

## ES.0 EXECUTIVE SUMMARY

This chapter presents a summary of the LYNX Blue Line Extension Northeast Corridor Light Rail Project (LYNX BLE) Draft Environmental Impact Statement (EIS). It describes purpose and need of the proposed project, the alternatives under study, summarizes the environmental consequences associated with the studied alternatives, provides a summary of proposed mitigation measures and outlines the steps for the selection of a preferred alternative.

### ES.1 Project Study Area

The proposed LYNX BLE is located within the Northeast Corridor of the City of Charlotte and Mecklenburg County, North Carolina (Figure ES-1). The study area is bounded by Center City Charlotte to the south, Interstate-85 (I-85) to the west and Cabarrus County to the north. The proposed light rail alignment would primarily utilize existing railroad rights-of-way for the first four miles and would be located in the median of North Tryon Street/US-29 until it enters the University of North Carolina at Charlotte (UNC Charlotte) campus. The line would then return to North Tryon Street/US-29 to a terminus just south of Interstate-485 (I-485). A Locally Preferred Alternative (LPA) was selected at the conclusion of the *Northeast Corridor Major Investment Study* in March 2000. This alignment has been refined with public and stakeholder input and is represented herein as the Light Rail Alternative. A design option, called the Light Rail Alternative – Sugar Creek Design Option, is also presented and provides an alignment option with two different station locations.

### ES.2 Purpose and Need for Action

#### ES.2.1 Need for Transportation Improvements

The need for the LYNX BLE Project is based on an existing overburdened transportation system and the City of Charlotte's and Mecklenburg County's desire to implement long-range plans that integrate land use and transportation policies. This regional vision has been exhibited for the past decade in the *Centers and Corridors Concept Plan*, the *2025 Integrated Transit/Land Use Plan* and the *Centers, Corridor and Wedges Growth Framework*, Draft 2010. Making a transportation investment in the Northeast Corridor is one of many steps planned to realize more integrated transit and land use connections.

As one of the fastest growing metropolitan areas in the United States, Charlotte has seen, and is projected to continue to see, significant increases in both population and employment. The Northeast Corridor is a major employment, shopping and educational destination from all across the region, anchored by Center City Charlotte at the southern end and University City at the northern end. As such, the Northeast Corridor is a major generator of trips from throughout the region, as well as a significant number of intra-corridor trips. Based on adopted land use policies, the travel market between corridors will continue to strengthen; connections between the Center City campus and the main campus of UNC Charlotte will also grow in importance; and, special events and tourism will remain an important travel market in the corridor.

The Northeast Corridor, which has few arterials and minimal cross-town connections, has several major roadways and intersections currently experiencing peak hour volumes that exceed capacity. Approximately 23 percent of the total miles on roadways within the Northeast Corridor operate at or above capacity. Much of the growth in the Charlotte-Mecklenburg region in the 1980s and 1990s occurred quickly in a dispersed pattern of jobs and residences with limited connectivity between uses. These land use patterns have resulted in people driving more and making longer trips, leading to traffic volumes that exceed roadway capacity and result in unacceptable levels of service in many locations throughout the region. Projections show that high growth rates will continue, further burdening the regional transportation system. The regional model indicates that the region is expected to experience a projected 57 percent increase in regional person trips, a 59 percent increase in daily Vehicle Miles Traveled (VMT), and a 70 percent increase in daily Vehicle Hours Traveled (VHT) from 2008 to 2030. Continued population and employment growth are expected to increase travel demand, resulting in deteriorating conditions on area roadways, despite planned roadway widening and intersection improvements. Traffic volumes are expected to increase on nearly all area roadways, especially at the outer end of North Tryon Street/US-29, where volumes are expected to roughly double by 2030.

CATS currently operates 16 routes in the Northeast Corridor study area, including eight local routes, three university shuttle routes, two neighborhood circulator routes, and three express routes. These bus routes currently operate in mixed-traffic on congested roadways. Therefore, the reliability of the service is affected by delays from local street conditions.

### ES.2.2 Project Goals

To determine how well the identified transportation alternatives would address the transportation and land use needs in the Northeast Corridor, specific project goals and evaluation measures were developed during the Major Investment Study (MIS). These goals reflect the emphasis the community has placed on the integration of transportation and land use in the alternatives analysis. The five project-specific goals developed are:

- Land Use - Support the region's *Centers, Corridors and Wedges Growth Framework*, Draft 2010;
- Mobility - Improve access and mobility in the corridor and throughout the region; Increase transit ridership; Improve quality of transportation service;
- Environment - Preserve and protect the environment;
- Financial - Develop affordable, cost-effective transportation solutions; and,
- System Integration - Develop transportation improvements that function as part of the larger transportation system.

### ES.3 Alternatives Considered

#### ES.3.1 No-Build Alternative

The No-Build Alternative includes transit services, highway and transit facilities, and railroad improvements that are planned to exist in 2030. The No-Build Alternative provides the underlying foundation for comparing travel benefits and environmental impacts of the other alternatives. The No-Build Alternative includes one new route and improvements to service frequency for six routes in the Northeast Corridor study area.

#### ES.3.2 Light Rail Alternative

The proposed Light Rail Alternative would be an extension of the LYNX Blue Line (South Corridor Light Rail Project) that opened in November 2007. The proposed project would begin in Center City Charlotte at the terminus of the LYNX Blue Line light rail line at 7th Street and extend 10.7 miles to I-485 near the Mecklenburg-Cabarrus County line.

#### Alignment

The first ½-mile of the alignment would be within right-of-way owned by the City of Charlotte. The next 1.5 miles are primarily within Norfolk Southern right-of-way. The alignment then transitions into the North Carolina Railroad (NCR) right-of-way north of 30th Street, and remains in the NCR right-of-way for over two miles. The alignment would run parallel to the existing freight tracks on the south side of the NCR right-of-way until Craighead Road, where it would go up and over Craighead Road and the freight tracks and continue on the western side. Near Old Concord Road, the alignment transitions into the median of North Tryon Street/US-29, where it remains for the next four miles. The alignment exits North Tryon Street/US-29 near UNC Charlotte and enters the campus to provide direct service to the university.

After the alignment exits the university, it runs northwest to a terminus along North Tryon Street/US-29, just south of I-485.

#### Stations

The proposed Light Rail Alternative includes 13 stations, seven with park-and-ride facilities (with over 4,600 total parking spaces) and six walk-up stations. Bus service connections would also be provided at most stations. Following is a summary of each station location:

- **9th Street Station:** The 9th Street Station would be located directly north of 9th Street and directly south of the future 10th Street Connector, along right-of-way owned by the City of Charlotte. The station would be designed as an urban station with walk-up access and eight short-term bicycle

parking spaces. Sidewalks, like those placed next to the LYNX Blue Line light rail tracks within Center City, would extend between 9th and 12th Streets.

