

23.0 DRAFT EIS REVIEW COMMENTS AND RESPONSES

The Draft Environmental Impact Statement (Draft EIS) for the LYNX Blue Line Extension Northeast Corridor Light Rail Project (LYNX BLE) was approved by the Federal Transit Administration (FTA) on August 11, 2010 and subsequently made available to the public, as well as appropriate federal, state and local agencies for review and comment. The formal Notice of Availability was published in the *Federal Register* on August 27, 2010, which initiated the 45 day public review and comment period. The public review and comment period spanned from August 27, 2010 to October 12, 2010. Comments received during this time were expressed in written correspondence addressed to the FTA or to the Charlotte Area Transit System (CATS), or as verbal testimony at the Draft EIS public hearing held on September 22, 2010. Additional information about the public involvement associated with the Draft EIS document is included in Chapter 22.0: Public Involvement. Additional public involvement activities occurred in January 2011 to discuss project changes, some of which are relative to comment responses generated from the Draft EIS review. This public involvement is also described in Chapter 22.0: Public Involvement.

Section 23.1 provides a summary of written comments received and Section 23.2 provides a summary of the verbal testimony received during the public hearing. A total of 27 written comments and verbal public hearing testimony were received on the Draft EIS. A summary of the comments and responses are included in this chapter. Comments have also been addressed throughout this Final EIS where appropriate.

23.1 Written Comments Received

Circulation of the Draft EIS resulted in 21 written comments in the form of letters, comment forms, facsimiles and emails. Section 23.1.1 summarizes the written comments received from members of the public and Section 23.1.2 summarizes the written comments received from agencies. Copies of the public comments are included in Appendix I: Public Comments. Copies of the agency comments are included in Appendix B: Agency Correspondence.

23.1.1 Public Comments

Circulation of the Draft EIS resulted in 12 written comments from the public provided by letters, comment forms, facsimiles and emails. The comments were relative to park and ride locations, bicycle and pedestrian connectivity, station shelter design, material selection, fencing barriers, utility coordination, construction phasing and further extension of the light rail. Of the comments received, one comment was in opposition to the project as proposed during the Draft EIS, while the remaining comments provided were general questions or suggestions about the project. Comments and responses are detailed in Table 23-1. Copies of the comments and response letters are included in Appendix I: Public Comments.

23.1.2 Agency Comments

Several agencies commented on the Draft EIS and explained concerns regarding water quality impacts, material selection and design to minimize impacts to fish and wildlife, wetland and stream mitigation, noise mitigation, funding status of other transportation projects, coordination with other transportation projects and further extension of light rail. There were a total of nine agency comments received, generally summarized as follows:

- Town of Harrisburg: Would like to work with CATS on an extension of light rail into Cabarrus County.
- North Carolina Wildlife Resources Commission: Comments relative to Alternatives Considered (selection of preferred alternative); Water Resources (impacts, impervious coverage); and Secondary and Cumulative Effects.
- North Carolina Department of Environment and Natural Resources (NCDENR) Division of Water Quality: Comments relative to Sediment and Erosion Control; Alternatives Considered (selection of preferred alternative); Water Resources (impacts, mitigation; permitting); Secondary and Cumulative Effects; and Stormwater Management; and Construction Techniques.
- NCDENR, Public Water Supply Section: Directing CATS to submit utility relocation plans for review and approval to Charlotte-Mecklenburg Utilities Department (CMU).

- Mecklenburg-Union Metropolitan Planning Organization: Clarification to indicate that while the North Tryon Street/US-29 improvements are not part of the 2035 Long Range Transportation Plan (LRTP), they are identified as a priority on the LRTP.
- U.S. Environmental Protection Agency: Rated the Draft EIS Lack of Objections (LO-1), which indicates a general statement of agreement with the findings of the Draft EIS; General agreement with findings relating to Air Quality; Parklands, Cultural Resources and Hazardous Materials; Comments relative to Alternatives Considered (selection of preferred alternative); Clarification to indicate that farmlands are not classified as natural resources; and Neighborhoods/Noise mitigation should be detailed in Final EIS.
- North Carolina Department of Transportation: Provided a list of projects in the vicinity of the LYNX BLE; Request to coordinate planning, design and construction with NCDOT Division 10.
- North Carolina Department of Cultural Resources: Concurred with findings of Draft EIS relative to historic/archaeological resources.
- U.S. Department of the Interior, Office of Environmental Policy and Compliance: Request for more information relating to groundwater impacts; Concurred with Natural Resources findings relating to protected species and with Section 4(f) findings; Comment relating to Low Impact Development (LID) techniques in Construction; Sediment and Erosion Control measures and Water Quality and Section 404/401 permit requirements .

Comments and responses are detailed in Table 23-2 and copies of the comments are included in Appendix B: Agency Correspondence. Each comment has been responded to through written correspondence to the commenting entity (Appendix B), as well as throughout the Final EIS where applicable and as noted in Table 23-2.

23.2 Public Hearing Verbal Testimony Comments Received

The public hearing for the LYNX BLE Draft EIS was held on September 22, 2010. A total of six members of the public provided verbal testimony at the public hearing. All testimony indicated support of the proposed project. Comments were related to implementation of land use plans and goals, coordination with campus master plans, responsiveness to concerns of noise and vibration impacts, transportation network access, continued coordination with interested and affected parties, construction phasing, and bus to rail connectivity. A transcript of the LYNX BLE Draft EIS public hearing is included in Appendix I.

Table 23-1
Public Comments and Responses

Comment provided by	Topic	Comment	Response
<p>Mark Kistler</p>	<p>Alternatives Considered</p>	<p>Having been involved both personally, and professionally with the development of the various lines, I would like to see the line extend the additional 2.5 miles with an end station at the Speedway. With the economic commitment that the City has made with the NASCAR Museum in the Center City, it certainly would be a logical benefit to link these 2 related anchors, better joining the hotels/convention spaces in the Center City with the Speedway/Concord Mills area. A Speedway Station also allows for a shorter circulator bus service with Concord Mills and the businesses/hotels in that area.</p> <p>I would also suggest putting the park and ride facility/station on the northeast side of I-485 with a station that would also serve the Verizon Wireless Amphitheater. There appears to be ample room over there, offers better development opportunities, and would keep the facility out of the Mallard Creek Floodplain, as is shown on the EIS map. It appears that its current location has been chosen because (a) it avoids the expense of bridging I-485 and (b) the majority of the property is already owned by NCDOT with the adjacent property valued at under \$500k (It is noted that larger properties on the other side of I-485 near Pavilion Bv are valued at over \$2M). However, there is limited developable area/demand for pedestrian access in the proposed park & ride station area, unlike the properties on the NE side of I-485. A station on the NE side may turn out to be more beneficial to Charlotte in encouraging development (sales tax revenue) and increasing the taxable base value of the land. The additional revenue would be in perpetuity, ultimately offsetting any additional capital costs.</p>	<p>Between 2000 and 2002, Major Investment Study documents were completed for the North, Northeast, Southeast and West corridors to examine a full range of transportation alternatives. The Locally Preferred Alternative (LPA) selected for the Northeast corridor was light rail between Center City Charlotte and the University of North Carolina at Charlotte (UNC Charlotte) to I-485 and Bus Rapid Transit between the University Area and Concord. In 2004, the light rail component of the LPA was advanced to a conceptual engineering phase. As more planning, environmental and engineering data was developed, it was necessary to make refinements to the alignment to reflect updated conditions and to identify the best project alignment to advance into future phases of project development. As part of this study, two options were considered for the terminal station: Option 1) north of I-485 at Pavilion Boulevard and Option 2) just south of I-485. In 2006, the Metropolitan Transit Commission (MTC) adopted the Refined – Locally Preferred Alternative (R-LPA) for the Northeast Corridor. As part of the adoption of the R-LPA, the MTC determined that the end of the line station should be located on the south side of I-485 to avoid the cost of bridging over I-485 (<i>Refined Locally Preferred Alternative Report</i>, August 2007).</p> <p>Subsequent to the circulation of the Draft Environmental Impact Statement (EIS), in November 2010, the MTC received a report on the financial capacity of Charlotte Area Transit System (CATS) and its ability to deliver the 2030 Transit System Plan. The financial capacity study recommended a reduction in the projected capital and operating costs of the proposed project. In order to advance the LYNX Blue Line Extension Northeast Corridor Light Rail Project (LYNX BLE), the MTC directed CATS staff to reduce the project scope by 20 percent. Extensive coordination was undertaken with partner departments, UNC Charlotte, North Carolina Department of Transportation (NCDOT) and the Federal Transit Administration (FTA). Additionally, a public meeting was held on January 12 at the Oasis Shiner's Center. On January 26, 2011, the MTC approved a revised LPA alignment and station locations for the proposed LYNX BLE. The Light Rail Alternative between Center City Charlotte and UNC Charlotte was selected as the revised LPA and National Environmental Policy Act (NEPA) preferred alternative. This Final EIS was prepared based on this revised LPA. (<i>response continues on next page</i>)</p>

