



Charlotte Area Transit System
LYNX Blue Line Extension (Northeast Corridor)

Bus-Rail Integration Plan: Title VI Service Equity Analysis

May 29, 2012
Revision 02

City of Charlotte
Charlotte Area Transit System
600 East Fourth Street
Charlotte-Mecklenburg Government Center
Charlotte, North Carolina 28202

TABLE OF CONTENTS

1	INTRODUCTION.....	1
1.1	Project Background	1
1.1.1	Stations.....	1
1.1.2	Operating Plan	1
2	BUS – RAIL INTEGRATION PLAN SUMMARY	2
2.1	Service Philosphy	2
2.2	Service Planning Methods.....	2
2.3	Countywide Transit Services Plan Public Involvement.....	3
2.3.1	LYNX BLE Bus-Rail Integration Public Comment.....	4
3	SERVICE EQUITY ANALYSIS METHODOLOGY	5
3.1	Legal and Regulatory Context.....	5
3.1.1	Title VI Guidance and References.....	5
3.2	Datasets.....	5
3.3	Definitions	5
3.4	Study Area	6
3.4.1	Service Area.....	6
3.5	Data Calculations.....	6
3.5.1	Demographic Data.....	6
4	EXISTING CONDITIONS	7
4.1	Demographics.....	7
4.2	Service Characteristics.....	7
4.2.1	Existing Northeast Corridor Bus Routes.....	7
5	SERVICE EQUITY ANALYSIS.....	9
5.1	Description of Route Changes	9
5.2	LYNX BLE Bus-Rail Route Level Analysis.....	12
5.2.1	Demographics	12
5.2.2	Discontinuation.....	12
5.2.3	Frequency/Headways	17
5.2.4	Span of Service	19
5.2.5	Travel Time Analysis.....	20
6	MITIGATION	22

1 INTRODUCTION

The purpose of this document is to document the Title VI service equity analysis for the Charlotte Area Transit System (CATS) LYNX Blue Line Extension (LYNX BLE) Bus/Rail Integration Plan. Fares for both the light rail and local bus routes are assumed to be the local rate at the time of rail implementation. Since this rate is unknown at this time, a fare equity analysis is not included as part of this document.

1.1 Project Background

As part of the 2030 Transit System Plan (Figure 1), the LYNX BLE (Figure 2) will be an extension of the existing LYNX Blue Line (the South Corridor Light Rail Project) that opened in November 2007. The LYNX BLE will extend the light rail alignment 9.33 miles and provide eleven (11) transit stations, including seven walk-up stations and four stations with park-and-ride facilities. The alignment will run within the existing railroad rights-of-way from Center City Charlotte to the middle of the alignment, near Old Concord Road, where it will then transition to the median of North Tryon Street. The line will remain in the median until north of the Charlotte Research Institute, where it will turn east and enter the UNC Charlotte campus to provide direct service to the university, with a terminus at the UNC Charlotte station.

Bus services will be realigned to connect the light rail service with the CATS regional bus system. Trains will operate seven days a week from 5:00 a.m. until 1:00 a.m. and the fare will equal the cost of local bus fare at the time of implementation. Trains will arrive at stations every 10 minutes during rush hour and every 15 minutes during non-peak hours. The line is scheduled to begin operations in early 2017.

The LYNX BLE will address transportation needs and support the region's land use policies and goals for a sustainable growth. Specifically, the project's purpose is to:

- Improve mobility within the corridor by offering a convenient alternative to the automobile;
- Enhance the region's quality of life by improving access to jobs, entertainment, shopping and other destinations;
- Support the region's land use vision by focusing future higher density development in key growth corridors;
- Leverage the region's transit investment by extending an existing light rail line; and,
- Preserve and protect the environment.

1.1.1 Stations

The LYNX BLE includes eleven stations. Approximately 3,100 parking spaces will be provided at the four stations with park & ride facilities, including parking decks at the University City Blvd. and JW Clay Blvd. Stations. All platforms will be approximately 300 feet long to accommodate a three-car train set. Stations will utilize a side or center platform configuration, and include shelters, lighting, benches, garbage cans, ticket-vending machines, and bicycle facilities.

1.1.2 Operating Plan

Light rail service will operate seven days a week from approximately 5:00 am to 1:00 am. Initially, the service will operate with two-car train consists at 7.5-minute headways and will change to three-car train consists at 10-minute headways by 2035 during the peak travel times (approximately 6:30 am to 8:30 am and 4:00 pm to 6:00 pm). Mid-day service will operate every 15 minutes, and evening and weekend service will operate at 20-minute and 30-minute headways.

2 BUS – RAIL INTEGRATION PLAN SUMMARY

In order to provide a seamless transition for transit customers in the Northeast Corridor and fulfill the purpose and need of the LYNX Blue Line Light Rail Project, CATS' bus routes (Figure 3) will be adjusted to coordinate with the introduction of the LYNX BLE light rail line. As such, a bus - rail integration plan has been developed (document available under separate cover: *LYNX BLE Bus/Rail Integration Plan*).

The *LYNX BLE Bus/Rail Integration Plan* (Figure 4) outlines the planned bus route adjustments, new routes and route discontinuations that will be implemented with the LYNX BLE. The plan is included as part of the *FY12- FY17 Countywide Transit Services Plan (CTSP)* approved by the Metropolitan Transit Commission in 2012. Additionally the CTSP will also be used to prepare updates to the *CATS Fleet Management Plan*. The CTSP and the LYNX BLE Bus-Rail Plan will be fully vetted by the public prior to implementation and the public involvement process may alter either plan.

2.1 Service Philosophy

The following service philosophies were used in the development of the LYNX BLE Bus – Rail Integration plan:

- Review existing ridership data to understand the usage for each Bus – Rail route.
- Maintain trips for customers so that the majority of existing bus trips could still be completed after integration with the LYNX BLE.
- Although transfers to rail may be created, routes should be designed to limit the number of transfers.
- Utilize the LYNX BLE to decrease overall trip time for bus customers.
- Develop routes that would attract choice customers without impacting transit dependent customers.
- Reduce future bus operating costs without decreasing the overall service area and quality of transit service within the Northeast Corridor.

Additionally, the guiding principles of the CTSP were incorporated into the development of the LYNX BLE Bus-Rail Integration Plan:

- Match service levels with demand
- Align bus routes with future rail corridors
- Streamline service on corridors
- Improve travel time
- Improve cross-town connections

2.2 Service Planning Methods

As with any service planning effort many tools were used to understand existing transit performance as well to identify new transit service areas. A critical piece in the development of the LYNX BLE Bus - Rail Integration Plan was the analysis of bus operating data, coordination with bus operations planning staff, and reviewing outputs from the regional transportation model. Below is a brief description of those methods:

- **Ridership analysis** - Individual bus stop data was used to understand route utilization. An evaluation of the overall bus route boardings and alightings was used to identify major trip generators and travel patterns. In addition to total trips, ridership data was overlaid with population data to better understand trip origination.

- **Regional Travel Demand Model** - As a part of the ridership outputs for the LYNX BLE, the regional travel demand model provided operational statistics for each existing and planned route. This information was used to help understand how the Bus-Rail integration changes would affect the existing services and to ensure that operating costs would remain within CATS’ financial constraints. Vehicle load model output estimates were used to develop future route headways.
- **Bus Operations Coordination** - The *LYNX BLE Bus/Rail Integration Plan* will be implemented by CATS Operations, therefore coordination with operations was also an integral component to planning. Regularly scheduled planning meetings were held with operations staff for the purpose of presenting draft route ideas and receiving comment. Operations staff also assisted with information about existing bus route travel time and operating cost estimation.

2.3 Countywide Transit Services Plan Public Involvement

Since the LYNX BLE will be implemented during the time frame of the FY 12 - FY17 CTSP, the LYNX BLE Bus-Rail Integration Plan was incorporated into CTSP. In order to receive CTSP feedback from the public, CATS developed a public involvement plan (PIP). The plan consisted of publicly advertised meetings, presentations at neighborhood meetings, surveys, and stakeholder meetings. Ensuring successful public involvement is always a top priority for CATS; to achieve that goal CATS utilized the following methods for public outreach and meeting notification:

- Neighborhood Association letters.
- Email notification.
- Meeting notification on CATS website as well as City of Charlotte’s events calendar.
- Rider’s Alerts on buses and trains.
- Media press releases.
- Advertisements placed in the local newspapers: Charlotte Observer, Charlotte Post, and Que Pasa.
- Distribution of a survey at the initial public meeting and online.

As a result of the outreach methods outlined above, the CTSP was presented at 42 meetings to 592 attendees. Table 2-1 provides detail on the meetings held during the public involvement phase of the CTSP.

**Table 2-1
 CTSP Public Involvement and Outreach**

Date	Stakeholder / Neighborhood Association / Public Meeting	Attendance
October 4, 2010	Grier Heights Neighborhood Association	27
October 5, 2010	Druid Hills Neighborhood Association	20
October 7, 2010	*Express Riders - Charlotte Mecklenburg Main Library	12
October 11, 2010	Villa Heights Community Association	15
October 11, 2010	Madison Park Neighborhood Association	32
October 12, 2010	*South Boulevard Light Rail Facility	1
October 13, 2010	*North Regional Library	0
October 13, 2010	*Independence Regional Library	3
October 14, 2010	*Arbor Glen Outreach Center	0
October 14, 2010	Transit Services Advisory Committee	8
October 18, 2010	Third Ward Neighborhood Association	13
October 19, 2010	Toddville Neighborhood Association	4

*CATS Public Meeting

Table 2-1 (Continued)
CTSP Public Involvement and Outreach

Date	Stakeholder / Neighborhood Association / Public Meeting	Attendance
October 21, 2010	*Charlotte Mecklenburg Government Center	19
October 21, 2010	Charlotte East Community Partners	11
October 25, 2010	Center City Transportation Council	11
November 1, 2010	South End District	48
November 2, 2010	NoDa Neighborhood Association	23
November 3, 2010	Joint Use Task Force	19
November 3, 2010	CIGNA HealthCare	1
November 4, 2010	Washington Heights Neighborhood Association	8
November 4, 2010	*83X Public Meeting - Charlotte Mecklenburg Main Library	2
November 8, 2010	Johnson C. Smith	8
November 12, 2010	Davidson College	6
November 16, 2010	Highland Creek Home Owners Association	40
November 16, 2010	Camp Green Neighborhood Association	24
November 16, 2010	Carolina Medical Center - Steele Creek	3
November 18, 2010	University City Partners	18
November 22, 2010	Langston Neighborhood Association	14
November 23, 2010	Parktowne Terrace-Charlotte Housing Authority	33
December 7, 2010	Allan Hills Neighborhood Association	19
December 13, 2010	Charlotte Transportation Center Fair	25
December 16, 2010	Greenville Community	0
August 9, 2011	*South Boulevard Light Rail Facility	13
August 11, 2011	*Charlotte Mecklenburg Government Center	14
August 13, 2011	Historic West End Neighborhood Association	12
August 16, 2011	*Arbor Glen Outreach Center	0
August 17, 2011	*North Regional Library	10
August 18, 2011	*Independence Regional Library	7
August 24, 2011	*University City Regional Library	6
August 30, 2011	*West Charlotte Recreation Center	17
September 8, 2011	*Gateway Village YMCA	16
September 21, 2011	Villa Heights Community Organization and McCreesh Place	30

*CATS Public Meeting

2.3.1 LYNX BLE Bus-Rail Integration Public Comment

The CTSP PIP gathered public comment on all of CATS services. For the purposes of this document, only comments related to the LYNX BLE Bus-Rail Integration Plan are included. Complete documentation of the CTSP public process can be reviewed in the *FY12- FY17 Countywide Transit Services Plan*. Comments directly related to the LYNX BLE Bus-Rail plan are detailed in the below list. Mitigation for any possible service impacts are detailed in section 6 of this document.

- Provide new shuttle services in the Plaza Midwood and NoDa Neighborhoods.
- Provide Saturday/Sunday service on Routes 54x University Research Park Express and 80x Concord.
- Address capacity issues on Route 11 North Tryon.
- Coordinate with the Northeast Corridor Infrastructure Program (NECI) to provide adequate pedestrian connections to stations such as the 25th Street Station.

3 SERVICE EQUITY ANALYSIS METHODOLOGY

A Title VI service equity analysis was performed on the *LYNX BLE Bus/Rail Integration Plan* to assess the effects of the proposed service changes associated with the implementation of light rail. This analysis determines if the proposed adjustments will have a disproportionately high and adverse impact on the minority and low-income populations. The analysis also recommends mitigation, where necessary.

3.1 Legal and Regulatory Context

This analysis complies with the legal requirements outlined in *Title VI of the 1964 Civil Rights Act* (42 USC § 2000d et seq.) July 1964. The analysis additionally uses the guidance and references described in Section 3.1.1.

3.1.1 Title VI Guidance and References

This document has been completed using the definitions, methodologies and guidance outlined in:

- *FTA Title VI Service and Fare Equity Analysis Questionnaire*, April 2011
- *CATS Policy for Major Service Changes and/or Fare Change Reviews* (CATS CivR01), August 2008
- *Title VI and Title VI – Dependent Guidelines for Federal Transit Administration Recipients* (FTA Circular C 4702.1A), May 2007

3.2 Datasets

The following Geographic data was used to complete the demographic analysis for the service equity analysis:

- *2010 U.S. Census Data – Tract Level Population by Race*
- *2009 5 Year American Community Survey Data – Block Group Level Poverty Status*

3.3 Definitions

Low Income – Poverty rate by block group as defined by the U.S. Census American Community Survey (ACS) 5-year estimates.¹

¹ The ACS survey replaced the Decennial Census Long Form, which previously asked questions about median income. The Department of Health and Human Services was previously responsible for developing the poverty guidelines based on this measurement of median income. CATS policy references the DHHS guidelines. BLE staff consulted with CATS Civil Rights staff, who accepted the use of the ACS data and geography for this variable.

Major Service Change Review – According to Section 4.0 of CATS CivR01 *Policy for Major Service Changes and/or Fare Change Reviews*, a major service adjustment review will occur whenever there is a major service adjustment to any transit service provided by CATS.

Major Service Adjustments – According to Section 4.1 of CATS CivR01 *Policy for Major Service Changes and/or Fare Change Reviews*, a major service adjustment includes:

- A greater than 25% reduction in route miles for any set of routes or any single route being modified within a corridor
- The abolishment of an existing transit route without a replacement
- The restructuring of transit service throughout a corridor as defined by CATS.

Minority – In aggregate, Non-White/Non-Hispanic population by race by census tract as defined by the U.S. Census 2010 Decennial Census.

3.4 Study Area

3.4.1 Service Area

The service area (in aggregate) is calculated:

1. The entire CATS system bus and rail GIS polyline files are overlaid onto North/South Carolina census tract and block group polygons containing demographic data.
2. A ¼ mile buffer is calculated from the bus and rail route polylines within Mecklenburg County [to represent both the fixed-route and Americans with Disability (ADA) complementary transit service].
3. A ¼ mile buffer is calculated from the regional express bus route polylines that extend outside of Mecklenburg County (as complementary ADA bus service is not required to be provided by CATS for express service. Furthermore, the industry standard for an acceptable walking distance from transit service is considered to be ¼ mile).
4. The resulting buffer selects the affected tracts/block groups.
5. The demographic data joined to the affected tracts/block groups is exported as a table.

3.5 Data Calculations

3.5.1 Demographic Data

3.5.1.1 Service Area Demographic Data

Demographic data is then calculated for the total CATS service area. Population by race is calculated using tract level geography by county. Percent minority is calculated for service tracts to provide a baseline comparison.

- $\text{Percent Minority} = (\text{Total Service Area Tract Population} - \text{Total Service Area White Alone Population}) / \text{Total Service Area Tract Population}$

Low income percentage is calculated using block group data. Percent low income is calculated for service area block groups to provide a baseline comparison.

- $\text{Low-income by Block Group} = \text{Total Service Area Poverty Rate by Block Group} / \text{Total Service Area Block Group Population}$

The resulting demographic data percentages are then used as a threshold to determine minority tracts and low income block groups. Any tract or block group with percentage of minority or low income populations at or higher than the demographic thresholds are considered minority or low income for the purpose of Title VI analysis.

3.5.1.2 Route Level Demographic Data

Demographic data for bus routes is calculated using the same method as described in section 3.5.1.1. However, in the case of express routes, demographic data is only calculated for portions of the route where the route is in service. In the Northeast Corridor express routes do not provide service along Interstates 77 and 85. The resulting demographic data for the CATS service area, Northeast Corridor bus routes percentages are detailed in Section 4, Table 4-1.

4 EXISTING CONDITIONS

4.1 Demographics

Utilizing the established methodology as described in Section 3, Table 4-1 details the service area minority and low income populations for CATS as well as the existing Northeast Corridor bus routes that will be integrated with the LYNX BLE. A map of the LYNX BLE Bus-Rail Integration Plan that details the minority and low income populations can be viewed in Figure 5.

**Table 4-1
 Existing Service Area Demographics (Percent by Demographic Type)**

Service Area	Minority Proportion of Population	Low Income Proportion of Population
CATS	46.68%	11.85%
Route 3 The Plaza	69.00%	19.25%
Route 4 Country Club	50.18%	20.04%
Route 11 North Tryon	68.11%	18.68%
Route 13 Nevins Road	72.19%	23.59%
Route 22 Graham Street	65.57%	13.95%
Route 23 Shamrock Drive	69.27%	18.49%
Route 29 UNC-Charlotte/SouthPark	56.97%	13.69%
Route 39 Eastway Drive	61.88%	16.09%
Route 47 UNC Charlotte Nugget	63.93%	22.12%
Route 49 UNC Charlotte Niner	61.07%	15.69%
Route 50 UNC Charlotte -UNC Charlotte Research Institute (CRI)	64.37%	15.69%
Route 54x University Research Park Express	63.06%	18.68%
Route 79x Concord Mills Mall Express	58.26%	13.69%
Route 80x Concord Express	48.49%	12.59%
Route 204 Lasalle	89.02%	29.37%
Route 211 Hidden Valley	84.04%	17.10%

4.2 Service Characteristics

4.2.1 Existing Northeast Corridor Bus Routes

The headways for the existing Northeast Corridor bus routes that will be integrated with the LYNX BLE are listed in Table 4-2.