- **Parkwood Station:** The Parkwood Station would be located at the intersection of Parkwood Avenue and North Brevard Street. The station would be designed as a neighborhood, walk-up station with eight kiss-and-ride spaces and eight long-term and eight short-term bicycle parking spaces. A small landscaped area would be located in front of the station.
- **25th Street Station:** The 25th Street Station would be located along the northwest side of Brevard Street, northeast of Little Sugar Creek. The station would be a neighborhood, walk-up station with 16 short-term bicycle parking spaces.
- **36th Street Station:** The 36th Street Station would be located along the south side of the railroad right-of-way. The station platform would be located on a bridge structure as 36th Street would be depressed under the existing freight tracks and the proposed light rail tracks. This bridge structure would be at the same elevation as the existing freight tracks, while 36th Street would be lower than the current elevation of 36th Street. The station would be designed as a neighborhood station, with walkup access and eight long-term and eight short-term bicycle parking spaces. Pedestrian access would be via sidewalk along both sides of 36th Street. There would be two bus stops located on-street.
- **Sugar Creek Station Park-and-Ride Option 1:** The Sugar Creek Station would be located along the north side of the existing railroad tracks. The station platform would be located on a bridge structure as Sugar Creek Road would be depressed under the existing freight tracks and the proposed light rail tracks. This bridge structure would be at the same elevation as the freight tracks, or at-grade. The station would be designed as a regional station and would include three separate park-and-ride lots totaling approximately 899 spaces, three bus bays, four kiss-and-ride spaces and 22 long-term and six short-term bicycle parking spaces. Vehicular access to the park-and-ride lot would be available from Raleigh Street and Sugar Creek Road. Stairs and elevators would be provided for pedestrian access, along with pedestrian walkways along both sides of Sugar Creek Road.
- **Sugar Creek Station Park-and-Ride Option 2:** The Sugar Creek Station would be located along the south side of the existing railroad tracks. Like Option 1, the station platform would be located on a bridge structure as Sugar Creek Road would be depressed under the existing freight tracks and the proposed light rail tracks. This bridge structure would be at the same elevation as the freight tracks. The station would be designed as a regional station and would include a five story parking garage totaling approximately 1,010 spaces, three bus bays, 22 long-term and six short-term bicycle parking spaces. Vehicular access to the park-and-ride lot would be available from North Davidson Street. A bus crew comfort area will also be provided in the parking garage. A pedestrian bridge would provide access to the station platform from the parking garage. Stairs and elevators would be provided for pedestrian access to the pedestrian bridge from the garage and the station platform. Separately, pedestrian walkways would also be provided along both sides of Sugar Creek Road.
- **Old Concord Road Station:** The Old Concord Road Station would be located between the existing railroad right-of-way and Old Concord Road in the area of the alignment where it would depart the railroad right-of-way and head north towards the intersection of North Tryon Street/US-29 and Old Concord Road. The station would function as a community station and would include a surface park-and-ride lot with 563 spaces, four bus bays and 16 long-term and eight short-term bicycle parking spaces. Access to the park-and-ride lot would be from Old Concord Road and North Tryon Street/US-29.
- **Tom Hunter Station:** The Tom Hunter Station platform would be located directly north of Tom Hunter Road in the median of North Tryon Street/US-29. The station would be a neighborhood station, with a surface park-and-ride lot with approximately 139 spaces and eight long-term and eight short-term bicycle parking spaces. Access would be available from Tom Hunter Road.
- **University City Blvd. Station:** The University City Blvd. Station is proposed in the median of North Tryon Street/US-29 within the “weave” between the future intersections of I-85 Connector Road, North Tryon Street/US-29 and University City Boulevard/NC-49. This station would be a regional station with a surface park-and-ride lot with 797 spaces on the west side of North Tryon Street/US-29, along with four bus bays and 18 long-term and six short-term bicycle parking spaces.
- **McCullough Station:** The McCullough Station would be located directly north of McCullough Drive within the median of North Tryon Street/US-29. The station would be designed as a community station. The McCullough Station would include a surface park-and-ride lot with 151 spaces and ten

long-term and eight short-term bicycle parking spaces. The park-and-ride lot would be located on the west side of North Tryon Street/US-29 at McCullough Drive.

- **JW Clay Blvd. Station:** The JW Clay Blvd. Station would be located south of JW Clay Boulevard in the median of North Tryon Street/US-29. The station would be designed as a neighborhood station with walk-up access, eight long-term and eight short-term bicycle parking spaces and two bus bays.
- **UNC Charlotte Station:** The UNC Charlotte Station would be located on campus opposite Laurel Hall Dormitory. The station would be designed for walk-up access, with 32 short-term bicycle parking spaces and two bus bays for connections to campus shuttle service.
- **Mallard Creek Church Station:** The Mallard Creek Church Station would be located north of Mallard Creek Church Road, east of Mallard Creek. The station would provide three bus bays, eight long-term and eight short-term bicycle parking spaces and a surface park-and-ride lot with approximately 156 spaces. Vehicle access would be available from Stone Quarry Road.
- **I-485/N. Tryon Station:** The I-485/N. Tryon Station would be a regional station with a five-story parking garage located to the east of North Tryon Street/US-29, just south of the I-485 ramps and Morningstar Drive. The station would consist of a parking garage, four bus bays, seven kiss-and-ride spaces and 24 short-term bicycle parking spaces. Approximately 1,959 spaces would be provided along with a crew comfort station.

#### Vehicle Light Maintenance Facility (VLMF)

A VLMF and storage yard would be constructed on the existing Norfolk Southern Intermodal Facility that abuts North Brevard Street. The facility would provide vehicle storage and light vehicle maintenance activities, those that could be done in less than 24 hours. Heavy maintenance would take place at the existing South Boulevard Light Rail Facility.

#### Ancillary Facilities

Substations and signal control houses would be placed along the alignment to provide electricity and operating signals along the alignment.

### ES.3.3 Light Rail Alternative – Sugar Creek Design Option

The Light Rail Alternative – Sugar Creek Design Option would divert from the Light Rail Alternative just after Sugar Creek Road and enter the median of North Tryon Street/US-29 near Dorton Street. This design option represents a change in the station platform and park-and-ride locations for the Sugar Creek Station and the Old Concord Road Station. These stations are summarized as follows:

**Sugar Creek Station – Sugar Creek Design Option:** This station would be located along Dorton Street, near Raleigh Street. The station would include a surface park-and-ride lot with 893 spaces, three bus transfer bays, four kiss-and-ride spaces and 26 bicycle parking spaces. Access to the park-and-ride lot would be available from Dorton Street and Raleigh Street.

**Old Concord Road Station – Sugar Creek Design Option:** This station platform would be located in the median of North Tryon Street/US-29, directly west of the Old Concord Road intersection. The station would include a surface park-and-ride lot with 458 spaces, three bus transfer bays and 20 bicycle parking spaces. Access to the park-and-ride lot would be available from North Tryon Street/US-29 and Old Concord Road. The park-and-ride lot would be at roughly just west of the same location as the park-and-ride facility for the Light Rail Alternative Old Concord Road Station.

### ES.4 Summary of Transportation Impacts

#### Improve access and mobility

Under the No-Build Alternative, improvements to access and mobility would be limited to additional bus service within the Northeast Corridor. The proposed Light Rail Alternative and Light Rail Alternative – Sugar Creek Design Option would improve mobility in areas with the highest levels of employment in the Charlotte metropolitan area, including Center City Charlotte and the University City area. The Light Rail Alternative and Light Rail Alternative – Sugar Creek Design Option would also improve access to transit by providing station facilities, more frequent and reliable service, pedestrian and bicycle improvements, and parking facilities. In addition, the Light Rail Alternative and Light Rail Alternative – Sugar Creek

Design Option would provide a seamless and direct connection to destinations along the existing LYNX Blue Line light rail service.

Since the Northeast Corridor is comprised of a large number of residents that are transit-dependent, access to travel is a major concern for area households. Ten percent of the housing units in the corridor have no vehicles available to travel to and from work or for any other purpose. The Light Rail Alternative and Light Rail Alternative – Sugar Creek Design Option would also improve mobility and access in areas with large numbers of residents who are transit-dependent.

#### Increase transit ridership

The Light Rail Alternative would operate in a dedicated right-of-way, free from traffic congestion; therefore it is projected that the Light Rail Alternative would provide a significant travel time savings over the No-Build Alternative. For this reason, total transit trips would be greater for the Light Rail Alternative than the No-Build Alternative, and dependency on highly congested roadways would be reduced. The Light Rail Alternative would also increase transit ridership. Compared to the No-Build Alternative, approximately 18,300 additional riders would utilize transit under the Light Rail Alternative. Ridership on the light rail system is projected to increase from 23,700 daily riders on the existing LYNX Blue Line under the No-Build Alternative, to a total of 47,500 daily light rail boardings for the entire alignment (South to Northeast) under the Light Rail Alternative; this represents an addition of 23,800 riders per day on the light rail system alone. It is expected that the transit times and trips under the Light Rail Alternative – Sugar Creek Design Option would be comparable to the Light Rail Alternative.

#### Improve quality of transportation service

As noted, the Light Rail Alternative has the advantage of providing faster service over the No-Build Alternative. For example, when comparing peak hour travel times from the UNC Charlotte to Center City Charlotte, the Light Rail Alternative would take just over 25 minutes for in-vehicle travel times, whereas under the No-Build Alternative, the in-vehicle travel time using bus service would take nearly 58 minutes. Comparable travel by automobile would take nearly 36 minutes to travel from UNC Charlotte to Center City Charlotte.