Table 23-1 (continued)
Public Comments and Responses

Comment provided by	Topic	Comment	Response
<p>Mark Kistler (continued)</p>	<p>Alternatives Considered</p>		<p><i>(response continued from previous page)</i> Although the revised LPA for the proposed project will terminate the alignment at the UNC Charlotte Station, the design of the proposed project does not preclude any future extension of light rail (i.e. a future extension Cabarrus County). However, any future extension would be considered a separate project from the proposed LYNX BLE project, and further evaluation of design and environmental impacts would take place if and when an extension is pursued. Future expansion would be largely dependent upon the local jurisdiction (i.e., Cabarrus County) financing the local share of the capital improvement and an appropriate share of the operating expenses. The proposed Light Rail Alternative has logical termini and independent utility from future extensions. Local jurisdictions in Cabarrus County have expressed interest in extending rapid transit service to serve Cabarrus County in the future, and CATS has indicated their willingness to participate in these studies as the occur.</p>
<p>Lance Reagan</p>	<p>Alternatives Considered</p>	<p>Why is the line not going to cross over I-485 and terminate closer to the race track? It would seem logical since all of the transportation talk that I have heard, wants to keep as much traffic outside the I-485 loop as possible. With NASCAR Hall of Fame in downtown and all of the events that go on at Charlotte Motor Speedway, I would believe that this would be good business sense.</p>	<p>Between 2000 and 2002, Major Investment Study documents were completed for the North, Northeast, Southeast and West corridors to examine a full range of transportation alternatives. The Locally Preferred Alternative (LPA) selected for the Northeast corridor was light rail between Center City Charlotte and University of North Carolina at Charlotte (UNC Charlotte) to I-485 and Bus Rapid Transit between the University Area and Concord. In 2004, the light rail component of the LPA was advanced to a conceptual engineering phase. As more planning, environmental and engineering data was developed, it was necessary to make refinements to the alignment to reflect updated conditions and to identify the best project alignment to advance into future phases of project development. As part of this study, two options were considered for the terminal station: Option 1) north of I-485 at Pavilion Boulevard and Option 2) just south of I-485. In 2006, the Metropolitan Transit Commission (MTC) adopted the Refined – Locally Preferred Alternative (R-LPA) for the Northeast Corridor. As part of the adoption of the R-LPA, the MTC determined the end of the line station should be located on the south side of I-485 to avoid the cost of bridging over I-485 (<i>Refined Locally Preferred Alternative Report</i>, August 2007).</p> <p><i>(response continues on next page)</i></p>

Table 23-1 (continued)
Public Comments and Responses

Comment provided by	Topic	Comment	Response
<p>Lance Reagan (continued)</p>	<p>Alternatives Considered</p>		<p><i>(response continued from previous page)</i></p> <p>Subsequent to the circulation of the Draft Environmental Impact Statement (EIS), in November 2010, the MTC received a report on the financial capacity of Charlotte Area Transit System (CATS) and its ability to deliver the 2030 Transit System Plan. The financial capacity study recommended a reduction in the projected capital and operating costs of the proposed project. In order to advance the LYNX Blue Line Extension Northeast Corridor Light Rail Project (LYNX BLE), the MTC directed CATS staff to reduce the project scope by 20 percent. Extensive coordination was undertaken with partner departments, UNC Charlotte, North Carolina Department of Transportation (NCDOT) and the Federal Transit Administration (FTA). Additionally, a public meeting was held on January 12 at the Oasis Shriner’s Center. On January 26, 2011, the MTC approved a revised LPA alignment and station locations for the proposed LYNX BLE. The Light Rail Alternative between Center City Charlotte and UNC Charlotte was selected as the revised LPA and National Environmental Policy Act (NEPA) preferred alternative. This Final EIS was prepared based on this revised LPA.</p> <p>Although the revised LPA for the proposed project will terminate the alignment at the UNC Charlotte Station, the design of the proposed project does not preclude any future extension of light rail (i.e. a future extension Cabarrus County). However, any future extension would be considered a separate project from the proposed LYNX BLE project, and further evaluation of design and environmental impacts would take place if and when an extension is pursued. Future expansion would be largely dependent upon the local jurisdiction (i.e., Cabarrus County) financing the local share of the capital improvement and an appropriate share of the operating expenses. The proposed Light Rail Alternative has logical termini and independent utility from future extensions. Local jurisdictions in Cabarrus County have expressed interest in extending rapid transit service to serve Cabarrus County in the future, and CATS has indicated their willingness to participate in these studies as the occur.</p>

Table 23-1 (continued)
Public Comments and Responses

Comment provided by	Topic	Comment	Response
Marguerite Cooke	Construction	Stations close to Uptown should be opened first or ASAP and not wait until station by I-485 can open too.	From both an operations perspective and a construction sequencing perspective, the proposed project cannot be viewed as a series of individual projects. For example, if the light rail service is extended one station at a time, crossover tracks for trains to switch from one track to the other would be required at each station as each station essentially becomes the end of the line until the next station is opened. As described in Chapter 18.0: Construction, construction of the proposed Light Rail Alternative would be accomplished through implementation of numerous construction contracts, since it is more efficient to construct the line globally than to construct it station-by-station.
Virginia Ingram	Safety and Security	The sound wall is a concern for us. Kids already cross the rail track. Hopeful this will be intact.	Based on discussions with Ms. Ingram at the Public Information Meeting on September 14, 2010, Ms. Ingram is requesting a sound wall to prevent people from crossing the light rail and freight rail tracks; she also would like fencing in her back yard to remain intact. At this time, a sound wall, which could function as a crossing deterrent, is proposed in the area of concern. Additionally, as noted in Chapter 16.0: Safety and Security, between 30th Street and Old Concord Road, where the light rail would operate in the existing freight right-of-way, fencing would be placed between the existing freight tracks and the proposed light rail tracks. Finally, the existing residential fencing along the property lines will remain, though may be reset to place them outside of the railroad right-of-way in areas where they are currently located inside the existing railroad right-of-way. All of these measures should function as crossing deterrents, reducing the likelihood that people will cross the light rail and freight rail tracks in the area of concern.
Deirdre Grubbs*	Stations	Looking forward to completion. I would like the stations to have more protection from wind/rain.	As noted in Chapter 2.0: Alternatives Considered, all stations would include shelters that provide protection from weather elements.
	Safety and Security	I would also appreciate extra consideration when designing the pathway from where I park my car/get dropped off to where I step on the train.	Careful consideration of access has been given at each station to accommodate transit customers. Figures 2-6 through 2-17 illustrate each of the station site plans, which include pathways for pedestrians to/from the station platform, as well as accommodations for bicyclists and bus patrons.

*Note: Due to a lack of contact information, a comment response letter was not provided directly to Ms. Grubbs, nor is one included in Appendix I.