**Table 4-2
 Existing Northeast Corridor Bus Route Headways (Minutes)**

Routes	Time Period			Type
	Peak	Midday	Night	
3-The Plaza	30	30	50	Local
4-Country Club	30	30	45	Local
11-North Tryon	10	10	30	Local
13-Nevin Rd	30	30	30	Local
22-Graham St	30	30	40	Local
23-Shamrock Dr	20	30	45	Local
29-UNC Charlotte/South Park	45	45	---	Local
39-EastwayDr	35	45	45	Local
47- UNC Charlotte Nugget	20	20	20	Local
49- UNC Charlotte Niner	15	15	---	Local
50-UNC Charlotte - Charlotte Research Institute (CRI)	15	15	30	Local
54x-University Research Park Express	12	---	---	Express
79x-Concord Mills Express (Saturday only)	60	60	---	Express
80x-Concord Express	20	---	---	Express
204-Lasalle	30	30	60	Local
211-Hidden Valley	20	20	30	Local

Note: "----" refers to no service operated during time period

The span of service for the existing Northeast Corridor bus routes that will be integrated with the LYNX BLE are listed in Table 4-3.

**Table 4-3
 Existing Northeast Corridor Span of Service by Bus Route**

Routes	Span of Service		
	Weekdays	Saturday	Sunday
3 The Plaza	5:11 am - 1:54 am	5:53 am - 1:55 am	5:39 am - 1:22 am
4 Country Club	5:40 am - 1:04 am	5:44 am - 12:58 am	6:40 am - 11:46 pm
11 North Tryon	4:58 am - 2:05 am	5:38 am - 2:04 am	5:52 am - 1:03 am
13 Nevin Road	5:10 am - 1:01 am	5:30 am - 1:10 am	7:42 am - 12:56 am
22 Graham Street	5:06 am - 1:49 am	6:38 am - 1:43 am	6:38 am - 12:45 am
23 Shamrock Drive	5:10 am - 1:59 am	5:23 am - 1:56 am	6:25 am - 1:02 am
29 UNC-Charlotte/SouthPark	5:53 am - 7:54 pm	8:10 am - 6:45 pm	---
39 Eastway Drive	5:35 am - 2:06 am	5:47 am - 1:32 am	6:26 am - 7:29 pm
47 UNC-Charlotte Nugget*	7:30 am - 10:00 pm	---	---
49 UNC-Charlotte Niner*	6:00 am - 5:57 pm	---	---
50 UNC-Charlotte-CRI*	6:45 am - 10:00 pm	---	---
54X University Research Park Express	5:40 am - 9:20 am 3:37 pm - 7:41 pm	---	---
79x Concord Mills Express	---	8:55 am - 9:55 pm	---
80X Concord Express	5:40 am - 8:32 am 4:05 am - 7:05 pm	---	---
204 Lasalle	5:30 am - 11:45 pm	7:25 am - 10:11 pm	---
211 Hidden Valley	4:50 am - 12:48 am	5:30 am - 1:06 am	7:10 am - 11:59 pm

Note: "----" refers to no service operated during time period

*Service provided September through Mid-May of a UNC-Charlotte school year

Route 11 North Tryon is currently CATS highest ridership bus route. Due to numerous destinations and frequent service, Route 11 is frequently the most transferred to bus route in CATS system. Considering the proposed LYNX BLE could alter bus transfer patterns, a sample monthly weekday transfer analysis was performed on the Northeast Corridor bus routes. The purpose of this analysis was to determine the percentage and rank of transfers to Route 11 from Northeast Corridor bus routes when compared to transfers throughout CATS system. For example, as indicated in the Table 4-4 below, 12% of the total transfers tickets issued on Route 4 are used for transfer to Route 11. Additionally, Route 4 passengers transfer to Route 11 more than any other bus route in CATS system. UNC- Charlotte Routes 47, 49, and 50 do not issue transfers, therefore they were not included in this analysis. Additionally Route 79x, a Saturday only service, was also not included.

**Table 4-4
 Existing Northeast Corridor Transfer Analysis to Route 11 North Tryon**

Route	Transfer to Route 11 North Tryon	
	Percentage of Total	System Rank
3 The Plaza	8%	3
4 Country Club	12%	1
13 Nevin Road	12%	1
22 Graham Street	10%	1
23 Shamrock Drive	9%	1
29 UNC-Charlotte/SouthPark	13%	2
39 Eastway Drive	13%	2
54X University Research Park Express	8%	2
80X Concord Express	10%	1
204 Lasalle	15%	2
211 Hidden Valley	86%	1

5 SERVICE EQUITY ANALYSIS

5.1 Description of Route Changes

The Northeast Corridor routes serve a high percentage of transit dependent customers. Coupled with the challenges of poor road connectivity and a suburban development patterns, great care was taken to ensure that the *LYNX BLE Bus/Rail Integration Plan* provides more choices and overall improved transit service.

A through service equity analysis was performed on all LYNX BLE Bus-Rail Integration routes. Table 5-1 details the summary level changes to route structure. Section 5.2 includes a detailed analysis on areas where transit service is proposed to be discontinued. Additionally service level data including headways, span of service, and travel time analysis for each route are also described in Section 5.2. Mitigation for possible impacts to minority and low income populations are detailed in Chapter 6.

**Table 5-1
 LYNX BLE Bus - Rail Modifications**

Existing	LYNX BLE Modifications
<p>Route 3 – Plaza Road: This route provides service along North Davidson Street and The Plaza from Center City Charlotte to Central Piedmont Community College (CPCC) – CATO Campus. The route serves NoDa and Hampshire Hills neighborhoods, and the University Commercial Place.</p>	<p>Route 3 – Plaza Road: Route 3 will be rerouted off of 36th St and North Davidson St. Areas south of Jordan Dr will be served by the LYNX BLE and areas north of Jordan Drive will be served by Route 4. Route 3 will instead turn onto Sugar Creek Rd from The Plaza to a terminus at the Sugar Creek Station. This route will continue to provide service along The Plaza from the <u>Sugar Creek Station</u> to the Central Piedmont Community College (CPCC) – CATO Campus, as well as the NoDa and Hampshire Hills neighborhoods. Additionally due to decreasing ridership and the relocation of a major employer, the General Commerce variant is proposed to be discontinued. (Figure 6)</p>
<p>Route 4 – Country Club: This route serves the Villa Heights, Plaza Hills, Plaza Midwood, and Country Club neighborhoods, primarily operating along Parkwood Avenue, The Plaza, Matheson Avenue, and 7th St.</p>	<p>Route 4 – Parkwood: Due to Routes 3 and 23 no longer serving areas south of 36th St, the low ridership Belvedere/Matheson open loop will be rerouted to operate from The Plaza/Matheson to Jordan Pl to N Davidson St with a terminus at the <u>36th Street Station</u>. The route will continue to serve the Villa Heights, Plaza Hills, Plaza Midwood, and NoDa neighborhoods. (Figure 7)</p>
<p>Route 11 – North Tryon. This route provides service along North Tryon Street/US-29 from Center City Charlotte to the UNC Charlotte main campus. The route serves neighborhoods, commercial and business complexes, the Sugar Creek Service Center and the University City Municipal Service District along North Tryon Street/US-29.</p>	<p>Route 11 – North Tryon: With the Blue Line Extension providing service along North Tryon Street/US-29 North of the Old Concord Rd, Route 11 will be truncated at the <u>Old Concord Road Station</u>. Transit customers will be able to transfer to the light rail or the cross-town service, Route 39 for service north of Old Concord Rd. Neighborhoods such as Tryon Hills and Hidden Valley, as well as commercial and business complexes south of the <u>Old Concord Road Station</u> will continue to be served by Route 11. (Figure 8)</p>
<p>Route 13 – Nevin Road. This route provides service from Center City Charlotte to Nevin Road, primarily operating along North Tryon Street/US-29, Statesville Avenue, and Nevin Road. The route serves various neighborhoods and businesses, as well as the Nevins Center.</p>	<p>Route 13 – Nevin Road: Route 13 will be extended from the current terminus at Dalecrest Dr to the <u>University City Blvd Station</u>. The route will serve a low ridership portion of the existing Route 22 areas and will primarily operate along North Tryon Street/US-29, Statesville Avenue, Nevin Road, Graham Street and City Blvd. Neighborhoods including Druid Hills and Derita as well as The Nevins Center will continue to have service. (Figure 9)</p>

Table 5-1 (Continued)
LYNX BLE Bus - Rail Modifications

Existing	LYNX BLE Modifications
<p>Route 22 – Graham Street. This route provides service along N Graham St to Mallard Creek Rd from Center City Charlotte to W.T. Harris Blvd including the University Research Park. The route serves various neighborhoods along N Graham St, as well as multi-family complexes such as the Prosperity Creek Apartments. The route also serves employment within the University Research Park</p>	<p>Route 22 – Graham Street: Since Routes 13, 54, and 125 will be providing service North of I-85, there is an opportunity to terminate Route 22 at the <u>Sugar Creek Station</u>. The new routing will continue to serve Graham St South of I-85, but will turn at Craighead Rd then to Raleigh St with a terminus at the <u>Sugar Creek Station</u>. The route would maintain serve to various neighborhoods along North Graham Street, as well as provide more consistent service to multi-family complexes along Craighead Road. (Figure 9)</p>
<p>Route 23 – Shamrock Drive. This route operates from Center City Charlotte via N Davidson St, Shamrock Dr, W.T. Harris Blvd and Hickory Grove Rd. Service is provide to neighborhoods such as NoDa and Shannon Park and terminates at the large retail center at East Towne Market.</p>	<p>Route 23 – Shamrock Drive: Route 23 will no longer provide service along N Davidson St South of 36th St; rather it will continue along 36th St and interline with the Route 204 service West of 36th St/N Davidson St. Transfer to light rail would be possible at the <u>36th St Station</u>, and would connect neighborhoods such as NoDa, Washington Heights, Druid Hills, and Country Club Heights. Additionally, Route 23 service would be removed from the current open loop of Hickory Grove Rd and Sharon Amity Rd in order for bi-directional service along WT Harris Blvd to occur. Routes 29, 222 and 232 would be altered to provide service to the Sharon Amity Rd and Hickory Grove Rd areas. (Figure 10).</p>
<p>Route 29 – UNC Charlotte/South Park. This route provides local cross-town service between the South Park Community Transit Center and the UNCC main campus. The route serves destinations such as South Park Mall, Cotswold Shopping Center, Eastland Community Transit Center, the CPCC CATO Campus, before terminating at the UNCC Main Campus. The route utilizes North Sharon Amity Road, The Plaza, W.T. Harris Blvd and University City Blvd./NC-49.</p>	<p>Route 29 – UNC Charlotte/South Park: Route 29 will no longer enter the campus of UNCC, rather it will provide service to areas previously covered by Route 11 along Hwy 49, Mallard Creek Church Rd, Hwy 29, and terminate at the <u>JW Clay Blvd. Station</u>. Additionally the route will be streamlined along WT Harris Blvd providing a more efficient reliable crosstown service. (Figure 11)</p>
<p>Route 39 – Eastway Drive. This route provides service from Center City Charlotte to the Northpark Mall and Eastway Shopping Center, via Central Avenue, Eastway Drive and North Tryon Street/US-29. The route also serves the Presbyterian Hospital and CPCC Main Campus.</p>	<p>Route 39 – Eastway Drive: Due to overlapping service along Central Ave and Elizabeth Ave, Route 39 will become a new cross-town service. Neighborhoods such as Hidden Valley, Hampshire Hills, and Country Club Heights would continue to be served. The route would primarily operate from a northern terminus at a University City retail center at North Tryon Street/US-29 then to Eastway Dr and Wendover Road with a southern terminus at the medical and social services along Billingsley Rd. Although a part of the Bus-Rail Integration Plan, with planned service to the <u>Old Concord Rd and University City Blvd Stations</u>, this route change will be implemented prior to the start of LYNX BLE rail service through CATS 2012-2017 CTSP. A separate Title VI analysis will be conducted before changes are implemented. (Figure 12)</p>
<p>Route 47 – UNCC Nugget Shuttle: This route operates within the UNCC campus, providing service between dormitories and classrooms.</p>	<p>Route 47 – UNCC Nugget Shuttle: No changes. Connects to the <u>UNC Charlotte Station</u>. (Figure 13)</p>
<p>Route 49 – UNCC Niner Shuttle. This route provides service to dormitories and classrooms as well to locations along Pavilion Blvd.</p>	<p>Route 49 – UNCC Niner Shuttle: No changes. Connects to the <u>UNC Charlotte Station</u>. (Figure 13)</p>
<p>Route 50 – UNCC - Charlotte Research Institute (CRI) Shuttle. This shuttle route operates within the UNCC campus, providing service to dormitories, classrooms and the UNCC CRI Campus.</p>	<p>Route 50 – UNCC- Charlotte Research Institute (CRI) Shuttle: No changes. Connects to <u>UNC Charlotte Station</u>. (Figure 13)</p>

Table 5-1 (Continued)
LYNX BLE Bus - Rail Modifications

Existing	LYNX BLE Modifications
<p>Route 54x – University Research Park. This is an express bus route serving Center City Charlotte and the University Research Park. The route utilizes Trade Street, Interstate 77 (I-77), Interstate 85 (I-85), City Boulevard, serving the CATS JN Pease Place Park-and-Ride, University Research Park and the Wachovia Customer Information Center (CIC) campus. The route operates express between Trade/Cedar Streets and I-85/City Boulevard.</p>	<p>Route 54 – University Research Park: This route would be modified to connect employment locations in the University Research Park to the <u>University City Blvd. Station</u>. The route would primarily operate along City Blvd., IBM Drive, W.T. Harris Blvd, David Taylor and Mallard Creek Church Road. With this modification, Route 54x routing and service would be eliminated between I-85 and Uptown Charlotte. Additionally this route would better serve the University Research Park area that is currently served by Route 22 Graham St. (Figure 14)</p>
<p>Route 80x – Concord Express. This is an express plus bus route serving the Center City Charlotte, various park-and-ride lots along North Tryon Street/US-29 and the City of Concord. There are four park-and-ride lots along the route: University Place Park-and-Ride in Charlotte, and the Lowe’s Motor Speedway, Big Lots Shopping Center, and the Target/Home Depot Shopping Center Park-and-Rides in the City of Concord. The route operates express and does not stop between Center City Charlotte and University Place Park-and-Ride.</p>	<p>Route 80x – Concord Express: This route will provide limited stop service from the City of Concord to a terminus at the <u>JW Clay Blvd. Station</u>, primarily along US-29 in Cabarrus County. There would be three existing bus park-and-ride lots served along this route: Lowe’s Motor Speedway, Big Lots Shopping Center, and the Target/Home Depot Shopping Center. With this modification Route 80x routing and service would be eliminated from I-85 and Uptown Charlotte. (Figure 15)</p>
<p>Route 79x-Concord Mills Express: This route is a regional express service operating only on Saturday. Service is provided between Uptown Charlotte to Concord Mills Mall travelling along Interstate 85 and North Tryon St/Hwy 29 to Bruton Smith Blvd.</p>	<p>Route 110 – Concord Mills Mall: This new route will provide access to Concord Mills Mall by travelling along Odell School Rd, Mallard Creek Church Rd, and Hwy 29. The route will terminate at the <u>JW Clay Blvd. Station</u>. The route would also provide service to apartments along Mallard Creek Church Rd as well as a planned Bank of America development near the intersection of Mallard Creek Church Rd and North Tryon Street. This route would replace 79x Concord Mills Express and expand service to every day. (Figure 16)</p>
<p>Route 204 – LaSalle. This route is a neighborhood circular route serving Oakview Terrace, the Rosa Parks Place Community Transit Center, the Lincoln Heights and Druid Hills neighborhoods, and the Sugar Creek Service Center. The route utilizes local neighborhood streets, LaSalle Street, Statesville Avenue, Norris Avenue, 30th Street, North Tryon Street/US-29, Craighead Road, Glory Street and West Sugar Creek Road before terminating at the Sugar Creek Service Center.</p>	<p>Route 204 Lasalle will be re-routed from the Sugar Creek Service Center on North Tryon St in order to serve the 36th Street Station. That section of North Tryon St will continue to be served by Route 11. It is anticipated that the route will be interlined with Route 23 providing the opportunity for a crosstown service. (Figure 10)</p>
<p>See Route 22 Graham Street</p>	<p>Route 125 – Derita/Prosperity Church: This new route will replace the Route 22 service with improved service to communities along Prosperity Church Road and Mallard Creek Road with a terminus at the <u>University City Blvd. Station</u>. (Figure 9)</p>
<p>Route 211 – Hidden Valley. This route is a neighborhood circular route serving the Hidden Valley neighborhood and the Sugar Creek Service Center. The route utilizes North Tryon Street/US-29, West Sugar Creek Road, Tom Hunter Road and local neighborhood streets.</p>	<p>Route 211 – Hidden Valley: Route 211 will be rerouted to provide bi directional service through the Hidden Valley neighborhood. Additionally it will no longer serve areas along Craighead Rd, since Route 22 will provide service to that area The route would serve the Hidden Valley neighborhood providing transfer opportunities at the <u>Tom Hunter and Sugar Creek Stations</u>. (Figure 17)</p>

5.2 LYNX BLE Bus-Rail Route Level Analysis

5.2.1 Demographics

Utilizing the established methodology as described in Section 3, Table 5-2 compares minority/low income population demographics for the existing service area to the LYNX BLE Bus-Rail service area. The LYNX BLE Bus-Rail service area as currently proposed would provide service to a greater proportion of the minority/low income population.