The proposed project would improve the quality of transportation service by providing a frequent and reliable service in the Northeast Corridor. Congestion on arterial roadways and highways influences the reliability of travel by automobile and bus. Light rail traveling in dedicated right-of-way would not be subject to congested roadway conditions, resulting in dependable and on-time service. The proposed project would travel between major growth and employment centers with six-minute to ten-minute headways during peak periods.

#### Traffic Operations

An analysis of over 55 intersections was conducted to determine the effects of the Light Rail Alternative and Light Rail Alternative – Sugar Creek Design Option on traffic operations within the corridor. The analysis generally shows minor increases in automobile delay with the Light Rail Alternative, compared to the No-Build Alternative. Additional signalized intersections, turn lanes and grade separations were included in the project design to address potential traffic impacts. A grade separation analysis was conducted to identify locations where the light rail should be grade separated from roadway traffic based on: safety, traffic volumes, transit headways, arterial travel speeds, cost, intersection delays, and traffic spillback to adjacent intersections. All major intersections, railroad crossings, and entry into and exit from North Tryon Street/US-29 would be grade separated.

## **ES.5 Summary of Environmental Consequences**

This section summarizes the potential environmental consequences of the No-Build Alternative, the Light Rail Alternative and the Light Rail Alternative – Sugar Creek Design Option. Table ES-1 presents a summary of the potential social, economic, and environmental impacts of the alternatives under study in this Draft EIS.

### **ES.5.1 No-Build Alternative Consequences**

Growth in the corridor would continue to occur in a dispersed manner that does not concentrate development as is envisioned in the *2025 Integrated Transit/Land Use Plan*, the *Centers and Corridors*

*Concept Plan* and the *Centers, Corridors and Wedges Growth Framework*, Draft 2010. It would not provide the opportunity for transit supportive development. Therefore, the No-Build Alternative would not be consistent with the City's general plans and would likely result in the continuation of urban sprawl as highway improvements would need to be put in place to accommodate the anticipated population and employment growth. More parking in Center City Charlotte would be needed to accommodate more single-occupancy vehicles and therefore, Charlotte and Mecklenburg County would not see the economic advantages associated with highest and best uses of urban land. The vacant and underutilized land within the corridor would not be utilized to the greatest extent under existing zoning ordinances. Vehicle miles traveled throughout the region would continue to increase, following the trend of urban sprawl, exacerbating the region's air quality problem. Urban sprawl would continue to eliminate valuable ecosystems, water resources, and farmlands further diminishing the region's natural environment.

There would be no acquisition of property or resulting displacements under the No-Build Alternative. No physical impacts to existing neighborhoods within the project area would occur. However, benefits obtainable through improved mobility and access to an alternate, reliable means of transportation would not be available for area neighborhoods. The expansion of the CATS bus system under the No-Build Alternative would provide improved bus service for environmental justice populations over the existing conditions; however, the benefits of increased mobility, reliability of transit service, access to jobs, and the opportunity to reduce the number of vehicles per household that may occur as a result of the Light Rail Alternative would not take place.

### ES.5.2 Light Rail Alternative Consequences

While the development of the Light Rail Alternative is not anticipated to affect the Northeast Corridor's overall growth rate, it may alter the area's growth patterns by focusing growth along the light rail line as envisioned by the *2025 Integrated Transit/Land Use Plan*. The effectiveness of the proposed light rail will be related to both its function and its ability to promote transit-supportive development in the area surrounding the stations. Station area plans, under development by the Charlotte-Mecklenburg Planning Department, outline a vision for future growth and development, including incentives to encourage development, and guidelines and policies to ensure standards are met for transit supportive development and public investments. Station area plans ensure that development around each station meets minimum standards by guiding zoning modifications, establishing appropriate mixtures of uses, setting development intensities, and identifying basic physical design standards.

Overall, the Light Rail Alternative would have no significant adverse impacts on adjacent neighborhoods or community services. With the exception of a few displacements and land acquisitions and potential noise and vibration impacts, communities and neighborhoods near the proposed stations would be expected to benefit from improved access to many businesses and residential uses in the vicinity. The proposed transit improvements are not expected to isolate or fragment any existing neighborhoods, and in some cases, would be expected to serve as a focal point to reinforce the community character, especially in areas that are currently undergoing rapid development intensity changes, such as the North Charlotte Historic District, locally known as "NoDa."

The Light Rail Alternative would result in nearly 9,000 new jobs as a result of the money infused into the local economy from the capital expenditures of the project. It would also require an addition of 96 CATS rail operations or maintenance jobs. While the Light Rail Alternative would provide economic benefits, it would also reduce annual property tax revenues up to \$146,000 (depending on the design option selected for the Sugar Creek park-and-ride).

The Light Rail Alternative would introduce several new visual elements into the Northeast Corridor that would result in some visual impacts to resources immediately adjacent to the proposed alignment. There would not be any adverse effects to historic or archaeological resources. The alignment would come in close proximity to three park resources that would be potentially affected, including two planned greenways and one wetland viewing area at Kirk Farm Fields. The effects to parks are expected to be minimal. Section 4(f) *de minimis* findings are proposed for potentially affected historic resources and parklands. FTA is seeking public review/input as part of the Draft EIS circulation/public hearing.

The Light Rail Alternative would eliminate approximately 20 acres of mixed pine/hardwood forest community to accommodate the proposed alignment and station park-and-ride facilities. The greatest environmental impact that would result from the Light Rail Alternative would be to water resources. Minimization and avoidance efforts have been made to reduce these impacts; but many are unavoidable.

The Light Rail Alternative would save energy through a reduction in vehicle miles traveled over the No-Build Alternative. These same reductions would also result in an improvement to the region's air quality.

Some noise impacts would result to residences and businesses along the alignment, including: 26 residential properties, two hotels, one medical center, one college dormitory and one park. One vibration impact is likely to result at one residential location. A detailed noise and vibration impact assessment will be conducted before the Final EIS to confirm these impacts would occur and to identify specific mitigation methods. This assessment will also address concerns raised by the UNC Charlotte's Charlotte Research Institute with respect to vibration sensitive equipment contained in their research buildings.

Right-of-way would be acquired from private property owners where the alignment would depart from the existing railroad right-of-way over to the median of North Tryon Street/US-29, along North Tryon Street/US-29 where the light rail would operate in the median, and at station park-and-ride facilities. Property acquisition would potentially result in up to 22 business displacements and one residential displacement, resulting from 25 full property acquisitions and up to 204 partial property acquisitions.

Construction activities of the Light Rail Alternative and Light Rail Alternative – Sugar Creek Design Option could generate a variety of impacts to the existing environment and surrounding features. These potential impacts would be neither permanent nor severe.

### **ES.5.3 Light Rail Alternative – Sugar Creek Design Option**

The Light Rail Alternative – Sugar Creek Design Option would essentially have the same social, economic, and environmental benefits of the Light Rail Alternative. There would be fewer impacts to natural and water resources with this design option, most notably 1,113 linear feet (4,657 ft<sup>2</sup>) less impacts to streams and 0.08 of an acre less of an impact to wetlands. It would add two more visual impacts, one additional noise impact, eliminate one residential vibration impact, and add six more full and ten to 19 more partial acquisitions along North Tryon Street/US-29. It would also remove up to an additional \$33,000 from annual property tax revenues over the proposed Light Rail Alternative.

### **ES.6 Mitigation Summary**

Mitigation would be required to offset the impacts summarized in Table ES-1 and detailed in this Draft EIS. These mitigation commitments are summarized in Table ES-2.