**Table 23-1 (continued)
Public Comments and Responses**

Comment provided by	Topic	Comment	Response
<p>Frank E. Bishop</p>	<p>Transportation</p>	<p>My primary concern with the Environmental Impact Statement has to do with vehicular traffic flow near the proposed University City Blvd. station. In the original concept for the park and ride at this location, there was a future traffic signal and cross-over at the intersection of Stetson and Tryon Street. Under the new concept, the park and ride has been enlarged with a new connecting street between Tryon Street and IKEA Boulevard, with a traffic signal shown only in the southbound lane of Tryon Street. I would hope this intersection would include a “cross-over” and fully signalized intersection at the intersection of Tryon and the proposed new connector to IKEA Boulevard.</p>	<p>The University City Blvd. station park and ride layout presented in the Draft Environmental Impact Statement (EIS) includes a future traffic signal at the new connecting street between North Tryon Street/US-29 and IKEA Boulevard. The intersection of North Tryon Street/US-29 and the proposed connector to IKEA Boulevard would be fully signalized and would include a “cross-over” traffic from the proposed connector road to northbound North Tryon Street/US-29.</p>
	<p>Transportation</p>	<p>Although not a CATS responsibility, my real concern relates to properties on Stetson and Tyner streets which can only be accessed by right-in and right-out turns from the southbound lane of Tryon Street. This lack of “connectivity” is an issue which needs desperately to be coordinated with Planning, Transportation and CATS. I have personally had conversation with personnel from all three agencies and still have no clear answers!</p>	<p>Cross-access and street connectivity are vital transportation components to sustaining neighborhoods and businesses. To that end, significant traffic forecasting and modeling has been completed as part of the analysis for the Light Rail Alternative (see Chapter 3.0: Transportation for additional detail) and measures have been taken where appropriate. As part of the University City Blvd. Station access, a new private street would be constructed and would stub from the proposed connector toward Stetson Drive. As private redevelopment occurs, this street could ultimately extend to Stetson Drive and Tyner Street. This future connection could provide access from Stetson Drive and Tyner Street to the proposed signalized intersection at the station.</p>

Table 23-1 (continued)
Public Comments and Responses

Comment provided by	Topic	Comment	Response
<p>Wil Russell</p>	<p>Water Resources</p>	<p>Permeable Surface Materials – The Blue Line Extension passes near several flood plains and waterways. Construction of this line necessitates the conversion of natural land into man-made structures, some of which will be impervious to water. These structures will increase the amount of surface water runoff adjacent to the Blue Line. Using water permeable materials may reduce the amount of surface runoff, which would decrease the volume of additional water to flood plains and reduce the environmental impact to local waterways.</p>	<p>Various landscape management techniques have been incorporated throughout the proposed project corridor that will reduce the amount of impervious surface created by the proposed project. For example, grassed areas and/or trees are included at each of the station locations and eight-foot planting strips would be constructed along either side of North Tryon Street/US-29. Additionally, stormwater basins would be designed and built at each of the proposed stations that encompass surface parking lots. These basins will capture surface water run-off, thereby reducing the amount of run-off into nearby waterways and floodplains. It should also be noted that efforts to minimize impacts to water resources, including floodplains, have been incorporated into preliminary design and will continue as design progresses. As described in Chapter 18.0: Construction, Best Management Practice (BMP) measures will be incorporated as well. BMP measures will comply with federal, state and local guidelines on sediment discharge thresholds, particularly the City of Charlotte Post-Construction Controls Ordinance (PCCO). A detailed analysis of the sediment load anticipated to be generated by the proposed project, in addition to BMP measures that would be employed, would be outlined in the Erosion and Sediment Control Plans developed during final design. Coordination with the appropriate local, state and federal agencies will continue throughout design.</p>
	<p>Construction</p>	<p>Utilidors – Blue Line construction will require underground utilities, and the use of utilidors will minimize land disruption, as well as greatly reduce future confusion when locating utilities. Much like transit corridors, utilidors are tracts of land set aside for the sole purpose of improving the alignment of significant amounts of underground utilities. All underground electrical, telecommunications, domestic water, sewer and storm water runoff lines could be bundled to facilitate an organized installation process. Having all underground utilities following a similar path would not only simplify maintenance, it also reduces the potential need for road or sidewalk closures since all utilities could be accessed simultaneously.</p>	<p>There are a number of utilities, both public and private located throughout the proposed project corridor, including electrical power, water and sewer facilities, stormwater drainage systems, natural gas lines and telecommunication/cable transmission lines and traffic signals/communications. All totaled, there are approximately two dozen utility agencies operating within the proposed corridor. As noted in Chapter 18.0: Construction, it is anticipated that existing utilities in conflict with the proposed Light Rail Alternative will potentially be relocated to “utility corridors” identified by the engineering team. The “utility corridors” are pre-planned locations that are being designed as part of the proposed project where impacted utilities could be relocated. Engineering design on these “utility corridors” will progress as design of the proposed project moves forward. It is anticipated that a new “utility corridor” would be located along both sides of North Tryon Street/US-29 between the back-of-curb and the outside right-of-way. Most overhead utilities in this area (response continues on next page)</p>

**Table 23-1 (continued)
Public Comments and Responses**

Comment provided by	Topic	Comment	Response
<p>Wil Russell (continued)</p>	<p>Construction (continued)</p>		<p><i>(response continued from previous page)</i></p> <p>will be placed within this anticipated “utility corridor”. Use of “utility corridors” will be coordinated with utility providers and public agencies.</p>
	<p>Construction</p>	<p>Rubber Sidewalks Pavers – Rubber Pavers should be considered at station platforms or wherever underground utilities are located. Ideally, utilidor would be located under the sidewalk pavers that could be removed during maintenance or installation of utilities. Once the work is completed, the pavers could quickly be replaced reducing any disruptions caused by the underground work. Additional pavers could easily be warehoused and transported to any area on the Blue Line where they are needed. Initially, the cost of the pavers will exceed cast-in-place concrete. However, the cost of replacing any concrete areas that are damaged or removed for maintenance will be significantly higher than replacing a rubber paver. Cast-in-place concrete requires a concrete order, concrete truck drivers, concrete finishers and forms. Rubber pavers will require one person replace a paver.</p>	<p>Comment noted.</p>
	<p>Energy</p>	<p>Solar Power – Solar panels should be incorporated into the designs of the station platform shelters, park and ride lots and parking decks. These panels can be incorporated into the aforementioned structures so as to not change the aesthetics of the project. The panels could possibly provide enough power to operate ticket machines, parking lot lighting and other small electrical devices, while reducing the quantity of items extracting energy from the power grid. This is a potential cost savings over the life of the Blue Line.</p>	<p>Comment noted. Charlotte Area Transit System (CATS) will have a Sustainable Design Plan for the project. The Sustainable Design Plan will be used to develop design specifications for the project and ensure the project’s compliance with the City of Charlotte’s Policy for Sustainable Facilities.</p>

**Table 23-1 (continued)
Public Comments and Responses**

Comment provided by	Topic	Comment	Response
<p>Saundra Jackson, Hidden Valley Community Association</p>	<p>Alternatives Considered</p>	<p>I would like to see the original proposal of a "Park and Ride" at Tom Hunter Station. This would be the only one on this side of N. Tryon for the Hidden Valley Area.</p>	<p>After careful consideration, the park-and-ride lot proposed for the Tom Hunter Station has been eliminated. A Value Engineering exercise was performed by a third party in July 2010 to assure the efficient use of funds, capital and life cycle costs to provide the best value and meet the project goals and objectives. Revised projections for parking requirements indicate a need of 35 spaces at the Tom Hunter Station in the year 2035. Due to the low parking demand and alternate park-and-ride locations nearby (i.e., at Old Concord Road Station and University City Blvd. Station), the Tom Hunter Station park-and-ride has been eliminated.</p>
<p>Mark Merritt</p>	<p>Neighborhoods</p>	<p>1) The Draft EIS indicates that the Blue Line Extension will result in a "full acquisition of a multi-family building and partial acquisition of an adjacent multi-family building" from the Mallard Creek Apartments. The Owners do not agree with the assessment that a partial building can even be purchased and would contend that all or none of the structures in question must be acquired...the Owners would contend a full acquisition of the entire property would be necessary given the close proximity of the extension to the remainder of the residents and the buildings. 2) The acquisition will result in the loss of one of the main amenities of the property, the tennis courts, and cut off the residents from access to the substantial green space that would become inaccessible due to the presence of the train line bifurcating the property. The Mallard Creek apartments currently benefits from a substantial tree buffer around the property. This buffer creates one of the most appealing qualities of the asset, which is the quiet, park-like setting for its residents. 3) The Owners question why the acquisition of a developed parcel that displaces residents is required when government owned, undeveloped property appears to be available on an adjacent property for the placement of the Blue Line Extension.</p>	<p>On January 26, 2011, the Metropolitan Transit Commission (MTC) adopted a preferred project alignment that will terminate at the UNC Charlotte Station. Therefore, the proposed project will no longer result in an acquisition of property from the Mallard Creek Apartments site.</p> <p>While the revised alignment would not preclude the ability to extend the alignment in the future, a future extension would be considered a separate project and is currently not part of the adopted transit system plan.</p>

