjacent neighborhoods or development, would be at the discretion of the local jurisdiction, and would be provided by the local jurisdiction.

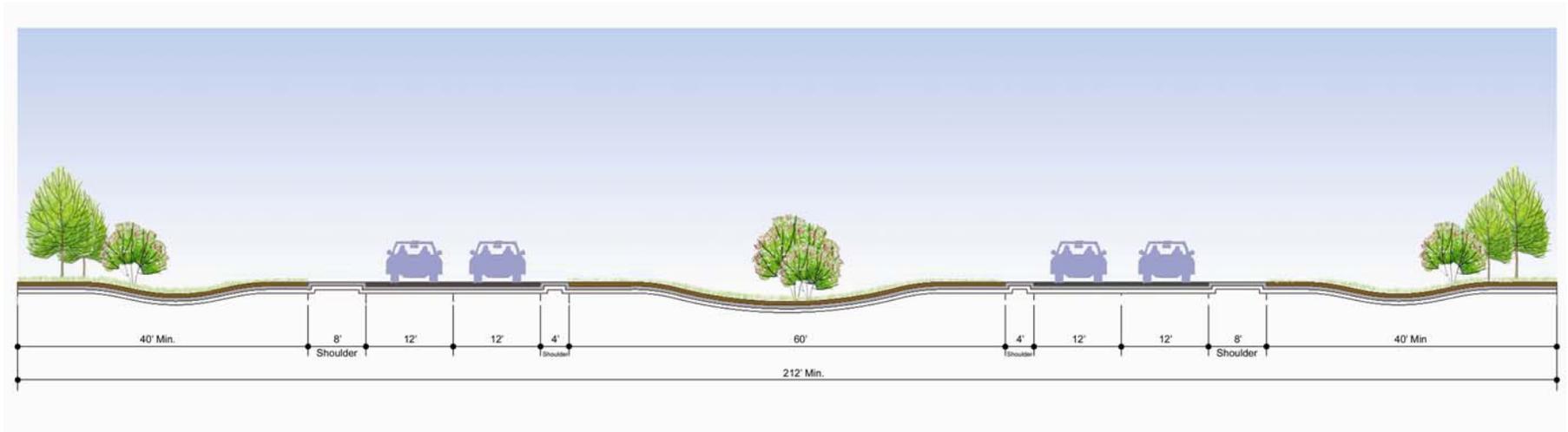
Utilities

Since this typology is intended for new alignments, utilities should be outside of the right-of-way, preferably not visible from the roadway. No billboards or advertising signage should be visible from the roadway.

Comparable Roads

Comparable roads in the region include U.S. 321 in Lincoln County and the new NC 16 currently under construction in eastern Lincoln County.

Road Typologies – 4 Lane Highway



Road Typologies – 4 Lane Rural Boulevard

Location

The 4 lane rural boulevard typology is intended for use along existing NC 73 alignments.

Context

This typology is appropriate for existing alignment situations with either no existing development, or with rural density existing development. Any anticipated new development where this typology is used should be limited to new residential subdivisions which will not have driveways directly onto NC 73.

Speed Limit

This typology is intended to be posted for 45 mph speed limits.

Traffic Levels

The 4 lane rural boulevard, with the NC 73 Corridor access management strategy, should accommodate up to 40,000 AADT.

Right-of-Way

The right-of-way indicated for this typology could vary, depending on topography and

drainage requirements. The right-of-way indicated should be considered a minimum right-of-way requirement.

Pedestrians and Bicycles

Pedestrians and bicycles are accommodated with a combined hike and bike trail within the right-of-way in this typology. The paved hike and bike trail should be separated as far as possible from the outside travel lane, for safety reasons. As an option, local jurisdictions could require that portions of the hike and bike trail be provided in new development adjacent to the roadway, if a trail is appropriate for the development. In those circumstances, the trail should connect to the trail in the right-of-way, and need not be provided in those sections where continuity of the rail system is provided outside of the right-of-way.

Transit

Any transit service on this typology would be bus service. Any stops through sections of the corridor in which this typology is used should be accommodated at a bus pullout within the right-of-way.

Drainage

Drainage for this typology would be surface drainage in swales beside the roadway. Because the drainage will depend on topography and will be determined in the Preliminary Engineering/Environmental phase, the dimensions indicated for drainage swales should be considered as minimums.

Shoulders and/or Curbs

Paved shoulders are not included as part of this typology.

Median Landscape

The median should have mountable curbs. Landscape should be provided in the median, consisting of ornamental trees, shrubs, and/or groundcovers in addition to grass. The extent of landscape in the median, as well as responsibility for design and maintenance, is to be determined jointly between NCDOT and the local jurisdiction.

Landscape in the Right-of-Way

Because of the requirements for drainage swales and a hike/bike trail, and separation requirements for trees from the outside

travel lane, no trees are proposed between the travel lanes and the right-of-way.

Landscape Outside the Right-of-Way

A major goal of this typology is to retain the natural, rural atmosphere along NC 73, even though substantial growth may occur in the future. To maintain this atmosphere at any new development along this typology, a minimum natural landscape buffer should be maintained as shown, through requirements of local development ordinances. Typically, it is anticipated that there will be enough existing natural vegetation to provide this buffer. Where there is not enough existing vegetation, local development ordinances should require new plantings that will grow into a naturalistic landscape buffer. The landscape buffer width shown may vary, if required by local ordinances or if required for the protection of significant natural or historic features.

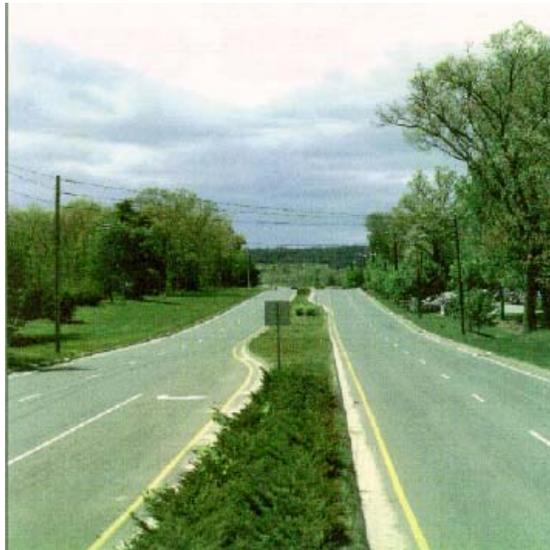
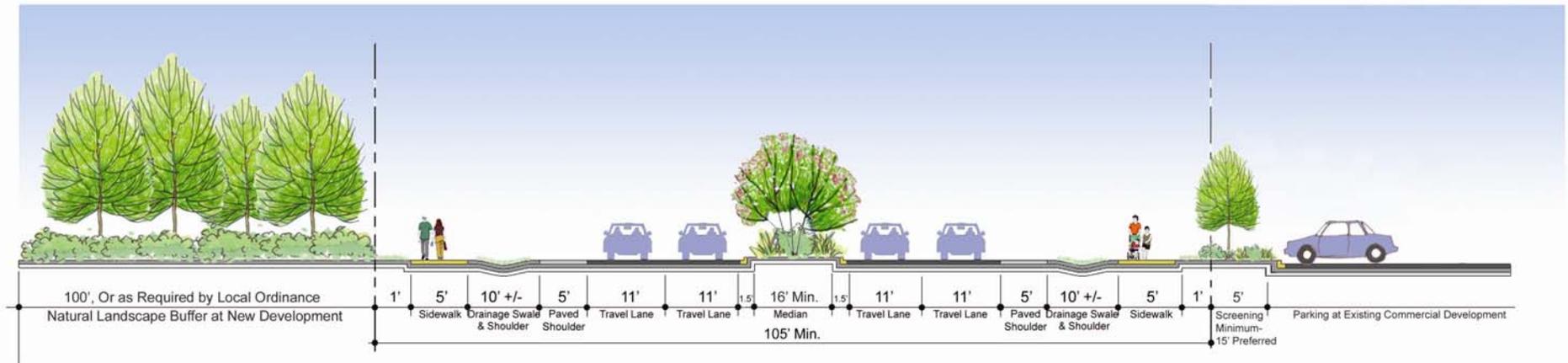
At existing commercial development or other uses with parking between the right-of-way and buildings, a landscape screen should be provided as shown, with shade trees and shrubs to screen the view of parking pavement and the lower part of cars from view from the road.

Utilities

Utilities should be either underground, or placed within the natural landscape buffer

Area so that they are not visible from the roadway. No billboards or advertising signage should be visible from the roadway.

Road Typologies – 4 Lane Rural Boulevard



Road Typologies – 4 Lane Rural Parkway

Location

The 4 lane rural parkway typology is intended for use along existing NC 73 alignments with little or no existing development or environmental constraints, or for new alignment sections.

Context

The intent of this typology is to provide a rural divided road that can follow existing topography as closely as possible, to maintain a rural atmosphere even though new development might occur in the future. It would be preferable for the opposing lanes to not be parallel with each other, and to have differing vertical alignments as allowed by the existing topography.

This typology will be appropriate for existing alignment situations with no or very little existing development, or for new alignment sections with little existing development or environmental constraints, and adequate room for a generous right-of-way. Any anticipated new development where this typology is used should be limited to new residential subdivisions which will not have

driveways directly onto NC 73, and which can be adequately visually buffered from view from the road to maintain a rural atmosphere.

Speed Limit

This typology is intended to be posted for 45 mph speed limits.

Traffic Levels

The 4 lane rural parkway, with the NC 73 Corridor access management strategy, should accommodate up to 40,000 AADT.

Right-of-Way

The right-of-way indicated for this typology could vary considerably, depending on topography, drainage requirements, and the ease of fitting the roadway into the landscape. The right-of-way indicated should be considered a minimum right-of-way requirement.

Pedestrians and Bicycles

Pedestrians and bicycles are to be accommodated with pedestrian and bicycle trails provided by the local jurisdiction outside of the right-of-way.

Transit

Transit service on this typology is anticipated to be bus service. Any bus stops through sections of the corridor in which this typology is used should be accommodated at a bus transit center outside of the right-of-way, or along bus routes on connecting streets.

The minimum median width for the 4 lane rural parkway could allow some form of fixed guideway transit. While this type of transit service is not included in the CATS System Plan or on any of the local Transportation Plans, there could be a desire to accommodate it in the long range future. If a local jurisdiction anticipates that they wish to reserve the right for fixed guideway transit future with this typology in the future, the median should be designed to minimize cross-sectional side slope.

Drainage

Drainage for this typology would be surface drainage in swales beside the roadway. Because the drainage will depend on topography and will be determined in the Preliminary Engineering/Environmental phase, the dimensions indicated for

drainage swales should be considered as minimums.

Shoulders and/or Curbs

Paved shoulders are not included as part of this typology.

Median Landscape

The median should have mountable curbs. Landscape should be provided in the median, consisting of ornamental trees, shrubs, and/or groundcovers in addition to grass. The landscape should be a naturalistic, informal design with plant materials, to complement the rural character of this typology. The extent of landscape in the median, as well as responsibility for design and maintenance, is to be determined jointly between NCDOT and the local jurisdiction.

Landscape in the Right-of-Way

Because of the requirements for drainage swales, and separation requirements for trees from the outside travel lane, no trees are proposed between the travel lanes and the right-of-way line. If there are existing trees in the right-of-way, every effort should be made to preserve them as part of the roadway design.

Landscape Outside the Right-of-Way

A major goal of this typology is to retain the natural, rural atmosphere along NC 73, even though substantial growth may occur in the future. To maintain this atmosphere at any new development along this typology, a minimum natural landscape buffer should be maintained as shown, through requirements of local development ordinances. Typically, if it is anticipated that there will be enough existing natural vegetation to provide this buffer. Where there is not enough existing vegetation, local development ordinances should require new plantings that will grow into a naturalistic landscape buffer. The landscape buffer width shown may vary, if required by local ordinances or if required for the protection of significant natural or historic features.

Where the character of the land is open with natural or scenic views, the views from the roadway toward those views should be preserved and not blocked with new landscape.

Commercial development or other uses with parking between the right-of-way and buildings would be inappropriate along this typology. Commercial or institutional uses

with parking visible from the roadway should not be permitted with this typology. If there are any existing uses with parking that would potentially be visible from the roadway, the roadway should be aligned to avoid these views wherever possible, or to place the roadway so that a natural landscape buffer is provided.

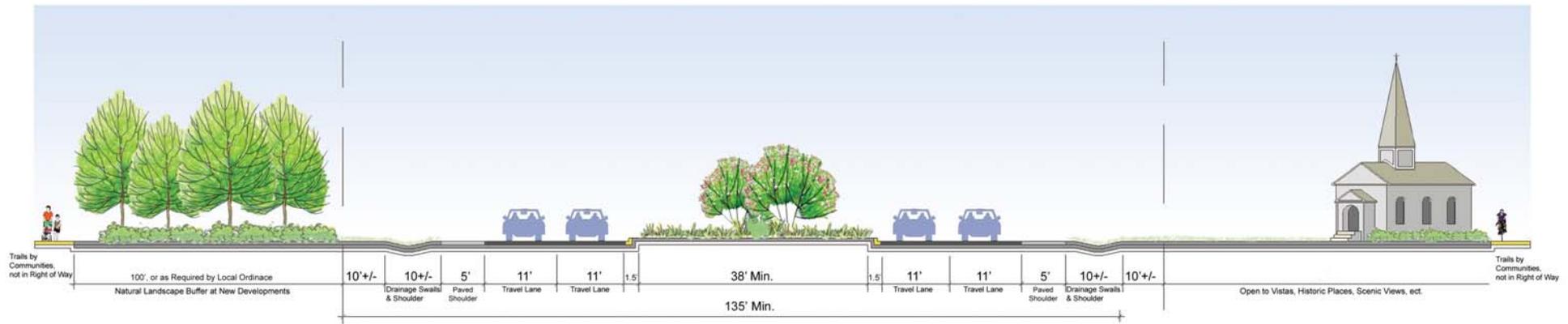
Utilities

Utilities should be either underground, or placed within the natural landscape buffer area so that they are not visible from the roadway. No billboards or advertising signage should be visible from the roadway.

Comparable Roads

Comparable roads in the region include NC 49 in Randolph County.

Road Typologies – 4 Lane Rural Parkway



Road Typologies – 2 Lane Suburban Boulevard

Location

The 2 lane suburban boulevard typology is intended for use along alignments that are part of the NC 73 network strategy to relieve pressure on the NC 73 mainline traffic, and on some connecting streets that are directly related to NC 73 traffic volumes and operations.

Context

The intent of this typology is to provide a suburban scale road that is compatible with predominantly medium density residential and commercial development.

This typology will be appropriate for new or existing alignment situations with existing residential or small commercial development, or for new alignment sections.

Speed Limit

This typology is intended to be posted for 35 mph speed limits.

Traffic Levels

The 2 lane suburban boulevard, with the NC 73 Corridor access management strategy,

should accommodate up to 15 - 20,000 AADT.

Right-of-Way

The right-of-way indicated for this typology could vary somewhat by reducing the area provided for landscape and sidewalks outside the curb line. Reduction of the right-of-way generally would be undesirable, since the planted area inside the right-of-way and the sidewalks are intended to provide a compatibility with the adjacent neighborhoods. The median, travel lane and bicycle lane widths should not be reduced, as they are necessary for effective operation of the roadway. The right-of-way should be reduced only when essential to fit into a constrained existing development situation.

Pedestrians and Bicycles

Pedestrians are to be accommodated with sidewalks adjacent to the roadway as shown. Trees are to be provided between the curb line and the sidewalk for pedestrian comfort and safety.

Bicycle lanes are to be provided adjacent to

the travel lanes as shown. The combination of the bicycle lane and travel lane are essential minimum widths, to allow for vehicles to pass in emergency or incident management situations, and to provide room for allowable U-turns.

Transit

Transit service on this typology is anticipated to be bus service. Any stops through sections of the corridor in which this typology is used should be accommodated at a bus pullout within the right-of-way. The bus pullouts should be provided at median breaks to provide additional space for U-turns.

Drainage

Drainage for this typology would be curb and gutter with underground storm drains.

Shoulders and/or Curbs

Curb and gutter would be provided on the outside of bicycle lanes, and a mountable curb provided at the median.

Median Landscape

The median should have mountable curbs.

Landscape should be provided in the median, consisting of ornamental trees, shrubs, and/or groundcovers in addition to grass. The landscape should be designed to be compatible with the character of existing and/or planned development in the area. The extent of landscape in the median, as well as responsibility for design and maintenance, is to be determined jointly between NCDOT and the local jurisdiction.

Landscape in the Right-of-Way

Shade trees should be provided between the curb line and the sidewalk for pedestrian comfort and safety, and for encouraging slower traffic speeds on the roadway due to the “visual friction” they would create. Spacing of trees should generally be at 25 feet on center, depending on tree species used. An alternating pattern of trees on either side of the sidewalk would also be appropriate.

Landscape Outside the Right-of-Way

At existing commercial development or other uses with parking between the right-of-way and buildings, a landscape screen should be provided as shown, with shrubs to screen the view of parking pavement and the lower part of cars from view from the road. In

jurisdictions that allow parking between the right-of-way and buildings, the local jurisdiction should require a landscape screen to be provided as part of the development. Some jurisdictions in the NC 73 Corridor do not allow parking between the right-of-way and new buildings.

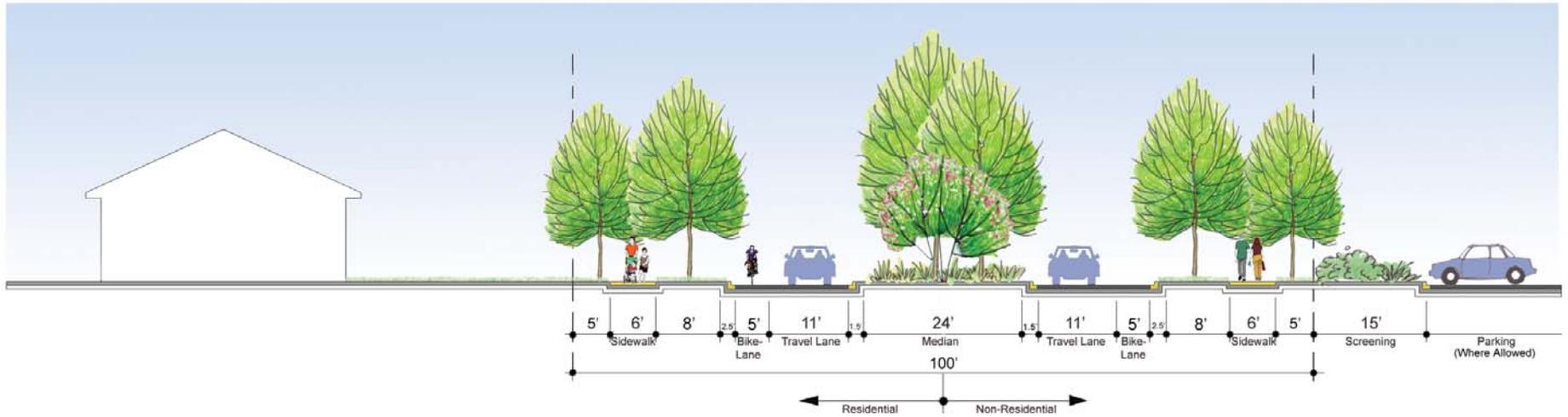
Utilities and Signage

Utilities should be either underground, or place behind adjacent buildings so that they are not visible from the roadway. Building or development identity signage should be lower level monument signs to be visible below the tree canopy.

Comparable Roads

Colony Road between Sharon View Road and Rea Road in south Charlotte exemplifies this road typology.

Road Typologies – 2 Lane Suburban Boulevard



Road Typologies – 4 Lane Suburban Boulevard

Location

The 4 lane suburban boulevard typology is intended for existing NC 73 alignments, and for connecting roads that are directly related to the NC 73 access management strategy and operations.

Context

The intent of this typology is to provide a suburban scale road that is compatible with predominantly medium to high density residential and commercial development.

This typology will be appropriate for new or existing alignment situations with existing residential or commercial development, or for new alignment sections.

Speed Limit

This typology is intended to be posted for 35 mph speed limits.

Traffic Levels

The 4 lane suburban boulevard, with the NC 73 Corridor access management strategy, should accommodate up to 40,000 AADT.

Right-of-Way

The right-of-way indicated for this typology could vary somewhat by reducing the area provided for landscape and sidewalks outside the curb line. Reduction of the right-of-way generally would be undesirable, since the planted area inside the right-of-way and the sidewalks are intended to provide a compatibility with the adjacent neighborhoods. The right-of-way should be reduced only when essential to fit into a constrained existing development or environmental situation.

Pedestrians and Bicycles

Pedestrians are to be accommodated with sidewalks adjacent to the roadway as shown. Trees are to be provided between the curb line and the sidewalk for pedestrian comfort and safety.

Bicycle lanes are to be provided adjacent to the travel lane as shown. The bicycle lanes will help the road function efficiently, as they will provide additional turning room for busses and trucks.

Transit

Transit service on this typology is anticipated to be bus service. Any stops through sections of the corridor in which this typology is used should be accommodated at a bus pullout within the right-of-way. The bus pullouts should be provided at median breaks to provide additional space for U-turns.

If a local jurisdiction anticipates a long range potential for fixed guideway transit where this typology is used, the median could be widened to a width that would accommodate the guideway plus left turn lanes in the median. While this type of transit service is not included in the CATS System Plan or on any of the local Transportation Plans, there could be a desire to accommodate it in the long range future. If a local jurisdiction anticipates that they wish to reserve the right for fixed guideway transit future with this typology in the future, they should preserve the additional right-of-way that would be required for the additional median width.

Drainage

Drainage for this typology would be curb and

gutter with underground storm drains.

Shoulders and/or Curbs

Curb and gutter would be provided on the outside of the bicycle lanes, and a mountable curb provided at the median.

Median Landscape

The median should have mountable curbs. Landscape should be provided in the median, consisting of ornamental trees, shrubs, and/or groundcovers in addition to grass. The landscape should be designed to be compatible with the character of existing and/or planned development in the area. The extent of landscape in the median, as well as responsibility for design and maintenance, is to be determined jointly between NCDOT and the local jurisdiction.

Landscape in the Right-of-Way

Shade trees should be provided between the curb line and the sidewalk for pedestrian comfort and safety, and for encouraging slower traffic speeds on the roadway due to the “visual friction” they would create. Spacing of trees should generally be at 25 feet on center, depending on tree species used.

Landscape Outside the Right-of-Way

At existing commercial development or other uses with parking between the right-of-way and buildings, a landscape screen should be provided as shown, with shrubs to screen the view of parking pavement and the lower part of cars from view from the road. In jurisdictions that allow parking between the right-of-way and buildings, the local jurisdiction should require a landscape screen to be provided as part of the development. Some jurisdictions in the NC 73 Corridor do not allow parking between the right-of-way and new buildings.

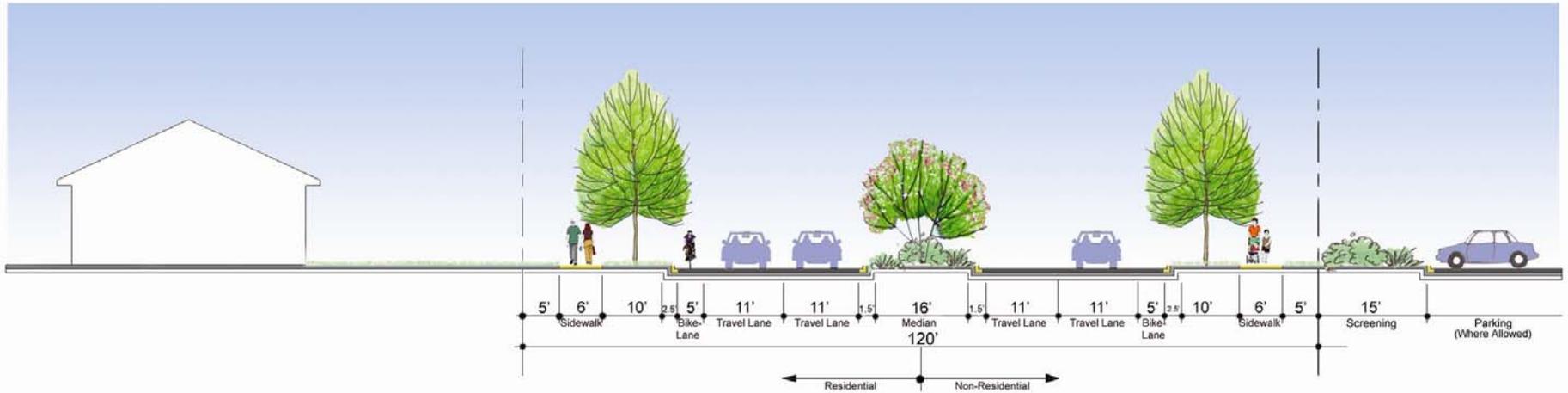
Utilities and Signage

Utilities should be either underground, or place behind adjacent buildings so that they are not visible from the roadway. Building or development identity signage should be lower level monument signs to be visible below the tree canopy.

Comparable Roads

Colony Road between Fairview Road and Sharon Road in Charlotte exemplifies this road typology.

Road Typologies – 4 Lane Suburban Boulevard



Road Typologies – 6 Lane Suburban Boulevard

Location

The 6 lane suburban boulevard typology is intended for existing NC 73 alignments.

Context

The intent of this typology is to provide a suburban scale road that is compatible with predominantly medium to high density commercial development.

This typology will be appropriate for existing alignment situations with existing residential or commercial development.

Speed Limit

This typology is intended to be posted for 35 mph speed limits.

Traffic Levels

The 6 lane suburban boulevard, with the NC 73 Corridor access management strategy, should accommodate up to 50,000 – 60,000 AADT.

Right-of-Way

The right-of-way indicated for this typology could vary somewhat by reducing the area provided for landscape and sidewalks

outside the curb line. Reduction of the right-of-way generally would be undesirable, since the planted area inside the right-of-way and the sidewalks are intended to provide a compatibility with the adjacent neighborhoods. The right-of-way should be reduced only when essential to fit into a constrained existing development or environmental situation.

Left turn traffic volumes in some instances could require two left turn lanes in the median. In those circumstances, the median would need to be correspondingly wider. Ideally, the right-of-way should be correspondingly wider, as well.

Pedestrians and Bicycles

Pedestrians are to be accommodated with sidewalks adjacent to the roadway as shown. Trees are to be provided between the curb line and the sidewalk for pedestrian comfort and safety.

Bicycle lanes are to be provided adjacent to the travel lane as shown. The bicycle lanes will help the road function efficiently, as they will provide additional turning room for

busses and trucks.