**Table ES-1  
Summary of Environmental Impacts**

Impact Area	No-Build Alternative	Light Rail Alternative	Light Rail Alternative – Sugar Creek Design Option
<b>Land Use (Chapter 4.0)</b>			
Changes to corridor land use	No change.	No significant impact. Direct land use impacts to vacant, commercial, and industrial properties, and 1 residential property. This would not change the corridor’s overall land use composition.	Same as the Light Rail Alternative.
Compatible with existing land use	No change.	Yes, the proposed stations are compatible with existing land uses. Employees and residents would benefit from increased transit access and amenities.	Same as the Light Rail Alternative.
Consistent with local land use plans	No, does not support the Centers, Corridor, and Wedges Growth Framework.	Yes, supports Centers, Corridors and Wedges Growth Framework.	Same as the Light Rail Alternative.
<b>Socio-Economic Conditions (Chapter 5.0)</b>			
Population, Housing and Employment	Possible decrease.	Possible increase.	Same as the Light Rail Alternative.
Employment/Job Creation	No change.	8,593 new jobs from construction expenditures (direct and indirect) / 96 rail O&M jobs.	111 more new jobs from construction expenditures / O&M jobs same as the Light Rail Alternative.
Investment along the project corridor	Possible decrease.	Possible increase.	Same as the Light Rail Alternative.
Government Finance and Tax Sources	No change.	<u>Short-term:</u> Loss of up to \$146 thousand of property tax revenue related to acquisitions and displacements. <u>Long-term:</u> Potential increase related to transit-oriented development and redevelopment.	<u>Short-term:</u> Loss of up to an additional \$33 thousand of property tax revenue, compared to Light Rail Alternative. <u>Long-term:</u> Same as the Light Rail Alternative.
<b>Neighborhoods, Community Services and Environmental Justice (Chapter 6.0)</b>			
Impacts to community cohesion	No impact.	No impact.	No impact.
Impacts to neighborhoods	No improved access to transit.	Potential for overflow parking on neighborhood streets adjacent to stations. Potential impacts to 4 neighborhoods: <ul style="list-style-type: none"> <li>• <u>North Charlotte</u> - depression of 36th Street under the existing freight and proposed light rail tracks would improve access to the neighborhood and reduce freight train noise; views of the railroad right-of-way would be altered with the addition of light rail trackway and structures, but the views would not be out of character with the</li> </ul>	Same as the Light Rail Alternative.

**Table ES-1 (continued)  
Summary of Environmental Impacts**

Impact Area	No-Build Alternative	Light Rail Alternative	Light Rail Alternative – Sugar Creek Design Option
Impacts to neighborhoods (continued)	No improved access to transit.	existing context. <ul style="list-style-type: none"> <li>• <u>Hidden Valley</u> - potential moderate noise impact at residences in Pines Mobile Home Park within this neighborhood;</li> <li>• <u>University City South</u> - residential displacements, partial acquisitions, noise impacts, and potentially significant visual impacts would occur in at the Mallard Creek Apartments within this neighborhood; and,</li> <li>• <u>Harris-Houston</u> - access road changes to the Queen’s Grant Mobile Home Park in this area as well as the alteration of the view from this same mobile home park. The visual impact would not be significant due to the natural vegetative screen that would remain.</li> </ul>	Same as the Light Rail Alternative.
Negative impacts to community services	No impact.	<ul style="list-style-type: none"> <li>• Potential impact to emergency services related to light rail signal pre-emption;</li> <li>• <u>Crossroads Charter School</u> - Potential impact, but not considered significant. Partial acquisition of land and a potential visual impact as a bridge and park-and-ride lot would be introduced to the view from this resource;</li> <li>• <u>Zion Primitive Baptist Church</u> – Potential impact, but not considered significant. Partial acquisition of land; and,</li> <li>• <u>Carolinas Medical Center-University</u> - Potentially significant visual impact related to reduced visibility of hospital entrances from bridge over W.T. Harris Blvd. Partial acquisition of land.</li> </ul>	Same as the Light Rail Alternative, except less potential impact to Crossroads Charter School since this alternative does not require a bridge over Old Concord Road.
Adverse and disproportionate impacts to minority and low-income populations	Would not improve access to transit.	Noise impacts at the Pines Mobile Home Park (Hidden Valley; low-income and minority) and the Mallard Creek Apartments (University City South, low-income) would be considered adverse due to the intensity of the impacts and disproportionate as no residential noise impacts would occur outside of minority and low-income communities of concern.	No adverse or disproportionate impact.

**Table ES-1 (continued)**  
**Summary of Environmental Impacts**

Impact Area	No-Build Alternative	Light Rail Alternative	Light Rail Alternative – Sugar Creek Design Option
<b>Visual and Aesthetic Resources (Chapter 7.0)</b>			
Introduction of new visual elements not in character with corridor	No impact.	<ul style="list-style-type: none"> <li>• 12 potential impacts.</li> <li>• 2 potentially significant impacts: CMC - University and Mallard Creek Apartments.</li> </ul>	2 additional potential impacts.
<b>Historical and Archaeological Resources (Chapter 8.0)</b>			
Impacts to historical resources	No impact.	No adverse impacts.	Same as the Light Rail Alternative.
Impacts to archaeological resources	No impact.	No impact.	Same as the Light Rail Alternative.
<b>Parklands (Chapter 9.0)</b>			
Impacts to existing or planned parks	No impact.	Would provide enhanced access to parks facilities. 3 potential impacts, expected to be minimal: <ul style="list-style-type: none"> <li>• Kirk Farm Fields (noise, visual)</li> <li>• Toby Creek Greenway (planned) (visual)</li> <li>• Mallard Creek Greenway Extension (planned) (visual)</li> </ul>	Same as the Light Rail Alternative.
<b>Natural Resources (Chapter 10.0)</b>			
Impacts to farmlands and forests	No impact.	19.89 acres of mixed pine/hardwood forest community removed due to clearing for two park-and-ride facilities and for the UNC Charlotte alignment.	Avoids approximately 1.56 acres of mixed pine/hardwood forest community.
Impacts to protected species	No impact.	No impact.	Same as Light Rail Alternative.
<b>Water Resources (Chapter 11.0)</b>			
Impacts to groundwater	No impact.	No impact.	Same as the Light Rail Alternative.
Impacts to surface waters	No impact.	3,262 linear feet (23,256 ft <sup>2</sup> ) of streams impacted.	1,113 linear feet (4,657 ft <sup>2</sup> ) less than Light Rail Alternative.
Impacts to floodplains and floodways	No impact.	<ul style="list-style-type: none"> <li>• 0.2 acre (8,902 ft<sup>2</sup>) in FEMA Floodway;</li> <li>• 0.87 acre (37,746 ft<sup>2</sup>) in Community Encroachment Area; and,</li> <li>• 8.47 acres (368,812 ft<sup>2</sup>) in Community Floodplains.</li> </ul>	Same as the Light Rail Alternative.
Impacts to wetlands	No impact.	1.522 acres of wetlands impacted.	0.08 acre less than the Light Rail Alternative.

**Table ES-1 (continued)**  
**Summary of Environmental Impacts**

Impact Area	No-Build Alternative	Light Rail Alternative	Light Rail Alternative – Sugar Creek Design Option
<b>Air Quality (Chapter 12.0)</b>			
Conformity with Regional Plan	Not consistent with Long Range Transportation Plans.	Project is included in the current conforming Transportation Improvement Program (TIP) and Long Range Transportation Plan.	Same as Light Rail Alternative.
Reduction in Vehicle Miles Traveled (VMT)	None.	Reduction of 55 million miles / year.	Same as Light Rail Alternative.
Creation of CO hot spots	No impact.	None.	Same as Light Rail Alternative.
<b>Noise and Vibration (Chapter 13.0)</b>			
Noise impacts	No impact.	<p><u>Moderate Impacts:</u></p> <ul style="list-style-type: none"> <li>• 26 single-family residences within the Pines Mobile Home Park</li> <li>• 6 multi-family buildings at the Mallard Creek Apartments</li> <li>• 2 hotels: Intown Suites and Residence Inn by Marriott along North Tryon Street/US-29</li> <li>• 1 medical center: CMC-University</li> <li>• 1 park: Kirk Farm Fields</li> </ul> <p><u>Severe impacts:</u></p> <ul style="list-style-type: none"> <li>• 2 multi-family buildings at the Mallard Creek Apartments</li> </ul> <p><u>Wheel squeal:</u></p> <ul style="list-style-type: none"> <li>• 1 college dormitory: Laurel Hall at UNC Charlotte</li> </ul>	1 additional moderate impact to a single-family residence along North Tryon Street /US-29 over those listed for the Light Rail Alternative.
Vibration impacts	No impact.	1 single-family residence (St. Anne's Place in the Hampshire Hills neighborhood).	Avoids impact to residence affected by the Light Rail Alternative.
<b>Energy Use (Chapter 14.0)</b>			
Daily energy consumption	788,212 million BTU <sup>1</sup> .	762,560 million BTU (net reduction of 530 million BTU).	Same as the Light Rail Alternative.
<b>Hazardous and Contaminated Materials (Chapter 15.0)</b>			
Sites of concern for hazardous and contaminated materials	No impact.	12 properties on the alignment and 7 properties proposed for park-and-ride facilities	1 less property along the alignment, and 4 less properties for park-and-ride facilities.
<b>Safety and Security (Chapter 16.0)</b>			
Safe and secure operations	No impact.	Design includes provisions for the safety of vehicles, bicyclists and pedestrians, as well as for the security of customers in park-and-ride facilities, platforms and vehicles.	Same as the Light Rail Alternative.