**Table 5-2
 LYNX BLE Bus Rail Service Area Demographics (Percent by Demographic Type)**

Service Area	Minority Proportion of Population		Low Income Proportion of Population	
	Existing	LYNX BLE Bus-Rail	Existing	LYNX BLE Bus-Rail
CATS	46.68%	46.68%	11.85%	11.85%
LYNX BLE Bus-Rail Integration Plan		58.08%		14.29%
Route 3 The Plaza	69.00%	76.88%	19.25%	16.98%
Route 4 Country Club	50.18%	60.40%	20.04%	20.37%
Route 11 North Tryon	68.11%	69.84%	18.68%	22.90%
Route 13 Nevins Rd	72.19%	72.55%	23.59%	20.40%
Route 22 Graham St	65.57%	72.96%	13.95%	22.68%
Route 23 Shamrock Drive	69.27%	78.57%	18.49%	19.61%
Route 29 Southpark/UNCC	56.97%	56.33%	13.69%	14.26%
Route 39 Eastway Dr	61.88%	61.37%	16.09%	16.46%
Route 54x University Research Park Express	63.06%	65.47%	18.68%	12.31%
Route 79x Concord Mills Mall Express*	58.26%		13.69%	
Route 80x Concord Express	48.49%	43.99%	12.59%	12.70%
Route 110 Concord Mills Mall		54.77%		10.16%
Route 125 Derita/Prosperity Church		64.85%		10.07%
Route 204 Lasalle Drive*	89.02%		29.37%	
Route 211 Hidden Valley	84.04%	82.68%	17.10%	17.03%

*Rt 79x becomes Route 110-Concord Mills Mall, Route 204 combines with Rt 23

5.2.2 Discontinuation

The LYNX BLE Bus-Rail Integration Plan will continue to serve the vast majority of each routes existing service area. However, in some instances due to underperforming route variants, overlapping transit service, and a desire to reduce open loops, certain route segments are proposed to be discontinued. Route segments and the accompanying bus stops that are proposed to have transit service discontinued are detailed in Tables 5-3 through 5-10. Ridership data used for analysis are based upon February 2012 weekday service. Each table includes a map with the following legend:

Legend					
	Streets		LYNX BLE		Proposed LYNX Bus/Rail Integration Route Network
	Existing Transit Service		Stations		Proposed LYNX BLE Bus-Rail Modification to Existing Transit Service
	Existing Bus Stops Within Quarter Mile of LYNX BLE Station or Bus-Rail Network		Stations with Park-and-Ride		Quarter Mile Buffer of Proposed LYNX Bus-Rail Integration Route Network
	Existing Bus Stops Outside Quarter Mile of LYNX BLE Station or Bus-Rail Network		Quarter Mile Buffer of LYNX BLE Station		Quarter Mile Buffer of Proposed LYNX BLE Bus-Rail modifications to Existing Transit Service

Table 5-3
North Davidson Street

Description and Area Map			
<p>North Davidson Street - Routes 3/23: Routes 3 and 23 are proposed to have service discontinued along N Davidson St. The majority of N Davidson St would continue to have transit service through Route 4 as well as the 36th St, 25th St and Parkwood LYNX BLE Stations. If the changes are implemented as proposed, eight stops would be just outside of the ¼ mile transit service area. The existing higher boarding locations are within ¼ mile of transit service. Six of the eight stops in the service gaps range from 1-4 average daily boardings. Two of the eight stops are located near the CATS North Davidson Bus Maintenance Facility and account for 93% of transit boardings/alightings in the service gap sections. CATS bus operators make up a significant proportion of that ridership. Operators use Routes 3 and 23 for travel to and from the Charlotte Transportation Center. Eliminating service to that stop would not have a significant impact to minority or low-income populations.</p>			
Proportion of Weekday Route Ridership			
Boardings		Alightings	
Route 3 – 2.1%	Route 23 – 1.9%	Route 3 – 2.7%	Route 23 – 2.6%

Table 5-4
Quiet Cove Court

Description and Area Map	
<p>Quiet Cove Ct – Route 3: Currently Route 3 operates along Quiet Cove Ct in an open loop. The BLE Bus-Rail Plain proposes that service be discontinued in this area in order to provide bi-directional service along higher ridership sections of Barrington Dr and Cove Creek Dr. The higher number of alightings vs boardings in the Quiet Cove Ct section suggests that passengers are boarding elsewhere along the open loop. By operating service bi-directional through this community, transit service will become more reliable and consistent.</p>	
Proportion of Weekday Route Ridership	
Boardings	Alightings
.4%	2%

Table 5-5
General Commerce Drive

Description and Area Map	
<p>General Commerce Drive – Route 3: This segment is a Route 3 variant with eight daily weekday trips and no weekend service. Primary land uses along General Commerce Drive are light industrial and serve as employment destinations for CATS customers. One of the major employers, City of Charlotte Solid Waste Services, will be consolidating operations to a location in NW Charlotte. Considering that 70% of transit boardings/alightings for this variant are associated with the Solid Waste Services location, the Bus-Rail plan proposes that the variant be discontinued.</p>	
Proportion of Weekday Route Ridership	
Boardings	Alightings
.3%	.3%

Table 5-6
Matheson Av / Belvedere Av

Description and Area Map	
<p>Matheson Dr / Belvedere Av - Route 4: The Matheson Av and Belvedere Av segments of the Route 4 terminal open loop have very low ridership. All but one stop have average weekday boardings of 1-2 passengers per day. The stop located at Matheson Av and Florida Dr account for 45% of all transit boardings/alightings along the open loop and is only 50 feet from the ¼ service area of the proposed routing of the LYNX BLE Route 4. By changing the existing Route 4 to operate on Matheson Av north of The Plaza to N Davidson St, allows CATS to provide service to a larger transit dependent population, provide direct access to the LYNX BLE, decrease travel time to the University Area, and maintain service along North Davidson St. Additionally the aforementioned change has been recommended continuously in prior CATS Countywide Transit Service Plans.</p>	
Proportion of Weekday Route Ridership	
Boardings	Alightings
3.3%	3.8%

Table 5-7
North Tryon St / Harris Bv

Description and Area Map	
<p>North Tryon St / Harris Blvd – Route 11: Out of the 128 bus stops along the current Route 11, only one stop would not be located within ¼ mile of transit service upon implementation of the LYNX BLE Bus-Rail Integration Plan. That stop, located on inbound N Tryon St near the intersection with Harris Blvd, currently has averages of 30 weekday boardings and 11 alightings. It is anticipated that transit activity in this area will be altered during construction of the LYNX BLE and stops along this segment will need to be consolidated in order to reduce construction conflicts and provide consistent access to transit for existing customers. Considering that the majority of destinations in this area are centered around Ken Hoffman Dr and N Tryon St with over 125 average weekday alightings, it would be feasible to consolidate bus stops to that intersection. This would shift transit activity within the ¼ mile service area of the future McCullough Station.</p>	
Proportion of Weekday Route Ridership	
Boardings	Alightings
.6%	.2%

Table 5-8
Hickory Grove Road
Route/Area Description

<p>Hickory Grove Road – Route 23: Currently Route 23 operates with a terminal open loop along Sharon Amity Rd, Hickory Grove Rd, and WT Harris Blvd. The WT Harris Blvd segment currently comprises 66% of all transit boardings and alightings, when compared to Sharon Amity Rd and Hickory Grove Rd. In order to provide bi-directional service along the higher ridership section of WT Harris Blvd, the LYNX Bus-Rail Integration plan proposes that route 23 service be discontinued along Sharon Amity Rd and Hickory Grove Rd. Routes 29, 222, and 232 would be altered to provide service to the Sharon Amity Rd and Hickory Grove Rd areas, providing the same level of service. Additionally, this would ensure that all sections of the current open loop would have bi-directional service.</p>	
Proportion of Weekday Route Ridership	
Boardings	Alightings
1.1%	1.3%

Table 5-9
University City Bv

Description and Area Map	
<p>University City Blvd, Route 29 – Currently Route 29 provides service to a retail center located off of University City Blvd and WT Harris Blvd. The two stops located at this center have 7 average weekday boardings. The LYNX BLE Bus-Rail Integration Plan proposes that Route 29 service be discontinued for this section of University City Blvd. By removing service from this segment, there is the opportunity to re-route service to Old Concord Rd and Suther Rd. This change would enable CATS to provide service to emerging transit dependent populations along Old Concord Rd as well as provide a convenient transit connection for off campus housing along Suther Rd. Although service would be removed from the University City Blvd segment, the Bus-Rail modification allows CATS to serve populations of need that currently have no transit service.</p>	
Proportion of Weekday Route Ridership	
Boardings	Alightings
1.5%	1.9%

Table 5-10
Barrington Drive / Shamrock Drive / The Plaza

Description and Area Map	
<p>Barrington Drive / Shamrock Drive / The Plaza, Route 29 - The Barrington Dr, Shamrock Dr, and The Plaza segments of the Route 29 have very low ridership. All but two stops along these segments have average weekday boardings of 1 or less. The stops located on Shamrock Dr near Somerdale Ln have relatively higher ridership, but are still only 2-3 average boardings during the weekday. With such low boardings along these segments, the LYNX BLE Bus-Rail Integration Plan proposes that Route 29 service be removed from Barrington Dr, Shamrock Dr, and The Plaza. This will enable Route 29 to better serve Sharon Amity Rd and E WT Harris Blvd where numerous multi-family complexes are located. Additionally this would provide a faster more efficient crosstown connection between LYNXBLE and the Community Transit Centers located at Eastland and SouthPark Malls.</p>	
Proportion of Weekday Route Ridership	
Boardings	Alightings
1.9%	2.2%

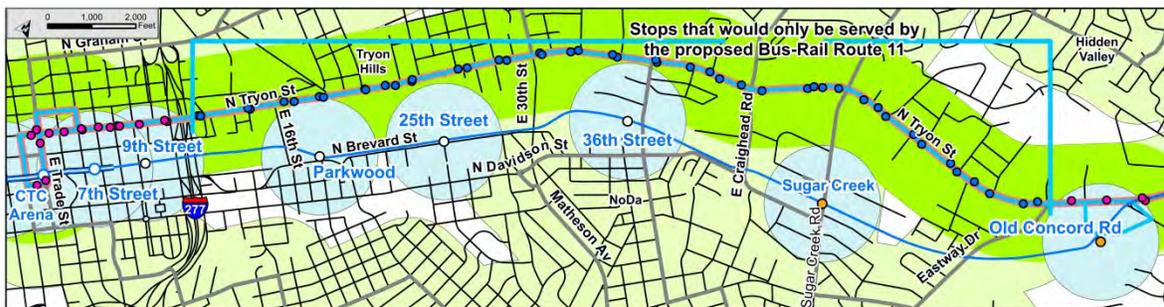
With the implementation of the proposed Bus-Rail Integration Plan routes 54x and 80x will no longer operate from Interstate 85 to Center City Charlotte. Considering the routes currently do not provide service along Interstate 85, the effective service area for those routes would remain unchanged. The proposed modifications to routes 54x and 80x will change the operating characteristics of these routes from express to a more local/shuttle service with termini at LYNX BLE stations. Although a transfer would be required to LYNX BLE from Bus-Rail routes 54 and 80 for travel to Center City Charlotte, travel time savings would occur for customers. Additionally, current customers that use existing CATS park and rides would be able to park and ride at the LYNX BLE JW Clay Blvd and University City Blvd stations. In either scenario, CATS’s current express customers on routes 54x and 80x would experience travel time savings with implementation of the LYNX BLE. Travel time analysis for the Bus-Rail plan is covered in Section 5.2.5.

5.2.3 Frequency/Headways

In order to maintain the same level of service for Northeast Corridor routes, the majority of the LYNX BLE Bus-Rail route headways will remain at the same frequency or improve upon implementation of the proposed LYNX BLE. As indicated in Table 5-13 only Routes 11, 211, 54x will increase in headway.

The LYNX BLE would enter the median of N Tryon St near the intersection of Old Concord Rd providing 10 minute peak service to N Tryon St from Old Concord Rd to the campus of UNC-Charlotte. In addition to the LYNX BLE, Bus-Rail Routes 39, 49, 29, and 110 would also provide transit service for that area. Route 11 currently provides service from Center City Charlotte along North Tryon St to the campus of UNC-Charlotte. When the LYNX BLE is implemented, the Bus-Rail plan proposes to truncate Route 11 at the Old Concord Rd Station. This would prevent duplicative service along N Tryon St as well as provide Route 11 passengers the ability to transfer to the LYNX BLE for significant travel time savings.

In order to ensure that low income and minority customers would not be adversely impacted with the proposed Bus-Rail modification to Route 11, a ridership and headway analysis was completed. The ridership analysis based upon February 2012 boardings determined the proportion of existing Route 11 passengers that would only be served by the proposed Bus-Rail Route 11. The resulting analysis shows that only 26% of the average weekday boardings of the existing Route 11 occurred within the section indicated in the map below. The area of North Tryon St between Old Concord Rd and UNC-Charlotte accounts for 74% the total existing Route 11 ridership.



Using the proportion of ridership for the proposed Bus-Rail Route 11 a headway analysis was performed. To determine the appropriate headway for Peak, Midday and Night service the following formulas were used for Table 5-11.

- Number of Vehicles=(Daily Boardings / Vehicle Seated Capacity) / Time Period Service Hours
- Headway=60 Minutes / Number of Vehicles

**Table 5-11
 Route 11 Headway Analysis**

	Daily Boardings	Headway (min)
Peak	409	23
Midday	610	24
Night	102	94

As shown in Table 5-13, The LYNX BLE Bus-Rail Integration Plan proposes a peak and midday headway of 20 minutes and 40 minutes at night for Route 11 upon implementation of the LYNX BLE. The results from the headway analysis in Table 5-11 confirm that the proposed Bus-Rail headways are sufficient for Route 11.

Route 54x University Research Park Express currently operates as an express route with only weekday AM/PM peak service. With the implementation of the LYNX BLE, Route 54x will convert to a local route serving the University Research Park area replacing the current Route 22 service. The LYNX BLE Bus-Rail headways match the existing Route 22 service. Additionally, express customers would be able to park and ride at the LYNX BLE JW Clay Blvd and University Blvd Stations.

The Bus-Rail plan proposes to increase the Route 211 night headway from the current level of 30 minutes to 40 minutes. In Table 5-12, utilizing the same method that was applied to Route 11, it was determined that the headway increase would not degrade service.

**Table 5-12
Route 211 Headway Analysis**

	Daily Boardings	Headway (min)
Night	149	42

**Table 5-13
LYNX BLE Headway Modifications to Existing Bus Routes**

Route	Peak Headway (minutes)		Mid-Day Headway (minutes)		Night Headway (minutes)		Light Rail Station Served
	Existing	LYNX BLE Bus-Rail	Existing	LYNX BLE Bus-Rail	Existing	LYNX BLE Bus-Rail	
3	20	20	30	30	45	40	Sugar Creek
4	30	30	30	30	45	40	Sugar Creek
11	10	20	10	20	30	40	Old Concord Road
13	30	30	30	30	30	30	University City Blvd
22	30	30	30	30	40	40	Sugar Creek
23	20	20	30	30	45	40	36th Street
29	45	40	45	40	---	---	JW Clay Blvd
39	35	30	45	30	45	30	Old Concord Rd, Tom Hunter, and University City Blvd
47	20	20	20	20	20	20	UNC Charlotte
49	15	15	15	15	---	---	UNC Charlotte
50	15	15	15	15	30	30	UNC Charlotte
54x	12	30	---	60	---	---	University City Blvd
79x*	60	---	60	---	---	---	---
80x	20	20	---	---	---	---	JW Clay Blvd
110	n/a	30	n/a	30	n/a	60	JW Clay Blvd
125	n/a	30	n/a	30	n/a	40	University City Blvd
204*	30	---	30	---	60	---	---
211	20	20	20	20	30	40	Sugar Creek and Tom Hunter

Note: "----" refers to no service being operated during those frequencies.

*Rt 79x becomes Route 110-Concord Mills Mall, Route 204 combines with Rt 23

Key	Headway Increase
	Headway Decrease

5.2.4 Span of Service

The span of service for Northeast Corridor routes will either improve or be maintained at the current levels upon implementation of the proposed LYNX BLE. As shown in Table 5-3, nearly all LYNX BLE Bus-Rail Routes will operate with no reduction to span of service. Route 204 will combine with Route 23 becoming a cross-town route. Routes 54x will improve to an all-day service providing more transit options in the University Research Park. Similarly Route 79x will become Route 110 improving from a Saturday only service to operating throughout the week and weekends. Additionally the LYNX BLE will provide service from 5:00 am - 1:00 am seven days a week throughout the North Tryon Rd Corridor.