Transit

Transit service on this typology is anticipated to be bus service. Any stops through sections of the corridor in which this typology is used should be accommodated at a bus pullout within the right-of-way, but it would be preferable for busses to be accommodated at an off-street bus transit center. Local jurisdictions should require developments to include space to accommodate bus transit centers in the areas indicated on the segment plans. If there needs to be bus pullouts, they should be provided at median breaks to provide additional space for U-turns.

If a local jurisdiction anticipates a long range potential for fixed guideway transit where this typology is used, the median could be widened to a width that would accommodate the guideway plus left turn lanes in the median. While this type of transit service is not included in the CATS System Plan or on any of the local Transportation Plans, there could be a desire to accommodate it in the long range future. If a local jurisdiction

anticipates that they wish to reserve the right for fixed guideway transit future with this typology in the future, they should preserve the additional right-of-way that would be required for the additional median width.

Drainage

Drainage for this typology would be curb and gutter with underground storm drains.

Shoulders and/or Curbs

Curb and gutter would be provided on the outside of the bicycle lanes, and a mountable curb provided at the median.

Median Landscape

The median should have mountable curbs. Landscape should be provided in the median, consisting of ornamental trees, shrubs, and/or groundcovers in addition to grass. The landscape should be designed to be compatible with the character of existing and/or planned development in the area. The extent of landscape in the median, as well as responsibility for design and maintenance, is to be determined jointly between NCDOT and the local jurisdiction.

Landscape in the Right-of-Way

Shade trees should be provided between the curb line and the sidewalk for pedestrian comfort and safety, and for encouraging slower traffic speeds on the roadway due to the “visual friction” they would create. Spacing of trees should generally be at 25 feet on center, depending on tree species used.

Landscape Outside the Right-of-Way

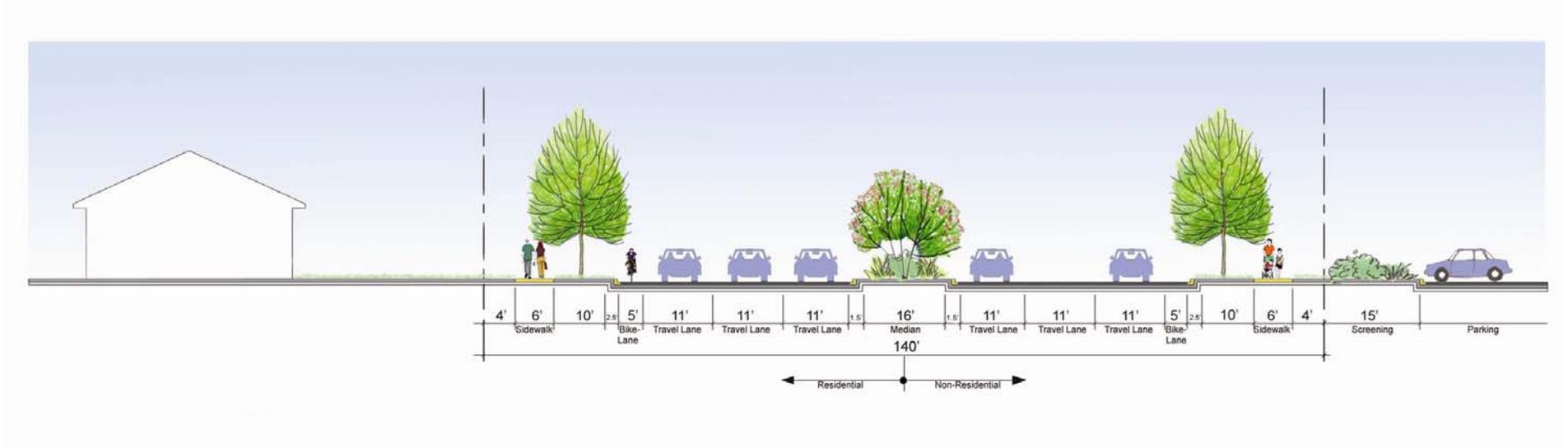
At existing commercial development or other uses with parking between the right-of-way and buildings, a landscape screen should be provided as shown, with shrubs to screen the view of parking pavement and the lower part of cars from view from the road. In jurisdictions that allow parking between the right-of-way and buildings, the local jurisdiction should require a landscape screen to be provided as part of the development. Some jurisdictions in the NC 73 Corridor do not allow parking between the right-of-way and new buildings.

Utilities and Signage

Utilities should be either underground, or place behind adjacent buildings so that they are not visible from the roadway. Building or development identity signage should be

lower level monument signs to be visible below the tree canopy.

Road Typologies – 6 Lane Suburban Boulevard



Road Typologies – 4 Lane Urban Boulevard

Location

The 4 lane urban boulevard typology is intended for existing NC 73 alignments.

Context

The intent of this typology is to provide an urban scale road that is compatible with high density mixed use and commercial development, with a strong pedestrian emphasis.

The character of development where this typology is used is anticipated to resemble small town or small urban village or town centers. Generally, further planning for this typology will be required in a small area plan as recommended in the segment plans, due to the need for coordination with landowners, businesses, neighborhoods, connecting streets.

Speed Limit

This typology is intended to be posted for 35 mph speed limits.

Traffic Levels

The 4 Lane Urban Boulevard, with the NC 73 Corridor access management

strategy, should accommodate up to 40,000 AADT.

To maintain efficient traffic movement through the area at the lower speeds compatible with pedestrians, on-street parking would not be appropriate for this typology.

Right-of-Way

The right of way indicated for this typology should not be reduced. The right of way shown is considered to be a minimum, to provide a minimum width sidewalk and tree well/street furnishing zone.

Pedestrians and Bicycles

Pedestrians are to be accommodated with sidewalks adjacent to the roadway as shown. At the option of the local jurisdiction, additional sidewalk width should be provided by requiring an additional building setback from the right of way line.

Bicycle lanes are to be provided adjacent to the travel lane as shown. The bicycle lanes will help the road function efficiently, as they will provide additional turning room for buses

and trucks.

Transit

Transit service on this typology is anticipated to be bus service. Any stops through sections of the corridor in which this typology is used could be accommodated at an off-street bus transit center. Local jurisdictions should require developments to include space to accommodate bus transit centers in the areas indicated on the segment plans. The bus transit centers should be planned to be integral with the development, following the principles of transit-oriented development.

Drainage

Drainage for this typology would be curb and gutter with underground storm drains.

Shoulders and/or Curbs

Curb and gutter would be provided on the outside of the bicycle lanes, and a mountable curb provided at the median.

Median Landscape

The median should have mountable curbs. Paved pedestrian refuge areas should be

provided in the median at pedestrian crosswalks.

Landscape should be provided in the median, consisting of shrubs and/or groundcovers. Some trees would be compatible with the typology, but there should be an emphasis on maintaining visual connections for pedestrians across the street. The landscape should be formal in nature, to be compatible with the anticipated character of existing and/or planned development in the area. The extent of landscape in the median, as well as responsibility for design and maintenance, is to be determined jointly between NCDOT and the local jurisdiction.

Landscape in the Right-of-Way

Shade trees should be provided in tree wells within the zone behind the curb line shown as a “Tree Well and Street Furnishing Zone,” for pedestrian comfort and safety, and for encouraging slower traffic speeds on the roadway due to the “visual friction” they would create. Spacing of trees should generally be at 25 feet on center, depending

on tree species used and on coordination with street lighting and street furnishings.

Street furnishings, such as seating, bicycle racks, trash containers, etc., should also be located in this zone.

Pedestrian scale lighting should be provided in the “Tree Well and Street Furnishing Zone” as well.

Landscape Outside the Right-of-Way

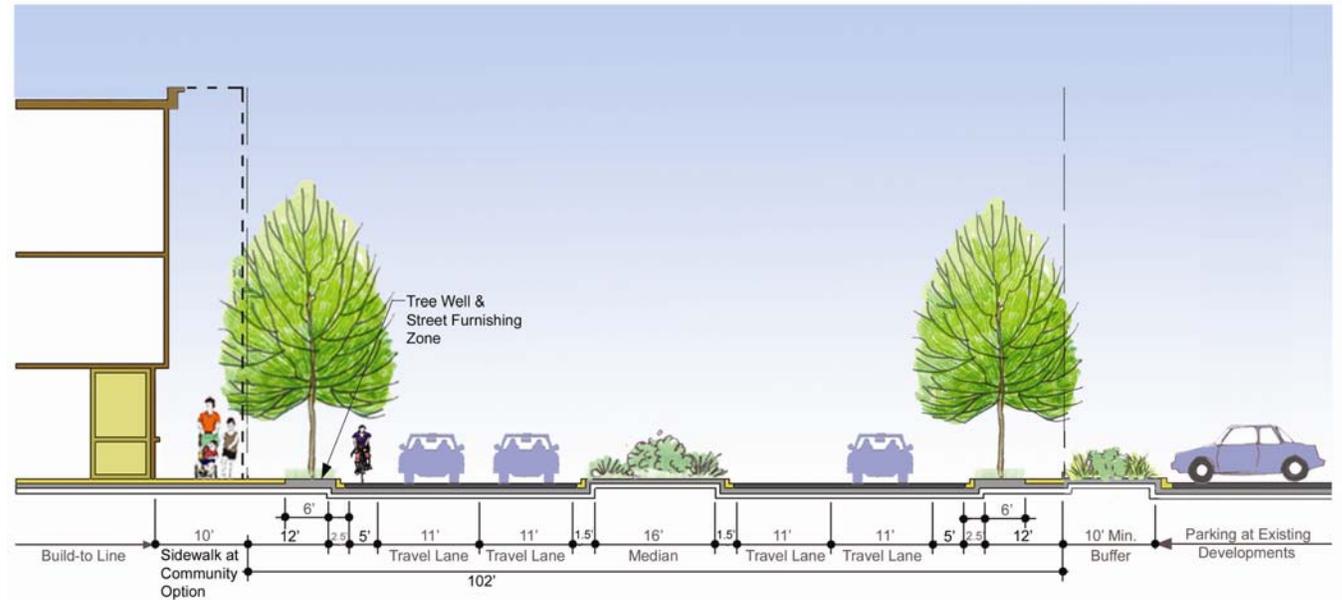
At existing commercial development or other uses with parking between the right-of-way and buildings, a landscape screen should be provided as shown, with shrubs to screen the view of parking pavement and the lower part of cars from view from the road. New development should not have parking between the right-of-way and buildings.

Utilities and Signage

Utilities should be either underground, or placed behind adjacent buildings so that they are not visible from the roadway.

A strategy for building or development identity signage should be developed as part of the small area plan in locations where this typology is anticipated.

Road Typologies – 4 Lane Urban Boulevard



Road Typologies – 4 Lane Village Center Street (with Median)

Location

The four lane Village Center Street typology is intended for cross streets within mixed use or commercial areas.

Context

The intent of this typology is to provide a village or urban scale road that is compatible with higher density mixed use and commercial development, with a strong pedestrian emphasis.

The character of development where this typology is used is anticipated to resemble small town or small urban village or town centers. Generally, further planning for this typology will be required in a small area plan as recommended in the segment plans, due to the need for coordination with landowners, businesses, neighborhoods, connecting streets.

Speed Limit

This typology is intended to be posted for 25 mph speed limits, to be compatible with the anticipated pedestrian orientation of the context.

Traffic Levels

The 4 Lane Village Center Street is intended to serve streets where traffic volumes and speeds, and congestion, is less an issue than is the scale of the road in relation to the area within which it is located.

On-street parking would be appropriate and expected for this typology.

Right-of-Way

The right of way indicated for this typology should not be reduced. The right of way shown is considered to be a minimum, to provide a minimum width sidewalk and tree well/street furnishing zone.

Pedestrians and Bicycles

Pedestrians are to be accommodated with sidewalks adjacent to the roadway as shown. At the option of the local jurisdiction, additional sidewalk width should be provided by requiring an additional building setback from the right of way line.

Bicycle lanes are to be provided adjacent to the travel lane as shown. The bicycle lanes will help the road function efficiently, as they

will provide additional turning room for busses and trucks. They also will provide a buffer between on-street parking and the outside travel lane.

Transit

Intersections should be designed with pedestrians in mind, including corner bulb-outs and crosswalks. Mid-block crossings and bulb-outs could also be appropriate in some locations.

Transit service on this typology is anticipated to be bus service. Any stops through sections of the corridor in which this typology is used could be accommodated at an off-street bus transit center. Local jurisdictions should require developments to include space to accommodate bus transit centers in the areas indicated on the segment plans. The bus transit centers should be planned to be integral with the development, following the principles of transit-oriented development. If bus stops are provided along the street, they should be at corner bulb-outs.

Drainage

Drainage for this typology would be curb and gutter with underground storm drains.

Shoulders and/or Curbs

Curb and gutter would be provided on the outside of the parking lanes or bicycle lanes, and a mountable curb provided at the median.

Median Landscape

The median should have mountable curbs. Paved pedestrian refuge areas should be provided in the median at pedestrian crosswalks.

Landscape should be provided in the median, consisting of shrubs and/or groundcovers. Some trees would be compatible with the typology, but there should be an emphasis on maintaining visual connections for pedestrians across the street. The landscape should be formal in nature, to be compatible with the anticipated character of existing and/or planned development in the area. The extent of landscape in the median, as well as responsibility for design and maintenance, is to be determined jointly between NCDOT and the local jurisdiction.

Landscape in the Right-of-Way

Ornamental or shade trees should be provided in tree wells within the zone behind the curb line shown as a “Tree Well and Street Furnishing Zone,” for pedestrian comfort and safety, and for encouraging slower traffic speeds on the roadway due to the “visual friction” they would create. Spacing of trees should generally be at 25 feet on center, depending on tree species used and on coordination with street lighting and street furnishings.

Street furnishings, such as seating, bicycle racks, trash containers, etc., should also be located in this zone. Pedestrian scale lighting should be provided in the “Tree Well and Street Furnishing Zone” as well.

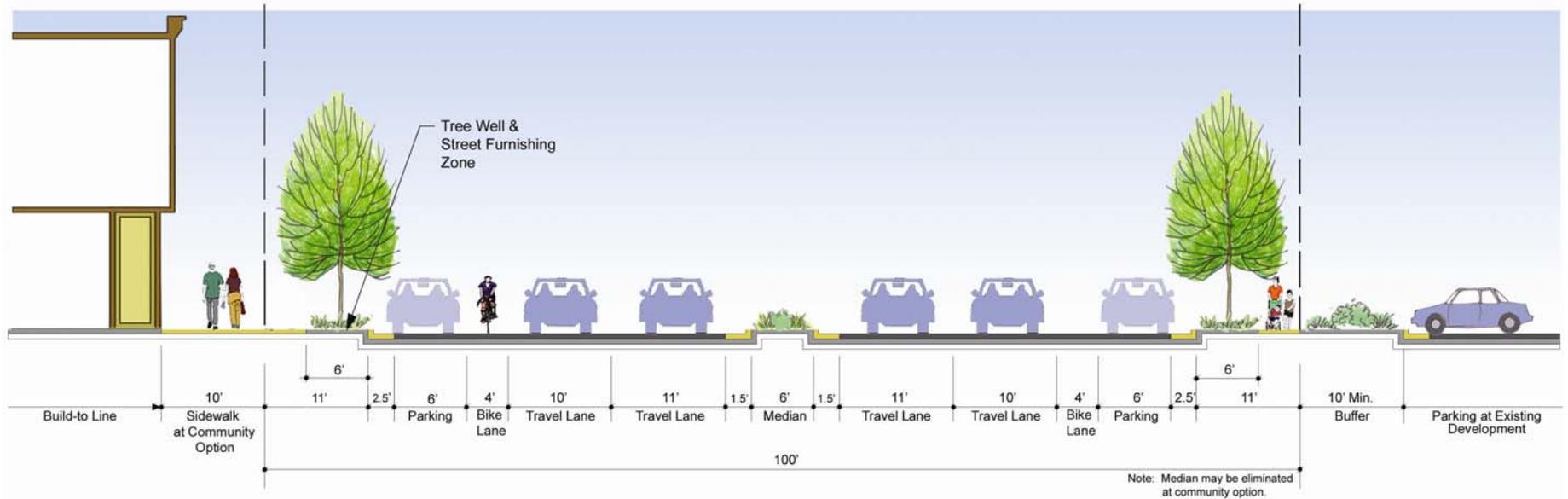
Landscape Outside the Right-of-Way

At existing commercial development or other uses with parking between the right-of-way and buildings, a landscape screen should be provided as shown, with shrubs to screen the view of parking pavement and the lower part of cars from view from the road. New development should not have parking between the right-of-way and buildings.

Utilities and Signage

Utilities should be either underground, or placed behind adjacent buildings so that they are not visible from the roadway. A strategy for building or development identity signage should be developed as part of the small area plan in locations where this typology is anticipated.

Road Typologies – 4 Lane Village Center Street (with Median)



Road Typologies – 4 Lane Village Center Street (no Median)

Location

The four lane Village Center Street typology is intended for cross streets within mixed use or commercial areas.

Context

The intent of this typology is to provide a village or urban scale road that is compatible with higher density mixed use and commercial development, with a strong pedestrian emphasis.

The character of development where this typology is used is anticipated to resemble small town or small urban village or town centers. Generally, further planning for this typology will be required in a small area plan as recommended in the segment plans, due to the need for coordination with landowners, businesses, neighborhoods, connecting streets.

Speed Limit

This typology is intended to be posted for 25 mph speed limits, to be compatible with the anticipated pedestrian orientation of the context.

Traffic Levels

The 4 Lane Village Center Street is intended to serve streets where traffic volumes and speeds, and congestion, is less an issue than is the scale of the road in relation to the area within which it is located. On-street parking would be appropriate and expected for this typology.

Right-of-Way

The right of way indicated for this typology should not be reduced. The right of way shown is considered to be a minimum, to provide a minimum width sidewalk and tree well/street furnishing zone.

Pedestrians and Bicycles

Pedestrians are to be accommodated with sidewalks adjacent to the roadway as shown.

Bicycle lanes are to be provided adjacent to the travel lane as shown. The bicycle lanes will help the road function efficiently, as they will provide additional turning room for busses and trucks. They also will provide a buffer between on-street parking and the

outside travel lane.

Transit

Intersections should be designed with pedestrians in mind, including corner bulb-outs and crosswalks. Mid-block crossings and bulb-outs could also be appropriate in some locations.

Transit service on this typology is anticipated to be bus service. Any stops through sections of the corridor in which this typology is used could be accommodated at an off-street bus transit center. Local jurisdictions should require developments to include space to accommodate bus transit centers in the areas indicated on the segment plans. The bus transit centers should be planned to be integral with the development, following the principles of transit-oriented development. If bus stops are provided along the street, they should be at corner bulb-outs.

Drainage

Drainage for this typology would be curb and gutter with underground storm drains.

Shoulders and/or Curbs

Curb and gutter would be provided on the outside of the parking lanes or bicycle lanes, and a mountable curb provided at the median.

Median Landscape

There is no median in this typology.

Landscape in the Right-of-Way

Ornamental or shade trees should be provided in tree wells within the zone behind the curb line shown as a “Tree Well and Street Furnishing Zone,” for pedestrian comfort and safety, and for encouraging slower traffic speeds on the roadway due to the “visual friction” they would create. Spacing of trees should generally be at 25 feet on center, depending on tree species used and on coordination with street lighting and street furnishings.

Street furnishings, such as seating, bicycle racks, trash containers, etc., should also be located in this zone.

Pedestrian scale lighting should be provided in the “Tree Well and Street Furnishing Zone” as well.

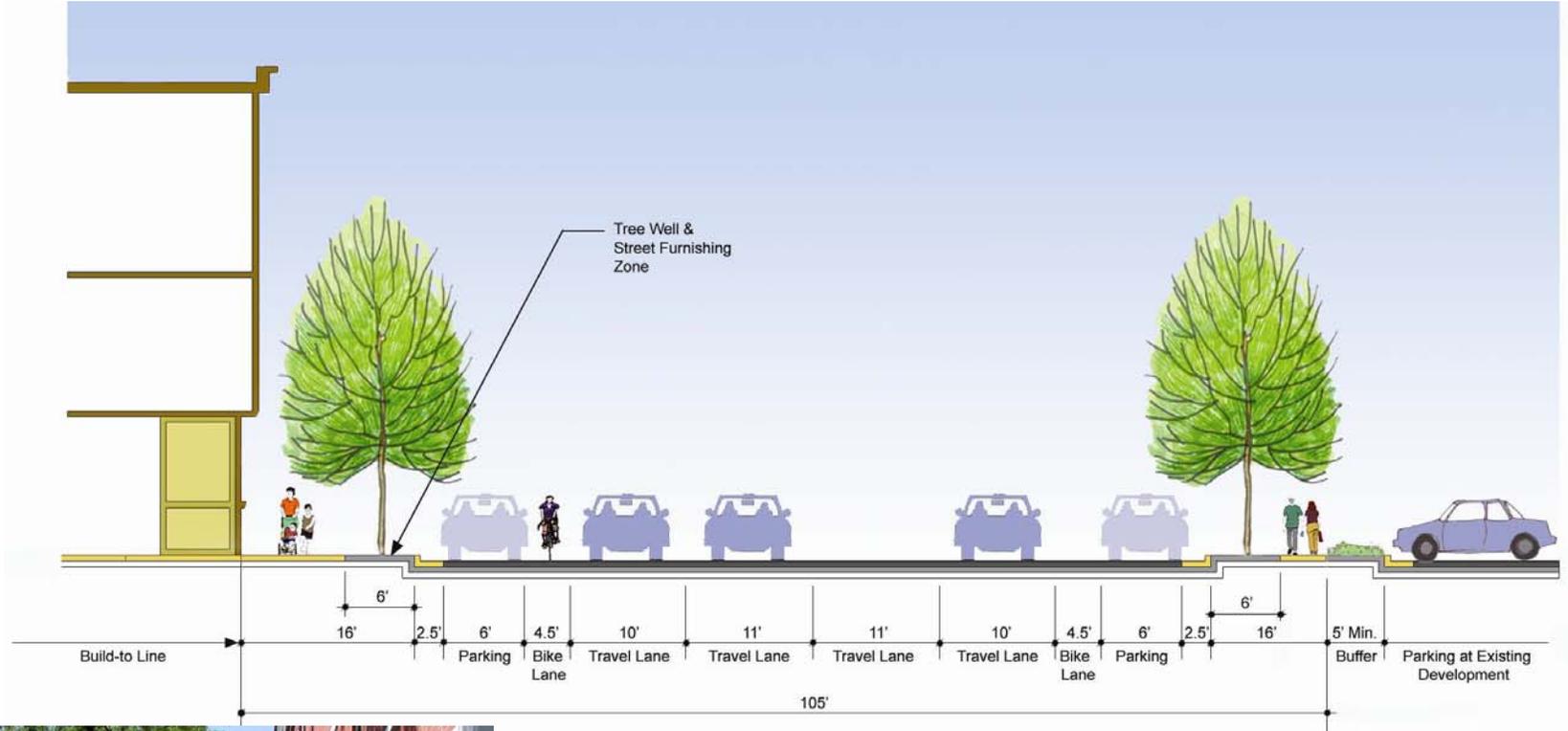
Landscape Outside the Right-of-Way

At existing commercial development or other uses with parking between the right-of-way and buildings, a landscape screen should be provided as shown, with shrubs to screen the view of parking pavement and the lower part of cars from view from the road. New development should not have parking between the right-of-way and buildings.

Utilities and Signage

Utilities should be either underground, or placed behind adjacent buildings so that they are not visible from the roadway. A strategy for building or development identity signage should be developed as part of the small area plan in locations where this typology is anticipated.

Road Typologies – 4 Lane Village Center Street (no Median)



Road Typologies – 6 Lane Urban Boulevard

Location

The six lane urban boulevard typology is intended for existing NC 73 alignments.

Context

The intent of this typology is to provide an urban scale road that is compatible with high density mixed use and commercial development, with a strong pedestrian emphasis.

The character of development where this typology is used is anticipated to resemble urban village or town centers. Generally, further planning for this typology will be required in a small area plan as recommended in the segment plans, due to the need for coordination with landowners, businesses, neighborhoods, connecting streets.

Speed Limit

This typology is intended to be posted for 25 mph speed limits, to be compatible with the anticipated pedestrian orientation of the context.

Traffic Levels

The 6 Lane Suburban Boulevard, with the NC 73 Corridor access management strategy, should accommodate up to 50 - 60,000 AADT.

To maintain efficient traffic movement through the area at the lower speeds compatible with pedestrians, on-street parking would not be appropriate for this typology.

Right-of-Way

The right of way indicated for this typology should not be reduced. The right of way shown is considered to be a minimum, to provide a minimum width sidewalk and tree well/street furnishing zone.

Left turn traffic volumes in some instances could require two left turn lanes in the median. In those circumstances, the median would need to be correspondingly wider. Ideally, the right-of-way should be correspondingly wider, as well.

Pedestrians and Bicycles

Pedestrians are to be accommodated with sidewalks adjacent to the roadway as shown. At the option of the local jurisdiction, additional sidewalk width should be provided by requiring an additional building setback from the right of way line.

Bicycle lanes are to be provided adjacent to the travel lane as shown. The bicycle lanes will help the road function efficiently, as they will provide additional turning room for busses and trucks.

Six lane roads can be intimidating and uncomfortable for pedestrian crossings. Pedestrian crosswalks should be well defined, and paved in a material which reflects the character of the surrounding area. Generous pedestrian refuges in the medians are essential.

Transit

Transit service on this typology is anticipated to be bus service. Any stops through sections of the corridor in which this typology is used could be accommodated at an off-street bus transit center. Local jurisdictions

should require developments to include space to accommodate bus transit centers in the areas indicated on the segment plans. The bus transit centers should be planned to be integral with the development, following the principles of transit-oriented development.

Drainage

Drainage for this typology would be curb and gutter with underground storm drains.

Shoulders and/or Curbs

Curb and gutter would be provided on the outside of the bicycle lanes, and a mountable curb provided at the median.

Median Landscape

The median should have mountable curbs. Paved pedestrian refuge areas should be provided in the median at pedestrian crosswalks.

Landscape should be provided in the median, consisting of shrubs and/or groundcovers. Some trees would be compatible with the typology, but there should be an emphasis on maintaining visual connections for pedestrians across the street. The landscape should be formal

in nature, to be compatible with the anticipated character of existing and/or planned development in the area. The extent of landscape in the median, as well as responsibility for design and maintenance, is to be determined jointly between NCDOT and the local jurisdiction.