**Table ES-1 (continued)  
Summary of Environmental Impacts**

Impact Area	No-Build Alternative	Light Rail Alternative	Light Rail Alternative – Sugar Creek Design Option
<b>Acquisitions and Displacements (Chapter 17.0)</b>			
Full acquisitions	No impact.	25	6 more parcels than the Light Rail Alternative.
Partial acquisitions	No Impact.	195/204 <sup>2</sup>	19/10 <sup>2</sup> more parcels than the Light Rail Alternative.
Displacements – Business	No impact.	22/19 <sup>2</sup>	10/13 more business displacements than the Light Rail Alternative.
Displacements – Residential	No impact.	1	Same as the Light Rail Alternative.
<b>Construction Impacts (Chapter 18.0)</b>			
Utilities	None.	Relocation of significant numbers of existing utilities, including electrical power, telecommunication, water and sewer, natural gas, and traffic signals and communications.	Same as the Light Rail Alternative.
Transportation and Traffic	None.	Temporary lane and road closures. Coordination with railroads required to maintain freight train operations.	
Land Use, Community Facilities and Businesses	None.	Potential for disruption to businesses due to access restrictions, signage removal, traffic, noise and dust from construction activities.	
Displacements and Relocations	None.	Temporary construction easements would be acquired.	
Visual and Aesthetic Qualities	None.	Temporary visual impacts from construction equipment, removal of vegetation, and lights from night-time construction.	
Neighborhoods, Community Services and EJ	None.	Access through neighborhoods would be maintained. Potential impact to Hampshire Hills neighborhood related to traffic from construction vehicles and equipment to access the railroad right-of-way.	
Air Quality	None.	Temporary localized air quality pollutant emissions related to demolition and construction activities.	
Noise and Vibration	None.	Temporary elevated noise levels due to construction. Potential temporary vibration impacts to residences and historic resources.	

**Table ES-1 (continued)  
Summary of Environmental Impacts**

Impact Area	No-Build Alternative	Light Rail Alternative	Light Rail Alternative – Sugar Creek Design Option
Natural Resources	None.	Construction noise and staging may temporarily displace some wildlife species. The majority of the species is typical of urban/disturbed environments and would adapt and recover quickly.	Same as the Light Rail Alternative.
Water Resources	None.	Construction activities could increase sediment levels to stormwater runoff.	
Cultural Resources	None.	Potential vibration impacts from construction activities.	
Parklands	None.	Temporary greenway trail closures. Temporary visual and noise and vibration impacts to Kirk Farm Fields wetland viewing area.	
Energy	None.	1,210 BTUs (30% of total) during construction	
Hazardous and Contaminated Materials	None.	Potential impacts from removal and transportation of material.	
Safety and Security	None.	Construction safety provisions and regulations will be followed, so adverse safety and security impacts are not expected during construction.	
<b>Secondary and Cumulative Effects (Chapter 19.0)</b>			
Secondary Effects	n/a	<ul style="list-style-type: none"> <li>• Positive secondary effects related to potential induced development in station areas, consistent with adopted growth management policies that seek to encourage new development to occur in the designated corridors that will have the infrastructure to support growth.</li> <li>• Potential negative secondary effects to natural resources, historic properties, neighborhood gentrification, affordable housing, traffic and demand for public services related to development / redevelopment activities.</li> </ul>	Same as the Light Rail Alternative.

**Table ES-1 (continued)  
Summary of Environmental Impacts**

Impact Area	No-Build Alternative	Light Rail Alternative	Light Rail Alternative – Sugar Creek Design Option
Cumulative Effects	n/a	<ul style="list-style-type: none"> <li>• Minor effects on notable environmental features.</li> <li>• Multiple projects in the Northeast Corridor, including the Sugar Creek Grade Separation, the Charlotte Rail Improvement and Safety Project (CRISP), High Speed Rail, the I-485 loop, I-85 widening, Northeast Corridor Infrastructure Program (NECI), and UNC Charlotte expansion are not likely to result in significant additional direct effects beyond those identified by each project. If construction occurs within the same time frame, temporary negative impacts to surrounding communities could occur.</li> <li>• Implementing the CATS 2030 System Plan includes improved access and mobility, linking communities across the region, and support for the Centers, Corridors, and Wedges Growth Framework.</li> <li>• Potential impacts on the South Corridor Blue Line light rail due to increased ridership demand. Extension of platforms and/or additional substations area required, which could create traffic, noise and natural resource impacts.</li> </ul>	Same as the Light Rail Alternative.

<sup>1</sup> British Thermal Units

<sup>2</sup> Sugar Creek Station Park-and-Ride Option 1/Sugar Creek Station Park-and-Ride Option 2.

**Table ES-2  
Summary of Mitigation**

Impact Areas	Light Rail Alternative	Light Rail Alternative – Sugar Creek Design Option
<b>Transportation (Chapter 3.0)</b>	The mitigation to address project impacts have been incorporated into the project design at 30 percent, including grade separations, signalized grade crossings, and turn lanes. No additional mitigation is proposed.	
<b>Land Use (Chapter 4.0)</b>	Station Area Plans will continue to be developed that define a framework for future growth and development.	Same as the Light Rail Alternative.
<b>Socio-Economics (Chapter 5.0)</b>	None.	None.
<b>Neighborhoods/Community Facilities/Environmental Justice (Chapter 6.0)</b>		
Neighborhoods	<ul style="list-style-type: none"> <li>• Overflow parking in neighborhoods near light rail stations will be monitored. Corrective actions to provide additional parking will be made and/or parking enforcement will be instituted, if necessary.</li> <li>• A detailed noise analysis will be undertaken to determine specific noise mitigation measures for each property affected.</li> <li>• Implementation of the Urban Design Framework to minimize visual impacts</li> <li>• Further coordination with the property owners of Mallard Creek Apartments to develop landscape treatments, where practical, near the buildings closest to the trackway.</li> </ul>	Same as the Light Rail Alternative.
Community Facilities	<ul style="list-style-type: none"> <li>• Coordination with emergency service providers to ensure that design allows access for these services and that the efficiency of emergency services is not impeded.</li> <li>• Coordination with CMC-University.</li> </ul>	
Environmental Justice	<ul style="list-style-type: none"> <li>• Noise mitigation for residential properties located within EJ communities of concern will be required.</li> </ul>	