**Table 23-1 (continued)
Public Comments and Responses**

Comment provided by	Topic	Comment	Response
<p>Mark Merritt (continued)</p>	<p>Noise and Vibration</p>	<p>Six of the residential buildings at The Mallard Creek Apartments would have a moderate impact from noise and that two residential buildings would experience a severe impact. The Draft EIS states that mitigation is not anticipated for Mallard Creek Apartment Buildings 5 and 7. The owners strongly believe that noise resulting from the construction of this new Blue Line Extension, and the train itself will be a material issue for all of the residents at the entire property, not just certain buildings.</p>	<p>On January 26, 2011, the MTC adopted a preferred project alignment that will terminate at the UNC Charlotte Station. Therefore, no noise impacts at the Mallard Creek Apartments would occur under the proposed project</p> <p>While the revised alignment would not preclude the ability to extend the alignment in the future, a future extension would be considered a separate project and is currently not part of the adopted transit system plan.</p>
	<p>Transportation</p>	<p>The current design of the Blue Line Extension, however, does not include a bridge over Mallard Creek Church Road. The traffic congestion and delays associated with the grade-level crossing and the resulting safety issues that will arise from the conflict between the train and automobiles will be substantial. The Owners submit that these traffic conditions should be addressed by studying the need to build a bridge over Mallard Creek Road for the Blue Line Extension.</p>	<p>On January 26, 2011, the MTC adopted a preferred project alignment that will terminate at the UNC Charlotte Station. Therefore, the project would not cross Mallard Creek Church Road.</p>
<p>Andrew Street, Charlotte Area Bicycle Alliance (CABA)</p>	<p>Transportation</p>	<p>Our (CABA's) goal is as follows: A continuous, safe, secure, visually inviting, bicycle/pedestrian route along the full length of the light-rail line (Blue Line Extension) with connections to all stations and other bikeways near stations.</p>	<p>Bicycle and pedestrian accommodations are incorporated in the proposed LYNX Blue Line Extension Northeast Corridor Light Rail Project (LYNX BLE) where feasible. For example, North Tryon Street/US-29 modifications include five foot bicycle lanes. Refer to Table 3-11 in Chapter 3.0: Transportation for more details on bicycle improvements. Figure 3-4 graphically shows the proposed Bikeway Improvements within the Northeast Corridor. Additionally, bicycle parking would be provided at each station and bicycles would also be allowed on light rail vehicles.</p>
	<p>Transportation</p>	<p>Section 3.1.5 of the EIS indicates that proposed bicycle/pedestrian projects may be limited to on-road bike lanes and sidewalks. It is CABA's position that the value added by an off-street bicycle pedestrian route, similar to that found along portions of the existing blue line is far greater than on-street bike lane and sidewalk projects alone.</p>	<p>As described in Chapter 3.0: Transportation, the City of Charlotte will identify improvements beyond direct station access as part of a separate program called the Northeast Corridor Infrastructure (NECI) Program. NECI is similar to the City of Charlotte's South Corridor Infrastructure Program (SCIP), where pedestrian, bicycle and other infrastructure improvements were identified and constructed after the decision to implement light rail in the corridor was made. These additional improvements would not be funded as part of the proposed Light Rail Alternative.</p>

**Table 23-1 (continued)
Public Comments and Responses**

Comment provided by	Topic	Comment	Response
<p>Louis Raymond</p>	<p>Transportation</p>	<p>In Table 3-2, how were the 'Walk to Transit' trip numbers calculated? It doesn't seem clear to me in the chapter and the numbers are large for 2009 and 2030.</p>	<p>The "Walk to Transit" trip numbers on Table 3-2 represent how people get to the bus or light rail routes in the region. These numbers account for both ends of the customer's trip (e.g. to work and from work). In addition, for light rail, "Walk to Transit" would include persons who walk or who use the local bus to access a light rail station.</p> <p>Most local bus customers walk to the bus stop on both ends of their trip (before and after using transit). However for a customer who drives to a park-and-ride to go to work using bus or light rail, their morning trip would begin with a "Drive to Transit," but their afternoon return trip home would begin with a "Walk To Transit," as they are walking from their work location to the light rail or bus stop for their return trip home.</p> <p>The transit trip numbers are generated from a regional travel demand model that accounts for origin and destination locations (home, work, non-work, and university), socio-economic characteristics, access mode (walk, drive, drop-off), travel times, and wait times. The regional travel demand model was "calibrated" (i.e. adjusted to match actual transit ridership) in 2009 using Charlotte Area Transit System (CATS) customer survey data (collected on-board CATS' vehicles in Spring 2009).</p>

**Table 23-1 (continued)
Public Comments and Responses**

Comment provided by	Topic	Comment	Response
<p>Matt Prink, Level 3 Communications (continued)</p>	<p>Construction</p>	<p>Level 3 has received your letter dated 8/17/10 regarding the above referenced Project. In response to your inquiry enclosed please find "as-built" drawings indicating the approximate location of the Level 3 telecommunications facilities (the "Facilities"). After reviewing the information you provided it is uncertain whether the Project will impact the Facilities. The Facilities have been constructed on private property and/or public right of way with the authorization of the applicable property owner. Prior to any work being performed by or on behalf of Level 3 all costs associated with the adjustment and/or relocation of the Facilities are required to be paid in full to Level 3. Please review the enclosed information. If it is determined that an adjustment and/or relocation of the Facilities is necessary to accommodate the Project, please contact the undersigned to discuss and reference the file number below. Unless Level 3 receives information that such adjustment or relocation is necessary it will assume that any potential conflict between the Project and Facilities has been eliminated.</p>	<p>Comment noted. As noted in Chapter 18.0: Construction, it is anticipated that existing utilities in conflict with the proposed Light Rail Alternative will potentially be relocated to utility corridors identified by the engineering team. Relocation of utilities will be coordinated with utility providers and public agencies. A representative from the Charlotte office of Level 3 Communications, Mr. Jerry Hershman, OSP Engineer, participated with Charlotte Area Transit System (CATS) in a utility workshop for the project on October 11, 2010.</p>
<p>Mary Hopper, University City Partners</p>	<p>Land Use</p>	<p>We have studied the DEIS document and are comfortable with its findings in large measure because of the very issues that it raises. When I spoke to you some months ago, I asked that the DEIS take into consideration the unique and in some cases challenging characteristics presented by the hospital, the delicate labs they have as well as the ones at the Charlotte Research Institute, UNC-Charlotte's rolling topography, the need to be able to access the major entrance to University Place as well as being able to cross Harris Boulevard. We are delighted that CATS listened. <i>(Note: Comment condensed; full comment is included in the Public Hearing Transcript in Appendix I.)</i></p>	<p>Comment noted. Charlotte Area Transit System (CATS) will continue to coordinate with University City Partners and other stakeholders throughout design and construction.</p>