Landscape in the Right-of-Way

Shade trees should be provided in tree wells within the zone behind the curb line shown as a “Tree Well and Street Furnishing Zone,” for pedestrian comfort and safety, and for encouraging slower traffic speeds on the roadway due to the “visual friction” they would create. Spacing of trees should generally be at 25 feet on center, depending on tree species used and on coordination with street lighting and street furnishings. Street furnishings, such as seating, bicycle racks, trash containers, etc., should also be located in this zone.

Pedestrian scale lighting should be provided in the “Tree Well and Street Furnishing Zone” as well.

Landscape Outside the Right-of-Way

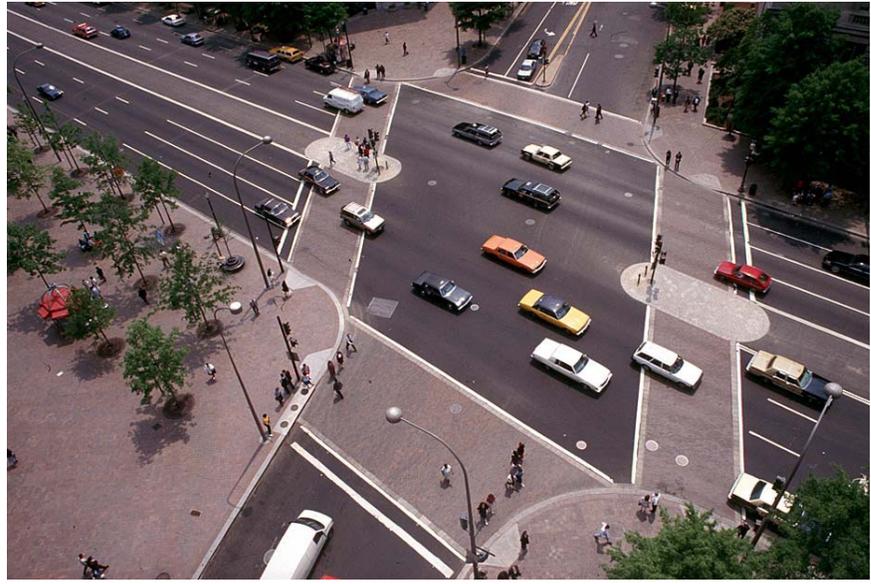
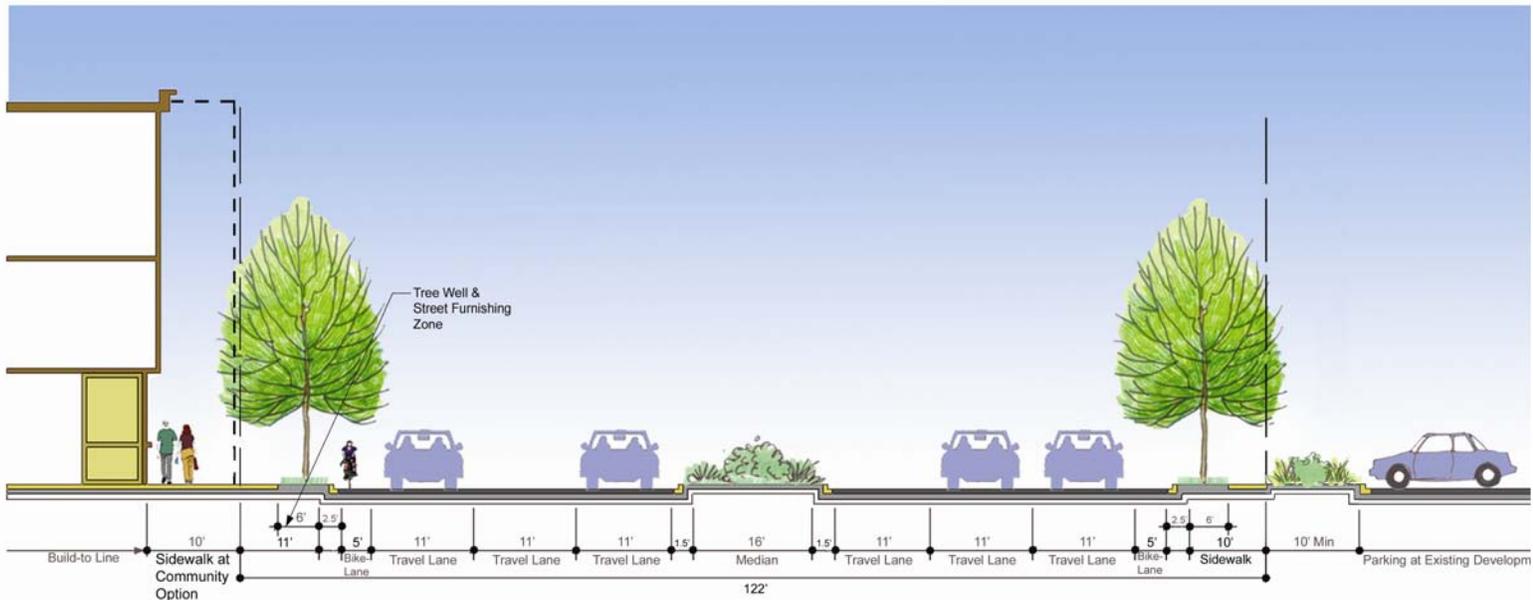
At existing commercial development or other uses with parking between the right-of-way

and buildings, a landscape screen should be provided as shown, with shrubs to screen the view of parking pavement and the lower part of cars from view from the road. New development should not have parking between the right-of-way and buildings.

Utilities and Signage

Utilities should be either underground, or placed behind adjacent buildings so that they are not visible from the roadway. A strategy for building or development identity signage should be developed as part of the small area plan in locations where this typology is anticipated.

Road Typologies – 6 Lane Urban Boulevard



Road Typologies – Single Point Urban Diamond Interchange

Location

The Single Point Urban Diamond Interchange is intended for use at the NC 73/I-77 and NC 73/I-85 interchanges, at the time when reconstruction or improvements to those two Interstate freeways is undertaken.

Context

The intent of this typology is to provide an interchange that moves the traffic signal further from the existing locations at the exit ramps and requires only a three phase signal cycle. This will increase the spacing between the interchange signal and the next nearest NC 73 traffic signals. The current spacing creates congestion and signal timing problems because of the proximity of the signals.

This typology would only be used in an Interstate freeway setting.

Speed Limit

This typology is intended to be posted for 35 mph speed limits, to be compatible with the speed limits of the roadway typologies to

which it connects.

Traffic Levels

Traffic volumes are not a factor in the use of this typology. The number of lanes passing across the interchange should be the same as those of the typologies to which it connects; however, the left turn maneuver can be accommodated with either one or two lanes.

Right-of-Way

The right of way for this typology will be determined by the geometric design of the interchange.

Pedestrians and Bicycles

Pedestrians are to be accommodated with sidewalks crossing the interchange bridge as shown. The pedestrian walkways should connect to the sidewalks of the typologies to which this typology connects.

Bicycle lanes are to be provided adjacent to the travel lane to provide continuity with the bicycle lanes on the connecting typologies.

Transit

Transit service on this typology is anticipated to be bus service. No stops within the interchange would be appropriate.

Drainage

Drainage for this typology would be determined by the geometric design of the interchange.

Shoulders and/or Curbs

Curb and gutter should be provided at each of the islands and around the pedestrian plaza.

Median Landscape and Streetscape

There is no median in this typology.

Landscape and Streetscape in the Right-of-Way

Ornamental trees, shrubs and ground cover should be provided within the traffic islands, consistent with visibility requirements for traffic.

The bridge structure, bridge rail, lighting and pedestrian infill area should have a high

level of architectural design that creates a distinctive gateway into the community.

Landscape and Streetscape Outside the Right-of-Way

Landscape outside the right-of-way, if any, would be addressed through the connecting roadway typologies.

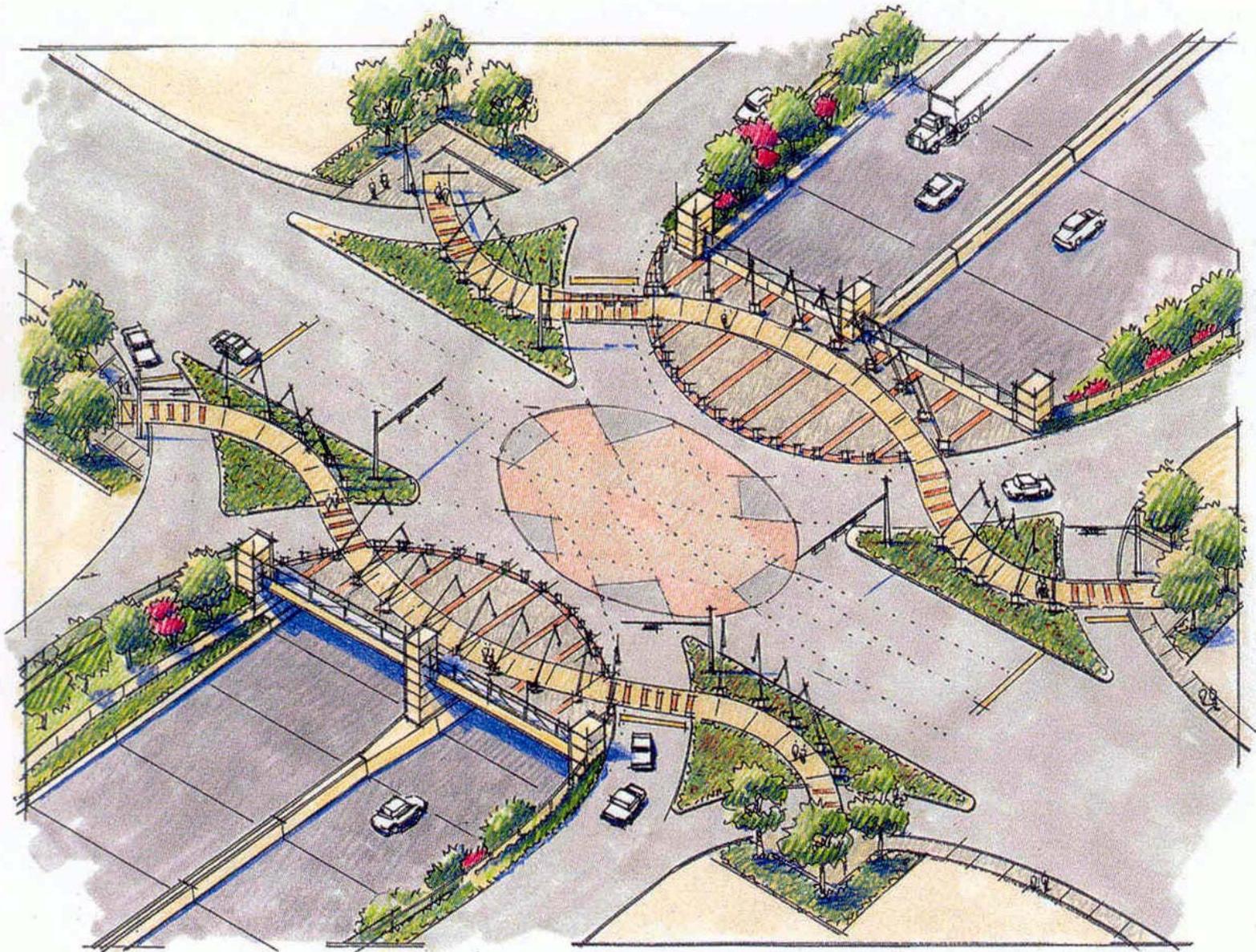
Utilities and Signage

Location of any utilities located in the interchange would be determined by geometric design of the interchange.

Comparable Roads

Comparable roads in the region include the I-85/Beatties Ford Road interchange and the I-77/Tyvola Road interchange, though neither of these has the landscape and streetscape treatment which should be an integral part of this typology.

Road Typologies – Single Point Urban Diamond Interchange



Road Typologies – Dual Right/Left Turn Intersection

Location

The Dual Right/Left Turn Intersection is intended for use at intersections where it is desired to split the directional flow of traffic, either to more evenly distribute traffic volumes or to accommodate traffic turning toward a major route. Signal timing should prioritize the two lane right turn lanes and the two lane left turn lanes. Two locations in the NC 73 Corridor where this type of intersection might be appropriate are at NC 73 and Gilead Road (see the Catawba Road Segment) and at Catawba Avenue and Westmoreland Road (see the Westmoreland Road Segment).

The accompanying sketch is intended to illustrate the overall relationship of the intersecting streets, and should not be considered a geometric design guideline.

Context

The intent of this intersection typology will be determined by the context of the connecting typology.

Speed Limit

This typology is intended to be posted for the same speed limit as the roadway typologies to which it connects.

Traffic Levels

Traffic volumes are not a factor in the use of this typology. The number of lanes passing across the intersection should be the same as those of the typologies to which it connects.

Right-of-Way

The right of way for this typology will be determined by the geometric design of the interchange.

Pedestrians and Bicycles

Pedestrians are to be accommodated with sidewalks crossing the traffic islands as shown in the illustrative sketch. The pedestrian walkways should connect to the sidewalks of the typologies to which this typology connects.

Bicycle lanes are to be provided adjacent to the travel lane to provide continuity with the

bicycle lanes on the connecting typologies. Bicycles turning left will need to use the traffic lanes within the intersection.

Transit

Transit service on this typology is anticipated to be bus service. No stops within the intersection would be appropriate.

Drainage

Drainage for this typology would be determined by the geometric design of the interchange.

Shoulders and/or Curbs

Curb and gutter should be provided at each of the islands and the median.

Median Landscape and Streetscape

The median would be determined by the connecting typology.

Landscape and Streetscape in the Right-of-Way

Ornamental trees, shrubs and ground cover should be provided within the traffic islands, consistent with visibility requirements for

traffic.

Landscape and Streetscape Outside the Right-of-Way

Landscape outside the right-of-way, if any, would be addressed through the connecting roadway typologies.

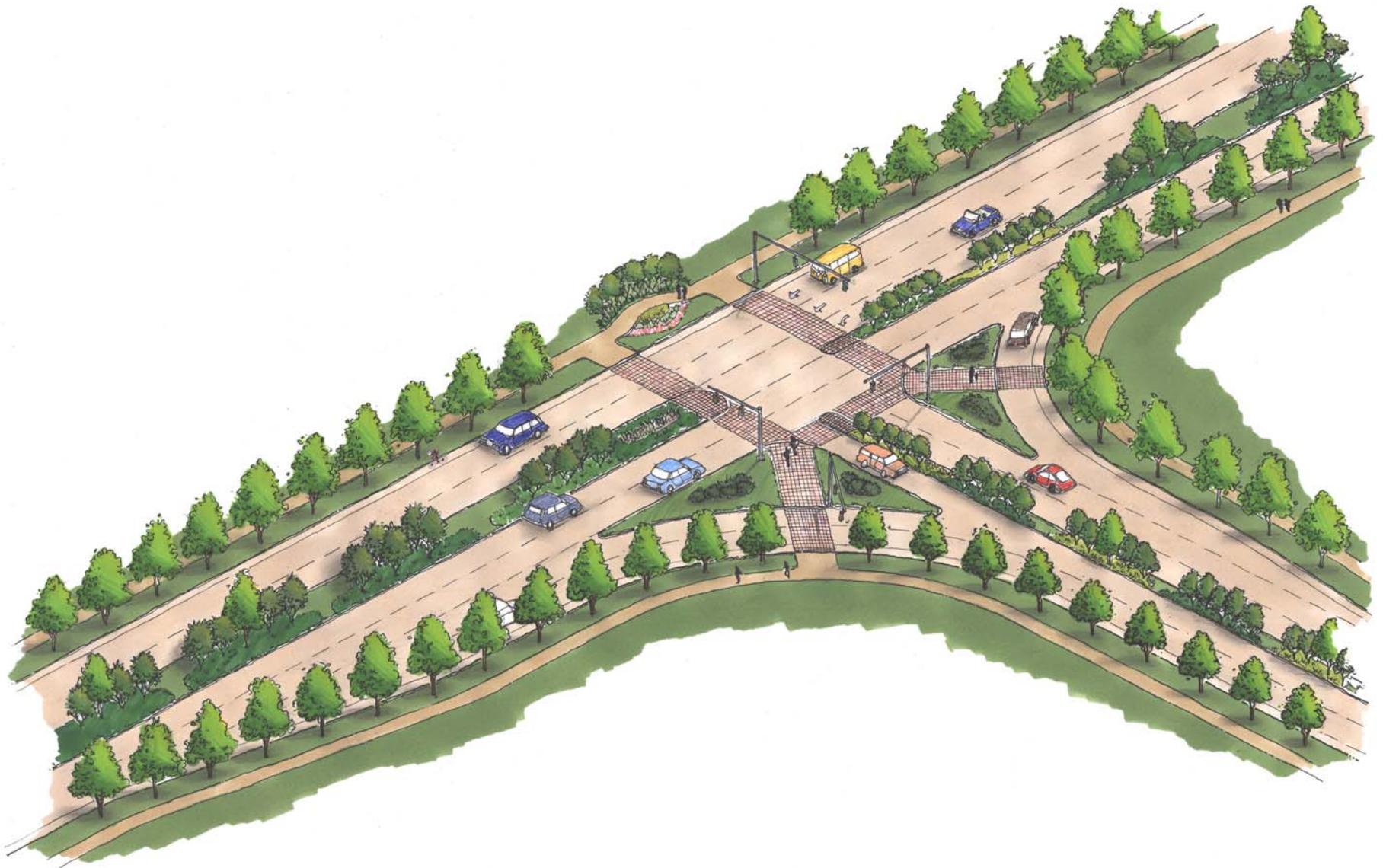
Utilities and Signage

Location of any utilities located in the intersection should be underground, or receive the same treatment in the connecting typology.

Comparable Intersections

Comparable intersections in the region include the Sharon Road/Runnymede Lane and Sardis Road/Rama Road intersections in south Charlotte.

Road Typologies – Dual Right/Left Turn Intersection



Road Typologies – Dual Right/Left Turn Flyover Intersection

The Dual Right Turn/Left Turn Flyover Intersection typology is the same as the Dual Right/Left Turn Intersection, with the exception that the dual left turn movement would be accommodated with a free flow flyover instead of through the signalized intersection.

This typology would be used only when the left turn traffic volumes are too high for the dual left turn through the signalized intersection.

Because of the height that would be required for the flyover, and the consequent visibility, it should have a high level of architectural aesthetic treatment. The compatibility with any nearby residential or retail areas should be carefully coordinated with nearby neighborhoods and developments.

Road Typologies – Dual Right/Left Turn Flyover Intersection



Road Typologies – Roundabout Intersection

There may be intersections in the NC 73 Corridor where a roundabout would be an appropriate solution the complex junction of multiple roadways and a fairly even distribution of traffic, as well as a need to serve adjacent land uses.

Design of a roundabout intersection is a complex process, and has only recently been gaining acceptance and popularity in the U.S. It requires a detailed analysis of traffic volumes, computer modeling of traffic flows, and specific geometric design of the approach roads as well as the roundabout itself. That level of design and analysis is more appropriately performed in a Preliminary Engineering/Environmental phase of a project, instead of in a corridor plan.

The example shown here is a two lane roundabout at the NC 73 intersection of Sam Furr Road and Catawba Avenue, in Huntersville and Cornelius. The example is intended only to demonstrate that a two lane roundabout could physically fit into this location without displacement of any existing uses, and largely within the existing



*SR 60/Gulf Boulevard (SR 699) Gateway Roundabout,
Clearwater Beach, Florida Source: Michael Wallwork*

right-of-way.

Two lane roundabouts can accommodate volumes of up to 30,000 AADT if other roadway design conditions are appropriate. One interchange in Clearwater Beach, Florida, reportedly is currently successfully carrying approximately 55,000 AADT.

Two lane roundabouts can accommodate pedestrians, as can be seen in the above photograph. It may be necessary to provide pedestrian activated signals.

Road Typologies – Roundabout Intersection



NC 73 Corridor Access Management Strategy

The Access Management Strategy for the NC 73 Corridor is built around a number of elements which are applied consistently throughout the corridor. The intent of these is to help minimize the size of the road typologies used in each segment, as well as to realize the benefits of safety, efficiency and aesthetics. These elements are indicated on the segment plans, and should be followed when the various segments are being designed as an inherent part of the NC 73 Corridor Transportation/Land Use Plan.

There are additional techniques which should be applied to individual properties and situations and they are being planned. The NCDOT should design the roadway to incorporate these techniques, and the local jurisdictions should enforce these techniques through their development regulation and approval processes. Since these techniques should be applied on a case-by-case basis, they are incorporated into this plan as guidelines for NCDOT and the local jurisdictions in the Technical Appendix.

The elements which are incorporated throughout the corridor are:



Reconfigured Intersection

A number of major intersections throughout the corridor should be reconfigured to provide the continuity and directional movements to make NC 73 and its related roads function as they need to for the road typologies to effectively carry the anticipated traffic and serve the anticipated land uses. Illustrative examples are shown in the road typologies for some of these intersections or interchanges. Others will have to be designed in the Preliminary Engineering/Environmental phase of individual projects to meet the Access Management goals, and to resolve other design issues.



Signalized Intersection

Signalized intersections in the NC 73 Corridor access management strategy serve several purposes. The locations shown in the segment plans are the minimum distances considered desirable for the anticipated

posted speed limits, to keep the signal spacing effective. They are located to provide control of left turns and U-turns across traffic, to limit those locations in order to minimize conflicts with oncoming traffic. And, they are located where they are considered most likely to best serve existing and anticipated development. While traffic signal guidance is provided by the Manual on Uniform Traffic Control Devices (MUTCD) through “warrants” for signal locations, and the time at which installation of signals at locations shown should follow those warrants in most cases, they should also be considered for installation when they would be appropriate for access management purposes.



Unsignalized Intersection with Left Turn Lane; Median Break

The unsignalized intersections shown on the segment plans serve the same purposes as described above for the signalized intersections. It will not be necessary to signalize these intersections because of anticipated traffic volumes. They could be considered for signalization when they meet the MUTCD warrants.

 **Unsignalized Right Turn Intersection; No Median Break**

“Right-in/right-out” intersections and driveways are indicated on the segment plans where existing or anticipated land development will not be large enough to require a median break, or where the location of the median break would be unacceptably close to a proposed signalized or unsignalized intersection. Traffic from these intersections or driveways desiring to go left would make a right turn, and then make a legal, controlled U-turn at the next signalized or unsignalized intersection. This will eliminate left turns across oncoming traffic and improve the safety of the corridor.

 **Driveway Consolidation**

To avoid an excessive number of driveways onto roadway, whether from residential or non-residential properties, consolidation of adjacent driveways into one or two driveways serving multiple properties is proposed at a number of locations throughout the corridor. Determination of where this can actually be accomplished, and the most appropriate design for accomplishing it, will be made in the Preliminary Engineering/Environmental

phase, when roadway design engineers can evaluate actual conditions and work with the affected property owners.

 **Natural Landscape Buffer; No New NC 73 Driveways**

The segment plans indicate many locations where a natural buffer is proposed. There are also locations where the anticipated land development indicates “no new NC 73 driveways.” It is intended that no new driveways should be permitted onto NC 73 in these locations. Under North Carolina law, access to a property on a public road cannot be denied unless there is another means of access to the property from a public road. If there are applications for new driveways along NC 73 for which approval cannot be denied because that would be the only means of access to the property, the approval of access should be provisional, with the requirement that the access be reconnected to other streets or roads when they are built in the future.

 **Directional Intersections**

In some instances, a left turn across traffic

may be essential and unavoidable. To accommodate those instances, a directional intersection will provide a left turn lane, but not a full median break, so that left turns can be made from NC 73 onto a street or property. However, no left turn is possible out of the street or property.

Segment Plans

The fifteen segment plans of the NC 73 Corridor are shown with proposed road typologies, access management features, anticipated future land uses, and proposed road design and land use actions.

Environmental, Preliminary Engineering and Final Engineering phases of project development.

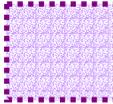
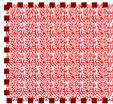
The drawings illustrate the intent of the plan to achieve a road network that will serve the existing and planned land uses in the corridor, that will be adequate for the levels of traffic anticipated in 2025, and that will serve transit, pedestrians and bicycles, as well as cars and trucks.

The plans, with the descriptions of transportation criteria and access to adjacent land uses are strategic in nature. They are meant to provide guidance to local communities in order to preserve adequate rights-of-way, to require managed access to existing and new development, and to coordinate other related transportation facilities. They are also meant as a guide to NCDOT to follow as a basis for engineering design.