**Table ES-2 (continued)  
Summary of Mitigation**

Impact Areas	Light Rail Alternative	Light Rail Alternative – Sugar Creek Design Option
<p><b>Visual And Aesthetics (Chapter 7.0)</b></p>	<ul style="list-style-type: none"> <li>• Implementation of the design treatments per the project’s Design Criteria, Urban Design Framework, to the extent practical.</li> <li>• Coordination with property owners to discuss the following proposed mitigation:                             <ul style="list-style-type: none"> <li>○ For the six affected properties in Hampshire Hills, landscaping is proposed along the project fencing.</li> <li>○ Additional directional signage to improve way-finding to CMC-University and retain visibility to the hospital.</li> <li>○ Additional landscaping, where practical, near the rear buildings of the Mallard Creek Apartments that are closest to the light rail alignment.</li> </ul> </li> <li>• Continued coordination with stakeholders and potentially affected groups regarding potential visual impacts: Mecklenburg County Park and Recreation Department (MCPR) to coordinate with greenway plans; Charlotte Research Institute to coordinate with expansion plans; UNC Charlotte to ensure consistency with campus design guidelines; and University City Partners to provide information to affected business owners.</li> </ul>	<p>Same as the Light Rail Alternative and:</p> <ul style="list-style-type: none"> <li>• Businesses along North Tryon Street/US-29 between Dorton Street and Old Concord Road to provide information to affected business owners.</li> </ul>
<p><b>Historical and Archaeological Resources (Chapter 8.0)</b></p>	<p>None.</p>	<p>None.</p>
<p><b>Parklands (Chapter 9.0)</b></p>	<ul style="list-style-type: none"> <li>• <u>Kirk Farm Fields</u> - A detailed noise assessment will be conducted during the Final EIS to confirm if a noise impact would occur at this location. Further coordination with MCPR to share the results of this assessment and determine if mitigation is feasible and prudent.</li> <li>• <u>Toby Creek Greenway (planned) and Mallard Creek Greenway Extension (planned)</u> - Vegetative screens will be maintained to the extent practical; CATS will coordinate with MCPR to ensure the light rail bridge over the greenway would not conflict with the greenway, and to minimize impact to trail operations during construction. CATS will notify MCPR 48 hours in advance of temporary closure of greenways due to construction.</li> </ul>	<p>Same as the Light Rail Alternative.</p>
<p><b>Natural Resources (Chapter 10.0)</b></p>		
<p>Impacts to farmlands and forests</p>	<p>Trees and landscaping will replace vegetation loss. Park-and ride lots will comply with Charlotte Tree Ordinance, which requires 8 percent coverage. Limited opportunities for urban forestry.</p>	<p>Same as the Light Rail Alternative.</p>
<p>Impacts to protected species</p>	<p>None.</p>	<p>None.</p>

**Table ES-2 (continued)  
Summary of Mitigation**

Impact Areas	Light Rail Alternative	Light Rail Alternative – Sugar Creek Design Option
<b>Water Resources (Chapter 11.0)</b>		
Impacts to groundwater	Although no groundwater impacts are anticipated, a well located on the UNC Charlotte campus within the proposed project alignment is no longer in use. CATS and/or UNC Charlotte will complete the abandonment/closure process to seal the well.	Same as the Light Rail Alternative
Impacts to surface waters	Design will continue to minimize impacts to streams through the limited use of riprap at pipe inlets and outfalls; the relocation of channels using natural channel design techniques where practicable; and preservation of streambanks at proposed bridge crossings. Compensatory mitigation would be made through the Charlotte Umbrella Stream and Wetland Mitigation bank when impacts are unavoidable and as required by the Clean Water Act and as determined in coordination with the U.S. Corps of Engineers and the North Carolina Division of Water Quality.	Same as the Light Rail Alternative.
Impacts to floodplains and floodways	Bridge design will continue to minimize impacts to floodplains and floodways. Continued coordination with Charlotte and Mecklenburg County Stormwater Services will be made for continued input into the project design.	Same as the Light Rail Alternative.
Impacts to wetlands	Additional efforts to avoid and minimize impacts to wetlands will continue to be made during preliminary engineering design, including: steepening fill slopes where practicable; use of retaining walls or similar structures; locating construction staging and access areas away from wetlands; and demarcating preserved wetland areas prior to construction. Compensatory mitigation would be made through the Charlotte Umbrella Stream and Wetland Mitigation bank, when impacts are unavoidable, and as required by the Clean Water Act and as determined in coordination with the U.S. Corps of Engineers and the North Carolina Division of Water Quality.	Same as the Light Rail Alternative.
<b>Air Quality (Chapter 12.0)</b>	Coordination with Mecklenburg County Land Use & Environmental Services Agency to comply with air quality modeling requirements for Transportation Facilities Construction Permits for the proposed parking garages.	Same as the Light Rail Alternative.
<b>Noise and Vibration (Chapter 13.0)</b>	A detailed noise and vibration assessment for the potential moderate and severely impacted properties will be completed. Potential noise mitigation measures include rail vehicle skirts, sound barriers, resilient or damped wheels, and building sound insulation. Specific mitigation recommendations will be coordinated with affected property owners.	Same as the Light Rail Alternative, except that a detailed study at St. Anne's Place would not be needed as this design option avoids that impact.
<b>Energy (Chapter 14.0)</b>	None.	None.
<b>Hazardous and Contaminated Materials (Chapter 15.0)</b>	Phase II Environmental Site Assessments will be performed for all full or partial acquisitions determined to be a risk for hazardous material contamination. Remediation in accordance with local and state regulations. For sites of low concern, a special provision will be included in the construction contract for the excavation and disposal of non-hazardous contaminated sites.	Same as the Light Rail Alternative.

**Table ES-2 (continued)  
Summary of Mitigation**

Impact Areas	Light Rail Alternative	Light Rail Alternative – Sugar Creek Design Option
<b>Safety and Security (Chapter 16.0)</b>	Design review by CATS Safety and Security/CMPD, NCDOT Safety Oversight, and Charlotte Department of Transportation to ensure design meets safety and security requirements. Continued public outreach regarding railroad safety.	None.
<b>Acquisitions and Displacements (Chapter 17.0)</b>	Uniform Relocation Assistance and Real Property Acquisition Policies Act would be followed.	Same as the Light Rail Alternative.
<b>Construction Impacts (Chapter 18.0)</b>		
Utility	<ul style="list-style-type: none"> <li>• Coordinate with utility owners to ensure maintenance of utility services and timely relocation</li> <li>• Relocate, remove and protect existing utilities.</li> </ul>	Same as the Light Rail Alternative but applied to a greater degree due to the street and business impacts that would also occur between Dorton Street and Old Concord Road.
Transportation, Traffic and Parking	<ul style="list-style-type: none"> <li>• Schedule construction activities during off-peak hours, where practical.</li> <li>• Develop Maintenance of Traffic Plan.</li> <li>• Coordinate freight schedule and construction activities with the railroads.</li> </ul>	
Land Use, Community Facilities and Businesses	<ul style="list-style-type: none"> <li>• Coordinate with local business owners and provide advance notification of roadway disruptions and descriptions of alternative routes.</li> <li>• Provide temporary entrance signs during construction.</li> </ul>	
Visual and Aesthetic	<ul style="list-style-type: none"> <li>• Shield and aim night work lights directly at the work zone.</li> <li>• Stage construction activities to limit the duration of impacts at individual locations.</li> </ul>	
Neighborhoods, Community Services and Environmental Justice	<ul style="list-style-type: none"> <li>• Inform local property owners, through the Construction Education and Outreach Plan, of roadway disruptions.</li> <li>• Provide continuous coordination with community service providers to maintain access for emergency vehicles.</li> <li>• Restrict contractors from accessing the railroad right-of-way through the Hampshire Hills neighborhood.</li> </ul>	
Air Quality	<ul style="list-style-type: none"> <li>• Shut off construction equipment not in direct use.</li> <li>• Water areas of exposed soil to control dust.</li> <li>• Cover open body trucks transporting materials to and from construction sites.</li> <li>• Reroute truck traffic away from schools and residential communities when possible.</li> <li>• Repave and/or replant exposed areas as soon as possible following construction.</li> <li>• Adequately secure tarps, plastic or other material over debris piles.</li> <li>• Prohibit idling of delivery trucks or other equipment during periods of extended unloading or inactivity.</li> </ul>	
Noise and Vibration	Conduct detailed noise and vibration assessment during final design and employ recommended mitigation techniques identified within the assessment.	