**Table 23-1 (continued)
Public Comments and Responses**

Comment provided by	Topic	Comment	Response
<p>Peter Franz, UNC Charlotte</p>	<p>Land Use/Noise & Vibration</p>	<p>I just really wanted to let you know that we've reviewed the DEIS pretty carefully, the chancellor has read it as well, and we did not find any objections to anything that was in there. Part of our experience working with CATS, just so we can kind of give a history, is when the rail first was proposed to come on campus, it was going to come into an area at the Charlotte Research Institute off Tryon Street. And working with the group of CATS we were able to shift this entrance to allow the campus up there to be able to build out the Charlotte Research Institute Campus where prior we would have been restricted and probably would have lost two or three buildings with the space. But now with the cooperation of the CATS folks we've been able to plan for building out the 300,000 square feet that we may have lost. We have also had concern in the beginning about vibrations with our buildings and the CATS folks have set up testing which will begin soon to assure our professors and researchers that they will not have to be concerned about the vibration of the rail as it passes our campus. There was also a concern of the rail coming near on -- well, near a residence hall. The concern there was that the rail might be too loud, that the vibration would be bad. But, again, we were assured by CATS, we took a tour of the rail, found that the rail system was extremely quiet which was a large concern of students who tend to go to bed at three in the morning and get up early, so good there. <i>(Note: Comment condensed; full comment is included in the Public Hearing Transcript in Appendix I.)</i></p>	<p>Comment noted. Charlotte Area Transit System (CATS) will continue to coordinate with UNC Charlotte throughout design and construction.</p>

**Table 23-1 (continued)
Public Comments and Responses**

Comment provided by	Topic	Comment	Response
<p>Nancy Reitz, CASTO Properties</p>	<p>Land Use/ Transportation</p>	<p>It was 25 years ago that Shops at the University Place was opened as Carolina's first mixed-use development offering retail, hospitality, residences and offices as well as schools in the works. CASTO purchased the property heavily because it was located in a rapidly-growing area not to mention the nature of the property. Being that it spans over 75 shops, services and eateries amongst the lake setting offering year-round entertainment and serves as a fantastic destination for both convention attendees and students alike, we have found strong alliances with our neighbors at UNC-Charlotte and the Charlotte Research Institute including the hospital. Key members of our management team have been involved since our acquisition in helping those prospects including on serving on committees, UCT [sic] to influence funding and community support, meeting with key city officials to ensure the proposed group and meet the community expectations, most importantly those of UNC because of its ridership. That said, we have been at the table throughout University City area plan and its work to bring land uses into compliance with transit needs. We appreciate CASTO's willingness to work with us. We are relieved that J M Keynes will remain open as a key entrance to our town center. We are here for the long haul and remain committed to help bring light rail to University City. Thank you. <i>(Note: Comment condensed; full comment is included in the Public Hearing Transcript in Appendix I.)</i></p>	<p>Comment noted. Charlotte Area Transit System (CATS) will continue to coordinate with stakeholders and interested and affected parties.</p>

**Table 23-1 (continued)
Public Comments and Responses**

Comment provided by	Topic	Comment	Response
<p>Bill Leonard, Carolinas Medical Center – University</p>	<p>Transportation</p>	<p>The board of Carolinas Medical Center took a bold step in locating CMC-University Hospital in the yet as undeveloped University City where our neighbors were UNC-Charlotte and three cow fields. This vision has been a huge success and we are proud to have been part of the growth of a healthy and vibrant University City. We have an opportunity to sustain the growth that has evolved by supporting the advancement of CATS' light rail system. We support the continued development of the rail system for the following reasons because, number one, it can benefit our hospital by allowing workers and patients -- visiting patients and visiting our medical park the opportunity to come via light rail and reducing vehicular transportation and the chance to contribute to the sustainability of our community. We're very pleased to stay involved in the work as we continue to bring light rail to the thousands of people that access our campus every day and work very closely with the engineers on the vibration and sound impact on our very active and vibrant hospital campus. <i>(Note: Comment condensed; full comment is included in the Public Hearing Transcript in Appendix I.)</i></p>	<p>Comment noted. Charlotte Area Transit System (CATS) will continue to coordinate with Carolinas Medical Center-University (CMC-University) and other stakeholders.</p>

**Table 23-1 (continued)
Public Comments and Responses**

Comment provided by	Topic	Comment	Response
<p>Michael Morgan*</p>	<p>Construction</p>	<p>Every inch of the light rail should be built as soon as possible. It's never going to be any cheaper, you know. If you build it now, you'll have the whole infrastructure and the ability to stimulate the economy by all the jobs that, not only would the light rail, you know, create, but you'd have all the investment that's coming in from the new portion of the light rail. So we're just asking that you don't wait to build the whole thing at one time, that you build it however far you can go as the monies are available the same way you've done with the street car project. (Note: <i>Comment condensed; full comment is included in the Public Hearing Transcript in Appendix I.</i>)</p>	<p>A financial capacity study completed in Fall 2010 made many recommendations, including accelerating the proposed project to the extent possible. On January 26, 2011, the Metropolitan Transit Commission adopted a preferred project alignment that will terminate at the UNC Charlotte Station, reducing the projected capital and operating costs, and allowing the proposed project to be in revenue service by 2016.</p> <p>To this end, it is expected that the construction of the proposed Light Rail Alternative would occur all at once and would be accomplished through the implementation of numerous construction contracts. From both an operations perspective and a construction sequencing perspective, the proposed project cannot be viewed as a series of individual projects. For example, if the light rail service is extended one station at a time, crossover tracks for trains to switch from one track to the other would be required at each station as each station essentially becomes the end of the line until the next station is opened. As described in Chapter 18.0: Construction, construction of the proposed Light Rail Alternative would be accomplished through implementation of numerous construction contracts, since it is more efficient to construct the line globally than to construct it station-by-station.</p>
<p>Charles Strickland</p>	<p>Construction / Transportation</p>	<p>I'm an advocate for a better transit here in Charlotte and a transit user being visually impaired, legally blind, unable to drive, CATS is my car. And I'd just like to echo a little bit of what Mr. Morgan has said in that we need to get as much of the light rail built as soon as possible because, as he mentions, economics-wise prices go up. And I think as Michael had mentioned, if we could build it in stages, that that should be an option. Because as it's being built, people see it, people will realize that, hey, this is going to work. It's going to stretch out and it will get there.</p>	<p>A financial capacity study completed in Fall 2010 made many recommendations, including accelerating the proposed project. On January 26, 2011, the Metropolitan Transit Commission adopted a preferred project alignment that will terminate at the UNC Charlotte Station, reducing the projected capital and operating costs, and allowing the proposed project to be in revenue service by 2016. To this end, it is expected that the construction of the proposed Light Rail Alternative would occur all at once and would be accomplished through the implementation of numerous construction contracts. From both an operations and a construction sequencing perspective, the proposed project cannot be viewed as a series of individual projects.</p>

*Note: A comment response letter was not provided to Mr. Morgan nor is one included in Appendix I, as he is deceased.

**Table 23-2
Agency Comments and Responses**

Comments provided by	Topic	Comment	Response
<p>Joshua Watkins, Planning Director, Town of Harrisburg</p>	<p>Alternatives Considered</p>	<p>The town wishes to make it known that we would like to work with CATS on the extension of this Light Rail project into Cabarrus County. This project will have a significant impact to our area, and we would like the opportunity to explore options regarding the availability of access to this light rail line. Many of the commuters who will utilize this extension live in our jurisdiction and we would like the opportunity to work with CATS on ensuring that the line is accessible and user-friendly to commuters from our area.</p>	<p>The Light Rail Alternative does not preclude future expansion of light rail into Cabarrus County. However, any future extension would be considered a separate project from the proposed LYNX Blue Line Extension Northeast Corridor Light Rail Project (LYNX BLE), and further evaluation of design and environmental impacts would take place if and when an extension is pursued. Future expansion would be largely dependent upon the local jurisdiction (i.e., Cabarrus County) financing the local share of the capital improvement and an appropriate share of the operating expenses. As implementation of the project progresses, Charlotte Area Transit System (CATS) will work with surrounding jurisdictions to coordinate bus routes with the proposed light rail line and ensure good access for commuters from Cabarrus County.</p>
<p>Marla Chambers, NC Wildlife Resources Commission</p>	<p>Water Resources</p>	<p>We note that comparisons of the impacts to water resources between the two alternatives used two different levels of design; 30% Preliminary Engineering Design Plans were used for LRA and 15% Preliminary Engineering Design Plans were used for LRA-SCDO. We question what differences there would be if the same level of design was used.</p>	<p>In 2006, the Metropolitan Transit Commission (MTC) determined that a design option for the Sugar Creek area should be studied further. Charlotte Area Transit System (CATS), in partnership with the Charlotte-Mecklenburg Planning Department and the City of Charlotte's Economic Development Office, conducted an Alternatives Analysis of the design option. In late 2008, CATS presented the findings, which included potential environmental impacts and costs to the public and the MTC. Based on public response and the recommendation of the MTC, the Locally Preferred Alternative was determined to be the Light Rail Alternative. As such, design of the Light Rail Alternative – Sugar Creek Design Option did not progress past 15% Preliminary Engineering Design.</p>
	<p>Alternatives Considered</p>	<p>Unlike the LRA, the LRA-SCDO avoids environmental justice impacts and impacts to the Carolina birdsfoot trefoil, a Federal Species of Concern and state Significantly Rare plant. It appears that these additional benefits are sufficient to justify additional costs and recommend the LRA-SCDO be selected for construction.</p>	<p>The Light Rail Alternative would impact the Carolina birdsfoot trefoil as noted. In a meeting on 12/16/10 to discuss the proposed project and anticipated impacts, Mr. Allen Ratzlaff of the U.S. Fish and Wildlife Service indicated no concern for this population of Carolina birdsfoot trefoil per the interests of his agency. However, after a follow-up discussion with Ms. Chambers, the project team evaluated options for addressing the Carolina birdsfoot trefoil population that is located within the railroad corridor prior to construction. Mr. Dale Suiter (U.S. Fish and Wildlife Service) was consulted for input and per the recommendations of Ms. Laura Gadd and Ms. Suzanne Mason (<i>response continues on next page</i>)</p>