The final features and dimensions of all of the plan elements will be determined in the

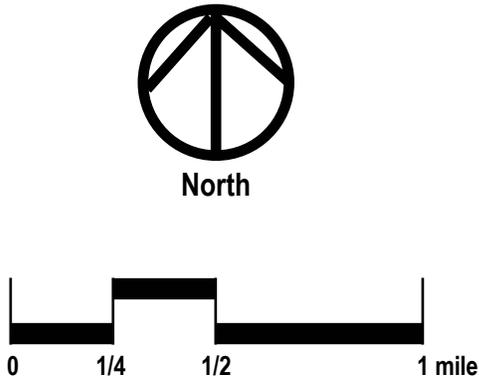
Segment Plan - Legend

-  Interchange
-  Reconfigured intersection or interchange
-  Existing signalized intersection with left turn lane
-  Potential signalized intersection with left turn lane
-  Unsignalized intersection with left turn lane
-  Unsignalized right turn intersection; no median break
-  Directional intersection
-  Driveway consolidation (or right-in, right-out)
-  Modified connection to local roads and streets
-  Natural landscape buffer
-  Close existing intersection
-  Transit Station or Center
-  Historic site
-  NC 73
-  NC 73 Corridor Plan Roads
-  Other Roads not part of NC 73 Plan
-  Cemetery or Church
-  Pedestrian/Bicycle Bridge

-  Future Business or Industrial Area
-  Future Commercial or Mixed Use Area
-  Future Medium Density Residential Area
-  Future Low Density Residential Area

EXISTING LAND USE

-  RURAL
-  LOW SINGLE FAMILY
-  MEDIUM SINGLE FAMILY
-  HIGH SINGLE FAMILY
-  MULTI-FAMILY
-  COMMERCIAL
-  INDUSTRIAL
-  OFFICE
-  INSTITUTIONAL
-  PARK/OPEN SPACE
-  VACANT
-  AIRPORT



Segment – NC 73 Bypass

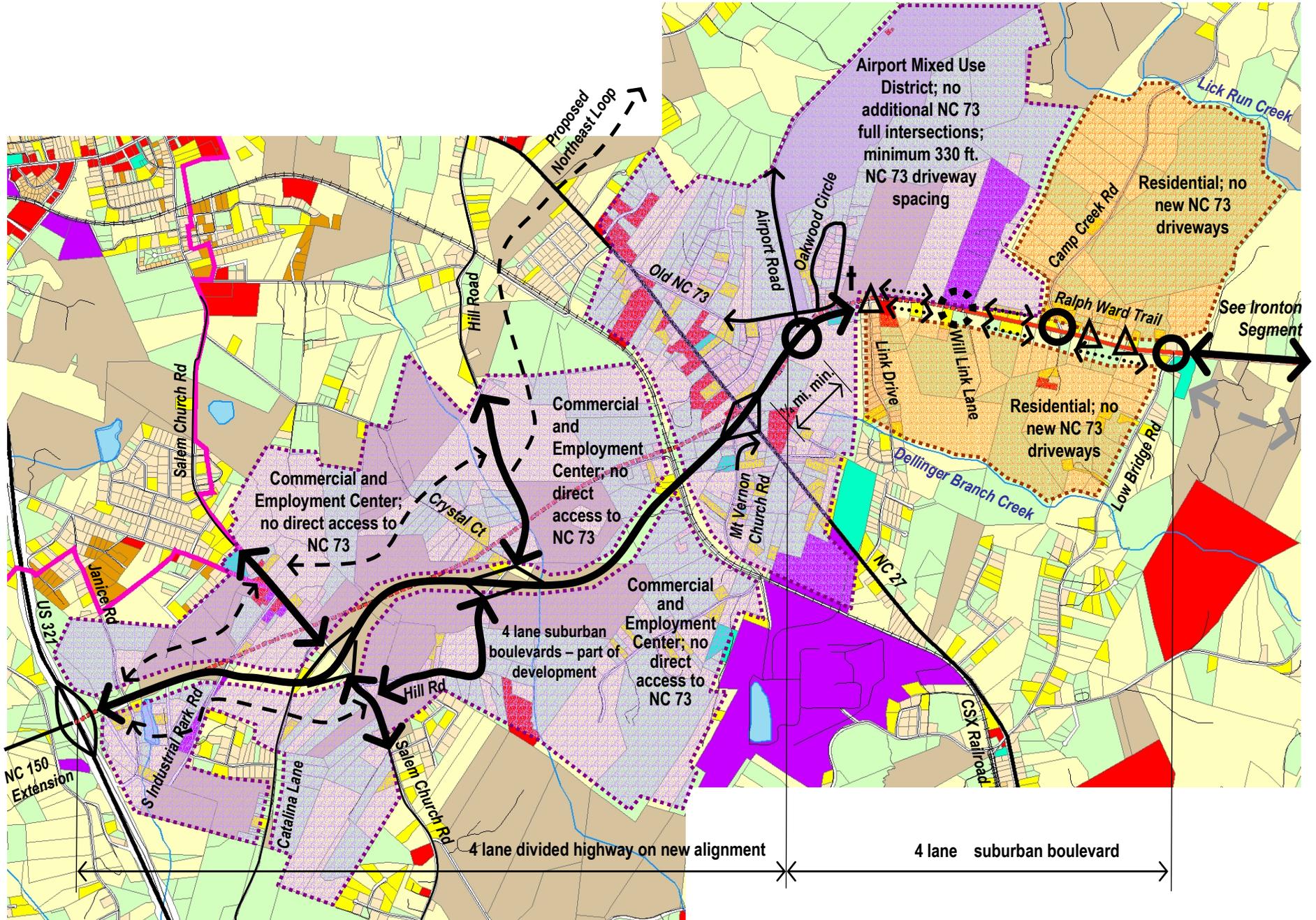
Location: US 321 to Low Bridge Road

Context: Commercial and Employment Center

Length: 4.9 miles

Responsible Jurisdiction(s): Lincoln County

Segment – NC 73 Bypass



Segment – NC 73 Bypass

Criteria

Design Criteria	Anticipated 2025 Traffic	US 321 to NC 27: 14,000 ADT NC 27 to Low Bridge Road: 18,000 AADT
	Posted Speed Limit	55 mph from US 321 to NC 27 45 mph from NC 27 to Airport Road 35 mph from Airport Road to Low Bridge Road
NC 73 Road Typologies	US 321 to Airport Road	4 Lane Highway
	Airport Road to Low Bridge Road	4 Lane Suburban Boulevard
Related Road Typologies	Hill Road	4 Lane Suburban Boulevard
	Salem Church Road	4 Lane Suburban Boulevard
Reconfigured Intersections and/or Interchanges	NC 73 at US 321	Interchange to be constructed as part of NC 150 Extension
	NC 73 at Salem Church Road	Interchange to be designed in Environmental/Preliminary Engineering phase
	NC 73 at Hill Road	Interchange to be designed in Environmental/Preliminary Engineering phase
	NC 73 at NC 27	Interchange to be designed in Environmental/Preliminary Engineering phase
Transit	Fixed Guideway	None
	Transit Centers	None
	Bus	None
Modified Connections to Local Roads	Mt. Vernon Church Road, Old NC 73, and Oakwood Circle	Connections to be changed as part of NC 73 design in Environmental/Preliminary Engineering phase
Related Roads not part of the NC 73 Plan	Parallel Roads in Commercial and Employment Center Developments	To be required as part of development approvals

Segment – NC 73 Bypass

Land Use and Access

US 321 to CSX Railroad

Commercial and Employment Center, per Lincoln County Land Use Plan – no direct access to NC 73; develop 4 lane suburban boulevards as part of developments for access to NC 73 interchanges; developments to construct internal circulation streets for access to 4 lane suburban boulevards

Railroad to Link Drive

Airport Mixed Use District, per Lincoln County Land Use Plan – no direct access to NC 73; access NC 73 only at Airport Road extension signalized intersection; extend Airport Road to NC 73 and realign Oakwood Circle to connect to Old NC 73

Link Drive to Camp Creek Road

Airport Mixed Use District north of NC 73 – no additional full intersections on NC 73; space any new NC 73 driveways at minimum of 330 ft. apart; consolidate existing driveways wherever possible

Existing Single Family Residential south of NC 73 – consolidate existing driveways wherever possible; driveways to be right-in, right-out only

Camp Creek Road to Low Bridge Road

Low Density Residential, per Lincoln County Land Use Plan north of NC 73 – no new NC 73 driveways for subdivision developments

Existing Single Family Residential south of NC 73 – consolidate existing driveways wherever possible; driveways to be right-in, right-out only

Segment – Ironton (Alternative A)

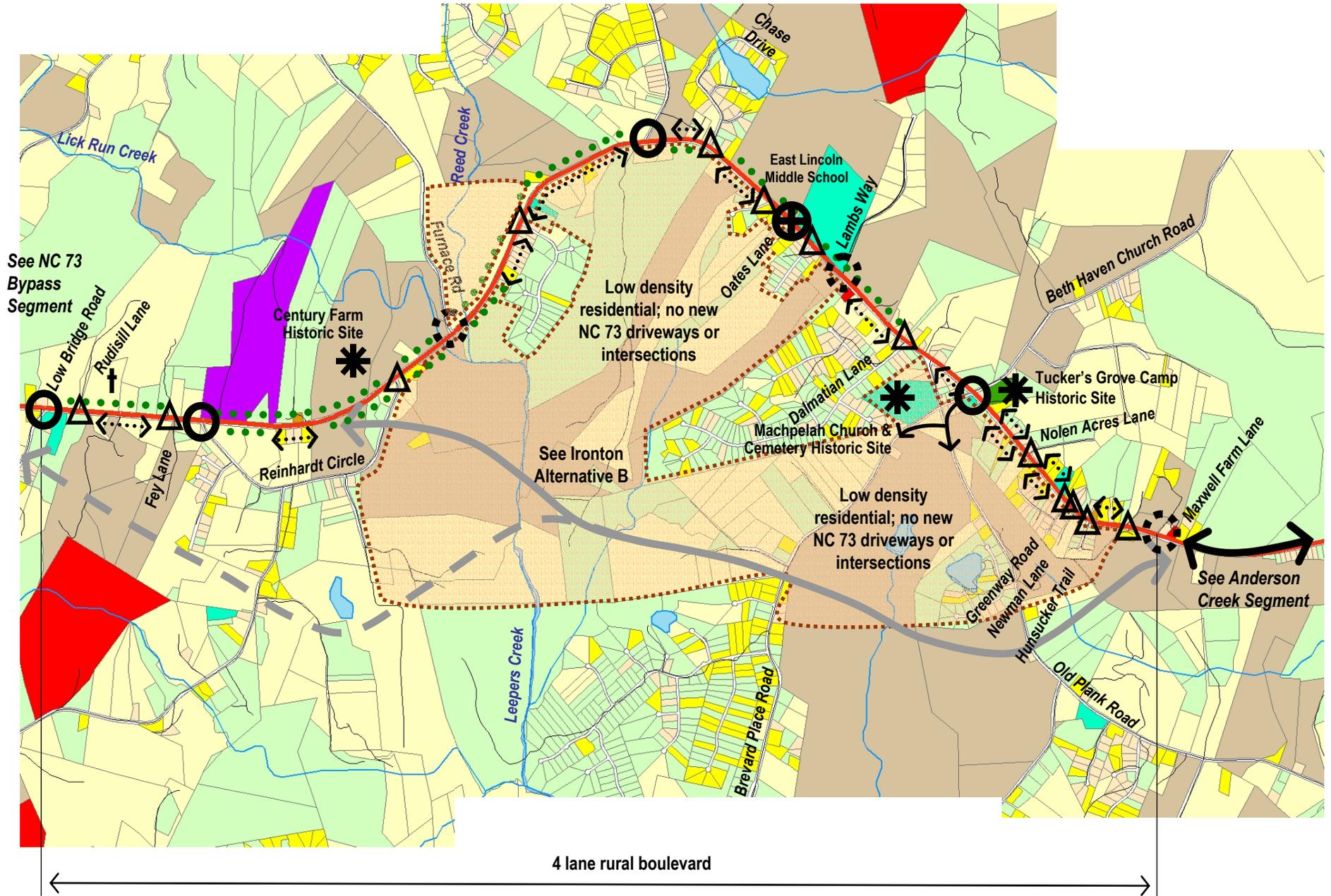
Location: Low Bridge Road to Maxwell Farm Lane

Context: Low Density Residential

Length: 5.2 miles

Responsible Jurisdiction(s): Lincoln County

Segment – Ironton (Alternative A)



Segment – Ironton (Alternative A)

Criteria

Design Criteria	Anticipated 2025 Traffic	Low Bridge Road to Furnace Road: 16,000 ADT Furnace Road to Lambs Way: 18,000 AADT Lambs Way to Tyler Hatley Lane: 20,000 AADT
	Posted Speed Limit	45 mph
NC 73 Road Typologies	Low Bridge Road to Maxwell Farm Lane	4 Lane Rural Boulevard
Related Road Typologies	None	
Reconfigured Intersections and/or Interchanges	None	
Transit	Fixed Guideway	None
	Transit Centers	None
	Bus	None
Modified Connections to Local Roads	Old Plank Road and Brevard Place Road at NC 73	Connections to be changed as part of NC 73 design in Environmental/Preliminary Engineering phase
Related Roads not part of the NC 73 Plan	None	

Segment – Ironton (Alternative A)

Land Use and Access

Low Bridge Road to Reinhardt Circle East	Existing church, large lot single family residences, industrial property and Century Farm Historic site north of NC 73 – no new NC 73 driveways for subdivision developments
	Existing Single Family Residential south of NC 73 – consolidate existing driveways wherever possible; driveways to be right-in, right-out only
Reinhardt Circle East to Amity Church Road	Low Density Residential, per Lincoln County Land Use Plan north of NC 73 – no new NC 73 driveways for subdivision developments
	Low Density Residential, per Lincoln County Land Use Plan south of NC 73 – no new NC 73 driveways for subdivision developments; consolidate existing driveways wherever possible; driveways to be right-in, right-out only
Amity Church Road to Lambs Way	Existing Single Family Residential north and south of NC 73 - consolidate existing driveways wherever possible; driveways to be right-in, right-out only
	East Lincoln Middle School north of NC 73 – no new NC 73 driveways
Lambs Way to Beth Haven Church Road	Existing Single Family Residential north and south of NC 73 - consolidate existing driveways wherever possible; driveways to be right-in, right-out only
	Low Density Residential, per Lincoln County Land Use plan north of NC 73 – no new NC 73 driveways for subdivision developments
Beth Haven Church Road to Maxwell Farm Lane	Existing Single Family Residential north and south of NC 73 - consolidate existing driveways wherever possible; driveways to be right-in, right-out only
	Tucker’s Grove Camp Historic Site north of NC 73 – no new NC 73 driveways

Segment – Ironton (Alternative B)

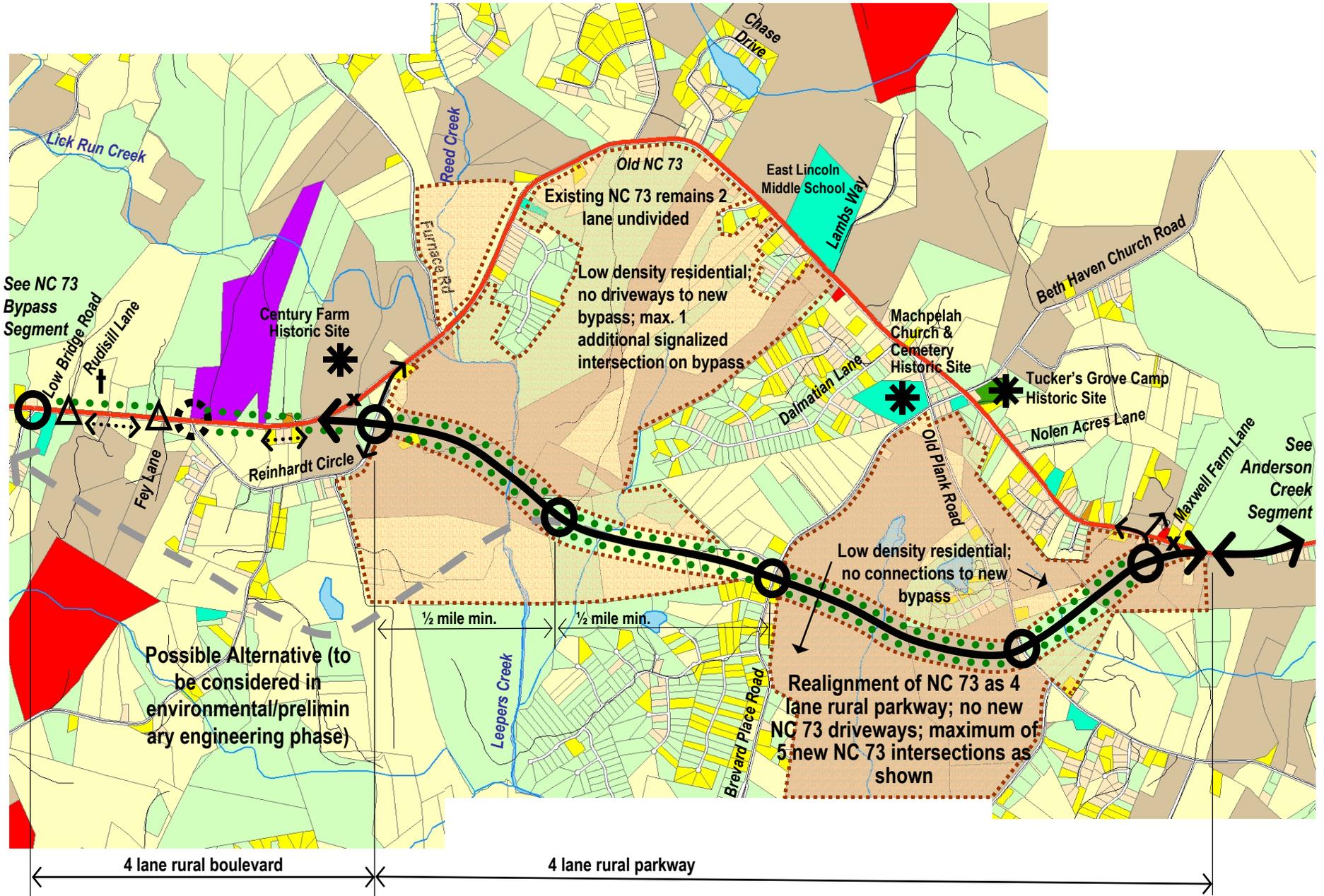
Location: Low Bridge Road to Maxwell Farm Lane

Context: Low Density Residential

Length: 4.6 miles

Responsible Jurisdiction(s): Lincoln County

Segment – Ironton (Alternative B)



Segment – Ironton (Alternative B)

Criteria

Design Criteria	Anticipated 2025 Traffic	Low Bridge Road to Reinhardt Circle: 16,000 ADT Old NC 73: 6,000 AADT Reinhardt Circle to Brevard Place Road: 12,000 ADT Brevard Place Road to Maxwell Farm Lane: 14,000 ADT
	Posted Speed Limit	45 mph
NC 73 Road Typologies	Low Bridge Road to Reinhardt Circle	4 Lane Rural Boulevard
	Reinhardt Circle to Maxwell Farm Lane	4 Lane Rural Parkway
Related Road Typologies	Old NC 73	Existing NC 73 to remain 2 lane undivided
Reconfigured Intersections and/or Interchanges	None	
Transit	Fixed Guideway	None
	Transit Centers	None
	Bus	None
Modified Connections to Local Roads	Reinhardt Circle at Old NC 73 and Maxwell Farm Lane at Old NC 73	Connections to be changed as part of NC 73 design in Environmental/Preliminary Engineering phase
Related Roads not part of the NC 73 Plan	None	

Segment – Ironton (Alternative B)

Land Use and Access

Low Bridge Road to Reinhardt Circle East

Existing church, large lot single family residences, industrial property and Century Farm Historic site north of NC 73 – no new NC 73 driveways for subdivision developments

Existing Single Family Residential south of NC 73 – consolidate existing driveways wherever possible; driveways to be right-in, right-out only

Reinhardt Circle East to Maxwell Farm Lane

Low Density Residential, per Lincoln County Land Use Plan north and south of NC 73 – no new NC 73 driveways for subdivision developments; maximum of 5 new NC 73 intersections as shown

Existing NC 73: Reinhardt Circle East to Maxwell Farm Lane

No change to existing; new development not subject to NC 73 access management guidelines

Segment – Anderson Creek

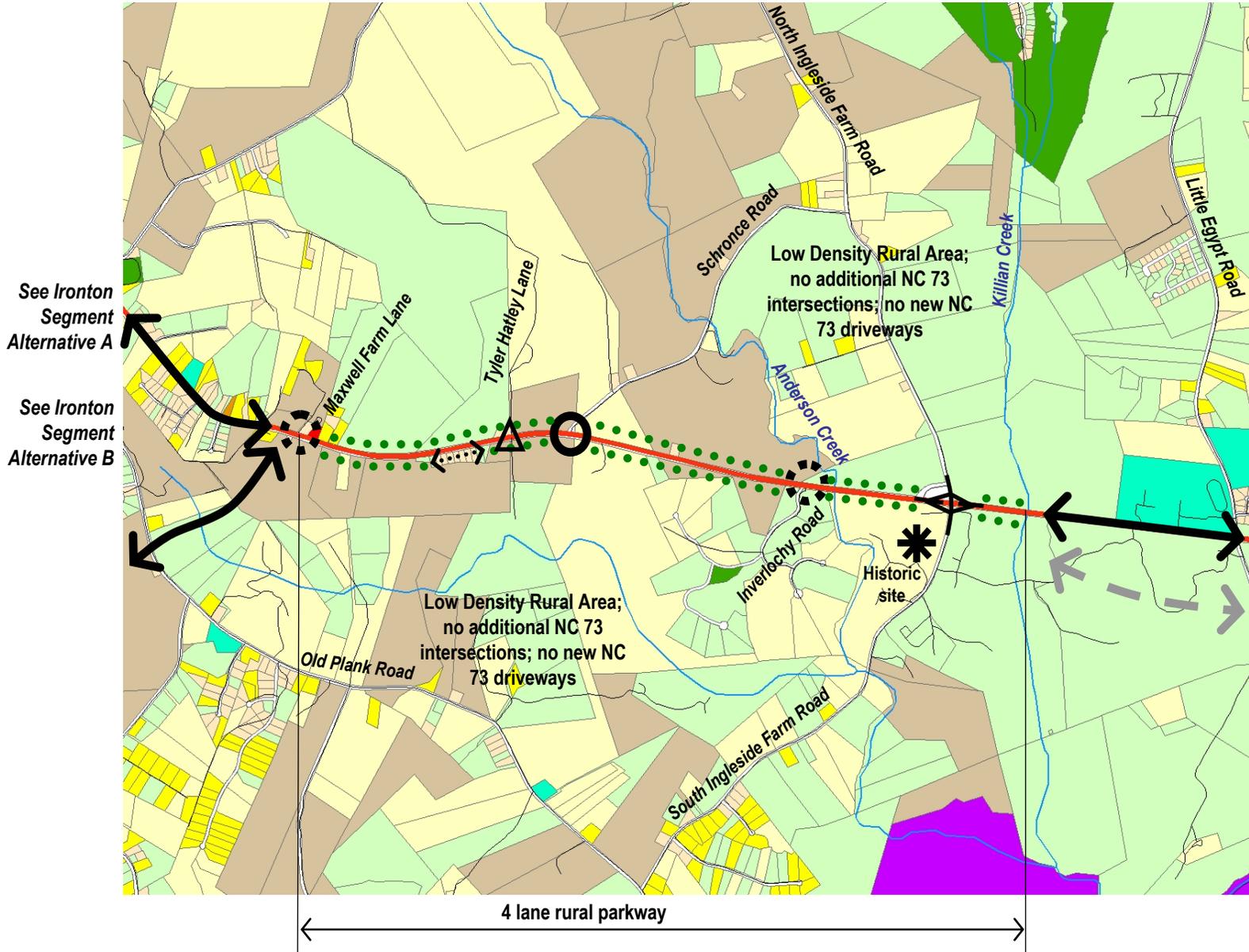
Location: Maxwell Farm Lane to Killian Creek

Context: Low Density Residential

Length: 2.4 miles

Responsible Jurisdiction(s): Lincoln County

Segment – Anderson Creek



Segment – Anderson Creek

Criteria

Design Criteria	Anticipated 2025 Traffic	Tyler Hatley Lane to Ingleside Farm Road: 30,000 AADT
	Posted Speed Limit	45 mph
NC 73 Road Typologies	Maxwell Farm Lane to Killian Creek	4 Lane Rural Boulevard
Related Road Typologies	None	
Reconfigured Intersections and/or Interchanges	NC 73 at Ingleside Farm Road	Redesign interchange for direct connection as part of NC 73 design in Environmental/Preliminary Engineering phase
Transit	Fixed Guideway	None
	Transit Centers	None
	Bus	None
Modified Connections to Local Roads	Old Plank Road and Brevard Place Road at NC 73	Connections to be changed as part of NC 73 design in Environmental/Preliminary Engineering phase
Related Roads not part of the NC 73 Plan	None	

Segment – Anderson Creek

Land Use and Access

**Maxwell Farm Lane to Killian
Creek**

Low Density Residential, per Lincoln County Land Use Plan north and south of NC 73 – no new NC 73 driveways for subdivision developments; existing single family residential north and south of NC 73 – consolidate existing driveways wherever possible; driveways to be right-in, right-out only

Segment – West Lake Norman

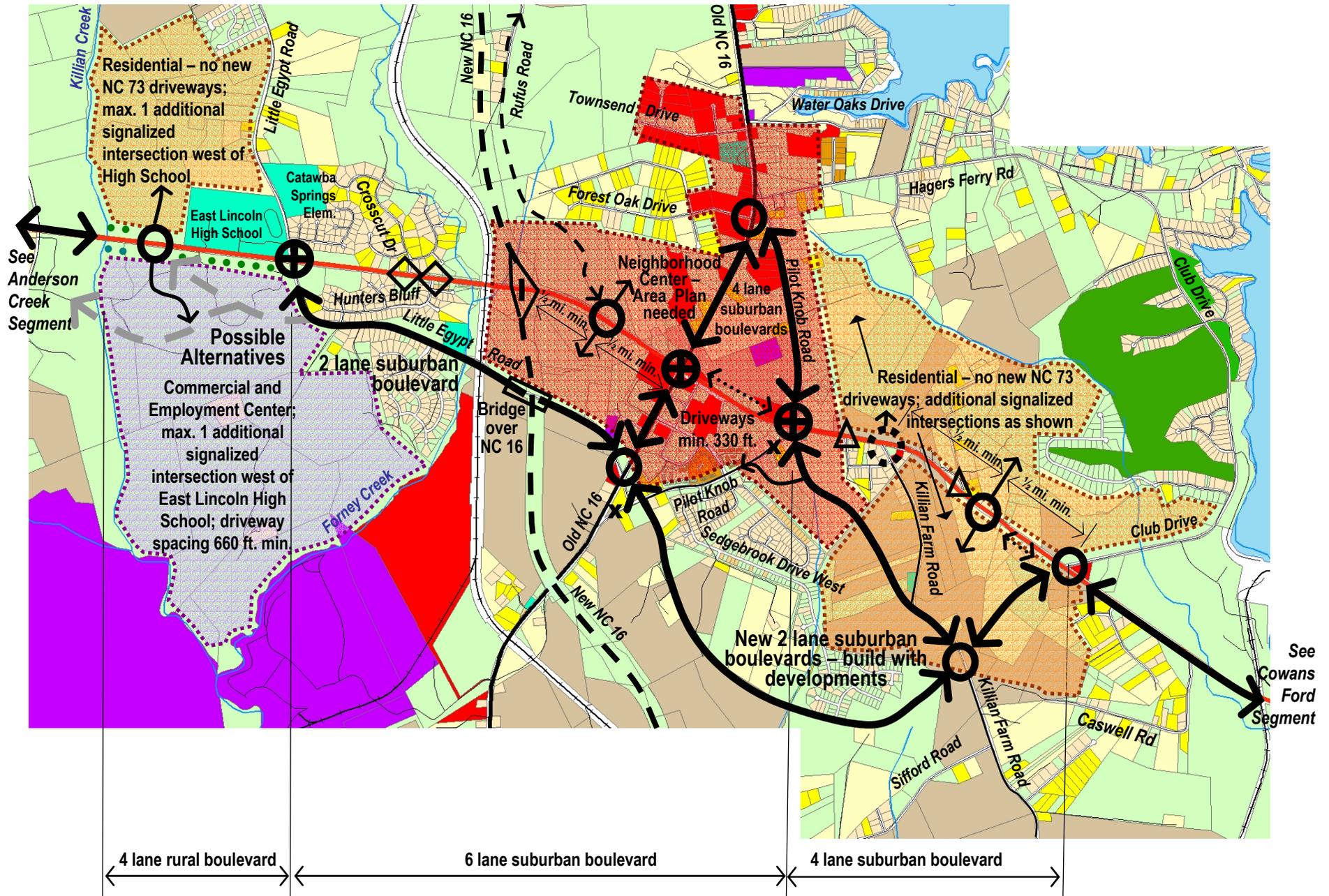
Location: Killian Creek to Club Drive

Context: Community Mixed Use Center

Length: 3.8 miles

Responsible Jurisdiction(s): Lincoln County

Segment – West Lake Norman



Segment – West Lake Norman

Criteria

Design Criteria	Anticipated 2025 Traffic	Ingleside Farm Road to New NC 16: 29,000 ADT New NC 16 to Pilot Knob Road: 36,000 AADT Pilot Knob Road to Club Drive: 43,000 ADT
	Posted Speed Limit	35 mph
NC 73 Road Typologies	Killian Creek to Little Egypt Road Little Egypt Road to Pilot Knob Road Pilot Knob Road to Club Drive	4 Lane Rural Boulevard 6 Lane Suburban Boulevard 4 Lane Suburban Boulevard
Related Road Typologies	Old NC 16	4 Lane Suburban Boulevard from Little Egypt Road to Pilot Knob Road
	Pilot Knob Road Little Egypt Road Little Egypt Road Extension	4 Lane Suburban Boulevard from NC 73 to Old NC 16 2 Lane Suburban Boulevard from NC 73 to Old NC 16 2 Lane Suburban Boulevard from Old NC 16 to NC 73 at Club Drive, to be built as part of future developments
Reconfigured Intersections and/or Interchanges	NC 73 at New NC 16	Interchange to be constructed as part of New NC 16 construction
	NC 73 at Salem Church Road	Interchange to be designed in Environmental/Preliminary Engineering phase
	NC 73 at Hill Road	Interchange to be designed in Environmental/Preliminary Engineering phase
	NC 73 at NC 27	Interchange to be designed in Environmental/Preliminary Engineering phase
Transit	Fixed Guideway	None
	Transit Centers	None
	Bus	None
Modified Connections to Local Roads	Pilot Knob Road	Connection to Killian Farm Road/Pilot Knob Road Connector and closing of NC 73 connection to be built as part of future developments
Related Roads not part of the NC 73 Plan	New NC 16	South of NC 73 currently under construction; north of NC 73 is TIP R-2206; Rufus Road is under discussion as a possible local road