**Table 5-14
 LYNX BLE Modifications to Span of Service of Existing Bus Routes**

Routes	Span of Service					
	Weekdays		Saturday		Sunday	
	Existing	LYNX BLE Bus/Rail	Existing	LYNX BLE Bus/Rail	Existing	LYNX BLE Bus/Rail
3 The Plaza	5:11 am 1:54 am	M	5:53 am 1:55 am	M	5:39 am 1:22 am	M
4 Country Club	5:40 am 1:04 am	M	5:44 am 12:58 am	M	6:40 am 11:46 pm	M
11 North Tryon	4:58 am 2:05 am	M	5:38 am 2:04 am	M	5:52 am 1:03 am	M
13 Nevin Road	5:10 am 1:01 am	M	5:30 am 1:10 am	M	7:42 am 12:56 am	M
22 Graham Street	5:06 am 1:49 am	M	6:38 am 1:43 am	M	6:38 am 12:45 am	M
23 Shamrock Drive	5:10 am 1:59 am	M	5:23 am 1:56 am	M	6:25 am 1:02 am	M
29 UNCC	5:53 am 7:54 pm	M	8:10 am 6:45 pm	M	---	---
39 Eastway Drive	5:35 am 2:06 am	M	5:47 am 1:32 am	M	6:26 am 7:29 pm	M
47 UNC-Charlotte Nugget*	7:30 am 10:00 pm	M	---	M	---	M
49 UNC-Charlotte Niner*	6:00 am 5:57 pm	M	---	M	---	M
50 UNC-Charlotte-CRI*	6:45 am 10:00 pm	M	---	M	---	M
54X University Research Park Express	5:40 am 9:20 am 3:37 pm 7:41 pm	5:06 am 11:15 pm	---	6:38 am 11:15 pm	---	6:38 am 11:15 pm
79x Concord Mills Express	---	---	8:55 am - 9:55 pm	---	---	---
80X Concord Express	5:40 am 8:32 am 4:05 am 7:05 pm	M	---	M	---	M
110 Mallard Creek/Concord Mills	---	6:34 am 11:15 pm	---	7:08 am 11:15 pm	---	7:08 am 11:15 pm
125 Derita/Prosperity Church Road	---	6:44 am 11:15 pm	---	7:16 am 10:23 pm	---	7:10 am 10:17 pm
204 Lasalle	5:30 am 11:45 pm	---	7:25 am 10:11 pm	---	---	---
211 Hidden Valley	4:50 am 12:48 am	M	5:30 am 1:06 am	M	7:10 am - 11:59 pm	M
LYNX BLE	---	5:00 am 1:00 am	---	5:00 am 1:00 am	---	5:00 am 1:00 am

Note: "----" refers to no service operated during time period--- "M" refers to Maintained span of service
 *Service provided September through Mid-May of a UNC-Charlotte school year

5.2.5 Travel Time Analysis

As previously covered in Sections 5.2.1 and 5.2.3 the LYNX BLE Bus-Rail Integration Plan will not have a negative impact on the headways and span of service for Northeast Corridor bus routes. One final area of possible negative impact is the change in travel patterns through new bus to rail transfers at LYNX BLE Stations. In order to analyze this possible impact, travel times for the LYNX Bus/Rail routes were compared to existing bus route travel times. Considering the existing Northeast Corridor bus routes have an established high transfer rate to existing Route 11 North Tryon (Table 4-4), Route 11 was used as a base service to compare travel to the University City/UNC-Charlotte area. In the case of Routes 54 and 125, existing Route 22 was used as a base. For the purposes of the service equity analysis, only the routes with altered travel patterns were analyzed.

**Table 5-15
 Route 3 The Plaza**

Route 3 The Plaza		Travel Time (min)		
		Existing	LYNX BLE Bus/Rail	Difference
AM Peak	Inbound to Charlotte Transportation Center	39:13	32:42	06:31
	Outbound to University City/UNCC	86:44	35:37	51:07
PM Peak	Inbound to Charlotte Transportation Center	35:22	32:42	02:40
	Outbound to University City/UNCC	73:37	35:37	38:00
AM Peak	Inbound to Charlotte Transportation Center	12:45	08:43	04:02
	Outbound to 36th Street	13:50	08:43	05:07
PM Peak	Inbound to Charlotte Transportation Center	14:36	08:43	05:53
	Outbound to 36th Street	21:05	08:43	12:22

**Table 5-16
 Route 11 North Tryon**

Route 11 North Tryon		Travel Time (min)		
		Existing	LYNX BLE Bus/Rail	Difference
AM Peak	Inbound to Charlotte Transportation Center	49:24	34:14	15:10
	Outbound to University City/UNCC	47:31	32:05	15:26
PM Peak	Inbound to Charlotte Transportation Center	48:46	34:14	14:32
	Outbound to University City/UNCC	57:29	32:05	25:24

**Table 5-17
 Route 23 Shamrock Drive**

Route 23 Shamrock Drive		Travel Time (min)		
		Existing	LYNX BLE Bus/Rail	Difference
AM Peak	Inbound to Charlotte Transportation Center	55:15	46:03	09:12
	Outbound to University City/UNCC	102:46	52:56	49:50
PM Peak	Inbound to Charlotte Transportation Center	47:24	46:03	01:21
	Outbound to University City/UNCC	104:53	52:56	51:57
AM Peak	Inbound to Charlotte Transportation Center	14:46	08:43	06:03
	Outbound to 36th Street	13:46	08:43	05:03
PM Peak	Inbound to Charlotte Transportation Center	11:22	08:43	02:39
	Outbound to 36th Street	13:24	08:43	04:41

**Table 5-18
 Route 54x University Research Park Express**

Route 54x University Research Park Express		Travel Time (min)		
		Existing	LYNX BLE Bus/Rail	Difference
AM Peak	Inbound to Charlotte Transportation Center	34:31	22:01	12:30
	Outbound to Existing Mallard Creek \ LYNX JW Clay Park and Rides	44:24	22:01	22:23
PM Peak	Inbound to Charlotte Transportation Center	40:14	22:01	18:13
	Outbound to Existing Mallard Creek \ LYNX JW Clay Park and Rides	35:08	22:01	13:07

**Table 5-19
 80x Concord Express**

Route 80x Concord Express		Travel Time (min)		
		Existing	LYNX BLE Bus/Rail	Difference
AM Peak	Inbound to Charlotte Transportation Center	73:50	47:01	26:49
	Outbound to City of Concord Terminus	59:10	47:01	12:09
PM Peak	Inbound to Charlotte Transportation Center	65:03	47:01	18:02
	Outbound to City of Concord Terminus	78:55	47:01	31:54

**Table 5-20
 110 Concord Mills Mall**

Route 110 Concord Mills Mall		Travel Time (min)		
		Existing Route 79x	LYNX BLE Bus/Rail	Difference
AM Peak	Inbound to Charlotte Transportation Center	56:11	44:45	11:26
	Outbound to Concord Mills Mall	45:57	44:45	01:12
PM Peak	Inbound to Charlotte Transportation Center	44:46	44:45	00:01
	Outbound to Concord Mills Mall	54:06	44:45	54:06

**Table 5-21
 Route 54 University Research Park
 125 Derita/Prosperity Church**

Route 54 University Research Park Route 125 Derita/Prosperity Church		Travel Time (min)		
		Existing Route 22	LYNX BLE Bus/Rail	Difference
AM Peak	Inbound to Charlotte Transportation Center	39:13	32:42-(125)	06:31
	Outbound to University City/UNCC	86:44	35:37-(125)	51:07
PM Peak	Inbound to Charlotte Transportation Center	35:22	32:42-(125)	02:40
	Outbound to University City/UNCC	73:37	35:37-(125)	38:00
AM Peak	Inbound to Charlotte Transportation Center	48:31	42:40-(54)	05:51
	Outbound to University Research Park	58:13	42:40-(54)	15:33
PM Peak	Inbound Charlotte Transportation Center	49:05	42:40-(54)	06:25
	Outbound to University Research Park	56:10	42:40-(54)	13:30

In each table the route travel time with transfer to the LYNX BLE Bus/Rail when compared to the existing transit service travel time all show a decrease in travel time. Through this analysis it has been determined that although customers may experience new transfers to rail, overall they will have a faster travel time.

6 MITIGATION

The LYNX BLE Bus-Rail Integration Plan was part of the public involvement process for the approved 2012-2017 CTSP; an additional public comment period for the Bus-Rail plan will begin approximately eighteen months prior to LYNX BLE implementation. During that period, the proposed modifications detailed in this Title VI Service Equity Analysis will be fully evaluated by the public before any change in service. Depending upon comments received and the future existing conditions, mitigation to the LYNX BLE Bus-Rail Integration Plan may be necessary. Once the plan has been fully vetted by the public an updated Title VI Service Equity Analysis will be completed.

During the CTSP 2012-2017 public comment period there were comments related to the LYNX BLE Bus-Rail Integration Plan. Those comments with mitigation responses are included in Table 6-1.

**Table 6-1
 CTSP 2012-2017 LYNX BLE Bus-Rail Public Comment**

CTSP Public Comment	Mitigation Response
Provide new shuttle services in the Plaza Midwood and NoDa Neighborhoods.	Future shuttle services will be evaluated depending upon available operating sources.
Provide Saturday/Sunday service on Routes 54x University Research Park Express and 80x Concord.	In addition to the LYNX BLE, Saturday and Sunday Service will be provided on Route 54. Route 80 weekend service will need to be coordinated with CATS funding partner, Cabarrus County.
Address capacity issues on Route 11 North Tryon.	The higher capacity LYNX BLE light rail vehicles will address Route 11 capacity issues.
Coordinate with the Northeast Corridor Infrastructure Program (NECI) to provide adequate pedestrian connections to stations such as the 25 th Street Station.	The LYNX BLE team and the City of Charlotte have ranked pedestrian connections as a high priority for any supportive infrastructure to the LYNX BLE. The 25th St connection is critical and will be vigorously pursued by the City of Charlotte.

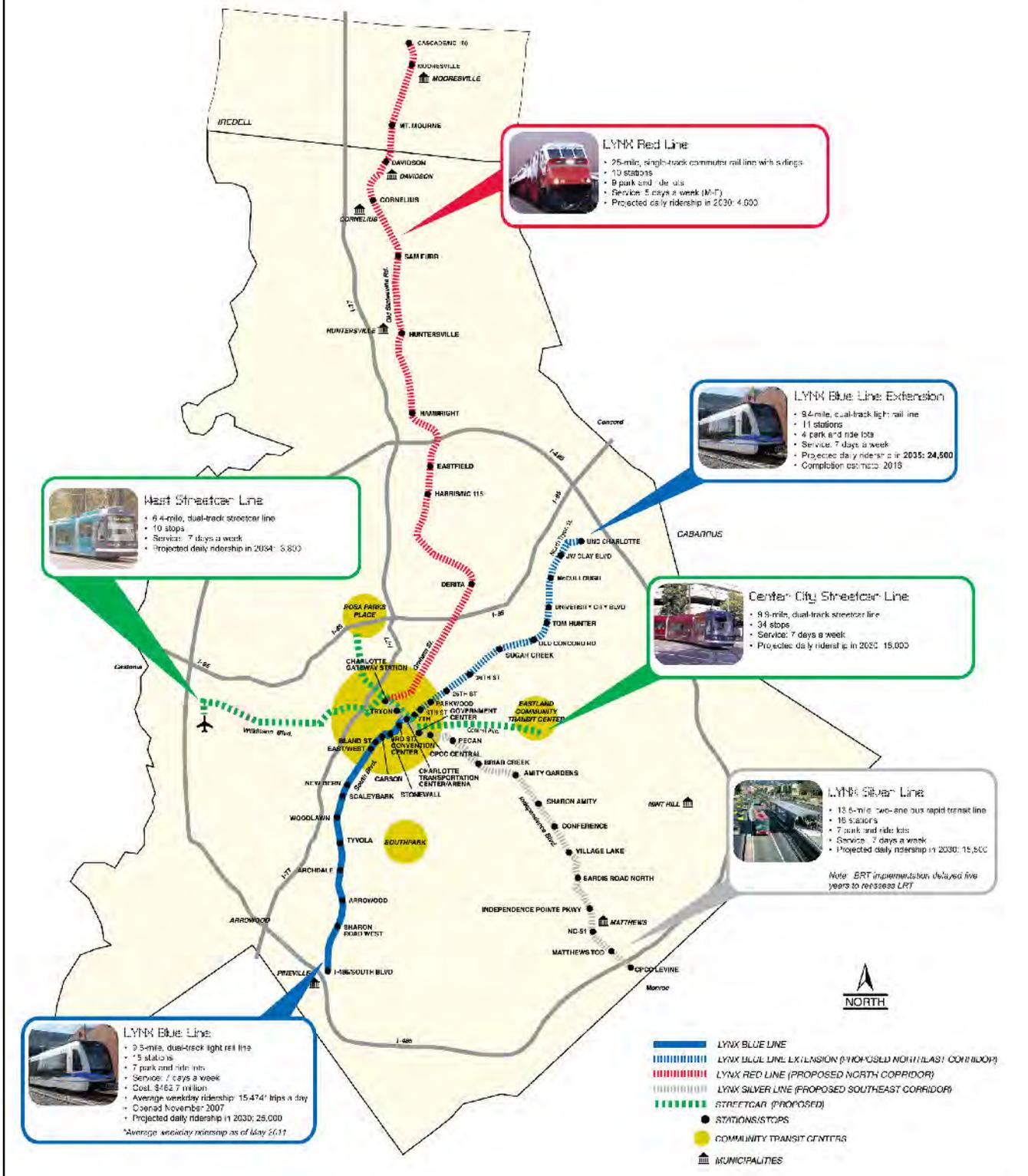
For the purposes of this initial Title VI Service Equity Analysis, there are no significant impacts to low income or minority populations. However in the case of Routes 3 and 23 the following mitigations to discontinued route segments are proposed for consideration:

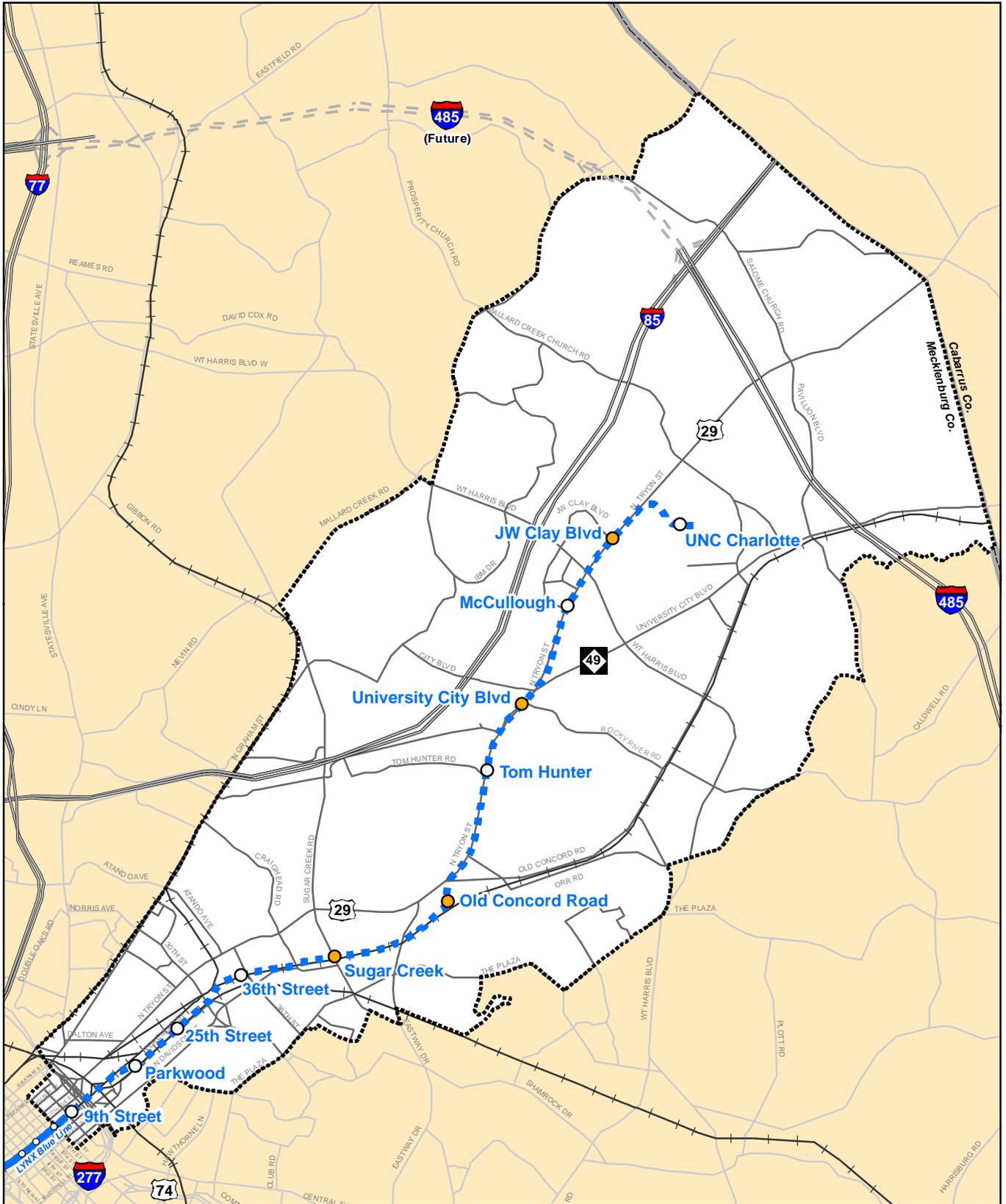
Route 3/23 - North Davidson St: Coordinate with CATS Bus Operations division to find a suitable alternative for travel to and from the Charlotte Transportation Center.

Assist with the development of the City of Charlotte’s Station Area Plans to address pedestrian connectivity in the Parkwood Station area.

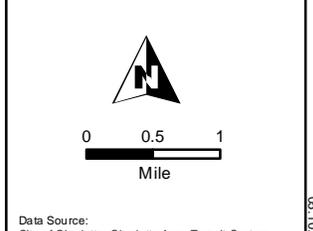
Route 3 - General Commerce Dr: Monitor ridership activity to determine if boardings are decreasing with the relocation of the City of Charlotte Solid Waste Services employment center. If ridership remains consistent or increases, CATS should explore either to continue to serve the area with a variant or depending upon the availability of operating funds, create a new shuttle route from the Old Concord Rd Station.