Table 23-2 (continued)
Agency Comments and Responses

Comments provided by	Topic	Comment	Response
<p>Marla Chambers, NC Wildlife Resources Commission (continued)</p>	<p>Alternatives Considered</p>		<p><i>(response continued from previous page)</i> (both of the North Carolina Natural Heritage Program), the LYNX BLE project team contacted Dr. Jim Matthews, a regional expert of Carolina birdsfoot trefoil. Discussions with Dr. Matthews revealed that this species would not be a candidate for relocation as it is an annual and does not have an established root system that would allow successful transplant. Both Mr. Suiter and Dr. Matthews did however suggest that seeds from the plant could be collected in the fall and subsequently sown/scattered in newly disturbed areas, such as along road/rail embankments associated with project construction. In effect, they were both of the opinion that the new disturbances associated with construction would create new habitat and likely result in a short-term proliferation of this opportunistic, low growing, weedy plant. As such, prior to construction, the contractor will be required to first confirm the presence of the plant in the corridor; if the plant is present, then have seeds collected by an experienced environmental professional in order to have them later scattered on newly disturbed areas within the proposed project corridor. Additionally any collected seeds will be donated to the North Carolina Botanical Garden for deep freeze purposes; and CATS will coordinate with the NCNHP to update their records accordingly.</p> <p>Regarding environmental justice communities, the impact on environmental justice communities is the same for both alternatives. In addition, the Light Rail Alternative/LPA avoids impacts to an historic resource, has significantly fewer acquisitions and displacements of businesses, fewer visual impacts, will include mitigation to eliminate noise/vibration impacts, and is significantly less costly. Therefore, the Light Rail Alternative is identified as the environmentally preferred alternative in this FEIS).</p>

**Table 23-2 (continued)
Agency Comments and Responses**

Comments provided by	Topic	Comment	Response
<p>Marla Chambers, NC Wildlife Resources Commission (continued)</p>	<p>Secondary and Cumulative Effects</p>	<p>NCWRC is also concerned about indirect and cumulative impacts to area waterways, wildlife habitat, and water quality. The project is in a highly developed area and a rapidly growing region of the state and many streams in the project area are already degraded and impaired. Little Sugar Creek, Doby Creek and Mallard Creek are Class C, 303(d) Listed Waters of the State. Numerous studies have shown that when 10-15% of a watershed is converted to impervious surfaces, there is a serious decline in the health of receiving waters and the quality of fish habitat and wetlands are negatively impacted.</p>	<p>An assessment of secondary and cumulative effects of the proposed project was completed and documented in the <i>Secondary and Cumulative Effects Technical Memorandum</i> (July 2010). Included in this assessment were the potential effects on notable resources, including water resources. A more detailed qualitative analysis of the cumulative and secondary impacts to water quality will be prepared as part of the Section 401 Water Quality Certification application. It should also be noted that various landscape management techniques have been incorporated throughout the project corridor that will reduce the amount of impervious surface created by the proposed project. For example, grassed areas and trees are included in each of the proposed station site plans and eight-foot planting strips would be constructed along either side of North Tryon Street/US-29.</p>
	<p>Water Resources</p>	<p>Parking lots, sidewalks and other facilities associated with this project will add considerable impervious coverage to an already highly urbanized setting. Automobile related pollutants in the runoff from parking lots may also have a negative impact on water quality.</p>	<p>Stormwater basins will be designed and built at each of the proposed stations that encompass surface parking lots. These basins will capture surface water run-off, thereby reducing the amount of runoff into nearby waterways. Additionally, as described in Chapter 18.0: Construction, Best Management Practice (BMP) measures will be incorporated as well. BMP measures will comply with federal, state and local guidelines on sediment discharge thresholds, particularly the City of Charlotte Post-Construction Controls Ordinance (PCCO). A detailed analysis of the sediment load anticipated to be generated by the proposed project, in addition to BMP measures that would be employed, will be outlined in the Erosion and Sediment Control Plans developed during final design. Coordination with the appropriate local, state and federal agencies will continue throughout design.</p>
	<p>Water Resources</p>	<p>We recommend that CATS use pervious materials to construct the parking lots, sidewalks and other facilities and to incorporate other Low Impact Development (LID) techniques to allow infiltration and treatment of stormwater and to minimize the project's contribution to flooding and water quality degradation.</p>	<p>The proposed project currently includes Low Impact Development (LID) techniques, such as landscape islands in park-and-ride lots and planting strips along sidewalks; and a rain garden is proposed at Old Concord Road Station park-and-ride. CATS will also be evaluating the feasibility of pervious materials in other locations (e.g. grass-crete for fire & maintenance access areas). CATS is not proposing to use pervious materials for park-and-ride lots, due to durability and long-term maintenance concerns. However, through the use of parking garages instead of surface lots at the University City Blvd. and JW Clay Blvd. stations, the amount of impervious surface has been minimized. In addition, various BMP measures will be implemented for the project, such as the stormwater basins described previously.</p>