Segment – West Lake Norman Land Use and Access

Killian Creek to Little Egypt Road	<p>Residential north of NC 73 per Lincoln County Land Use Plan – no new NC 73 driveways; maximum one new signalized intersection only (coordinate with development south of NC 73); no new NC 73 driveways at East Lincoln High School</p> <p>Commercial and Employment Center, per Lincoln County Land Use Plan – maximum one new signalized intersection only (coordinate with development north of NC 73); new right-in, right-out NC 73 driveways at minimum spacing of 660 ft.</p>
Little Egypt Road to CSX Railroad	<p>Existing subdivisions north and south of NC 73 – no new NC 73 driveways, access subdivision at directional intersections</p>
Little Egypt Road 2 Lane Suburban Boulevard – NC 73 to Club Drive	<p>Median breaks to be located at minimum of 660 ft. apart; all driveways not at median breaks to be right-in, right-out only</p>
CSX Railroad to Killian Farm Road	<p>Neighborhood Center per Lincoln County Land Use Plan – Area plan to be developed by Lincoln County – one new signalized intersection as shown; consolidate existing driveways wherever possible; minimum new and consolidated driveway spacing of 330 ft.; driveways not at median breaks to right-in, right-out only</p>
Old NC 16 4 Lane Suburban Boulevard – Little Egypt Road to Forest Oak Drive	<p>Median breaks minimum of 660 ft. apart; consolidate driveways wherever possible for minimum driveway spacing of 330 ft.; driveways not at median breaks to be right-in, right-out only</p>
Pilot Knob Road 4 Lane Suburban Boulevard – Old NC 73 to Old NC 16	<p>Median breaks minimum of 660 ft. apart; consolidate driveways wherever possible for minimum driveway spacing of 330 ft.; driveways not at median breaks to be right-in, right-out only</p>
Pilot Knob Road 2 Lane Suburban Boulevard – Old NC 16 to Killian Farm Road	<p>Median breaks minimum of 660 ft. apart; consolidate driveways wherever possible for minimum driveway spacing of 330 ft.; driveways not at median breaks to be right-in, right-out only</p>
Killian Farm Road to Club Drive	<p>Residential per Lincoln County Land Use Plan north of NC 73; no new NC 73 driveways for subdivision developments</p> <p>Existing single family residential and commercial south of NC 73 – consolidate driveways wherever possible; driveways to be right-in, right-out only</p>

Segment – Cowans Ford

Location: Club Drive to McGuire Nuclear Station Road

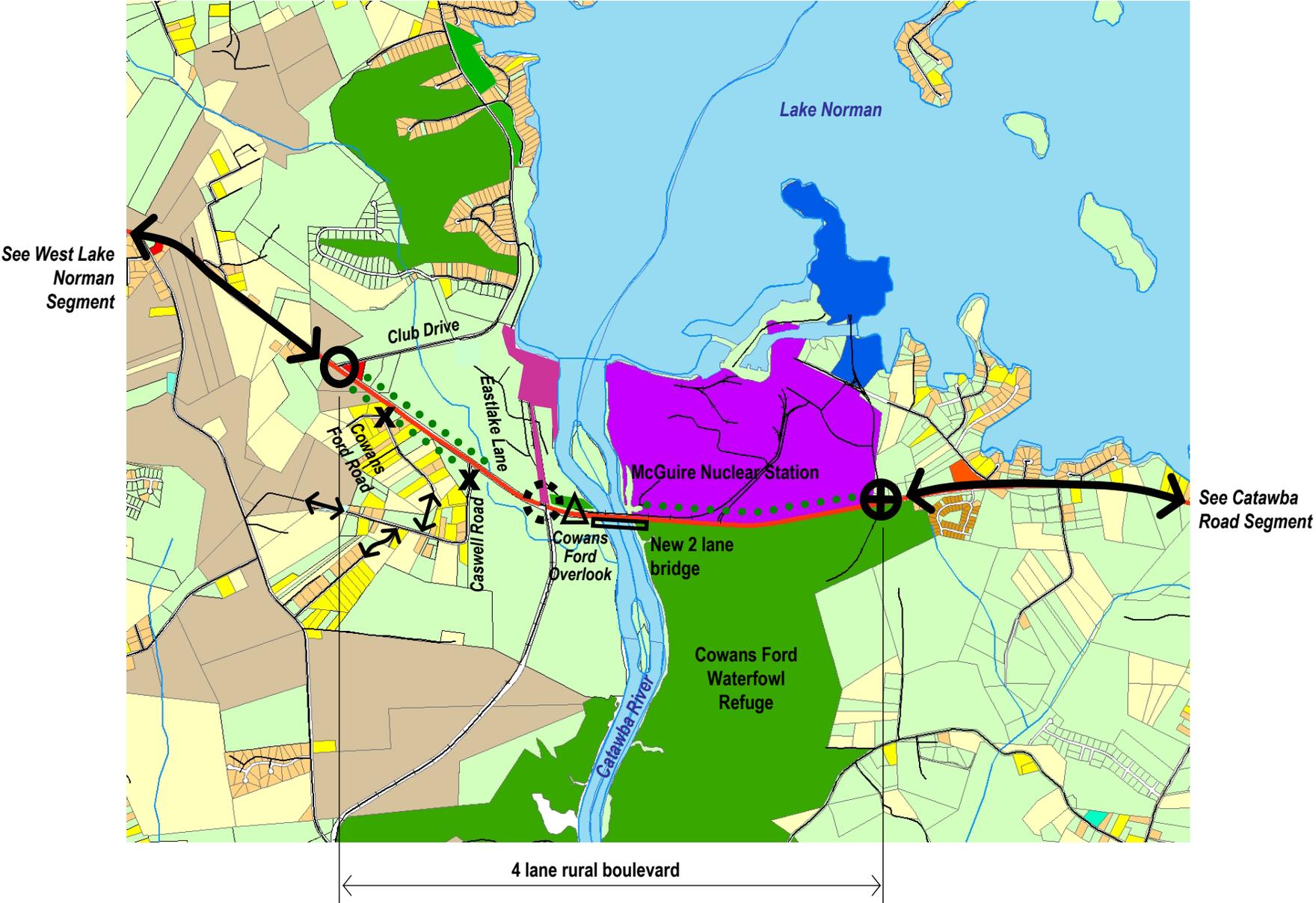
Context: Open space

Length: 2.1 miles

Responsible Jurisdiction(s): Lincoln County (West of Catawba River)

Mecklenburg County (East of Catawba River)

Segment – Cowans Ford



Segment – Cowans Ford

Criteria

Design Criteria	Anticipated 2025 Traffic	Club Drive to Eastlake Lane: 45,000 AADT Eastlake Lane to McGuire Nuclear Station Road: 50,000 AADT
	Posted Speed Limit	45 mph
NC 73 Road Typologies	Club Drive to Catawba River Bridge Catawba River Bridge	4 Lane Rural Boulevard New 2 lane bridge parallel to existing bridge; existing 2 lane bridge to be rehabilitated as necessary; design as part of Environmental/Preliminary Engineering phase
	Catawba River Bridge to McGuire Nuclear Station Road	4 Lane Rural Boulevard
Related Road Typologies	None	
Reconfigured Intersections and/or Interchanges	None	
Transit	Fixed Guideway	None
	Transit Centers	None
	Bus	None
Modified Connections to Local Roads	Cowans Ford Road and Caswell Road	Connection to NC 73 to be closed, and Cowans Ford Road and Caswell Road to be connected to Killian Farm Road
Related Roads not part of the NC 73 Plan	None	

Segment – Cowans Ford Land Use and Access

Club Drive to Eastlake Lane

Duke Power Company property north of NC 73 – no new driveways

Existing residential subdivisions south of NC 73 – connect Cowans Ford Road and Caswell Road to Killian Farm Road when 2 lane suburban boulevard shown in West Lake Norman segment is built, and close Cowans Ford Road and Caswell Road NC 73 intersections

**Eastlake Lane to McGuire
Nuclear Station Road**

Cowans Ford Overlook north of NC 73 – existing driveways to be right-in, right-out only

McGuire Nuclear Station north of NC 73 – no new NC 73 driveways or intersections

Cowans Ford Waterfowl Refuge and wetlands south of NC 73 – no new NC 73 driveways or intersections

Segment – Catawba Road

Location: McGuire Nuclear Station Road to Sam Furr Road

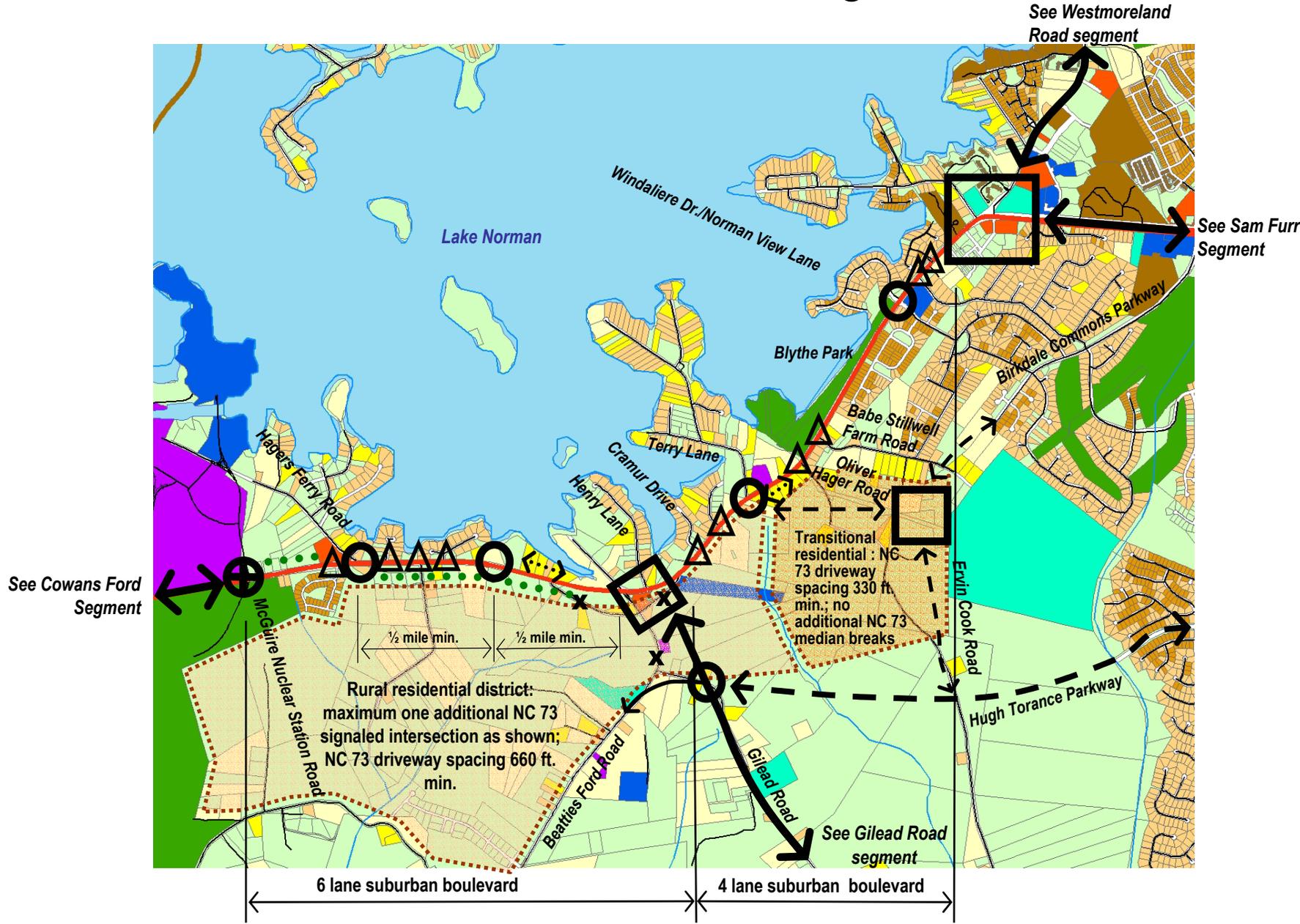
Context: Pedestrian-friendly livable corridor

Length: 3.1 miles

Responsible Jurisdiction(s): Huntersville (East of NC 73 north of Blythe Landing; east and west of NC 73 south and west of Blythe Landing)

Cornelius (West of NC 73 and north of Blythe Landing)

Segment – Catawba Road



Segment – Catawba Road

Criteria

Design Criteria	Anticipated 2025 Traffic	50,000 AADT west of Beatties Ford Road 15 – 21,000 AADT east of Beatties Ford Road
	Posted Speed Limit	35 mph
NC 73 Road Typologies	McGuire Nuclear Station Road to Realigned Gilead Road	6 Lane Suburban Boulevard
	Realigned Gilead Road to Sam Furr Road	4 Lane Suburban Boulevard (could be 2 Lane Suburban Boulevard up to 20,000 AADT)
Related Road Typologies	Oliver Hager Road connection to Birkdale Commons Parkway	2 Lane Suburban Boulevard
Reconfigured Intersections and/or Interchanges	NC 73 at Gilead Road	Dual Left/Dual Right Turn Intersection or Flyover Interchange – determine in Environmental/Preliminary Engineering phase
	NC 73 at Sam Furr Road	See Sam Furr Segment
Transit	Fixed Guideway	None
	Transit Centers	None
	Bus	Pullouts at bus stops; locations to be determined by CATS in Environmental/Preliminary Engineering phase
Related Roads not part of the NC 73 Plan	None	

Segment – Catawba Road

Land Use and Access

McGuire Nuclear Station Road to Terry Lane

Existing residential north of NC 73 – no new NC 73 driveways; consolidate driveways wherever possible, driveways to be right-in, right-out only; maximum two new signalized intersections as shown

Rural residential south of NC 73 per Huntersville existing zoning– maximum two additional NC 73 signalized intersections as shown; new NC 73 driveways to be spaced at minimum 660 ft.

Terry Lane to Oliver Hager Road

Existing residential north of NC 73 – no new NC 73 driveways; consolidate driveways wherever possible, driveways to be right-in, right-out only; maximum two new signalized intersections shown

Transitional residential south of NC 73 per Huntersville existing zoning – new NC 73 driveways to be spaced at minimum 330 ft.

Oliver Hager Road to Sam Furr Road

Existing residential north and south of NC 73 – no new NC 73 driveways; consolidate driveways wherever possible, driveways to be right-in, right-out only; no new driveways or intersections at Blythe Park

Segment – Sam Furr

Location: Catawba Avenue to Ramah Creek

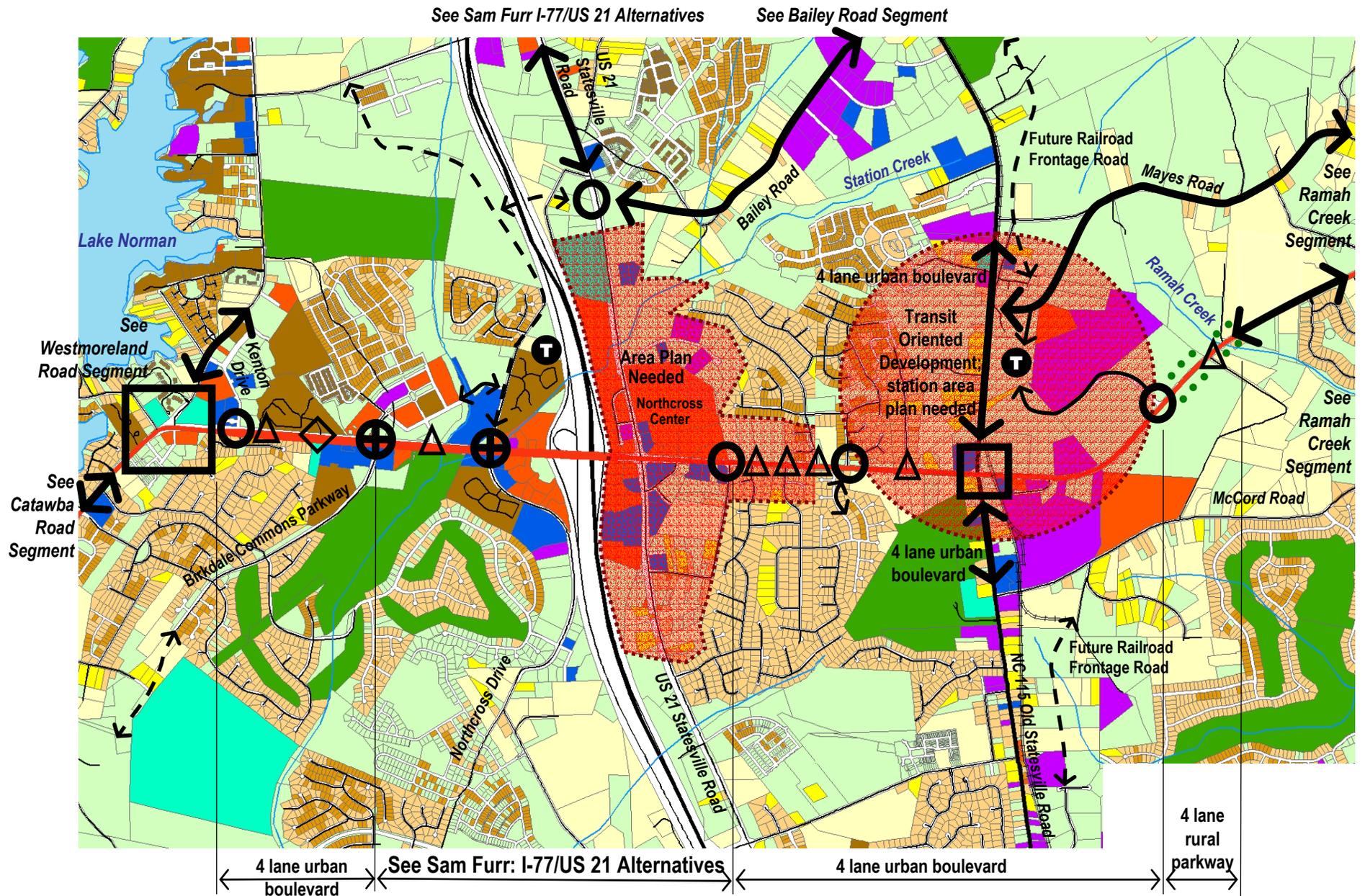
Context: Mixed use, commercial and residential corridor

Length: 3.8 miles

Responsible Jurisdiction(s): Huntersville (East of Catawba Avenue west)

Cornelius (West of Catawba Avenue West;
Catawba Avenue/Catawba Road/Sam
Furr intersection only)

Segment – Sam Furr



Segment – Sam Furr

Criteria

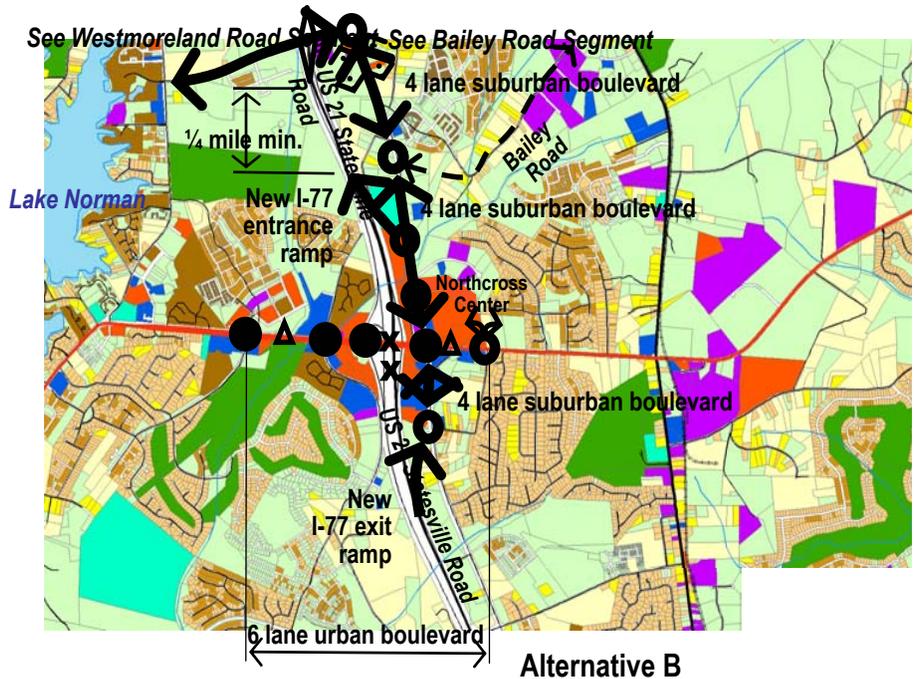
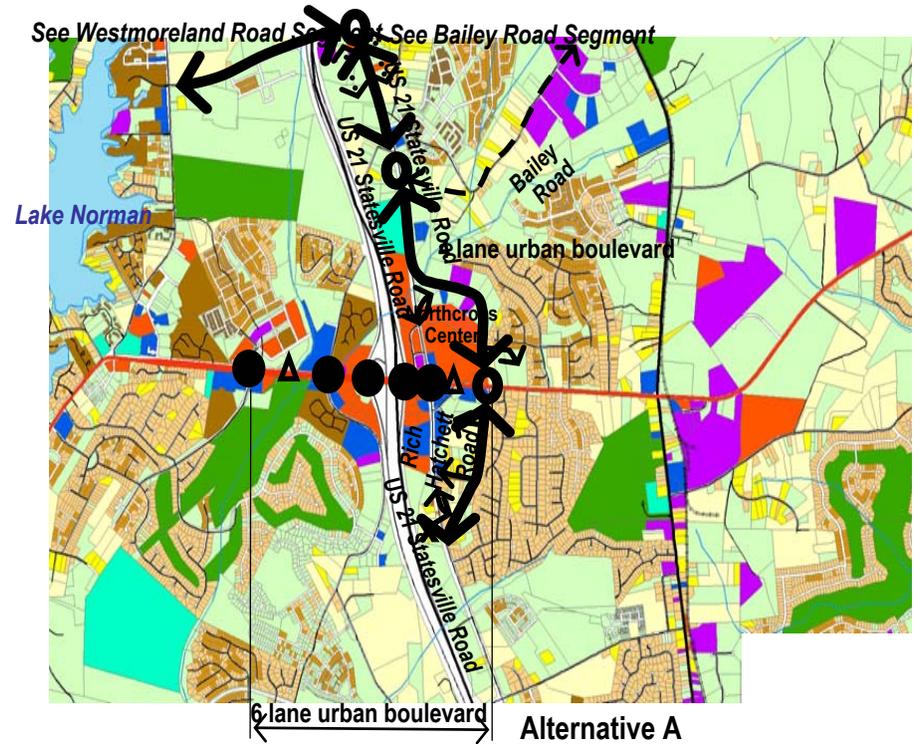
Design Criteria	Anticipated 2025 Traffic	31,000 AADT Catawba Avenue to Birkdale Commons Parkway 38,000 AADT Birkdale Commons Parkway to Rich Hatchett Road 27,000 AADT Rich Hatchett Road to Ramah Creek
	Posted Speed Limit	35 mph
NC 73 Road Typologies	Catawba Avenue to Birkdale Commons Parkway	4 Lane Urban Boulevard
	Birkdale Commons Parkway to Rich Hatchett Road	6 Lane Urban Boulevard
	Rich Hatchett Road to Jamesburg Drive	4 Lane Urban Boulevard
	Jamesburg Drive to Ramah Creek	4 Lane Rural Parkway (could be 4 Lane Rural Boulevard if r.o.w constrained)
Related Road Typologies	US 21 Statesville Road	4 Lane Urban Boulevard
	NC 115 Old Statesville Road	4 Lane Urban Boulevard
Reconfigured Intersections and/or Interchanges	NC 73 at Catawba Avenue	Possible Roundabout – determine in Environmental/ Preliminary Engineering phase
	NC 73 at I-77	Single Point Urban Diamond interchange – determine in Environmental/ Preliminary Engineering phase for I-77 widening
	NC 73 at US 21 – See Sam Furr: I-77/US 21 Alternatives	
	NC 73 at NC 115	Grade separated with NC 115 and rail line --- determine during North Transit Corridor PFJEIS intersection configuration
Transit	Fixed Guideway	Commuter Rail on Norfolk Southern “O” Line
	Transit Centers	Commuter Rail Sam Furr station near NC 73/NC 115
	Bus	Pullouts at bus stops; locations to be determined by CATS in Environmental/Preliminary Engineering phase
Related Roads not part of the NC 73 Plan	Mayes Road	Realigned for access to commuter rail station
	Northcross Drive Extension to Westmoreland Road	4 Lane Suburban Boulevard