2030 Transit System Plan





Legend	
	Northeast Corridor Limits
	LYNX Blue Line
	LYNX Blue Line Extension
	LYNX Station
	LYNX Station - Park and Ride
	Railroads
	Highway
	Major Roads
	Highway (Future)
	County Line

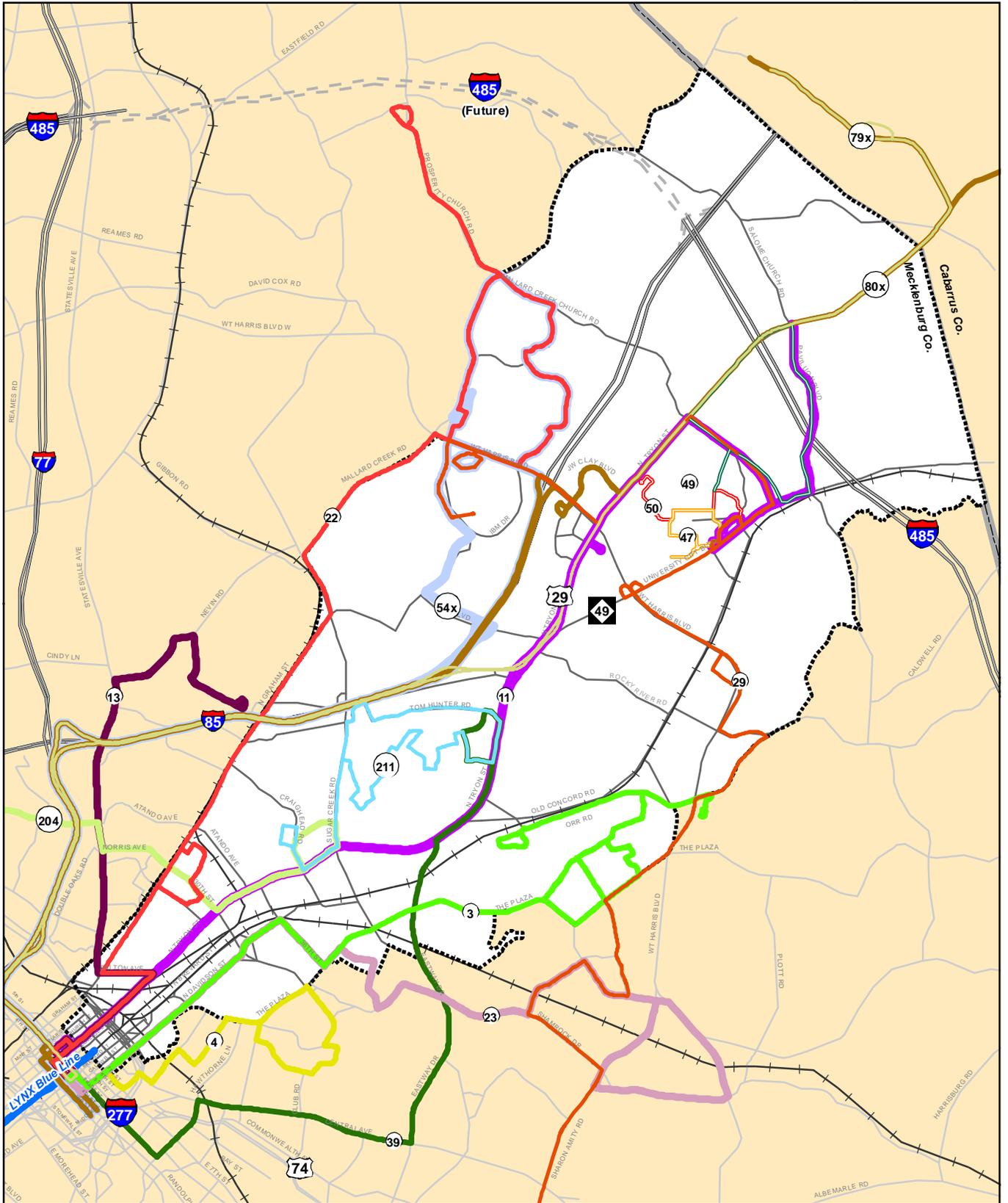


LYNX BLE Title VI Bus-Rail Figure 2.pdf

Data Source:
City of Charlotte, Charlotte Area Transit System

05.10.12

Northeast Corridor - Existing Bus Routes



Legend

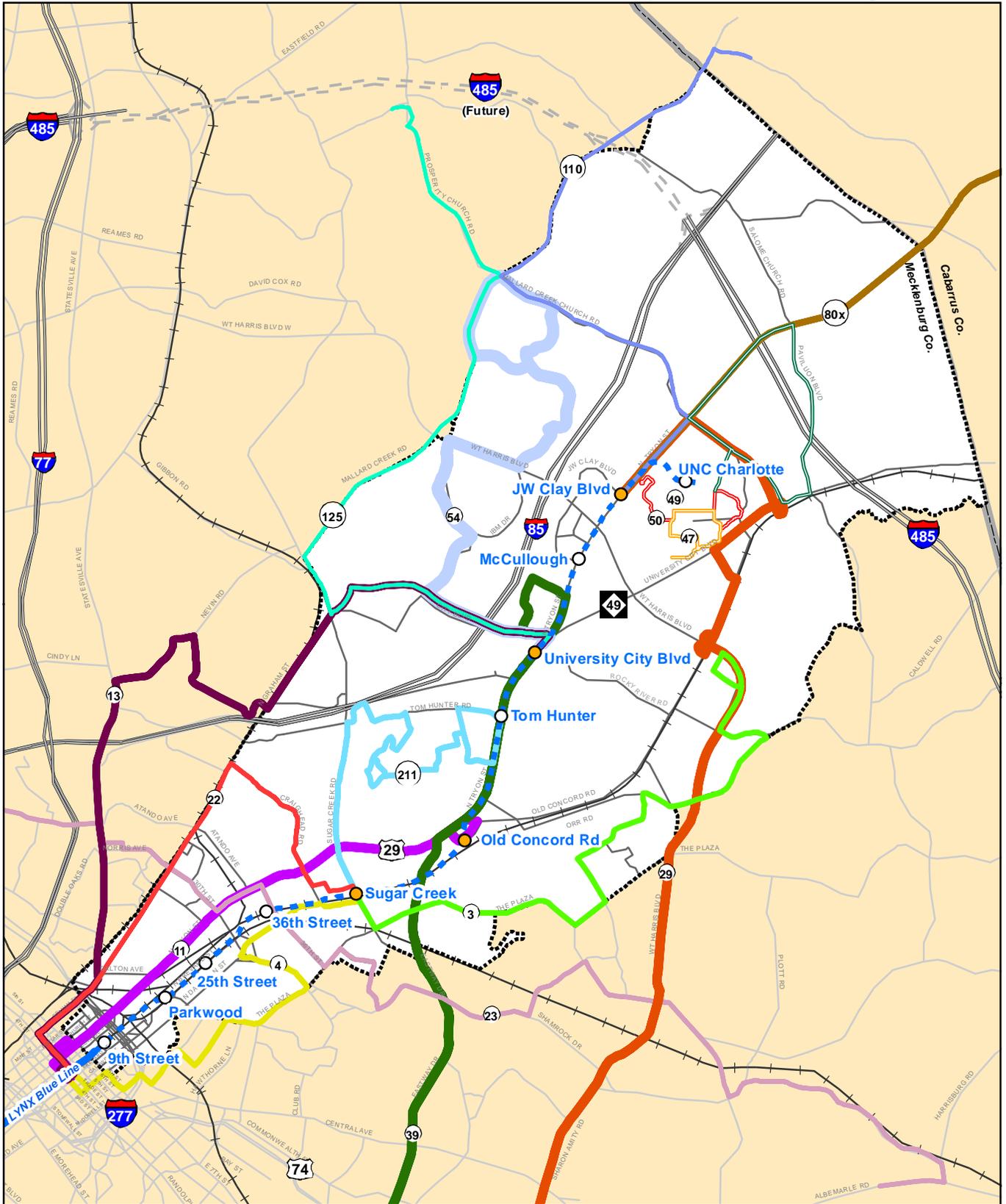
- | | | | |
|---------------------------|----------------|------------------|----------------------------------|
| Northeast Corridor Limits | LYNX Blue Line | Shamrock | University Research Park Express |
| Railroads | The Plaza | UNCC / SouthPark | Concord Mills Express |
| Highway | Country Club | Eastway | Concord Express |
| Major Roads | North Tryon | UNCC Nugget | LaSalle |
| Highway (Future) | Nevin Rd | UNCC Niner | Hidden Valley |
| County Line | Graham St | UNCC CRI | |



0 0.5 1
Mile

Data Source:
City of Charlotte, Charlotte Area Transit System

Proposed Bus/Rail Integration Plan

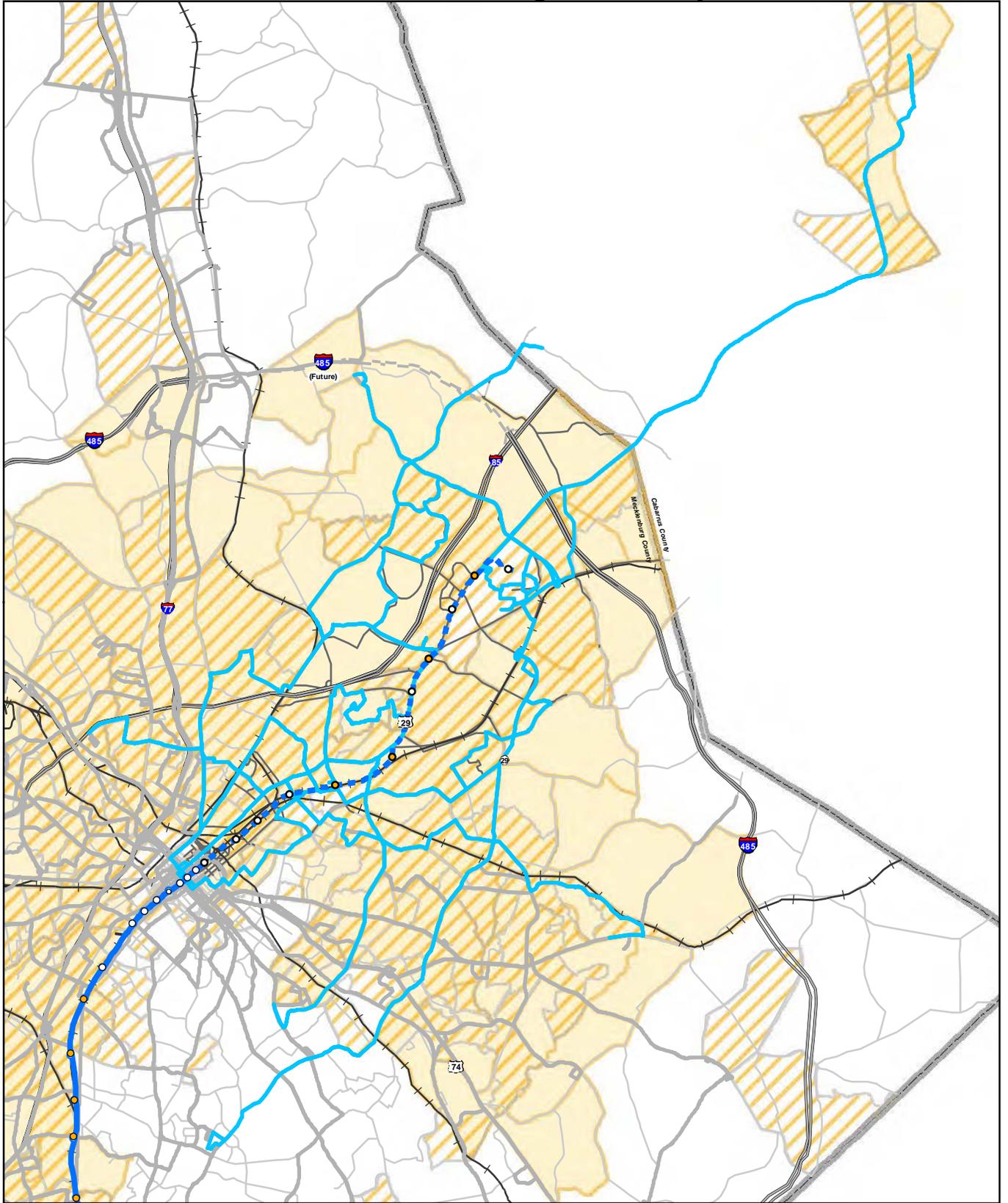


Legend	
	Northeast Corridor Limits
	Railroads
	Highway
	Major Roads
	Highway (Future)
	County Line
	LYNX Blue Line
	LYNX Blue Line Extension
	LYNX Station
	LYNX Station - Park and Ride
	13 Nevin Rd
	23 Shamrock
	29 UNCC / SouthPark
	39 Eastway
	47 UNCC Nugget
	49 UNCC Niner
	50 UNCC CRI
	54 54 URP
	80x 80x Concord Express
	110 Concord Mills Mall
	125 Derita/Prosperity Church
	211 Hidden Valley
	3 The Plaza
	4 Parkwood
	11 North Tryon
	22 Graham St

0 0.5 1
Mile

Data Source:
City of Charlotte, Charlotte Area Transit System

Bus/Rail Intergration Minority/Low Income Service Area



Legend

- | | | | | | |
|--|------------------------------|--|--------------------------------------------------|--|------------------|
| | LYNX Blue Line | | LYNX BLE Bus/Rail Network | | Streets |
| | LYNX Blue Line Extension | | CATS Bus Network | | Highway |
| | LYNX Station | | Title VI Below Poverty Service Area Block Groups | | Highway (Future) |
| | LYNX Station - Park and Ride | | Title VI Minority Service Area Census Tracts | | County Line |

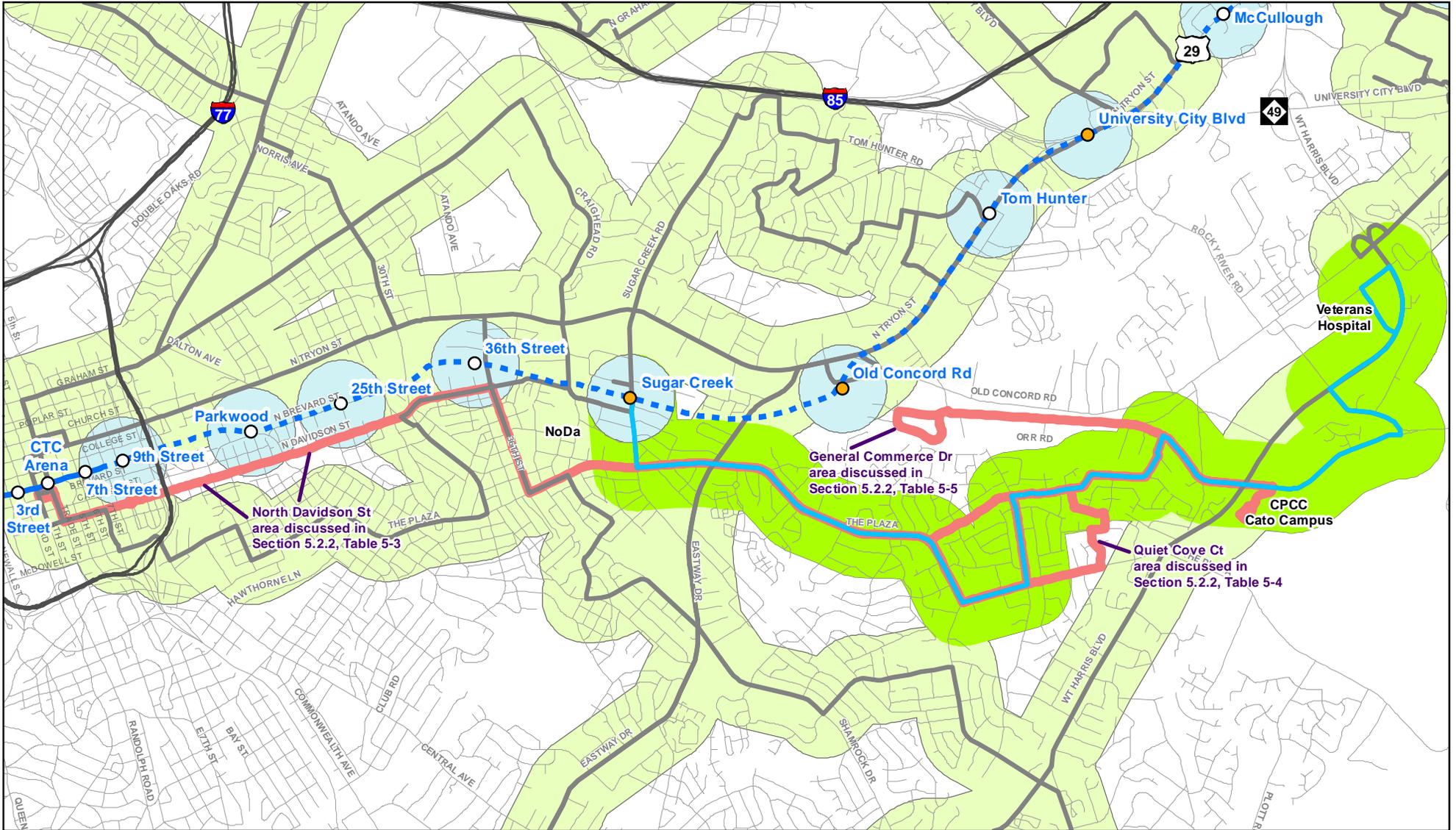
0 0.5 1 2 Miles

Data Source:
City of Charlotte, Charlotte Area Transit System

LYNX BLE Title VI Bus-Rail Figures 5.pdf

05.24.12

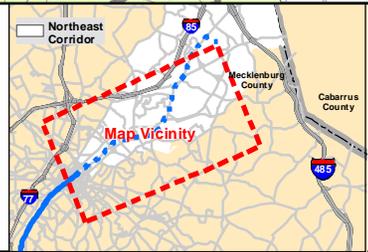
Bus-Rail Integration Route 3 - The Plaza