**Table ES-2 (continued)  
Summary of Mitigation**

Impact Areas	Light Rail Alternative	Light Rail Alternative – Sugar Creek Design Option
Natural Resources	Best management practices (BMP) would be followed by the contractor during construction. BMP would include the demarcation of the construction limits and staging areas prior to the initiation of construction, to limit the disturbances to the vegetative community.	Same as the Light Rail Alternative but applied to a greater degree due to the street and business impacts that would occur between Dorton Street and Old Concord Road.
Water Resources	<ul style="list-style-type: none"> <li>• Minimize disturbed areas.</li> <li>• Apply prompt stabilization.</li> <li>• Employ an erosion and sediment control plan to treat stormwater runoff.</li> <li>• Prevent the storage of fill or other materials in floodplains, to the extent practicable.</li> <li>• Stage construction of proposed stormwater systems to reduce the duration of construction disturbances to a given area.</li> <li>• Recycle topsoil removed during construction by using it to reclaim disturbed areas and enhance regrowth.</li> <li>• Avoid excessive slopes during excavation and blasting operations to reduce erosion.</li> <li>• Use isolation techniques, such as berming or diversion, for in-stream construction near wetlands.</li> </ul>	
Cultural Resources	<ul style="list-style-type: none"> <li>• Stop construction activities immediately upon the discovery of any new cultural resources.</li> <li>• Maintain minimum allowable distances from historic resources, to the extent practicable.</li> </ul>	
Parklands	<ul style="list-style-type: none"> <li>• Restrict construction to areas adjacent to the Kirk Farm Fields park boundary.</li> <li>• Notify MCPR 48 hours in advance of temporary closures of greenways due to construction.</li> </ul>	
Energy	Measures to minimize energy consumption during construction could include limiting the idling of construction equipment and employee vehicles, as well as locating staging areas and material processing facilities as close as possible to work sites.	
Hazardous and Contaminated Materials	<ul style="list-style-type: none"> <li>• Dispose of hazardous materials according to applicable federal, state and local guidelines.</li> <li>• Clean construction vehicles to prevent off-site contamination.</li> </ul>	
Safety and Security	Provide construction barriers and fencing to secure construction sites and staging areas.	

**Table ES-2 (continued)  
Summary of Mitigation**

Impact Areas	Light Rail Alternative	Light Rail Alternative – Sugar Creek Design Option
<b>Secondary and Cumulative Effects (Chapter 19.0)</b>		
Secondary Effects	Implement Station Area Plan recommendations to minimize potential secondary impacts. Other measures include: <ul style="list-style-type: none"> <li>• Affordable housing strategies to be developed with station area plans;</li> <li>• Notification to the Landmarks Commission of National Register Eligible properties that could be designated as Local Landmarks to afford them protection;</li> <li>• Provide Convenient access to light rail and bus services;</li> <li>• Public outreach/education regarding the benefits of transit supportive development; public involvement in station area plan development; and,</li> <li>• Coordination with City of Charlotte's Stormwater Services to minimize impacts to water resources and water quality during the station area planning process.</li> </ul>	Same as the Light Rail Alternative.
Cumulative Effects	<ul style="list-style-type: none"> <li>• A detailed traffic analysis and re-evaluation of the South Corridor Light Rail Project Final EIS will be undertaken to identify specific measures to mitigate potential impacts to the South Corridor and existing LYNX Blue Line.</li> <li>• Continued coordination with NCDOT's Rail Division regarding project schedule of the Sugar Creek Grade Separation Project.</li> </ul>	Same as the Light Rail Alternative.

## ES.7 Financial Analysis and Investment Impacts

### ES.7.1 Capital Costs

For the Light Rail Alternative and the Light Rail Alternative – Sugar Creek Design Option, the estimated capital cost is \$948.6 million for the Light Rail Alternative and an additional \$57.9 million for the Light Rail Alternative – Sugar Creek Design Option, expressed in 2009 dollars. This cost estimate includes trackwork, bridges, systems, stations, parking facilities, a vehicle light maintenance facility and storage yard, light rail vehicles, real estate, professional services and contingencies. Year of expenditure capital costs are projected to be \$1.21 billion and \$1.28 billion for the Light Rail Alternative and the Light Rail Alternative – Sugar Creek Design Option, respectively.

### ES.7.2 Operating and Maintenance Costs

The estimated system-wide annual light rail and bus operating costs is \$112.73 million for the Light Rail Alternative or the Light Rail Alternative – Sugar Creek Design Option, approximately \$17.01 million more per year than the No-Build Alternative.

### ES.7.3 Funding and Financing Strategies

Funding for corridor capital investments is planned to be funded 50 percent by federal grants, 25 percent by state grants and 25 percent by CATS from sales tax revenues:

**U.S. Department of Transportation Discretionary Funds:** Federal Section 5309 New Start grants are expected to fund 50 percent of the corridor capital investments. These funds are allocated by Congress and the Federal Transit Administration (FTA).

**North Carolina Department of Transportation (NCDOT) Transit Trust Fund:** The North Carolina Department of Transportation is the other major funding partner for the LYNX BLE. The funding source to fulfill this commitment is a Transit Trust Fund created by the North Carolina Legislature in its 2001 Budget.

**Charlotte Area Transit System (CATS):** Twenty-five percent of the project's total capital cost will be funded using revenues from the CATS ½-percent sales and use tax dedicated to funding transit. Voters in Mecklenburg County approved the sales tax in November 1998 and it has been collected since April 1999. By statute, revenues from the sales and use tax can only be applied to expenditures for planning, construction, and operation of a county-wide public transportation system.

## ES.8 Evaluation of Alternatives

The information in the Draft EIS provides the basis for decision-makers and the public to assess the benefits, costs and environmental consequences of each alternative against the goals of the proposed project. The goals of the proposed project are as follows:

Goal 1 – Land use: Support the region's Centers, Corridors and Wedges vision

Goal 2 – Mobility: Improve access and mobility in the corridor and throughout the region; Increase transit ridership; Improve quality of transportation service

Goal 3 – Environment: Preserve and protect the environment

Goal 4 – Financial: Develop affordable, cost-effective transportation solutions

Goal 5 – System Integration: Develop transportation improvements that function as part of the larger transportation system

This Draft EIS compares the No-Build Alternative to the Light Rail Alternative and Light Rail Alternative – Sugar Creek Design Option and illustrates that the two Build Alternatives address the goals and objectives of the proposed project. The Light Rail Alternative and Light Rail Alternative – Sugar Creek

Design Option would enhance accessibility, improve mobility, and support land use goals that would not be possible under the No-Build Alternative. The following summarizes the evaluation of the alternatives against the adopted goals and the assessment of impacts documented in this Draft EIS.

### ES.8.1 No-Build Alternative

The No-Build Alternative would not fulfill Goal 1, to support the region's Centers, Corridors and Wedges vision as no improvements would be made that are consistent with land use plans and policies. Likewise, the No-Build Alternative would not fulfill Goal 2 to improve access and mobility within the corridor and throughout the region. The No-Build Alternative would not encourage the use of transit. Travel time savings would not be realized and service improvements for transit-dependent populations would not be provided or would be limited. Similarly, Goal 5, which encourages system integration, would not be realized under the No-Build Alternative. The No-Build Alternative would not fulfill Goal 3 to preserve and protect the environment. Under the No-Build Alternative, population growth and land use would not be concentrated to the City's centers and corridors, and urban sprawl could continue. This could result in continued impacts to natural resources as development trends could continue in outlying areas of the metropolitan region. Additionally, an alternative to the automobile and bus would be not available, resulting in no improvements to air quality. The No-Build Alternative would fulfill Goal 4 by providing a cost effective alternative that ensures capital and O&M costs are consistent with funding levels.

### ES.8.2 Light Rail Alternative

The Light Rail Alternative would fulfill each of the project goals. Goal 1, to focus growth in the Northeast Corridor directing new development and redevelopment around transit stations, would be attained as the Station Area Plans would employ the City's Zoning Ordinance to implement land uses that are transit supportive. The Light Rail Alternative would also fulfill Goal 2, to improve access and mobility within the Northeast Corridor and the region. The Light Rail Alternative would increase transit ridership, improve transit travel times, and improve mobility for transit-dependent populations. The Light Rail Alternative would fulfill Goal 3, to protect the environment, by supporting sustainable growth through transit-supportive development plans. Increased transit use would reduce vehicle miles of travel by automobiles, thereby resulting in a reduction in automobile emissions. This reduction in automobile emissions would result in improvements to local air quality. However, the Light Rail Alternative would result in impacts to other natural resources such as wetlands and streams. These impacts would be minimized or mitigated as described in this Draft EIS. Goal 4, to develop affordable, cost-effective transportation solutions, can be attained under the Light Rail Alternative as projected capital and operating and maintenance costs are consistent with anticipated funding levels. However, though the Light Rail Alternative is only slightly higher to the No-Build Alternative in terms of system-wide annual operating and maintenance cost, the capital costs are significantly greater. The Light Rail Alternative provides a significant level of benefits for its proposed cost. Goal 5, which encourages system integration, would be realized under the Light Rail Alternative as it would provide through service to the existing light rail line, and implement part of the *2030 Transit Corridor System Plan*.