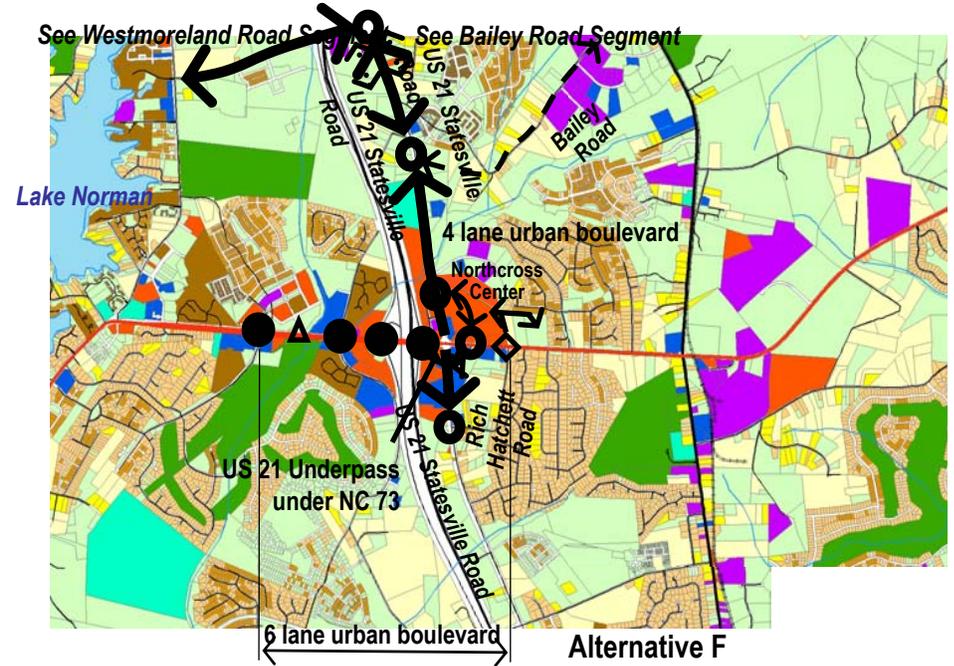
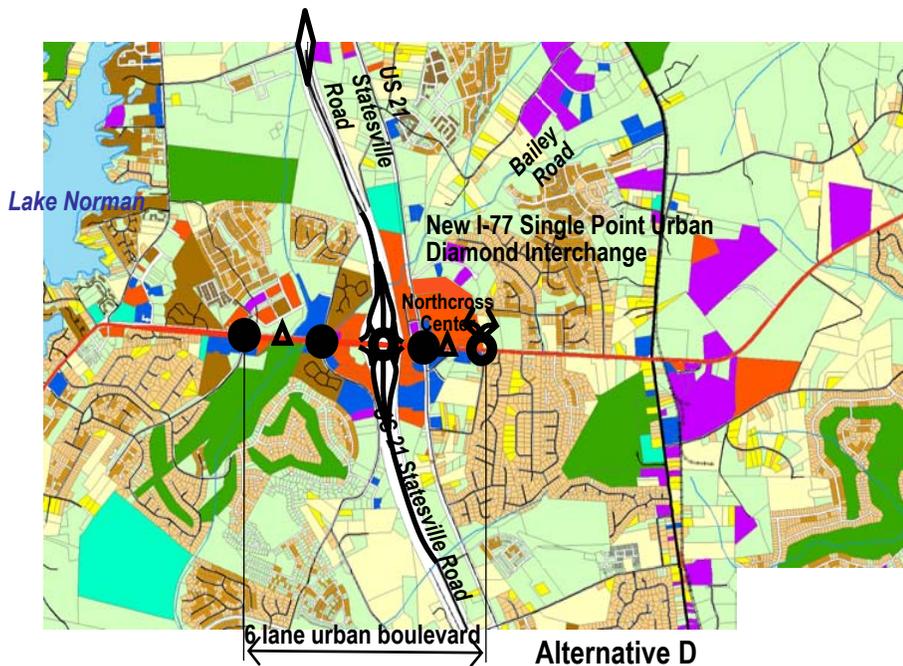
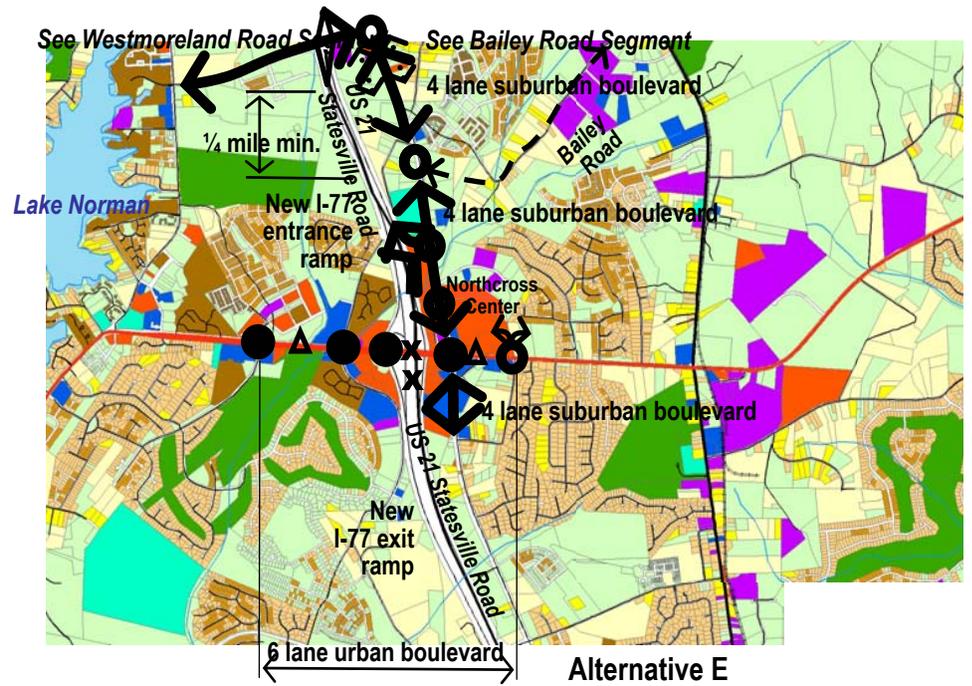
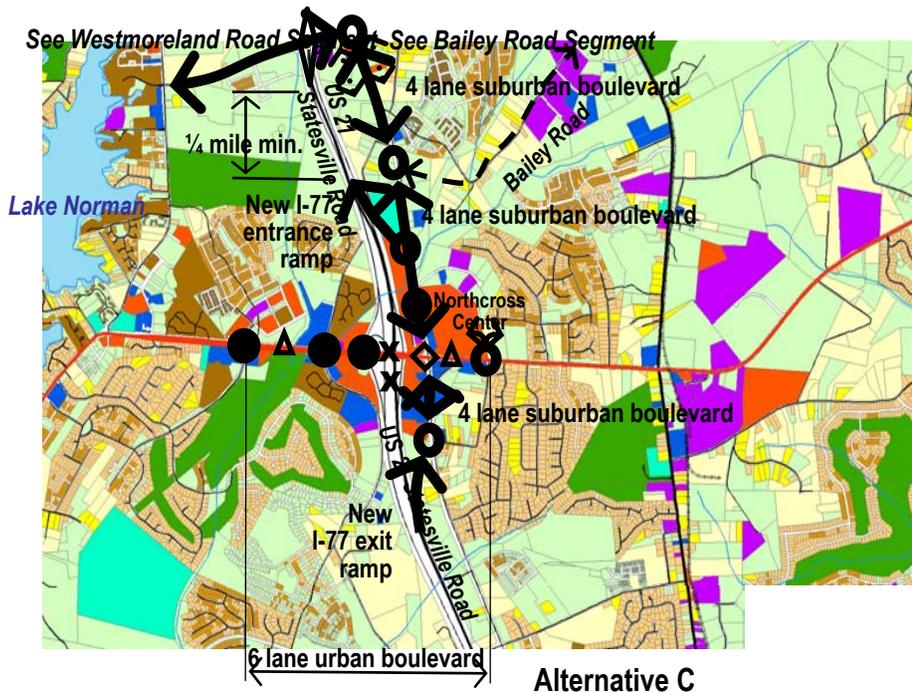
Segment – Sam Furr Land Use and Access

Catawba Avenue to Kenton Drive	Access to be determined as part of Sam Furr/Catawba Avenue/Catawba Road reconfigured intersection design in Environmental/Preliminary Engineering phase
Kenton Drive to Birkdale Commons Parkway	Existing mixed use north of NC 73 – no new NC 73 driveways; consolidate driveways wherever possible, driveways to be right-in, right-out only; existing intersections to be right-in, right-out only Existing residential south of NC 73 – no new NC 73 driveways; consolidate driveways wherever possible, driveways to be right-in, right-out only; existing intersections to be right-in, right-out only
Birkdale Commons Parkway to I-77	Existing Birkdale Village north of NC 73 – no new NC 73 driveways; existing signalized intersection at center of development to be converted to right-in, right-out intersection only; second access into development to be provided from Northcross Drive Existing commercial north and south of NC 73 – no new NC 73 driveways
I-77 to Rich Hatchett Road	Access to existing commercial development north and south of NC 73 to be determined as part of Huntersville Area Plan
US 21 Statesville Road 4 Lane Urban Boulevard – Rich Hatchett Road to Jim Cooke Road	Access to existing commercial development east and west of NC 73 to be determined as part of Huntersville Area Plan
Rich Hatchett Road to Hampton Crossing Drive	Existing residential subdivisions north and south of NC 73 – existing intersections to be converted to right-in, right-out only; no new NC 73 driveways; additional access to The Hamptons subdivision to be provided at new Hampton Crossing Drive signalized intersection
Rich Hatchett Road to Hampton Crossing Drive	Existing residential subdivisions north and south of NC 73 – existing intersections to be converted to right-in, right-out only; no new NC 73 driveways; additional access to The Hamptons subdivision to be provided at new Hampton Crossing Drive signalized intersection
Hampton Crossing Drive to Jamesburg Drive	Access to be determined as part of CATS station area plan; intersection spacing minimum ¼ mile; driveway spacing minimum 330 ft., to be right-in, right-out at driveways, not at median breaks
NC 115 4 Lane Urban Boulevard – McCord Road to Caldwell Depot Road	Access to be determined as part of CATS station area plan; intersection spacing minimum ¼ mile; driveway spacing minimum 330 ft., to be right-in, right-out at driveways, not at median breaks

Sam Furr: I-77/US 21 Alternatives

Multiple alternatives were explored for the portion of Sam Furr from Northcross Drive to Rich Hatchett Road. There is a need to increase the current spacing of traffic signals to relieve current congestion and to avoid unacceptable, poor future levels of service. However, all of the alternatives require detailed coordination with neighborhoods, businesses, and property owners, which is beyond the ability of a corridor-wide strategic plan to address. The alternatives will be further explored and a preferred alternative identified in the Area Plan recommended for Huntersville to undertake.





Segment – Ramah Creek

Location: Ramah Creek to McAuley Road

Context: Rural area with Village Center

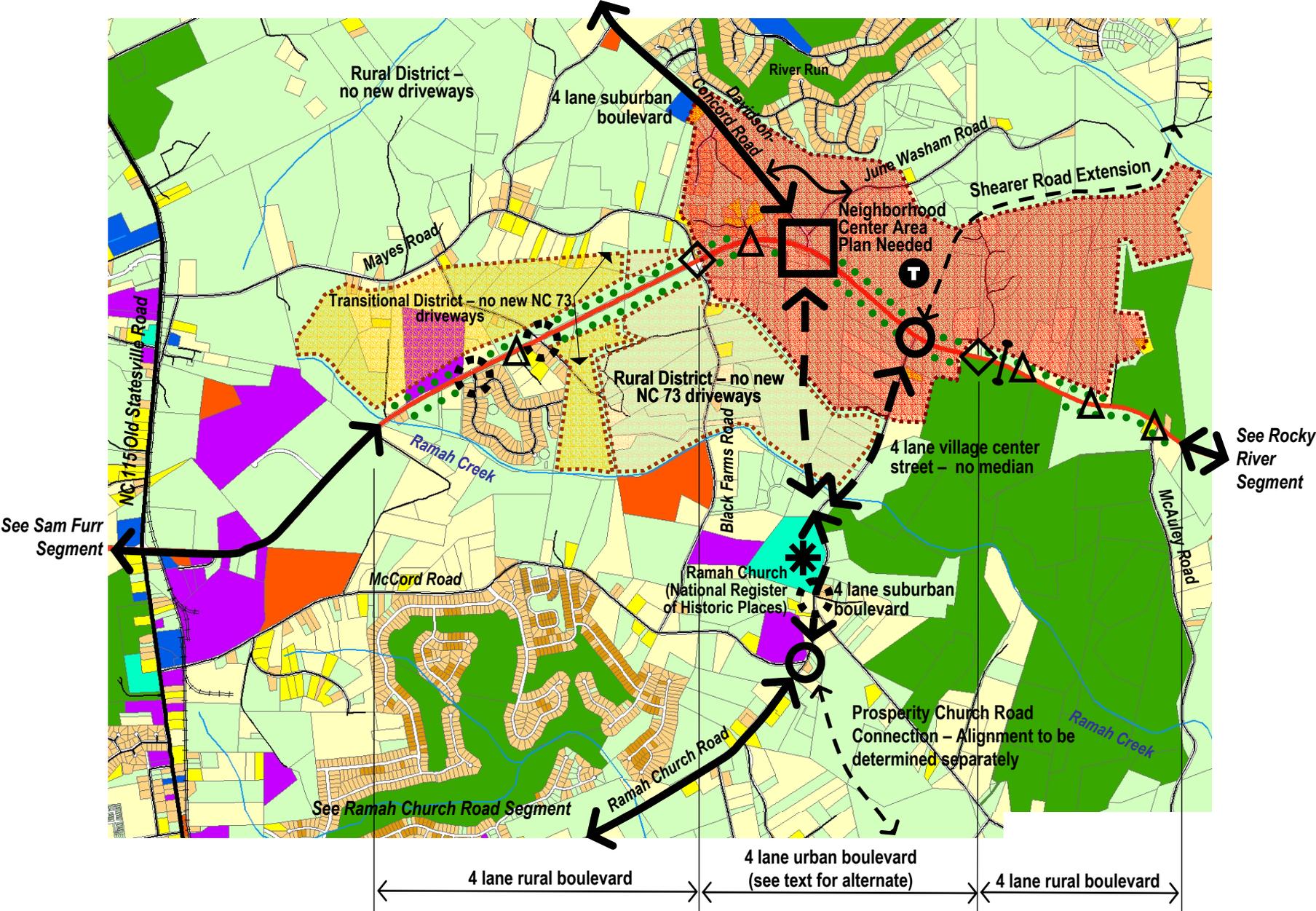
Length: 3.0 miles

Responsible Jurisdiction(s): Huntersville (South of NC 73)

Davidson (North of NC 73)

Note: The final road typologies and alignments between McCord Road and NC 73 will be further defined based on the findings of the Prosperity Church Road Extension study, and on the outcome of the Neighborhood Center Area Plan.

Segment – Ramah Creek



Segment – Ramah Creek

Criteria

Design Criteria	Anticipated 2025 Traffic	22,000 AADT Ramah Creek to Mayes Road 32,000 AADT Mayes Road to Davidson-Concord Road 38,000 AADT Davidson-Concord Road to McAuley Road
	Posted Speed Limit	35 mph
NC 73 Road Typologies	Ramah Creek to Mayes Road	4 Lane Rural Boulevard (could be 4 Lane Rural Parkway if r.o.w. is available)
	Mayes Road to east of Ramah Church Road	4 Lane Urban Boulevard (could be 4 Lane Rural Parkway if Shearer Road/Ramah Church Road intersection is grade separated)
	East of Ramah Church Road to McAuley Road	4 Lane Rural Boulevard (could be 4 Lane Rural Parkway if r.o.w. is available)
Related Road Typologies	Ramah Church Road or alternate alignment	4 Lane Suburban Boulevard – alignment will be determined as part of Prosperity Church Road Connection feasibility by Huntersville
Reconfigured Intersections and/or Interchanges	NC 73 at Davidson-Concord Road	Dual Right/Left Turn Intersection or Interchange
	NC 73 at Shearer Road/Ramah Church Road	Consider grade separation with Shearer/Ramah Church over NC 73; NC 73 would be a 4 Lane Rural Parkway
Transit	Fixed Guideway	None (if 4 Lane Rural Parkway is used, there could be long term potential for fixed guideway transit in the median)
	Transit Centers	Bus transit center to be included as part of Davidson/Huntersville joint Area Plan
	Bus	Pullouts at bus stops; locations to be determined by CATS in Environmental/Preliminary Engineering phase
Related Roads not part of the NC 73 Plan	Mayes Road	Shearer Road extension – to be required as part of development by Davidson

Segment – Ramah Creek Land Use and Access

**Ramah Creek to Mayes
Road/Black Farms Road**

Transitional District north of NC 73, per Huntersville existing zoning – no new driveways for subdivision developments; existing driveways to be right-in, right-out only

Existing subdivision south of NC 73 – no new NC 73 driveways; entrance drive to be unsignalized intersection

Transitional and Rural Districts south of NC 73, per Huntersville existing zoning – no new driveways for subdivision developments; existing driveways to be right-in, right-out only

**Mayes Road/Black Farms Road
to McAuley Road**

Access and land use for area north and south of NC 73 to be determined as part of joint Huntersville and Davidson Area Plan for Neighborhood Center

Land south of NC 73 from just east of Ramah Church Road to McAuley Road is mostly protected by conservation easements or is part of a planned park; no new driveways into conservation area, existing driveways to be right-in, right-out only; new park entrance drive to be coordinated with access to development north of NC 73 as part of Area Plan

**Ramah Church Road 4 Lane
Suburban Boulevard**

Alignment, road typology and access to land use to be determined as part of Prosperity Church Road Connection feasibility study to be undertaken by Huntersville

Segment – Rocky River

Location: McAuley Road to Johnson Street

Context: Rural and medium density suburban development
with Neighborhood Center and Mixed Use Village

Length: 3.3 miles

Responsible Jurisdiction(s): Davidson (Northwest of Poplar Tent
Road/Shiloh Church Road)

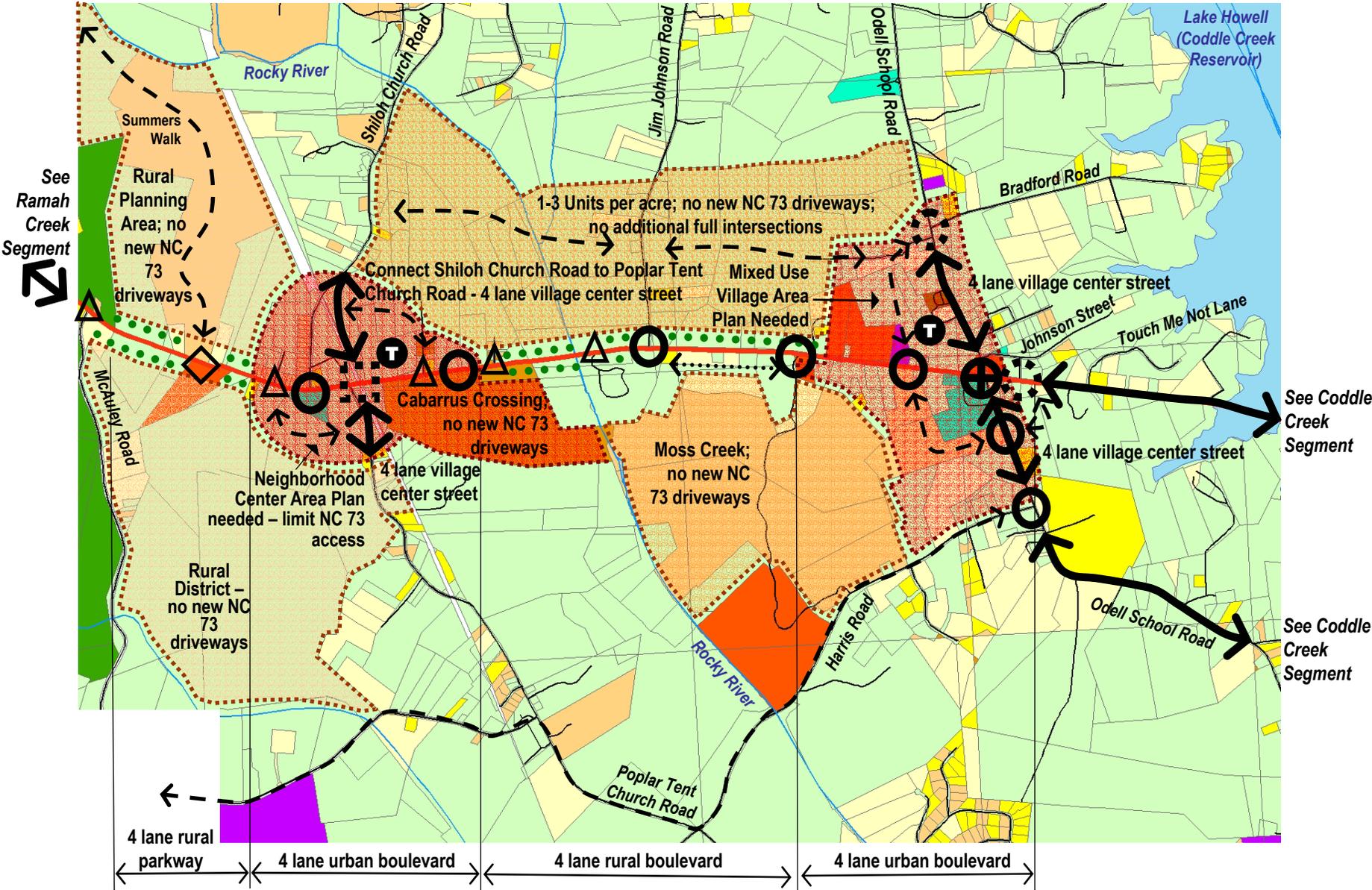
Huntersville (Southwest of Poplar Tent
Road/Shiloh Church Road)

Cabarrus County (East of Poplar Tent
Road/Shiloh Church Road)

Kannapolis (Northeast of Poplar Tent
Road/Shiloh Church Road)

Concord (Southeast of Poplar Tent
Road/Shiloh Church Road)

Segment Plan – Rocky River



Segment – Rocky River

Criteria

Design Criteria	Anticipated 2025 Traffic	30,000 AADT
	Posted Speed Limit	35 mph in Neighborhood Center and Mixed Use Village Center
NC 73 Road Typologies	McAuley Road to Neighborhood Center western boundary	4 Lane Rural Parkway
	Neighborhood Center western boundary to Cabarrus Crossing entrance	4 Lane Urban Boulevard
	Cabarrus Crossing entrance to Moss Creek NC 73 entrance	4 Lane Rural Parkway
	Moss Creek NC 73 entrance to Johnson Street	4 Lane Rural Parkway
Related Road Typologies	New Poplar Tent Church Road/ Shiloh Church Road in Neighborhood Center	4 Lane Village Center Street
	Existing Poplar Tent Church Road	4 Lane Village Center Street, no connection to NC 73
	Odell School Road – Harris Road to Bradford Road	4 Lane Village Center Street
Reconfigured Intersections and/or Interchanges	NC 73 at Poplar Tent Road	Grade separated interchange with NC 73 as an overpass of current Poplar Tent Church Road alignment, Stanley McElrath and New Poplar Tent alignment becoming jug handle on/off ramps
Transit	Fixed Guideway	None
	Transit Centers	Bus transit centers in Neighborhood Center and Mixed Use Village Center
	Bus	Pullouts at bus stops; locations to be determined by CATS in Environmental/Preliminary Engineering phase
Related Roads not part of the NC 73 Plan	East/west connection between Odell School Road and Shiloh Church Road	To be built as part of development to Cabarrus standards

Segment – Rocky River Land Use and Access

McAuley Road to Neighborhood Center Area Plan western boundary

Rural Planning Area north of NC 73, per Davidson Land Use Plan - no new driveways for subdivisions; existing driveways to be right-in/right-out only

Rural District south of NC 73, per Huntersville Land Use Plan - no new driveways for subdivisions; existing driveways to be right-in/right-out only

Neighborhood Center Area Plan western boundary to Cabarrus Crossing entrance

Access to Neighborhood Center to be determined as part of joint Huntersville/Davidson/Cabarrus County/Kannapolis/Concord Area Plan; driveway spacing to be 330 ft. minimum; limit NC 73 access as much as possible

Poplar Tent Church Road/Shiloh Church Road 4 Lane Village Center Street

Access to Neighborhood Center to be determined as part of joint Huntersville/Davidson/Cabarrus County/Kannapolis/Concord Area Plan

Cabarrus Crossing entrance to Moss Creek NC 73 entrance

1 - 3 Unit per Acre Residential Area north of NC 73 per Cabarrus County Land Use Plan - no new NC 73 driveways for subdivisions; no additional NC 73 full intersections; existing driveways to be right-in/right-out only

Existing residences south of NC 73 - consolidate driveways as much as possible; driveways to be right-in/right-out only

Moss Creek NC 73 entrance to Johnson Street

Access to Mixed Use Village to be determined as part of joint Cabarrus County/Kannapolis/Concord Area Plan; driveway spacing to be 330 ft. minimum; limit NC 73 access as much as possible

Odell School Road 4 Lane Village Center Street - Harris Road to Bradford Road

Access to Mixed Use Village to be determined as part of joint Cabarrus County/Kannapolis/Concord Area Plan; signalized and unsignalized intersections as shown

Segment – Westmoreland Road

Location: NC 73 to US 21 Statesville Road

Context: Pedestrian friendly livable neighborhoods and mixed use commercial

Length: 4.2 miles

Responsible Jurisdiction(s): Cornelius (All except southeast quadrant of Catawba Avenue)