- Legend**
- LYNX Blue Line
 - - - LYNX Blue Line Extension
 - LYNX Station
 - LYNX Station - Park and Ride
 - LYNX BLE Bus-Rail Integration Route Network

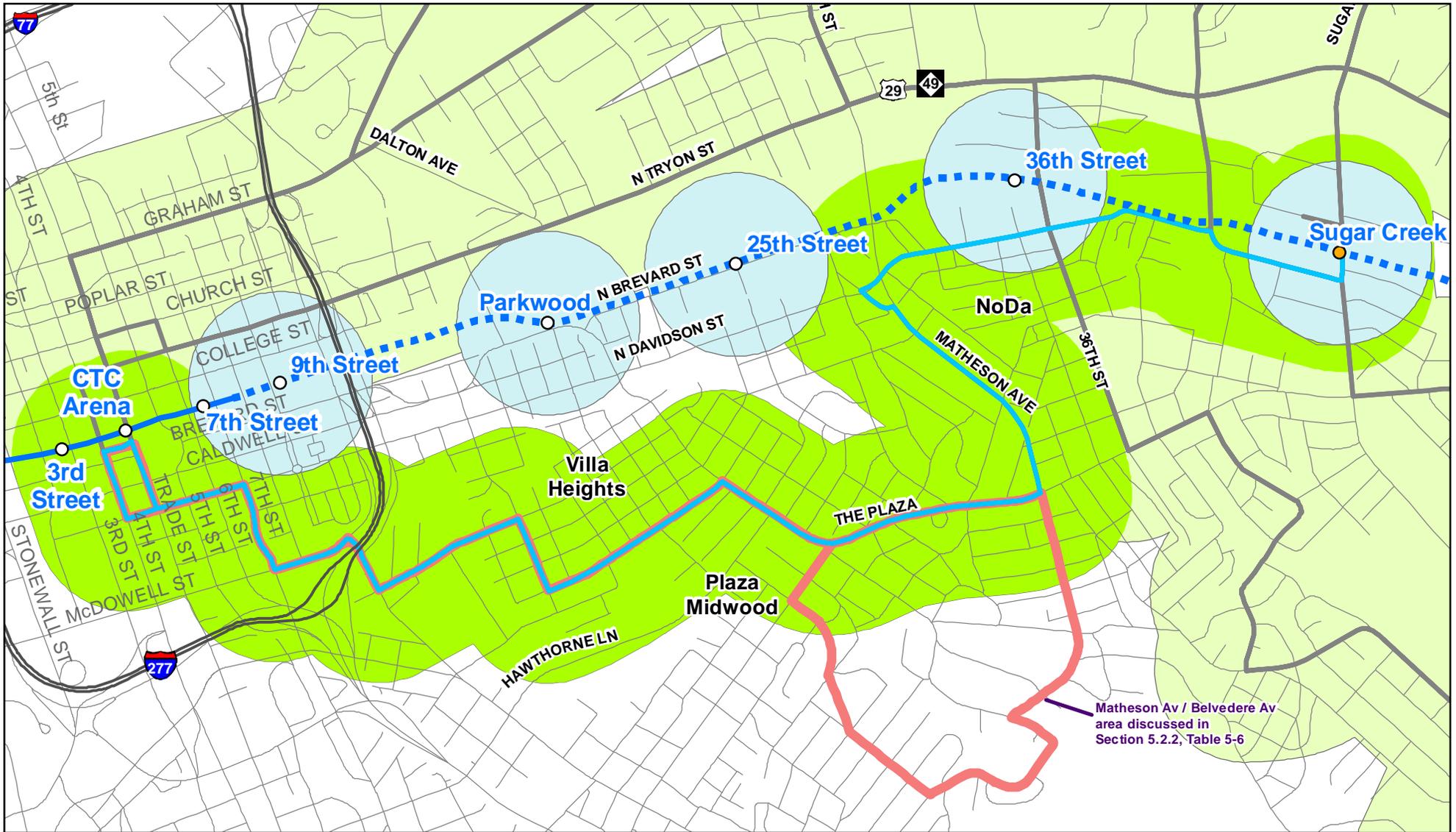
- ③ The Plaza-Existing Route
- ③ The Plaza-Proposed BLE Bus-Rail Modification
- Quarter Mile Service Areas
- LYNX BLE Bus-Rail Network
- LYNX Bus-Rail Route 3
- LYNX BLE Station

- Streets
- Interstate
- - - Interstate (Future)
- County Line



Data Source: City of Charlotte, Charlotte Area Transit System

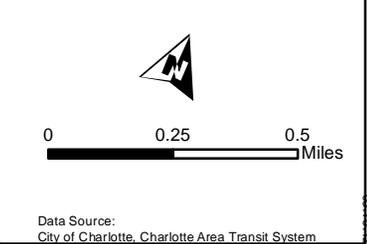
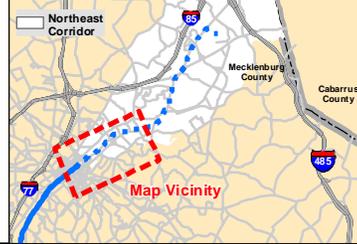
Bus-Rail Integration Route 4 - Parkwood



LYNX BLE Title VI Bus-Rail Figure 7.pdf

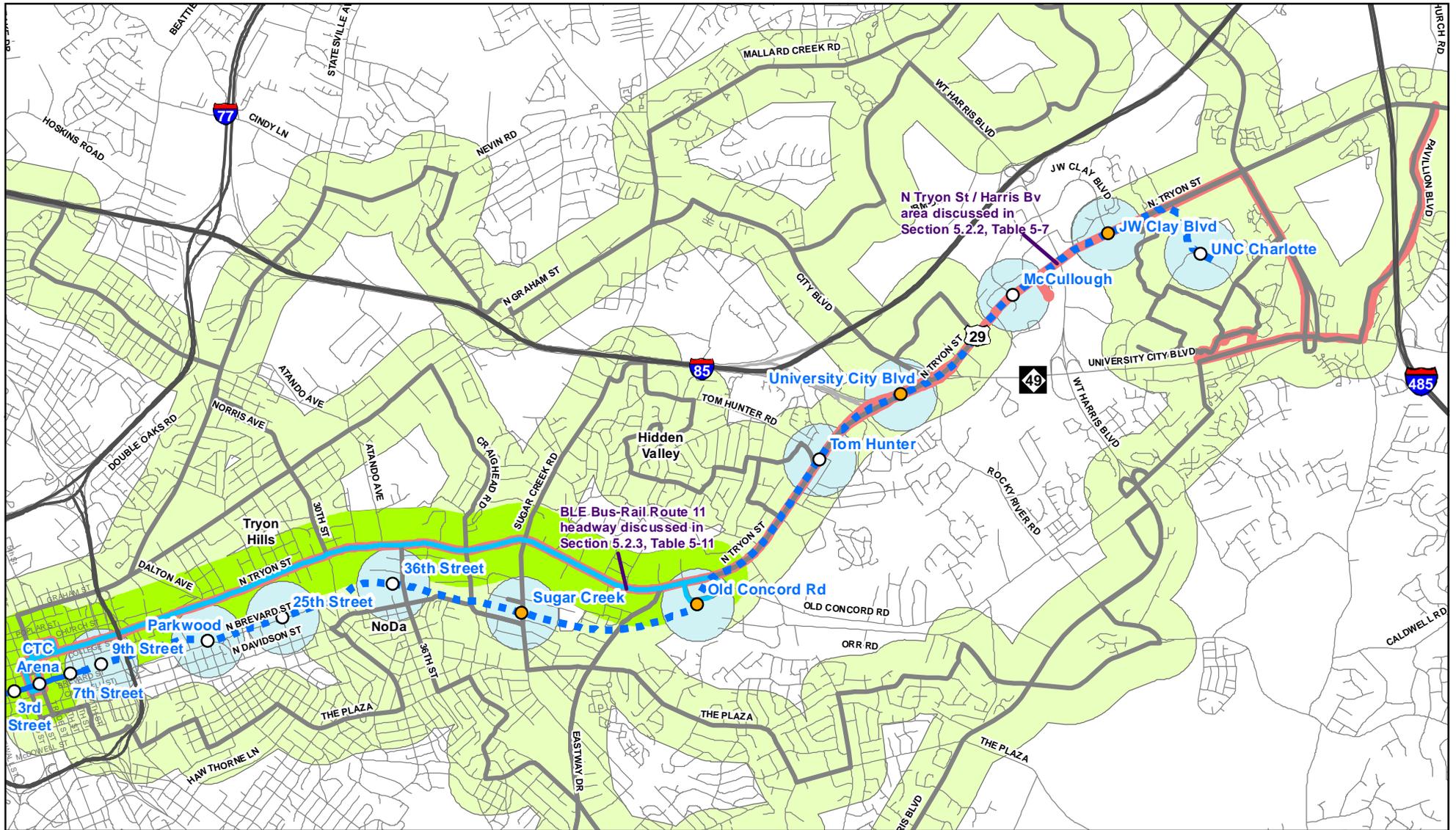
- Legend**
- LYNX Blue Line
 - - - LYNX Blue Line Extension
 - LYNX Station
 - LYNX Station - Park and Ride
 - LYNX BLE Bus-Rail Integration Route Network
 - ④ Country Club-Existing Route
 - ④ Parkwood-Proposed BLE Bus-Rail Modification
 - Quarter Mile Service Areas
 - LYNX BLE Bus-Rail Route Network
 - LYNX Bus-Rail Route 3
 - LYNX BLE Station

- Streets
- Interstate
- - - Interstate (Future)
- County Line



Data Source: City of Charlotte, Charlotte Area Transit System

Bus/Rail Integration Route 11 - North Tryon



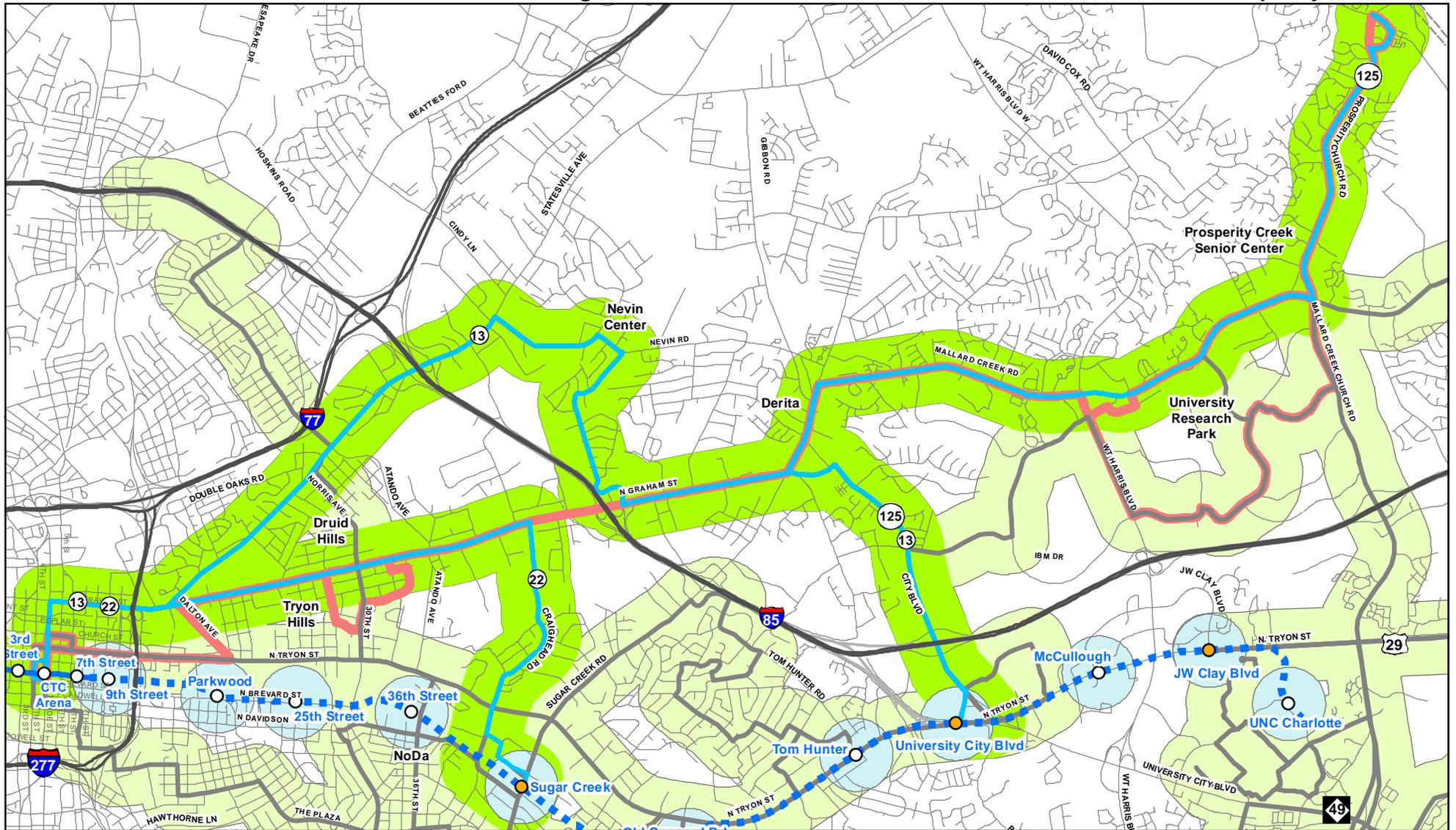
<p>Legend</p> <ul style="list-style-type: none"> — LYNX Blue Line - - - LYNX Blue Line Extension LYNX Station LYNX Station - Park and Ride LYNX BLE Bus-Rail Integration Route Network 		<ul style="list-style-type: none"> — (11) North Tryon-Existing Route — (11) North Tryon-Proposed BLE Bus-Rail Modification Quarter Mile Service Areas LYNX BLE Bus-Rail Route Network LYNX Bus-Rail Route 3 LYNX BLE Station 		<ul style="list-style-type: none"> Streets Interstate Interstate (Future) County Line 	
-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--

Map Vicinity

0 0.5 1 Miles

Data Source:
City of Charlotte, Charlotte Area Transit System

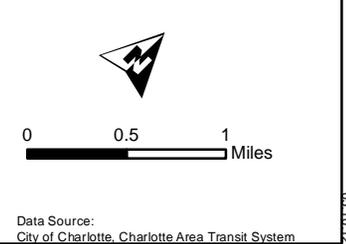
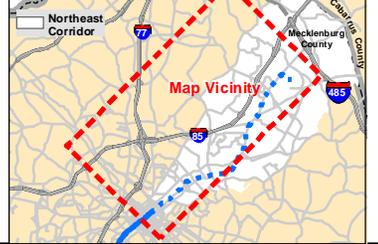
Bus-Rail Integration Routes 13 - Nevin Rd, 22 Graham St, 125 - Derita/Prosperity Church Rd



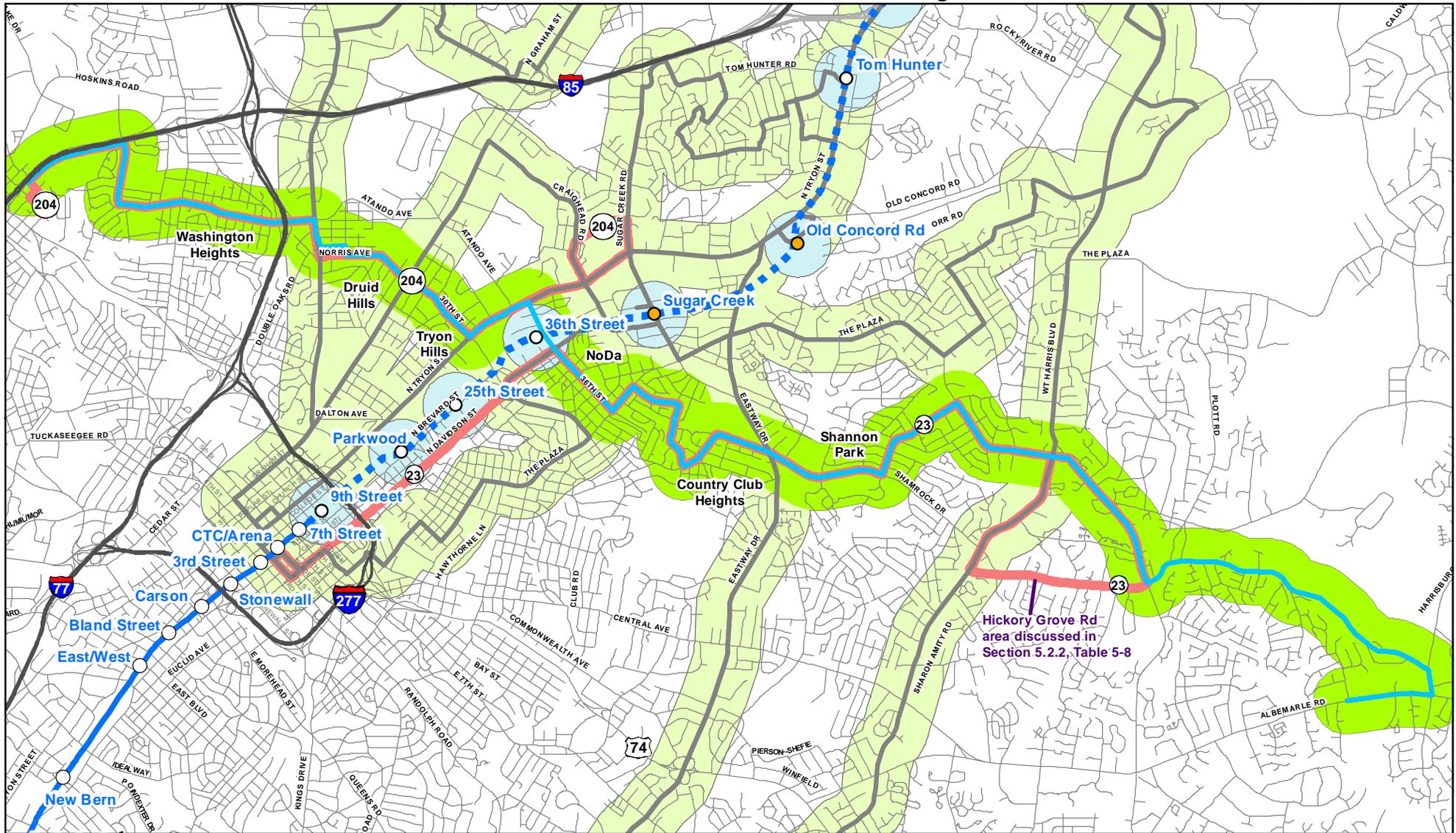
- Legend**
- LYNX Blue Line
 - - - LYNX Blue Line Extension
 - LYNX Station
 - LYNX Station - Park and Ride
 - LYNX BLE Bus-Rail Integration Route Network