**Table 23-2 (continued)
Agency Comments and Responses**

Comments provided by	Topic	Comment	Response
<p>Polly Lespinasse, NC Dept. of Environment and Natural Resources, Division of Water Quality</p>	<p>Water Resources</p> <p>Alternatives Considered</p>	<p>NCDWQ is very concerned with sediment and erosion impacts that could result from this project. NCDWQ recommends that the most protective sediment and erosion control BMPs be implemented in accordance with <i>Design Standards in Sensitive Watersheds</i> to reduce the risk of nutrient runoff to Little Sugar, Doby and Mallard Creeks. NCDWQ requests that project design plans provide treatment of the stormwater runoff through best management practices as detailed in the most recent version of NCDWQ <i>Stormwater Best Management Practices</i>.</p> <p>NCDWQ staff does [not] support the selection of the 'Light Rail Alternative' at this time. Selection of this alternative will result in an additional 1,113 linear feet of stream impact and an additional 0.08 acres of wetland impact compared to the 'Light Rail Alternative – Sugar Creek Design Option.' The 'Sugar Creek Design Option' indicates increased costs for guideway and track elements, site work and special conditions, right of way, land and existing improvements, professional services and unallocated contingency. No clear explanation of these costs is provided in the Draft EIS. While additional guideway and track elements can be inferred if the 'Sugar Creek Design Option' is greater in length than the 'Light Rail Alternative', the other increased costs are not as easily inferred. The EIS should include additional information to clarify these increased costs. Sufficient justification, including avoidance and minimization, for impacts associated with the recommendation alternative, 'Light Rail Alternative' will be required prior to receiving a 401 Water Quality Certification due to the existence of an alternative that would result in a reduction of 1,113 linear feet of stream impact. <i>(comment continues on next page)</i></p>	<p>Best Management Practice (BMP) measures will be incorporated into the proposed project, during construction and as part of the built condition of the proposed project. For example, each station location and park-and-ride facility would implement BMP measures for the collection and treatment of stormwater. BMP measures that comply with federal, state and local guidelines on sediment discharge thresholds, particularly the City of Charlotte Post-Construction Controls Ordinance (PCCO) will be implemented. As noted in Chapter 18.0: Construction, a detailed analysis of the sediment load anticipated to be generated by the proposed project, in addition to the BMP measures that would be employed, will be outlined in the Erosion and Sediment Control Plans developed during final design.</p> <p>Comment noted. As noted in the Draft EIS, the Light Rail Alternative and the Light Rail Alternative – Sugar Creek Design Option perform similarly in ridership, have comparable travel time impacts on major roadways and yield similar economic development impacts. The Light Rail Alternative – Sugar Creek Design Option has less impact on water resources than the Light Rail Alternative (Locally Preferred Alternative), and avoids potential noise/vibration impacts at Leafmore Drive and St. Anne's Place. However, the Light Rail Alternative (LPA) avoids impacts to an historic resource, has significantly fewer acquisitions and displacements, fewer visual impacts, will include mitigation to eliminate noise/vibration impacts, maintains access to more businesses along North Tryon Street/US-29, and is significantly less costly. Additionally, a follow-up field review of Stream P (the stream that would be impacted, resulting in the additional stream impacts over the Light Rail Alternative – Sugar Creek Design Option) was conducted with Ms. Lespinasse on April 4, 2011. Consensus regarding Stream P is that the feature is of low value (meeting notes included in Attachment B with Comment Response letter). While potential for effects on the natural environment was among the prime considerations, the Light Rail Alternative better supports existing land use patterns and results in lower capital costs. Therefore, the Light Rail Alternative is identified as the environmentally preferred alternative. The higher costs for Light Rail Alternative – Sugar Creek Design Option are primarily related to a grade separation required over Eastway Drive and additional right-of-way acquisition and relocations. A detailed explanation of increased costs of the Light Rail Alternative – Sugar Creek Design Option is <i>(response continues on next page)</i></p>

Table 23-2 (continued)
Agency Comments and Responses

Comments provided by	Topic	Comment	Response
<p>Polly Lespinasse, NC Dept. of Environment and Natural Resources, Division of Water Quality (continued)</p>	<p>Alternatives Considered (continued)</p>	<p>Please provide information explaining why [the Light Rail Alternative-Sugar Creek Design Option] is no longer the recommended LPA.</p>	<p>(response continued from previous page) provided in Chapter 2.0: Alternatives Considered in this Final EIS, and in the supporting technical report, <i>Sugar Creek/NCRR Alignment Alternatives Analysis (July 2009)</i>, provided to Ms. Lespinasse on 12/6/10. Chapter 2.0: Alternatives Considered has been updated in this Final EIS to include additional detail about the selection of the Preferred Alternative, and why the Light Rail Alternative – Sugar Creek Design option was not selected as the preferred alternative. This additional information and justification for selection of the preferred alternative will also be included in the Section 401 Water Quality Certification application.</p> <p>In addition, selection of the Light Rail Alternative has also been done in conjunction with the State Historic Preservation Office per the requirements of Section 4(f) of the Department of Transportation Act of 1966. Section 4(f) stipulates that entities such as the Federal Transit Administration (FTA) cannot approve the use of public or private historic sites unless there is no feasible and prudent alternative to the proposed use and that all planning has been done to minimize harm to the Section 4(f) resource.</p> <p>A hard copy of the supporting technical report entitled <i>Natural Resources Technical Report (NRTR)</i> was provided in response to this comment on December 6, 2010 and will be included with the Section 401 Water Quality Certification application, if necessary. Due to its length, the <i>NRTR</i> is not included as an attachment to this Final EIS but is available on the Charlotte Area Transit System (CATS) website and by request.</p>
	<p>Natural Resources</p>	<p>The NRTR should be provided to as an attachment in the FEIS and/or with the 401 Water Quality Certification application.</p>	
	<p>Water Resources</p>	<p>References are made to 'new turn lanes' at some intersections. These turn lanes may result in additional stream and or wetland impacts. Please determine if additional stream or wetland impacts would result from these activities and revise the impact amounts in the EIS as necessary.</p>	<p>Potential impacts associated with new turn lanes at the 30% level of design have been included in the current impact totals for streams and wetlands and documented in both the Draft EIS and this Final EIS. As the design progresses and is refined, any additional (or fewer) impacts associated with new turn lanes will be accounted for in the Section 404 Individual Permit application and the Section 401 Water Quality Certification application.</p>

Table 23-2 (continued)
Agency Comments and Responses

Comments provided by	Topic	Comment	Response
<p>Polly Lespinasse, NC Dept. of Environment and Natural Resources, Division of Water Quality (continued)</p>	<p>Water Resources</p>	<p>Thirteen (13) wetlands are included within the project boundaries. Additionally, three of those wetlands are listed as 'isolated.' Isolated wetlands are regulated solely by the NCDWQ. However, a determination indicating that a wetland is isolated must be provided by the U.S. Army Corps of Engineers. The Draft EIS does not indicate if this determination has been provided by the U.S. Army Corps of Engineers. Please be advised that a 401 Water Quality Certification will be required for this project and is necessary for the corresponding 404, issued by the U.S. Army Corps of Engineers, to be valid. In addition, the Draft EIS references several agency meetings and scoping requests for this project during the planning and alternative development states. NCDWQ does not have any documentation indicating NCDWQ's involvement in this process, which the exception of accompanying U.S. Army Corps of Engineers staff on jurisdictional determinations for the proposed park and ride stations.</p>	<p>Isolated wetlands were field-verified by the U.S. Army Corps of Engineers (USCOE) and North Carolina Division of Water Quality (NCDWQ) on July 21, 2009. Subsequent to the field verification, the USCOE issued a notification of jurisdictional determination. Since isolated wetlands are not regulated by the USCOE, it was requested that they be removed from the jurisdictional determination request. Therefore, a specific determination for isolated wetlands is not included in the notification of jurisdictional determination issued by the USCOE.</p>
	<p>Water Resources</p>	<p>A qualitative analysis of cumulative and secondary impacts anticipated as a result of this project is required. The type and detail of analysis shall conform to the NC Division of Water Quality Policy on the assessment of secondary and cumulative impacts dated April 10, 2004.</p>	<p>Comment noted. NCDWQ was included on the distribution scoping notices in 2000 and 2004. CATS and the Federal Transit Administration (FTA) will continue working with regulatory resource and environmental agencies, including the NCDWQ. Meetings to discuss the proposed project and anticipated impacts in further detail were held on December 6, 2010 and December 16, 2010. NCDWQ personnel (P. Lespinasse and A. Johnson, respectively) were in attendance, and NCDWQ personnel will be invited to any future relevant meetings.</p>
	<p>Secondary and Cumulative Effects</p>	<p>Comment noted. An assessment of secondary and cumulative effects of the proposed project was completed and documented in the <i>Secondary and Cumulative Effects Technical Memorandum</i> (July 2010). Included in this assessment are the potential effects on notable resources, including water resources. As discussed at the December 6, 2010 coordination meeting, a more detailed analysis of the secondary and cumulative effect to water quality will be prepared as part of the Section 401 Water Quality Certification application per the requirements of NCDENR's Indirect and Cumulative Impact Assessment Procedures. The direct focus of the analysis will be the indirect and cumulative impacts from a water quality perspective specifically. It will conform to the policy noted as required by the NCDENR DWQ to implement Section 401 of the Clean Water Act and will be done concurrently to preparation of the Section 401 Water Quality Certification application.</p>	<p>Comment noted. An assessment of secondary and cumulative effects of the proposed project was completed and documented in the <i>Secondary and Cumulative Effects Technical Memorandum</i> (July 2010). Included in this assessment are the potential effects on notable resources, including water resources. As discussed at the December 6, 2010 coordination meeting, a more detailed analysis of the secondary and cumulative effect to water quality will be prepared as part of the Section 401 Water Quality Certification application per the requirements of NCDENR's Indirect and Cumulative Impact Assessment Procedures. The direct focus of the analysis will be the indirect and cumulative impacts from a water quality perspective specifically. It will conform to the policy noted as required by the NCDENR DWQ to implement Section 401 of the Clean Water Act and will be done concurrently to preparation of the Section 401 Water Quality Certification application.</p>