Huntersville (Southeast quadrant of Catawba Avenue/NC 73 intersection)

Segment – Westmoreland Road



Segment – Westmoreland Road

Criteria

Design Criteria	Anticipated 2025 Traffic	Catawba Avenue, NC 73 to Westmoreland Road: 15 - 20,000 AADT Westmoreland Road, Catawba Avenue to I-77: 18,000 AADT Westmoreland Road, I-77 to US 21: 20,500 AADT
	Posted Speed Limit	35 mph
NC 73 Road Typologies	NC 73 to US 21	4 Lane Suburban Boulevard
Related Road Typologies	None	
Reconfigured Intersections and/or Interchanges	NC 73 at Sam Furr Road	Possible Roundabout – determine in Environmental/Preliminary Engineering phase
	Catawba Avenue at Westmoreland Road	Dual Left/Right Turn Intersection or Flyover Interchange - determine in Environmental/Preliminary Engineering phase
	Westmoreland Road at I-77	Possible new I-77 Interchange, to be determined by MUMPO; could be transit-only interchange
Transit	Fixed Guideway	None
	Transit Centers	CATS express bus center on Northcross Drive Extension
	Bus	Pullouts at bus stops; locations to be determined by CATS in Environmental/Preliminary Engineering phase
Related Roads not part of the NC 73 Plan	Extension of Northcross Drive north of Westmoreland Road	To be built as part of development to Cornelius standards

Segment – Westmoreland Road

Land Use and Access

**Catawba Avenue 4 Lane
Suburban Boulevard – NC 73 to
Westmoreland Road**

Existing residential subdivisions and developments east and west of Catawba Avenue - all streets and driveways to be right-in/right-out only, except at new signalized intersections as shown

Existing and planned commercial developments - consolidate driveways wherever possible for minimum 330 ft. spacing; all streets and driveways to be right-in/right-out only, except at new signalized intersections as shown

Residential east of Catawba Avenue, per Cornelius Land Use Plan - no new Catawba Avenue driveways; access Catawba Avenue at right-in/right-out intersection coordinated with existing development west of Catawba Avenue

**Westmoreland Road 4 Lane Suburban
Boulevard – Catawba Avenue to I-77**

Residential north and south of Westmoreland Road, per Cornelius Land Use Plan - no new Catawba Avenue driveways; access Catawba Avenue at right-in/right-out intersection coordinated with existing development west of Catawba Avenue

Existing residential development south of Westmoreland Road - no new Westmoreland Road driveways

**Westmoreland Road 4 Lane
Suburban Boulevard – I-77 to US 21
Statesville Road**

Existing and future non-residential development north and south of Westmoreland Road - consolidate driveways wherever possible for minimum driveway spacing of 330 ft.; all driveways to be right-in/right-out only

**Northcross Drive Extension 4 Lane
Suburban Boulevard – Sam Furr
Road to Westmoreland Road**

Existing commercial development east and west of Northcross Drive Extension - consolidate driveways wherever possible for minimum driveway spacing of 330 ft.; provide new connecting road into Birkdale Village (detailed intersection analysis required as part of Preliminary Engineering/Environmental phase to determine if intersection warrants signalization)

Existing and planned residential east and west of Northcross Drive Extension - follow NC 73 access management guidelines

New CATS bus transit center east of Northcross Drive Extension - provide median break (detailed intersection analysis required as part of Preliminary Engineering/Environmental phase to determine if intersection warrants signalization)

Segment – Bailey Road

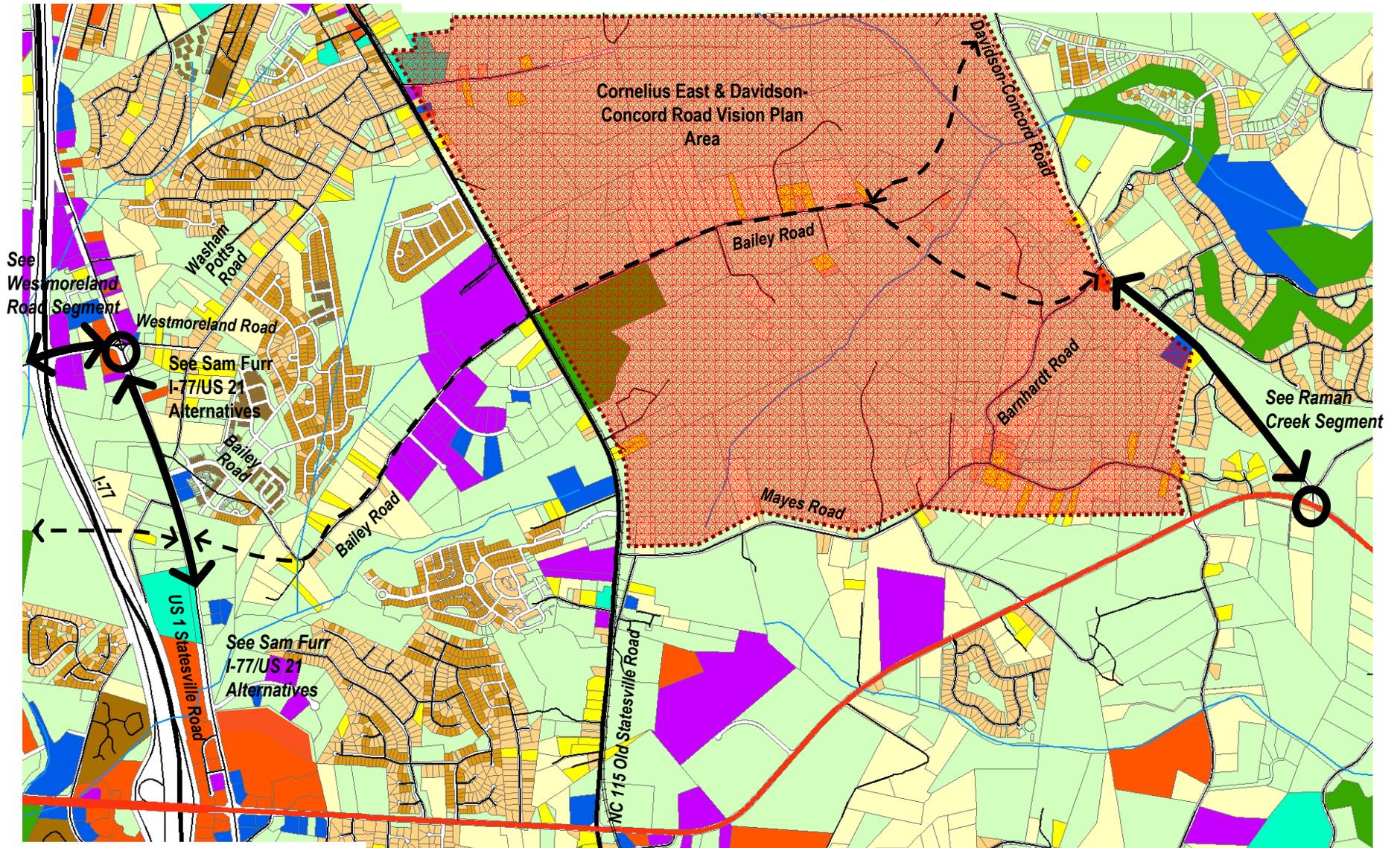
The Bailey Road segment, from the Davidson-Concord Road intersection with NC 73 to the proposed new intersection with US 21 Statesville Road, is a road related and essential to the NC 73 Corridor. The specific proposals for this segment were developed as part of the Cornelius East/Davidson-Concord Road Vision Plan prepared jointly by the Town of Cornelius and the Town of Davidson. It is included here because it will provide an alternative that is necessary to relieve some of the future traffic pressures on NC 73 through the Sam Furr segment, as well as the possibility of an additional crossing across I-77.

A Town-wide transportation plan for Cornelius, underway at the time of preparation of this plan, should provide clarification of future traffic levels in this segment.

The development of Davidson-Concord Road and Bailey Road should follow the Cornelius East/Davidson-Concord Road Vision Plan. Application of the NC 73 Corridor Transportation/ Land Use Plan access management principles as the road is developed would be appropriate.

The Cornelius East/Davidson-Concord Road Vision Plan also proposed an implementation strategy for the Bailey Road segment.

Segment – Bailey Road



Segment – Gilead Road

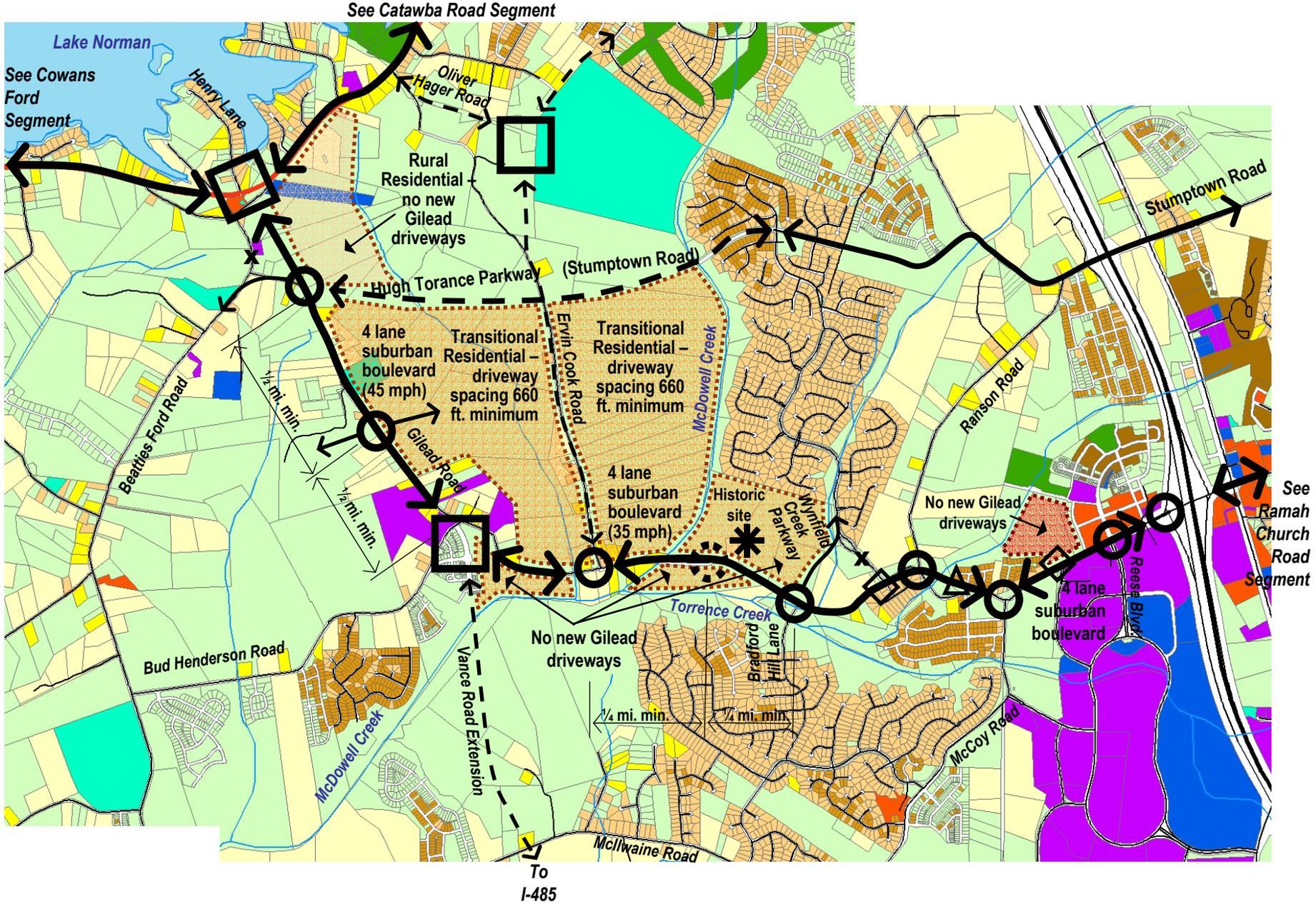
Location: NC 73 to I-77

Context: Suburban residential neighborhoods

Length: 4.3 miles

Responsible Jurisdiction(s): Huntersville

Segment – Gilead Road



Segment – Gilead Road

Criteria

Design Criteria	Anticipated 2025 Traffic	20,000 AADT
	Posted Speed Limit	35-45 mph
NC 73 Road Typologies	NC 73 to I-77	4 Lane Suburban Boulevard
Related Road Typologies	None	
Reconfigured Intersections and/or Interchanges	NC 73 at Gilead Road	Dual Left/Dual Right Turn Intersection or Flyover Interchange – determine in Environmental/Preliminary Engineering phase
	Gilead Road at Vance Road Extension	Roundabout or Dual Left/Dual Right Turn Intersection or Flyover Interchange – determine in Environmental/Preliminary Engineering phase
Transit	Fixed Guideway	None
	Transit Centers	None
	Bus	Pullouts at bus stops; locations to be determined by CATS in Environmental/Preliminary Engineering phase
Related Roads not part of the NC 73 Plan	Hugh Torance Parkway (Stumptown Road)	Planning, design and implementation by Huntersville
	Ervin Cook Road	Planning, design and implementation by Huntersville
	Vance Road Extension	Planning, design and implementation by Huntersville and NCDOT

Segment – Gilead Road Land Use and Access

Gilead Road 4 Lane Suburban Boulevard – NC 73 to Hugh Torance Parkway/Realigned Beatties Ford Road	Rural Residential District east and west of new Gilead Road alignment, per existing Huntersville zoning – no new Gilead Road driveways for new subdivisions
Gilead Road 4 Lane Suburban Boulevard – Hugh Torance Parkway/ Realigned Beatties Ford Road to Bud Henderson Road	Transitional Residential District east of Gilead Road, per existing Huntersville zoning - one new signalized intersection as shown; street spacing for new subdivisions to be right-in/right-out only spaced at minimum 660 feet; no new Gilead Road driveways, existing driveways to be consolidated wherever possible, or right-in/right-out only
Gilead Road 4 Lane Suburban Boulevard – Bud Henderson Road to McDowell Creek	Rural Residential District west of Gilead Road, per existing Huntersville zoning - one new signalized intersection as shown; street spacing for new subdivisions to be right-in/right-out only spaced at minimum 660 feet; no new Gilead Road driveways, existing driveways to be consolidated wherever possible, or right-in/right-out only
Gilead Road 4 Lane Suburban Boulevard – Bud Henderson Road to McDowell Creek	Transitional Residential District north and south of Gilead Road, per existing Huntersville zoning - street spacing for new subdivisions to be right-in/right-out only spaced at minimum 660 feet; no new Gilead Road driveways, existing driveways to be consolidated wherever possible, or right-in/right-out only
Gilead Road 4 Lane Suburban Boulevard – McDowell Creek to McCoy Road	Transitional Residential District north and south of Gilead Road, per existing Huntersville zoning - street spacing for new subdivisions to be right-in/right-out only spaced at minimum 660 feet; no new Gilead Road driveways, existing driveways to be consolidated wherever possible, or right-in/right-out only
	No new driveways at historic site; existing driveways to be right-in, right-out only
	Wynfield Creek Parkway to be realigned to meet Bradford Hill Lane, to provide signalized intersection serving development north and south of Gilead, at better spacing than provided at existing Wynfield Creek Parkway location
Gilead Road 4 Lane Suburban Boulevard – McCoy Road to I-77	Existing and future commercial development north and south of Gilead road - no new Gilead Road driveways; existing driveways to be consolidated wherever possible, or to be right-in/right-out only

Segment – Ramah Church Road

Location: I-77 to McCord Road

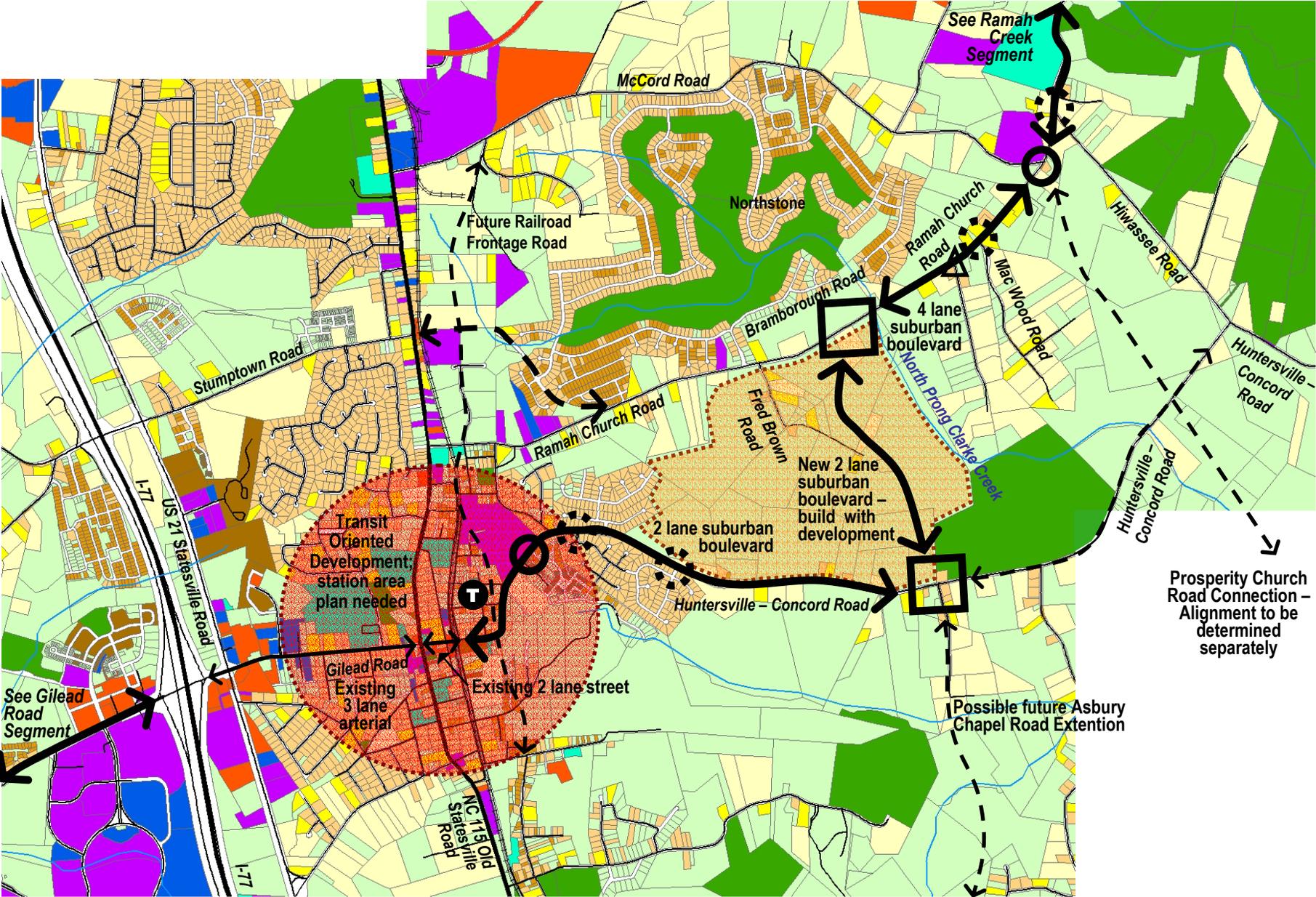
Context: Downtown Huntersville transit oriented development and suburban residential neighborhoods

Length: 4.4 miles

Responsible Jurisdiction(s): Huntersville

Note: Some aspects of this segment between Huntersville-Concord Road and McCord Road may be modified based on the findings of the Prosperity Road Extension study.

Segment – Ramah Church Road



Segment – Ramah Church Road

Criteria

Design Criteria	Anticipated 2025 Traffic	15,000 AADT or less
	Posted Speed Limit	35 mph
NC 73 Road Typologies	I-77 to Church Street	Existing 2 Lane and 3 lane road
	Church Street to McCord Road	2 Lane Suburban Boulevard
Related Road Typologies	None	
Reconfigured Intersections and/or Interchanges	Huntersville-Concord Road at New 2 Lane Suburban Boulevard	Roundabout
	New 2 Lane Suburban Boulevard at Ramah Church Road	Roundabout
Transit	Fixed Guideway	Commuter Rail on Norfolk Southern “O” Line
	Transit Centers	Commuter Rail Huntersville station near NC 115 at downtown Huntersville
	Bus	Pullouts at bus stops; locations to be determined by CATS in Environmental/Preliminary Engineering phase
Related Roads not part of the NC 73 Plan	Prosperity Church Road	Planning, design and implementation by Huntersville
	Possible future Asbury Chapel Road Extension	Planning, design and implementation by Huntersville
	Future Railroad Frontage Road	Planning, design and implementation by Huntersville

Segment – Ramah Church Road

Land Use and Access

Existing Gilead Road – I-77 to Hill Street

Existing commercial and residential development; consolidate commercial driveways wherever possible, other driveways to remain

Access for all properties within transit oriented development area to be determined as part of CATS Station Area Plan

Huntersville-Concord Road and New 2 Lane Suburban Boulevard – Hill Street to Ramah Church Road

Median breaks minimum of 660 ft. apart; consolidate driveways wherever possible for minimum driveway spacing of 330 ft.; driveways not at median breaks to be right-in/right-out

Ramah Church Road 2 Lane Suburban Boulevard – New 2 Lane Suburban Boulevard to McCord Road

Median breaks minimum of 660 ft. apart; consolidate driveways wherever possible for minimum driveway spacing of 330 ft.; driveways not at median breaks to be right-in/right-out

Segment – Coddle Creek

Location: Johnson Street to Kannapolis Parkway

Context: Rural density residential development west of Coddle Creek; Business Development east of Coddle Creek and on Kannapolis Parkway

Length: 3.3 miles

Responsible Jurisdiction(s): Cabarrus County (East of Poplar Tent Road/Shiloh Church Road)

Kannapolis (Northeast of Poplar Tent Road/Shiloh Church Road)

Concord (Southeast of Poplar Tent Road/Shiloh Church Road)

Segment – Coddle Creek



Segment – Coddle Creek

Criteria

Design Criteria	Anticipated 2025 Traffic	30,000 AADT
	Posted Speed Limit	35 mph in Neighborhood Center and Mixed Use Village Center 45 mph between Centers
NC 73 Road Typologies	Johnson Street to Business Development new signalized intersection	4 Lane Rural Boulevard
	Business Development new signalized intersection to Kannapolis Parkway	4 Lane Suburban Boulevard
Related Road Typologies	Odell School Road – Harris Road to Untz Road	4 Lane Suburban Boulevard
	Untz Road – Odell School Road to Kannapolis Parkway	2 Lane Suburban Boulevard
Reconfigured Intersections and/or Interchanges	None	
Transit	Fixed Guideway	None
	Transit Centers	None
	Bus	Pullouts at bus stops; locations to be determined by CATS in Environmental/Preliminary Engineering phase
Related Roads not part of the NC 73 Plan	None	

Segment – Coddle Creek

Land Use and Access

Johnson Street to Laforest Way	Existing single family residential north of NC 73 - consolidate existing driveways as much as possible; all driveways to be right-in/right-out only
	1 unit per 2 acre Residential south of NC 73 per Cabarrus County Land Use Plan - no new driveways for subdivisions; consolidate existing driveways as much as possible; all driveways to be right-in/right-out only
Laforest Way to Coddle Creek	1 unit per 2 acre Residential north of NC 73 per Cabarrus County Land Use Plan - no new driveways for subdivisions; consolidate existing driveways as much as possible; all driveways to be right-in/right-out only
	Existing single family residential south of NC 73 - consolidate existing driveways as much as possible; all driveways to be right-in/right-out only
Coddle Creek to Kannapolis Parkway	1 unit per 2 acre Residential north of NC 73 per Cabarrus County Land Use Plan - no new driveways for subdivisions; consolidate existing driveways as much as possible; all driveways to be right-in/right-out only
	Business Development north and south of NC 73 per Kannapolis Land Use Plan - no new NC 73 driveways; access from NC 73 at new signalized intersection as shown
Odell School Road 4 Lane Suburban Boulevard - Harris Road to Untz Road	1 unit per 2 acre Residential north of Odell School Road per Cabarrus County Land Use Plan - median breaks to be spaced at 660 ft. minimum; consolidate existing driveways as much as possible; all driveways not at median breaks to be right-in/right-out only
	2-4 unit per acre Residential south of Odell School Road per Cabarrus County Land Use Plan - median breaks to be spaced at 660 ft. minimum; consolidate existing driveways as much as possible; all driveways not at median breaks to be right-in/right-out only
Untz Road 2 Lane Suburban Boulevard - Odell School Road to Kannapolis Parkway	Median breaks minimum of 660 ft. apart; driveways not at median breaks to be right-in/right-out