- 22 Graham St-Existing Route
- 13 22 125 Nevin Rd, Graham St, Derita/Prosperity Church Rd-Proposed BLE Bus-Rail Modification
- Quarter Mile Quarter Mile
- LYNX BLE Bus-Rail Route Network
- LYNX Bus-Rail Route 3
- LYNX BLE Station

- Streets
- Interstate
- Interstate (Future)
- County Line

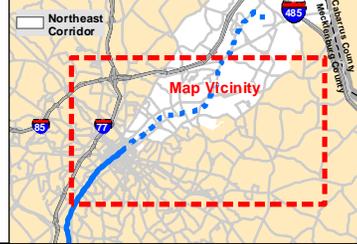


Bus-Rail Integration Routes 23 - Shamrock Dr, 204 - Lasalle



Legend

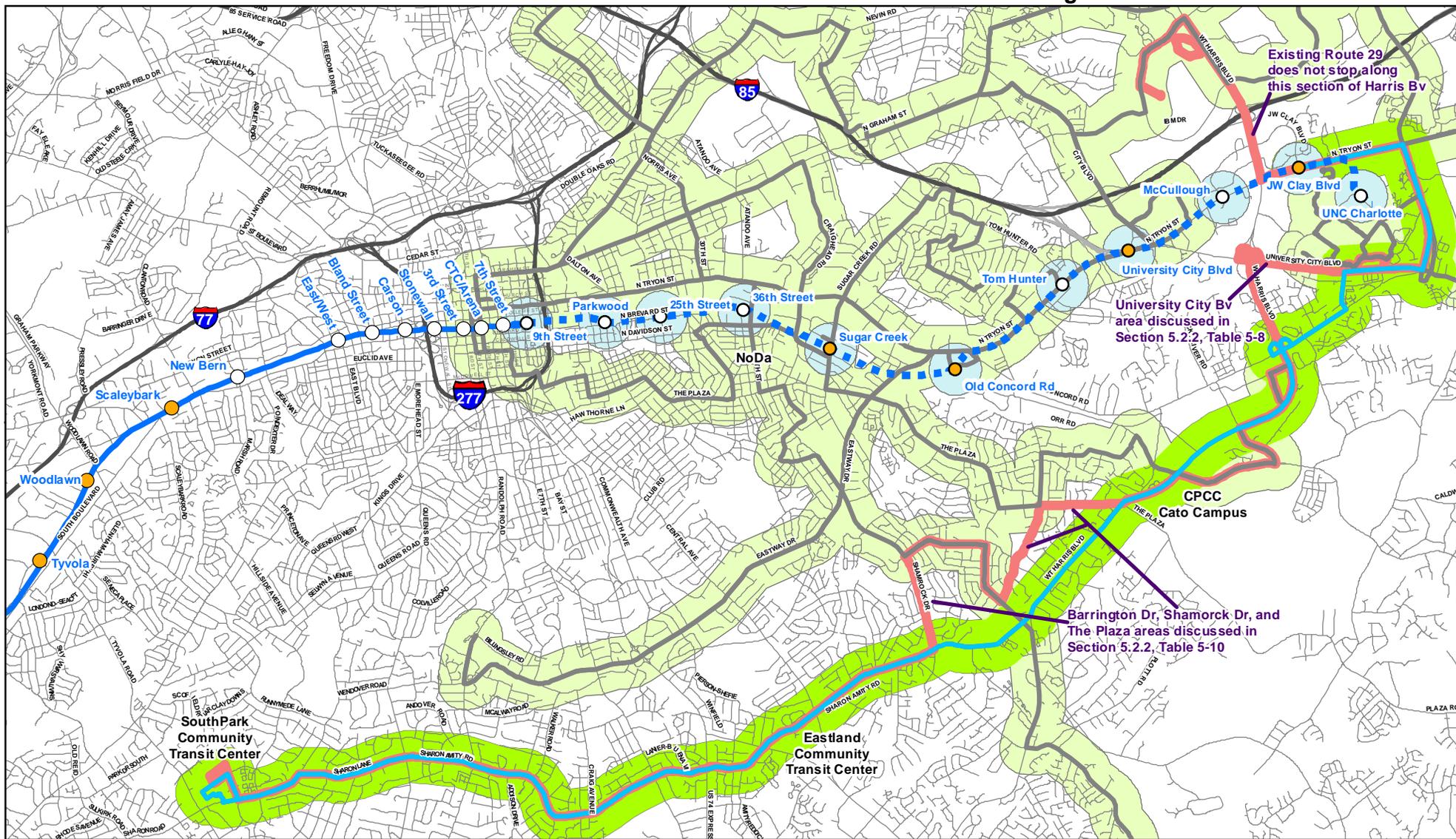
- LYNX Blue Line
- - - LYNX Blue Line Extension
- LYNX Station
- LYNX Station - Park and Ride
- LYNX BLE Bus-Rail Integration Route Network
- 23 204 Shamrock Dr, Lasalle-Existing Route
- 23 204 Shamrock Dr /Lasalle Proposed BLE Bus-Rail Modification Quarter Mile
- LYNX BLE Bus-Rail Route Network
- LYNX Bus-Rail Route 3
- LYNX BLE Station
- Streets
- Interstate
- - - Interstate (Future)
- - - County Line



0 0.5 1 Miles

Data Source:
City of Charlotte, Charlotte Area Transit System

Bus-Rail Integration Route 29 - UNCC/SouthPark



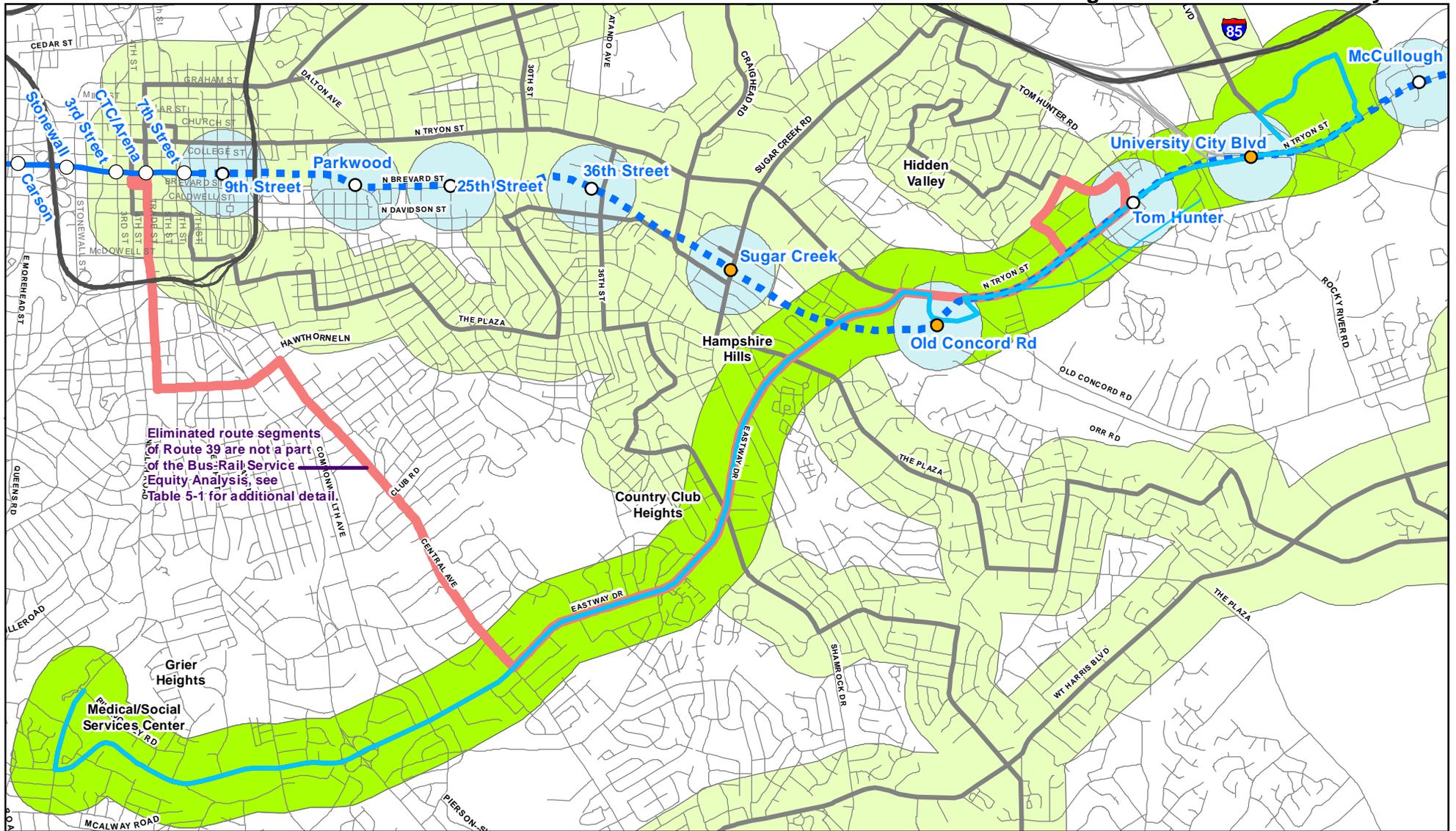
Existing Route 29 does not stop along this section of Harris Bv

University City Bv area discussed in Section 5.2.2, Table 5-8

Barrington Dr, Shamrock Dr, and The Plaza areas discussed in Section 5.2.2, Table 5-10

<p>Legend</p> <ul style="list-style-type: none"> — LYNX Blue Line - - - LYNX Blue Line Extension LYNX Station LYNX Station - Park and Ride LYNX BLE Bus-Rail Integration Route Network 	<ul style="list-style-type: none"> 29 UNCC/SouthPark-Existing Route 29 UNCC/SouthPark-Proposed BLE Bus-Rail Modification Quarter Mile LYNX BLE Bus-Rail Route Network LYNX Bus-Rail Route 3 LYNX BLE Station 	<ul style="list-style-type: none"> Streets Interstate Interstate (Future) County Line 	<p>Map Vicinity</p>	<div style="text-align: right;"> </div> <p style="font-size: small;">Data Source: City of Charlotte, Charlotte Area Transit System</p>
----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------	--------------------------------------------------------------------------------------------------------------------------------------------------

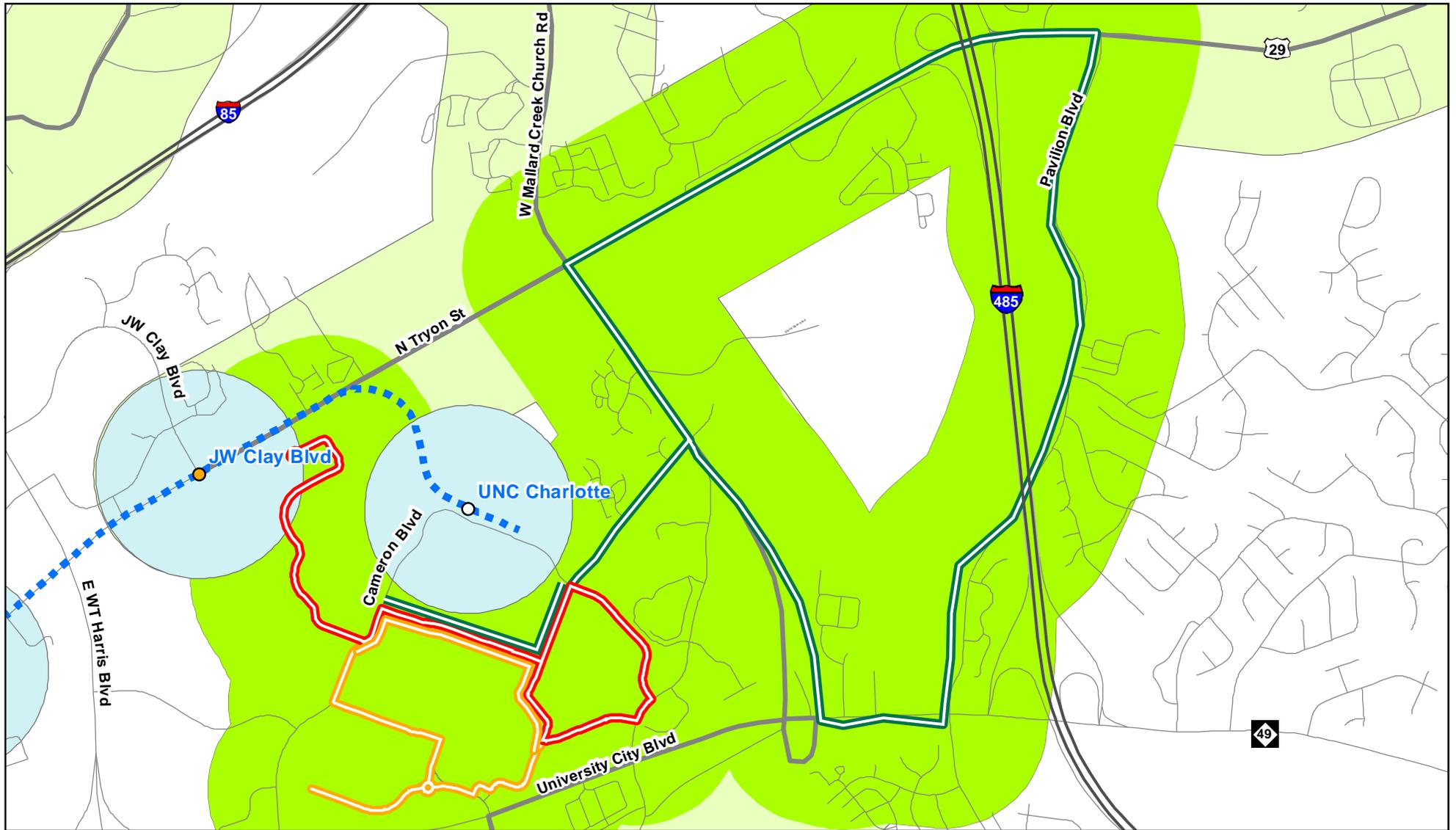
Bus-Rail Integration Route 39 - Eastway Drive



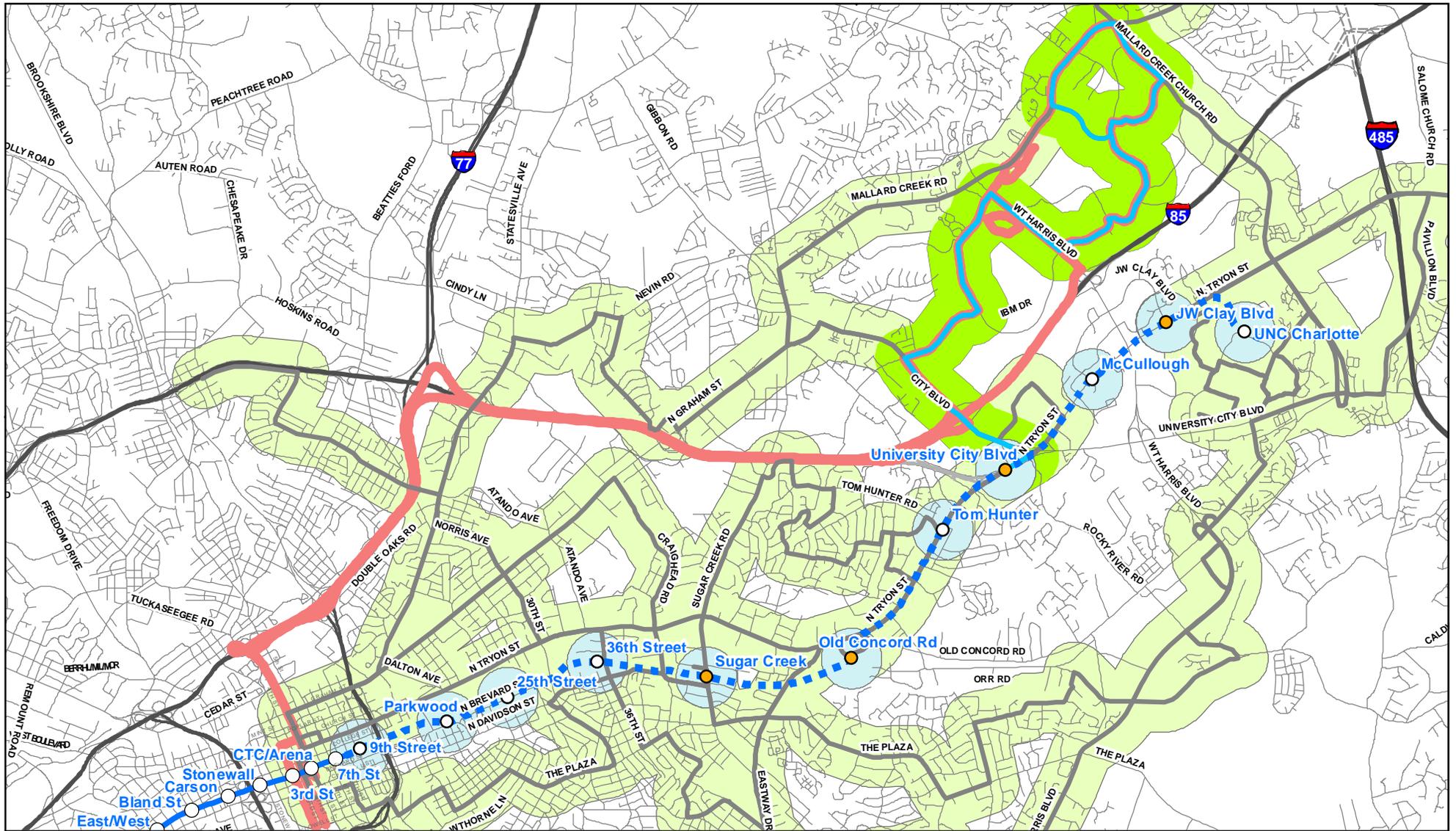
Eliminated route segments of Route 39 are not a part of the Bus-Rail Service Equity Analysis, see Table 5-1 for additional detail.