### ES.8.3 Light Rail Alternative – Sugar Creek Design Option

The Light Rail Alternative – Sugar Creek Design Option would fulfill each of the project goals in the same way as the Light Rail Alternative. However, capital costs associated with the Light Rail Alternative – Sugar Creek Design Option would be higher than under the Light Rail Alternative. Additionally, impacts to natural and human resources would differ slightly under the Light Rail Alternative – Sugar Creek Design Option as compared to the Light Rail Alternative. This comparison confirms the previous findings that this option does not provide sufficient additional benefits to justify the increased costs.

## ES.9 Public and Agency Coordination

### ES.9.1 Public Involvement

The coordination of the public, interested and affected parties, and federal, state, and local agencies is necessary to help the project team define the transit and land use issues that characterize the Northeast Corridor. The Public Involvement Plan (PIP) included scoping and focus group meetings, project mailings, individual/group contacts, public hearings, a newsletter, website, and countywide mailing list.

**Scoping Meetings.** A Notice of Intent to conduct an Alternatives Analysis and prepare an EIS was published in the Federal Register on September 29, 2000. Public scoping meetings were held September 26th and 28th, 2000 for the purpose of gathering input on the alternatives being studied in the Major Investment Study and the potential impacts to be included in the scope of the EIS. Interagency scoping letters were mailed to all agencies with jurisdiction to obtain input from the environmental resource and regulatory agencies on the appropriate assessment methodologies to be used in the project. CATS conducted a Scoping Update process in 2005 and 2006 to conduct additional scoping outreach activities.

**Public Workshops and Individual Meetings.** Over the course of project development, CATS held 34 public meetings, with approximately 1,438 attendees, and 86 individual meetings, with approximately 3,613 attendees, to gather input on the project definition and station locations.

**Newsletter and Website.** A project-specific newsletter entitled *Blue Line Extension Transitions* was published by CATS in order to inform interested citizens of project updates, upcoming meetings, and website enhancements. It was mailed to those on the mailing list, made available at meetings and presentations, on the project website, and at CATS offices. CATS also maintains a project specific page on its website, [www.ridetransit.org](http://www.ridetransit.org), that provides information relevant to the LYNX BLE project.

**Mailing Lists.** CATS maintains two mailing lists, a countywide project mailing list and a mailing list for those specifically interested in the LYNX BLE. The countywide list contains 6,800 contacts and includes property owners, occupants, and other stakeholders. The LYNX BLE mailing list includes 870 persons located in and around the LYNX BLE study area and/or those who have expressed specific interest in the project. Persons on the mailing lists received the CATS' *Blue Line Extension Transitions* Newsletter.

### ES.9.2 Agency Coordination

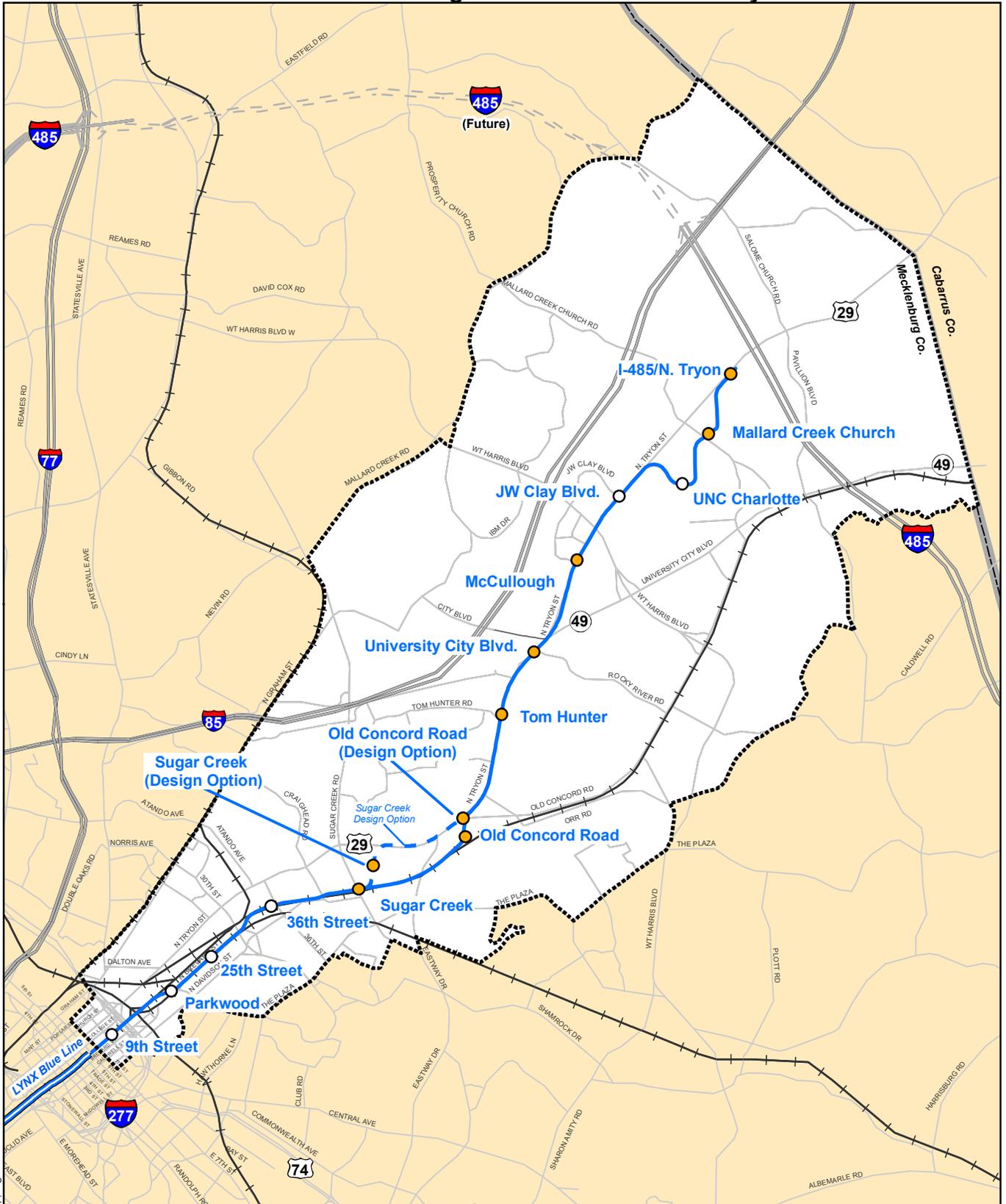
Quarterly meetings are held between CATS and the FTA to review the status of CATS projects, including the LYNX BLE project, and for FTA to provide federal oversight and guidance. In addition, CATS has formed three teams with representatives from City and County departments to provide project management and oversight.

Throughout the project development process, CATS has coordinated with state and federal agencies, including the State Historic Preservation Office (SHPO), the US Army Corps of Engineers, UNC Charlotte and NCDOT. In addition, CATS has coordinated closely with project stakeholders, including railroads and utilities, to development agreements related to construction, operation, and funding.

## ES.10 Next Steps

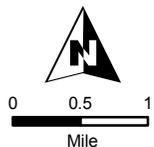
Following the close of the public circulation period on this Draft EIS, the Metropolitan Transit Commission (MTC) will consider public comments to select a Preferred Alternative amongst the alternatives under study in this Draft EIS.

Light Rail Alternative - Locally Preferred Alternative



Legend

- Northeast Corridor Limits
- LYNX Blue Line
- Proposed Light Rail Alternative
- Design Option
- Proposed Stations
- Proposed Stations with Park-and-Ride
- Highway
- Major Roads
- Highway (Future)
- County Line
- Railroads



Data Source:  
CATS, City of Charlotte GIS, and Mecklenburg County GIS

Corridor\_Base\_Map\_Figure\_1-2\_CB\_120909.mxd

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