Segment – West Kannapolis

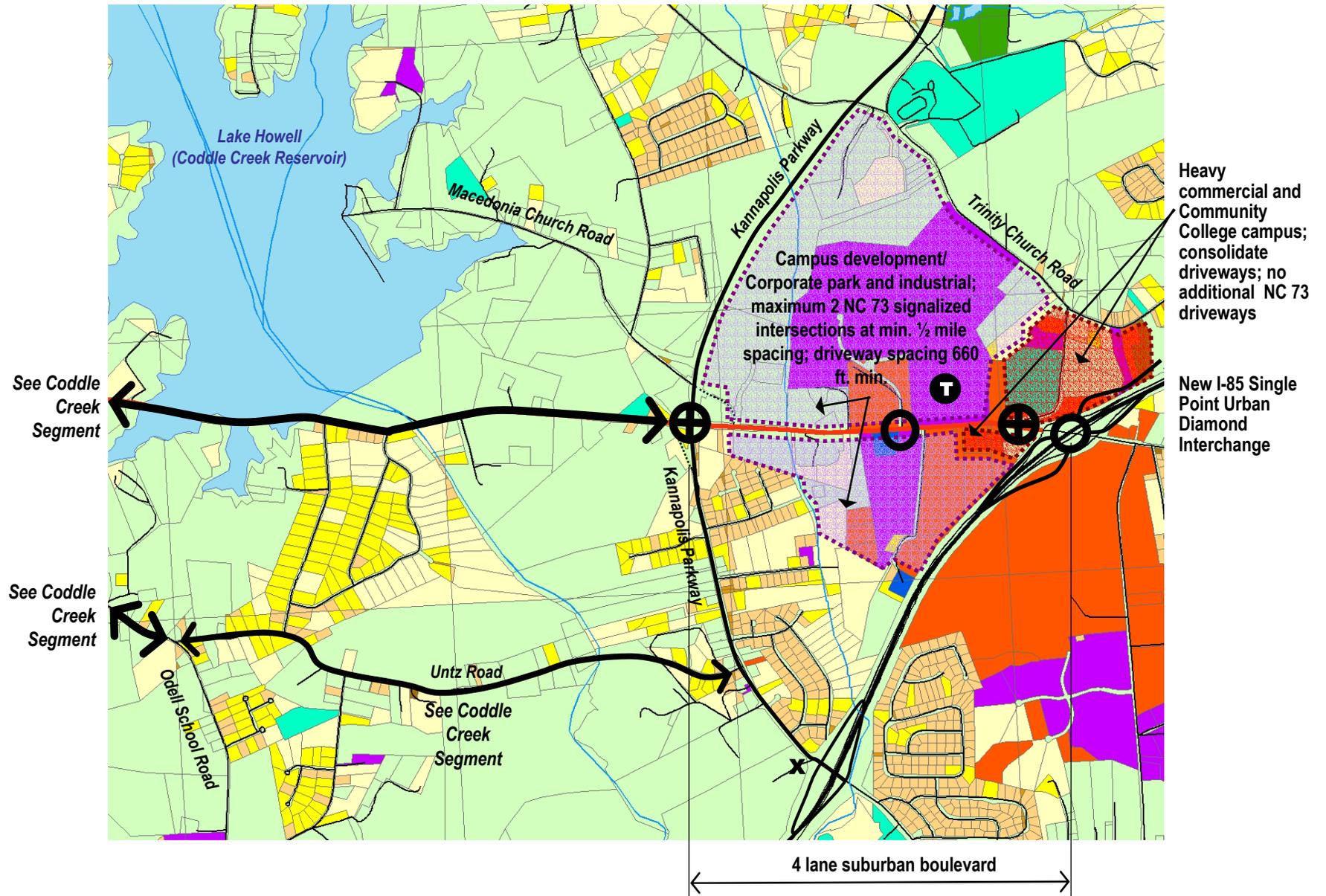
Location: Kannapolis Parkway to I-85

Context: Campus development/Corporate park and industrial

Length: 1.3 miles

Responsible Jurisdiction(s): Kannapolis

Segment – West Kannapolis



Segment – West Kannapolis

Criteria

Design Criteria	Anticipated 2025 Traffic	35,000 AADT east of new signalized intersection 30,000 AADT west of new signalized intersection
	Posted Speed Limit	35 mph
NC 73 Road Typologies	Kannapolis Parkway to I-85	4 Lane Suburban Boulevard
Related Road Typologies	None	
Reconfigured Intersections and/or Interchanges	None	Single Point Urban Diamond Interchange – determine in future Environmental/Preliminary Engineering phase for I-85 widening
Transit	Fixed Guideway	None
	Transit Centers	Bus transit center in Campus development
	Bus	Pullouts at bus stops; locations to be determined by CATS in Environmental/Preliminary Engineering phase
Related Roads not part of the NC 73 Plan	None	

Segment – West Kannapolis

Land Use and Access

Kannapolis Parkway to I-85

Campus Development/Corporate Park and Industrial north and south of NC 73 per Kannapolis Land Use Plan - driveway spacing at 660 ft. minimum, right-in/right-out only except at median breaks; maximum 2 new signalized intersections at minimum 1/2 mile spacing

Implementation

Memorandum of Understanding

Each of thirteen participating jurisdictions and agencies were requested to approve a Memorandum of Understanding for the NC 73 Corridor Transportation/Land Use Plan, committing themselves to follow the recommendations of the Plan and to cooperate with each other in implementing the Plan. The Memorandum of Understanding is not a legal contract. Rather, it is a statement of intent by each jurisdiction. The approval of the Memorandum of Understanding can generally be considered to be acknowledgement that they:

- * Adopt the MOU, as a statement of intent on behalf of the jurisdiction;
- * Adopt a Council of Planning, agreeing to appoint a participant who can represent the jurisdiction's interests in the plan, can work cooperatively with the other jurisdictions, and can oversee the implementation of the recommendations within the jurisdiction;
- * Accept the recommendations within their jurisdiction as guidance for land use and other actions to implement the Plan; and
- * Acknowledge that their portion of NC 73 and any related roads in their jurisdiction is an integral part of an overall Corridor, and that actions taken that affect NC 73 within their

jurisdiction that affect NC 73 in other jurisdictions as well, and must be made cooperatively.

The draft of the Memorandum of Understanding that was presented to each of the jurisdictions for adoption is as follows:

Memorandum of Understanding Background

In February 2003, the North Carolina Department of Transportation ("NC DOT"), three counties, five municipalities, three Chambers of Commerce, two Metropolitan Planning Organizations and one Regional Planning Organization engaged the Centralina Council of Governments ("COG") to administer a study of the NC 73 Corridor from Interstate Highway 85 in Cabarrus County to US Highway 321 in Lincoln County. Funds for this Corridor Study came from NC DOT, as well as from the counties, municipalities and private sector sources along the Corridor. [The term "Corridor" in the Memorandum means the area lying roughly within one-half (1/2) mile of the centerline of the NC 73 right of way between the highway's intersections with Interstate 85 in Cabarrus County, and with US 321 in Lincoln County.]

The impetus for the NC 73 Transportation/

Land Use Corridor Plan (the "Plan") was the recognition that increased development pressures along the Corridor, and the resulting vehicular burdens, have stressed the roadway's capacity to serve as a reliable transportation facility for its many users. Moreover, all of the funding partners recognized two key factors: 1) considerable physical improvement will be required to "fix" the corridor; and 2) the current and foreseeable land uses along the Corridor need to be evaluated before undertaking any capital investment in "fixing" the roadway itself.

Beginning with this broad consensus, COG and NC DOT selected a team of planners to undertake the details of this study. The contract of these planning services was executed in April 2003, and the planning team's analysis began shortly thereafter.

Public meetings have been held in Cabarrus, Lincoln and Mecklenburg Counties during November 2003 and March 2004. The planning team's work has been guided by a steering committee comprised of COG and representatives of all municipalities or counties having land use planning jurisdiction over property along the Corridor, as well as representatives of economic development or planning organizations affected by the NC

73's capacity. In addition, the planning team has hosted a series of land use planning charrettes with the local planning staffs for each of the municipalities and counties having land use jurisdiction along the Corridor. The planning team has also held briefings for the elected officials in each of those communities.

The resulting Plan consists of maps, drawings and other graphics that are incorporated within a Plan Report. In particular, maps corresponding to various Corridor segments show the existing and proposed land uses for each such segment. These segment maps also display the recommended improvements to the NC 73 roadway and to roads and streets connected to NC 73 and within the Corridor.

Understanding

1. Parties to this Understanding:

The Parties are:

- a.) The municipalities and the counties having jurisdiction over 1) land use ordinances and determinations whether land uses along the NC 73 Corridor are in compliance with such ordinances; or 2) public investments along the corridor.
- b.) The inter-governmental planning organizations having jurisdiction for transportation planning along the NC 73 Corridor.
- c.) COG.

d.) NC DOT.

2. Current Land Use Plans and Regulations:

Each Party commits to accept and abide by the component of the Plan that falls within that Party's jurisdiction (including its extra-territorial jurisdiction) along the Corridor. Each Party's relevant component of the Plan is attached to this Memorandum, and is incorporated herein.

3. Inducements to Other Parties: Each Party understands that its commitment to its respective component of the Plan has induced other Parties to make like commitments for their respective segments of the Plan insofar as that Party has jurisdiction over the land uses within its Plan segment. Based on this understanding, each Party commits its best efforts to maintain its land use designations as shown in its respective segment of the Plan.

4. Future Collaboration Among Parties:

The Plan designates certain areas along the Corridor where further planning is needed. In most cases, those areas require collaboration among various Parties where their land use jurisdiction boundaries converge. In such cases, each Party commits its best efforts to undertake that collaborative planning, including providing direction to its planning staff and/ or consultants engaged for such planning purposes. At the conclusion of any such

collaborative planning process, each Party commits to adopt and abide by the land use ordinances determined appropriate and consistent with the Corridor Plan.

5. Council of Planning: The Parties agree that periodic reviews of the land uses and public investments along the Corridor will be required over time. In the spirit of effective collaboration and prudent long range planning, the Parties agree to establish a Council of Planning for the Corridor. This Council shall be comprised of at least one representative knowledgeable in regional planning issues from each Party. The Council shall meet periodically to review and discuss land uses development trends, transportation operations and public investment requirements.

6. Future Actions Affecting Land Uses Along the Corridor:

All parties recognize that future governmental entities may not be contractually bound by the adoption of this Memorandum of Understanding. In recognition of this limitation, the Parties commit to review the status of land use and public investment decisions along the Corridor periodically. Furthermore, the Parties, in good faith, commit to: **1)** review the recommendations of the Council of Planning; and **2)** meet periodically with other Parties regarding emerging issues along the Corridor. The intent of this commitment is to promote

periodic discussions of municipal and/or county **goals**, plans and strategies for maintaining effective development patterns, public investment and transportation flow along NC 73.

IN WITNESS WHEREOF, the Parties, through their duly authorized representatives, have executed this Memorandum of Understanding and have attached maps relating to their respective jurisdictions, effective this _____ day of _____, 2004.

COUNTY OF CABARRUS
By

(Title)

COUNTY OF LINCOLN
By

(Title)

COUNTY OF MECKLENBURG
By

(Title)

CITY OF CONCORD
By

(Title)

CITY OF KANNAPOLIS
By

(Title)

TOWN OF CORNELIUS
By

(Title)

TOWN OF DAVIDSON
By

(Title)

TOWN OF HUNTERSVILLE
By

(Title)

CENTRALINA COUNCIL OF GOVERNMENTS
By

(Title)

LAKE NORMAN RURAL PLANNING
ORGANIZATION
By

(Title)

MECKLENBURG – UNION METROPOLITAN
PLANNING ORGANIZATION
By

(Title)

NORTH CAROLINA DEPARTMENT OF
TRANSPORTATION
By

(Title)

CABARRUS – ROWAN METROPOLITAN
PLANNING COMMISSION
By

(Title)

Funding, Design and Construction

The key to implementation of the roadway improvements is having the NC 73 Corridor on the NCDOT Transportation Improvement Program (TIP). The TIP is the programming document for expenditures of State and Federal transportation funds. It identifies priorities for planning, design, right-of-way, and construction of roadway projects throughout the State, through a very prescribed process.

Currently, two sections of NC 73 are on the TIP, but neither is funded. The two sections are:

- * TIP No. R-2236 A, from I-77 to Davidson-Concord Road in Mecklenburg County, and
- * TIP No. R-2706 from SR 1356 in Lincoln County to SR 2145 in Mecklenburg County.

The TIP is fiscally constrained, meaning that the projected revenues match the projects programmed. This requires that project requests include a cost estimate. The implication of this for NC 73 is that addition of NC 73 improvements within the seven year horizon of the TIP would require removing or delaying other projects to maintain the funding ceiling set by the equity formula for the region. The Board of Transportation member decides if a project gets put into the TIP, with or without a completed feasibility study. A NCDOT feasibility study

determines the scope of a given project, including a Right-of-way and construction cost estimate.

A project can only be recommended for inclusion on the TIP through the mutual concurrence of the Metropolitan Planning Organization (MPO) and NCDOT. Each MPO develops its own needs list which is submitted to the NCDOT. Through a series of joint meetings, a Local TIP (LTIP) is developed. Because of the equity formula and the requirement for fiscal constraint, only the highest priority needs are likely to be included in the State TIP.

There are two steps that will be necessary to have all of NC 73 added to the TIP List:

1. NCDOT Feasibility Study. The recommended approach for NC 73 is to request the N. C. Department Transportation to accept The NC 73 Corridor Transportation/Land Use Plan and Memorandum of Understanding as the feasibility study for NC 73. It is recommended that the full NC 73 Corridor, from US 321 to I-85, be a single feasibility study, because of the integrated nature of all of the segments, including the network roads in addition to NC 73 itself. The feasibility study for R-2705 was done in 1991 and the study for R-2155 was done in 1995, so they would need to be included as part of the overall NC 73 feasibility study, since they are outdated. The NCDOT would need to

prepare a right-of-way and probable cost estimate to complete the feasibility study.

2. Add NC 73 to the Local TIP. It is recommended that one of the first actions of the Council of Planning be to initiate negotiations with MUMPO, Cabarrus-Rowan MPO and Lake Norman RPO for inclusion on their LTIP's. It will be very important for each of the LTIP's to include NC 73 as a high priority project, which will aid in having it added to the State TIP List. Once NC 73 has been added to the State TIP, it follows the prescribed process for funding, planning, design, right-of-way acquisition and construction. The priority given by the North Carolina Board of Transportation helps determine the priority of projects on the State TIP.

Jurisdiction Responsibilities

Local jurisdictions will be responsible for implementing the land use portions of the NC 73 Corridor Transportation/Land Use Plan. The kind of commitments that will be needed include:

- * Maintain land use plans that are the basis for the Corridor Plan, or make changes with the concurrence of the Council of Planning that the changes would not have an adverse effect on the rest of the corridor
- * Undertake area plans at locations identified in the segment plans, jointly with abutting

communities where the area plans are in more than one jurisdiction

- * Coordination with abutting jurisdictions to undertake area plans and to participate in the Council of Planning
- * Maintain or adopt development policies that will maintain the right-of-way necessary for the appropriate road typology
- * Require that developments follow the Corridor access guidelines as part of the land use and zoning approval process
- * Require as part of the land use and zoning approval process that some road be funded and built as part of the developments, as indicated on the segment plans

The local jurisdictions will likely be requested to take responsibility for implementing some aspects of the roadway projects. This could place responsibility on local jurisdictions for some of the following:

- * Require some pedestrian/bike trails as part of development approvals
- * Possibly pay for landscape and urban design elements
- * Possibly pay for sidewalks and pedestrian/bike trails
- * Maybe some right of way acquisition
- * Possibly maintenance of “amenities” in the right-of-way

The Centralina Council of Governments commitment includes:

- * Participation in the NC 73 Council of Planning; and
- * “Reminding” member communities of their commitments

The MPO and RPO commitment includes:

- * Transportation Plan amendments as necessary to incorporate NC 73 elements.
- * Supporting the NC 73 Corridor Plan through inclusion of the Corridor on the LTIP; and
- * Working for inclusion of the NC 73 Corridor on the State TIP.

The NCDOT commitment includes:

- * Making its “best effort” to include the recommendations set forth in the NC 73 Corridor Plan in its long range planning for the corridor; and
- * Following the road typologies, access management strategy and segment plan recommendations as guidelines for the design of NC 73 projects.

Recommendations for the Council of Planning

- * **COG as Convener and Staff:** It is recommended that the Centralina Council of

Governments (“COG”) serve as the convener for, and provide the staff functions to, the Council of Planning. Such staff functions include (but not limited to) the proposed operating by-laws, regular meeting dates and places, and minutes of meetings.

- * **Communication Protocol among Jurisdictions:** With COG’s assistance, the Council of Planning should recommend to the jurisdictions along the Corridor methods and frequencies of communicating information important to the Corridor’s users, planners and funders. Specifically, the Council of Planning should present “State of the Corridor” reports to 1) NC Board of Transportation members having responsibility along the Corridor, 2) governing bodies of the Corridor’s respective jurisdictions, and 3) economic development and planning organizations interested in the Corridor.

- * **Small Area Plan Updates:** Municipalities having designated responsibilities for directing, or participating in, the development of small area plans identified in the Corridor Plan should report regularly to the Council of Planning on their planning progress (e.g.,

selection of consultants, scope of work, project schedule, and impacts on land uses and/or traffic volume and flow along the Corridor).

* **Developing Funding Priorities:**

The Council of Planning should coordinate with the respective Metropolitan Planning Organizations and with the Lake Norman Rural Planning Organization to develop priorities among the various Corridor segments for the Local Transportation Improvement Program. Included in this coordination and prioritization process would be considering the impact of segment funding priorities to any revisions of the Thoroughfare Plan.

* **Update of Corridor Plan:** The Council of Planning should recommend updates to the NCDOT, the respective jurisdictions and planning organizations, as needed.

Recommended TIP Projects

State and Federal guidelines for TIP projects require that they begin and end at “logical termini,” referring generally to major roads or highways where notable changes in traffic volumes could be expected to occur.

The following division of the 35 mile NC 73 corridor into TIP projects is based on the locations where notable changes in traffic volume are expected. The “logical termini” of these recommended project locations in most instances result in TIP projects that overlap jurisdictions. It is anticipated that this overlap will encourage the continued and ongoing cooperation of the various county, municipal, MPO/RPO, NCDOT division and private sector jurisdictions and agencies in order to secure funding for the projects which directly affect each of them.

1. US 321 to new NC 16, Lincoln County.

This project would all be within unincorporated Lincoln County. It is all in the jurisdiction of Lake Norman RPO (LNRPO), and all in NCDOT Division 12. Anticipated traffic volumes through this section range from 14,000 near US 321 to 36,000 near the new NC 16. Traffic east of the new NC 16 is anticipated to be notably higher than to the west. This TIP project would include the section on new alignment from US 321 to Low Bridge Road and the potential section on new alignment from Reinhardt Circle to Maxwell Farm Lane, which is the reason it is recommended as a single TIP project. Other than construction needed in the immediate vicinity of the NC 73 Bypass, recommended improvements to Salem Church Road and

Hill Road should be required as part of commercial and employment center development. Because the section on new alignment from US 321 to near Airport Road would provide notable relief to the existing NC 73/NC 27, this could potentially be two TIP projects:

- 1a. US 321 to Airport Road, Lincoln County, and
- 1b. Airport Road to new NC 16

2. New NC 16 to new Gilead Road (SR 2136), Lincoln and Mecklenburg

Counties. This project would be partly within unincorporated Lincoln County, partly within unincorporated Mecklenburg County, and partly within the Town of Huntersville. It is partly in the jurisdiction of LNRPO and partly in Mecklenburg-Union MPO (MUMPO). It is partly in NCDOT Division 12, and partly in Division 10. It includes a major crossing of the Catawba River. Anticipated traffic volumes range from 36,000 near new NC 16 to 50,000 near new Gilead Road. Because of the improvements proposed to Gilead Road for access to I-77 and to I-485 via Vance Road, traffic volumes are anticipated to drop from 50,000 to approximately 25,000 in each direction at this intersection. NC 73 portions of this section are all on existing alignment. Recommended improvements of

Little Egypt Road from NC 73 to old NC 16, of old NC 16 and Pilot Knob Road from NC 73 to old NC 16 are recommended to be included as part of this TIP project, as they have a direct bearing on the functionality of NC 73 in the West Lake Norman segment. Other recommended roads shown as part of the bypass south of NC 73 and NC 16 should be required to be built as part of developments in the area.

3. New Gilead Road (SR 2136) to Davidson-Concord Road (SR 2693), Mecklenburg County. This project falls partly within each of the Town of Huntersville, the Town of Cornelius, the Town of Davidson and unincorporated Mecklenburg County. It is in the jurisdiction of MUMPO, and NCDOT Division 10. Anticipated traffic volumes range from approximately 25,000 at new Gilead Road to 32,000 at Davidson-Concord Road, peaking at I-77 in the middle of the section. Because this is the central link of the limited network for the NC 73 corridor through Huntersville, Cornelius and Davidson, it is recommended to be a single TIP project for long-range planning purposes. This section is all on existing alignment. Recommended improvements to US 21 should be included as part of this TIP project, as they have a direct bearing on the functionality of NC 73.

Recommended improvements to NC 115 should be part of the transit oriented development at the proposed NC 73/NC 115 commuter rail station.

4. Davidson-Concord Road (SR 2693) to Odell School Road (SR 1601), Mecklenburg and Cabarrus Counties.

This project falls partly with each of the Town of Davidson, unincorporated Mecklenburg County and unincorporated Cabarrus County. It is also with areas expected to eventually be annexed by the City of Kannapolis and the City of Concord. It is partly in the jurisdiction of MUMPO and partly in Cabarrus-Rowan MPO (CRMPO), and is in NCDOT Division 10. Anticipated traffic volume ranges from 38,000 at Davidson-Concord Road to 30,000 at Odell School Road. This section is all on existing alignment. Recommended improvements to Odell School Road south of NC 73 should be included as part of this TIP project, since it is part of the Untz Road southern alternative route and will relieve traffic on NC 73, resulting in a smaller and less expensive NC 73 project. Recommended improvements to Poplar Tent Church Road/Shiloh Church Road and to Odell School Road north of NC 73 should be part of the area plan development at those two locations.

5. Odell School Road (SR 1601) to I-85, Cabarrus County. This project falls partly within unincorporated Cabarrus County and partly within the City of Concord. It is also with areas expected to eventually be annexed by the City of Kannapolis and the City of Concord. It is all within the jurisdiction of CRMPO and NCDOT Division 10. Anticipated traffic volume ranges from 28,000 at Odell School Road to 44,000 at I-85. Because the recently completed Kannapolis Parkway has the potential to redirect some NC 73 traffic south to I-85, this section could potentially be two TIP projects:

- 5a. Odell School Road (SR 1601) to Kannapolis Parkway (SR 1430), and
- 5b. Kannapolis Parkway (SR 1430) to I-85

This project is all on existing alignment. Recommended improvements to Odell School Road and Untz Road should be included as part of this TIP project, since they are part of the southern alternative route and will relieve traffic on NC 73, resulting in a smaller and less expensive NC 73 project.

6. Gilead Road (SR 2136) from NC 73 to I-77, Mecklenburg County. This project falls partly within the Town of Huntersville and partly within unincorporated Mecklenburg County. It is all within the jurisdiction of MUMPO and NCDOT Division 10. This project is the western half of the southern leg of the limited network for NC 73 through Huntersville. Anticipated traffic volumes are in the 25,000 to 35,000 range. This section is mostly on existing alignment, except for approximately the first ½ mile south of NC 73.

7. Gilead Road (SR 2136), Huntersville-Concord Road (SR 2448) and Ramah Church Road (SR 2439) from I-77 to the proposed Prosperity Church Road Extension, Mecklenburg County. This project falls partly within the Town of Huntersville and partly within unincorporated Mecklenburg County. It is all within the jurisdiction of MUMPO and NCDOT Division 10. This project is the eastern half of the southern leg of the limited network for NC 73 through Huntersville. Anticipated traffic volumes are in the approximately 15,000 to 20,000 range. This section is mostly on existing alignment, except for the connection between Huntersville-Concord Road and Ramah Church Road.

8. Catawba Avenue (SR 5544) and Westmoreland Road (SR 2147) from NC 73 to US 21, Mecklenburg County. This project falls partly within the Town of Huntersville, partly within the Town of Cornelius and partly within unincorporated Mecklenburg County. It is all within the jurisdiction of MUMPO and NCDOT Division 10. This project is the eastern half of the northern leg of the limited network for NC 73 through Huntersville. Anticipated traffic volumes are in the approximately 25,000 to 30,000 range. This section is all on existing alignment.

9. US 21, Bailey Road and Davidson-Concord Road (SR 2693) from Westmoreland Road to NC 73, Mecklenburg County. This project is the western half of the northern leg of the limited network for NC 73 through Huntersville. The Bailey Road and Davidson-Concord Road sections have been proposed by the Town of Cornelius and the Town of Davidson as part of the Cornelius East & Davidson-Concord Road Vision Plan. This portion of the limited network is included for informational purposes only, and is not proposed as a TIP project.

Recommended TIP Project Priorities

The priorities for the TIP projects are shown separately for NCDOT Division 10 and Division 12, since they are accounted separately under the equity formula.

Division 10 Priorities

Priority 1: New Gilead Road (SR 2136) to Davidson-Concord Road (SR 2693), Mecklenburg County. This project is currently the most congested in the corridor, with the largest projected population and the highest anticipated traffic volumes.

Priority 2: New NC 16 to new Gilead Road (SR 2136), Lincoln and Mecklenburg Counties. This project is anticipated to carry 50,000 vehicles per day by 2025. It has the potential to become a major bottleneck.

Priority 3: Davidson-Concord Road (SR 2693) to Odell School Road (SR 1601), Mecklenburg and Cabarrus Counties. This project is in the section of the corridor with the highest rate of projected population growth. It is already experiencing peak period congestion problems.

Priority 4: Odell School Road (SR 1601) to I-85, Cabarrus County. This project serves a

commercial and business corridor that currently experiences congestion and access management issues. If planned as two TIP projects, 4a. from Kannapolis Parkway to I-85 would be the higher priority of the two.

Priority 5: Gilead Road (SR 2136) from NC 73 to I-77, Mecklenburg County. This project will be needed to provide diversion of traffic from NC 73. Without this project, NC 73 from Catawba Avenue to I-77 would have to be a much bigger and more expensive road project.

Priority 6: Catawba Avenue (SR 5544) and Westmoreland Road (SR 2147) from NC 73 to US 21, Mecklenburg County. This project is also needed to provide diversion of traffic from NC 73. Without this project, NC 73 from Catawba Avenue to I-77 would have to be a much bigger and more expensive road project.

Priority 7: Gilead Road (SR 2136), Huntersville-Concord Road (SR 2448) and Ramah Church Road (SR 2439) from I-77 to the proposed Prosperity Church Road Extension, Mecklenburg County. This project is needed to eventually divert traffic from NC 73 so that NC 73 will not have to be a bigger and more expensive project. The timing of

this project will be affected by the Prosperity Church Road Extension and the construction of the link between Huntersville-Concord Road and Ramah Church Road as part of development in that area.

Priority 8: US 21, Bailey Road and Davidson-Concord Road (SR 2693) from Westmoreland Road to NC 73, Mecklenburg County. The priority for this section of the NC 73 corridor will be determined by the Towns of Cornelius and Davidson as part of the development of the Cornelius East & Davidson-Concord Road Area Plan.

Division 12 Priorities

Priority 1: New NC 16 to new Gilead Road (SR 2136), Lincoln and Mecklenburg Counties. This project is necessary to relieve existing congestion in the vicinity of NC 73 and old NC 16, which is steadily increasing due to the rate of development in West Lake Norman. Further, it is anticipated to carry 50,000 vehicles per day by 2025 and has the potential to become a major bottleneck.

Priority 2: US 321 to new NC 16, Lincoln County. This project will relieve congestion on existing NC 27 between NC 73 and US 321. It will also support economic development in the area around the Lincoln County Airport and

between US 321 and existing NC 73. If planned as two TIP projects, 1a. from US 321 to Airport Road would be the higher priority.

Ongoing Implementation Process

Because of the complex and long-term nature of this plan, the implementation strategy recommended here is subject to ongoing review and modification over time. This change and refinement of the plan will be the responsibility of the Council of Planning.