<p>Legend</p> <ul style="list-style-type: none"> LYNX Blue Line LYNX Blue Line Extension LYNX Station LYNX Station - Park and Ride LYNX BLE Bus-Rail Integration Route Network 	<ul style="list-style-type: none"> Eastway Drive-Existing Route Eastway Drive-Proposed BLE Bus-Rail Modification Quarter Mile Service Areas LYNX BLE Bus-Rail Route Network LYNX Bus-Rail Route 3 LYNX BLE Station 	<ul style="list-style-type: none"> Streets Interstate Interstate (Future) County Line 		<p>Data Source: City of Charlotte, Charlotte Area Transit System</p>
-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------	--	--------------------------------------------------------------------------

Bus-Rail Integration UNCC Shuttle Routes 47 - Nugget, 49 Niner, 50 Charlotte Research Institute

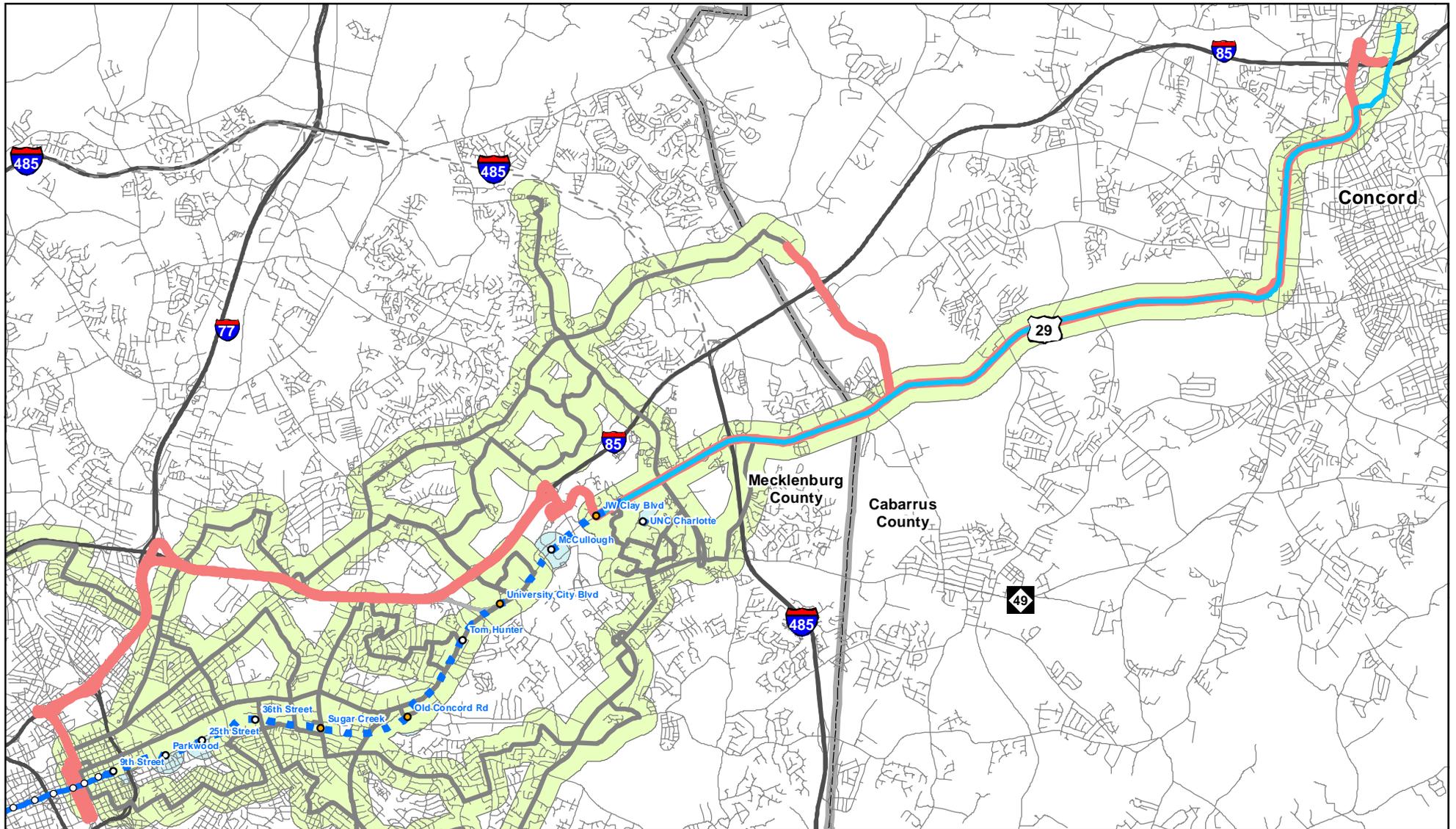


<p>Legend</p> <ul style="list-style-type: none"> — LYNX Blue Line - - - LYNX Blue Line Extension ○ LYNX Station ● LYNX Station - Park and Ride — LYNX BLE Bus-Rail Integration Route Network 		<ul style="list-style-type: none"> 47 UNC Charlotte Nugget Shuttle* 49 UNC Charlotte Niner Shuttle* 50 UNC Charlotte Charlotte Research Institute Shuttle* <p>Quarter Mile Service Areas</p> <ul style="list-style-type: none"> LYNX BLE Bus-Rail Route Network LYNX Bus-Rail Route 3 LYNX BLE Station 		<ul style="list-style-type: none"> Streets Interstate Interstate (Future) County Line <p>*UNCC Shuttle routes will connect to the UNC Charlotte Station through ongoing coordination with UNCC</p>					
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	--	--	--	--



<p>Legend</p> <ul style="list-style-type: none"> — LYNX Blue Line - - - LYNX Blue Line Extension LYNX Station LYNX Station - Park and Ride LYNX BLE Bus-Rail Integration Route Network 		<ul style="list-style-type: none"> University Research Park Express-Existing Route University Research Park-Proposed BLE Bus-Rail Modification Quarter Mile Service Areas LYNX BLE Bus-Rail Route Network LYNX Bus-Rail Route 3 LYNX BLE Station 		<ul style="list-style-type: none"> Streets Interstate Interstate (Future) County Line 	
-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--

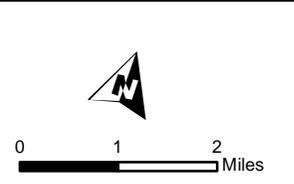
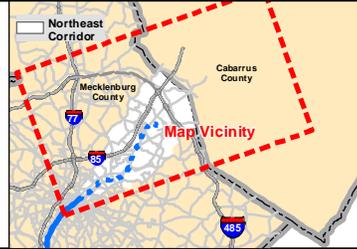
Data Source:
City of Charlotte, Charlotte Area Transit System



- Legend**
- LYNX Blue Line
 - - - LYNX Blue Line Extension
 - LYNX Station
 - LYNX Station - Park and Ride
 - LYNX BLE Bus-Rail Integration Route Network

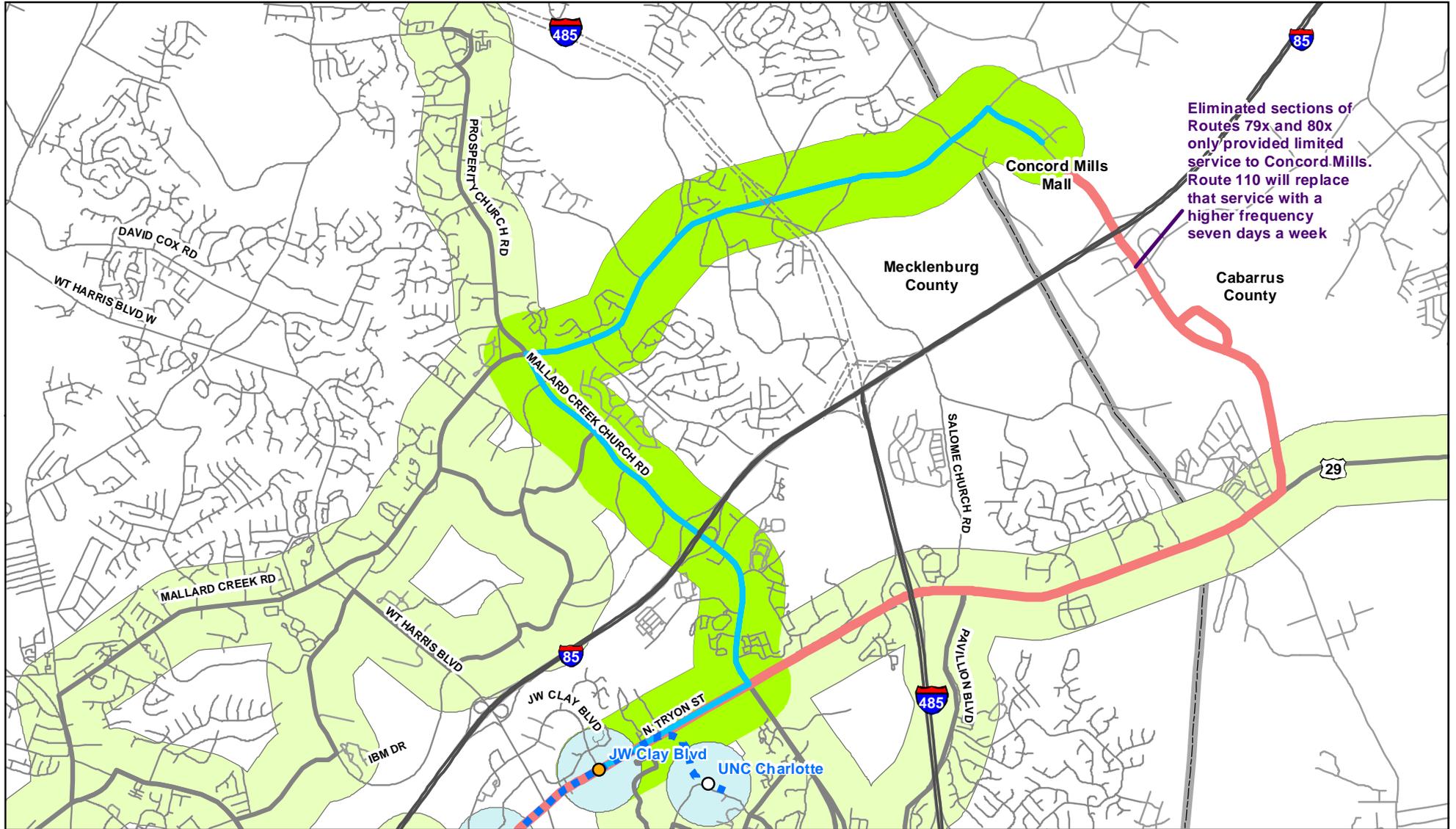
- 80x Concord Express-Existing Route
- 80x Concord Express-Proposed BLE Bus-Rail Modification
- Quarter Mile Service Areas
- LYNX BLE Bus-Rail Route Network
- LYNX Bus-Rail Route 3
- LYNX BLE Station

- Streets
- Interstate
- Interstate (Future)
- County Line



Data Source:
City of Charlotte, Charlotte Area Transit System

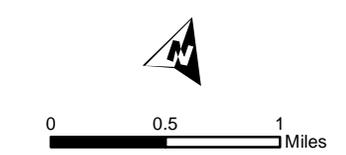
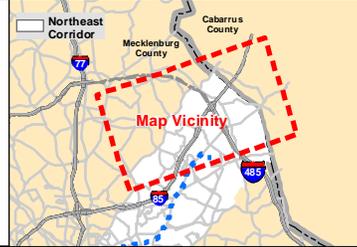
Bus-Rail Integration Route 110 - Concord Mills Mall



- Legend**
- LYNX Blue Line
 - - - LYNX Blue Line Extension
 - LYNX Station
 - LYNX Station - Park and Ride
 - LYNX BLE Bus-Rail Integration Route Network

- 79x Concord Mills Express-Existing Route
- 110 Concord Mills Mall-Proposed New BLE Bus-Rail Route
- Quarter Mile Service Areas
- LYNX BLE Bus-Rail Route Network
- LYNX Bus-Rail Route 3
- LYNX BLE Station

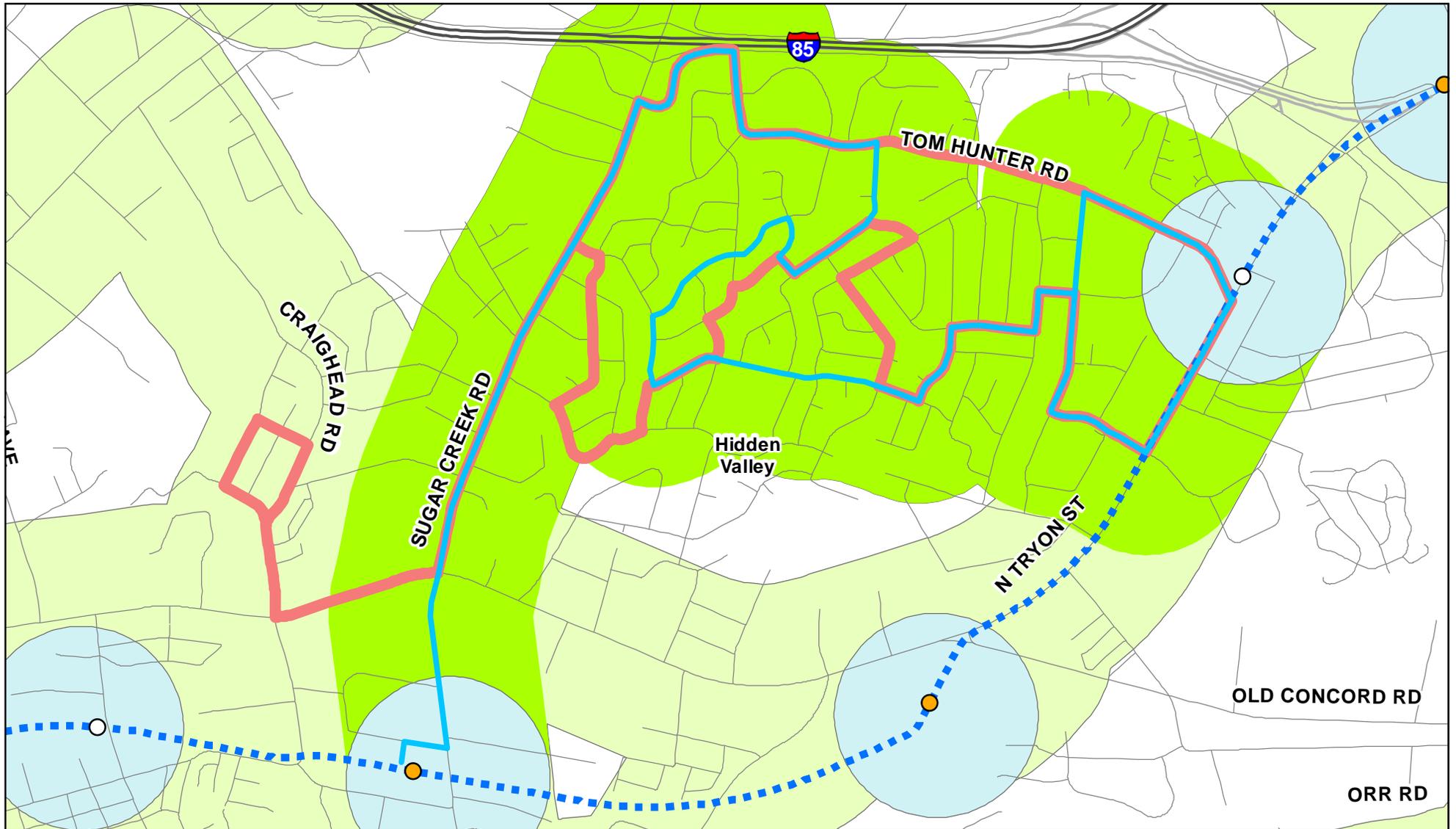
- Streets
- Interstate
- - - Interstate (Future)
- County Line



Data Source: City of Charlotte, Charlotte Area Transit System

LYNX BLE Title VI Bus-Rail Figure 16.pdf

05.10.15



- Legend**
- LYNX Blue Line
 - - - LYNX Blue Line Extension
 - LYNX Station
 - LYNX Station - Park and Ride
 - LYNX BLE Bus-Rail Integration Route Network

- (211) Hidden Valley-Existing Route
- (211) Hidden Valley-Proposed BLE Bus-Rail Modification
- Quarter Mile Service Areas
- LYNX BLE Bus-Rail Route Network
- LYNX Bus-Rail Route 3
- LYNX BLE Station

- Streets
- Interstate
- - - Interstate (Future)
- County Line