**Table 23-2 (continued)
Agency Comments and Responses**

Comments provided by	Topic	Comment	Response
<p>Polly Lespinasse, NC Dept. of Environment and Natural Resources, Division of Water Quality (continued)</p>	<p>Water Resources</p>	<p>Some of the proposed stream impacts are a result of culvert installation/replacement/extension while others indicate that the impact is a result of "fill". NCDWQ does not typically authorize "fill" in jurisdictional streams, with the exception of culverts. Filling streams without providing a hydraulic connection to the downstream portions of the feature may result in stream impacts beyond those that may be authorized by the NCDWQ 401 Water Quality Certification. Additionally, the Draft EIS refers to Stream "N" as an "intermittent stormwater drainage feature." If this feature has been identified as a jurisdictional stream, it should not be identified in the document as a "stormwater drainage feature." The impact table also identifies impacts to jurisdictional streams as a result of riprap aprons. The necessity for these impacts will require documentation in the 401 Water Quality Certification application. NCDWQ would like to encourage the use of alternate energy dissipation methods at culvert outlets which would result in less stream impact.</p>	<p>In most circumstances, fill impacts would be limited to the placement of riprap or creation of embankments in areas where deemed necessary. Other areas of fill that were noted in the Draft EIS largely relate to piping. This language has been clarified in this Final EIS in order to more appropriately describe the impact. In instances where streams would be filled (e.g., Stream D) hydraulic connections will be re-established. Additional details will be included in the Section 404 Individual Permit application and the Section 401 Water Quality Certification application.</p>
	<p>Water Resources</p>	<p>The environmental document should provide a detailed and itemized presentation of the proposed impacts to wetlands and streams with corresponding mapping. If mitigation is necessary, as required by 15A NCAC 2H.0506 (h), it is preferable to present a conceptual (if not finalized) mitigation plan with the environmental documentation.</p>	<p>The Final EIS includes a summary of the estimated impacts to streams and wetlands. The Section 404 Individual Permit application and Section 401 Water Quality Certification application will include additional detail on the proposed impacts along with corresponding mapping and drawings. It is anticipated that required mitigation will be provided through the Charlotte Umbrella Stream and Wetland Mitigation Bank and the North Carolina Department of Environment and Natural Resources (NCDENR) Ecosystem Enhancement Program. The project team discussed these mitigation options with representatives of Charlotte Stormwater Services, the USCOE and the NCDWQ on December 16, 2010. All parties are in agreement with the proposed preliminary mitigation strategy; more details will be developed with the Section 404 Individual Permit and Section 401 Water Quality Certification progress. The aforementioned meeting and mitigation measures discussed are summarized in Chapter 11.0: Water Resources in Section 11.4.1.2 and Section 11.4.1.4. The meeting minutes are also included in Appendix B of the FEIS.</p>

**Table 23-2 (continued)
Agency Comments and Responses**

Comments provided by	Topic	Comment	Response
<p>Polly Lespinasse, NC Dept. of Environment and Natural Resources, Division of Water Quality (continued)</p>	<p>Water Resources</p>	<p>EIS alternatives shall consider design criteria that reduce the impacts to streams and wetlands from storm water runoff. These alternatives shall include road designs that allow for treatment of the storm water runoff through best management practices... such as grassed swales, buffer areas, preformed scour holes, retention basins, etc.</p>	<p>As illustrated in Figures 2-6 through 2-17 in Chapter 2.0: Alternatives Considered and detailed in Chapter 18.0: Construction, as well as the LYNX Blue Line Extension Northeast Corridor Light Rail Project Design Criteria document (available upon request), catch basins, curbing, culverts, gutters, retention areas and storm drainage systems will be designed and constructed, as necessary, for the permanent control of water runoff during the operation phase of the proposed project. Erosion and Sediment Control plans will be prepared as part of the design. The plans will be submitted to meet the requirements set forth by the North Carolina Division of Land Resources. A soil and erosion control permit will be required prior to the start of construction. The City of Charlotte PCCO will apply.</p>
	<p>Water Resources</p>	<p>After the selection of the preferred alternative and prior to an issuance of the 401 Water Quality Certification, the applicant is respectfully reminded that they will need to demonstrate the avoidance and minimization of impacts to wetlands (and streams) to the maximum extent practical.</p>	<p>CATS has taken a proactive approach to avoiding and minimizing impacts to streams and wetlands to the extent practicable. For example, the originally proposed Old Concord Road Station park-and-ride lot would have impacted approximately 577 linear feet of Stream E. The park-and-ride lot layout was revised to avoid impacts to this stream. It is CATS' continued goal to identify ways to further avoid and/or minimize impacts to wetlands and streams. Demonstration of other avoidance and minimization was summarized and discussed at the December 6, 2010 coordination meeting. Additional avoidance and minimization detail will also be included with the Section 401 Water Quality Certification application.</p>
	<p>Water Resources</p>	<p>In accordance with the Environmental Management Commission's Rules, mitigation will be required for impacts of greater than 150 linear feet to any single stream. In the event that mitigation is required, the mitigation plan shall be designed to replace appropriate lost functions and values. The NC Ecosystem Enhancement Program may be available for use as stream mitigation.</p>	<p>Mitigation measures will be included as part of the Section 404 Individual Permit and the Section 401 Water Quality Certification applications and is detailed in Chapter 11.0: Water Resources and Chapter 18.0: Construction. It is anticipated that the required mitigation necessary to satisfy compensatory mitigation requirements will be provided through the Charlotte Umbrella Stream and Wetland Mitigation Bank and the NCDENR Ecosystem Enhancement Program. The project team discussed these mitigation options with representatives of Charlotte Stormwater Services, the USCOE and the NCDWQ on December 16, 2010. All parties are in agreement with the proposed preliminary mitigation strategy; more details will be developed with the Section 404 Individual Permit and Section 401 Water Quality Certification progress.</p>

**Table 23-2 (continued)
Agency Comments and Responses**

Comments provided by	Topic	Comment	Response
<p>Polly Lespinasse, NC Dept. of Environment and Natural Resources, Division of Water Quality (continued)</p>	Water Resources	Future documentation, including the 401 Water Quality Certification Application, shall include an itemized listing of the proposed wetland and stream impacts with corresponding mapping.	The Section 401 Water Quality Certification application will include an itemized listing of the proposed wetland and stream impacts with corresponding mapping, as requested.
	Water Resources	NCDWQ is very concerned with sediment and erosion impacts that could result from the project. The applicant shall address these concerns by describing the potential impacts that may occur to the aquatic environments and any mitigating factors that would reduce the impacts.	A Section 404 Individual Permit and Section 401 Water Quality Certification will be applied for and obtained prior to construction. The requirements of the permits, including implementation of sediment and erosion control BMP measures will be met.
	Water Resources	The applicant is respectfully reminded that all impacts, including but not limited to, bridging, fill, excavation and clearing, and riprap to jurisdictional wetlands, streams, and riparian buffers need to be included in the final impact calculations. These impacts, in addition to any construction impacts temporary or otherwise, also need to be included as part of the 401 Water Quality Certification Application.	Comment noted. All impacts will be included in the final impact numbers that will be submitted with the Section 404 Individual Permit application and the Section 401 Water Quality Certification application.
	Water Resources	Where streams must be crossed, NCDWQ prefers bridges be used in lieu of culverts. However, we realize that economic considerations often require the use of culverts. Please be advised that culverts should be countersunk to allow unimpeded passage by fish and other aquatic organisms. Moreover, in areas where high quality wetlands or streams are impacted, a bridge may prove preferable. When applicable, the applicant should not install the bridge bents in the creek, to the maximum extent practicable.	Culvert design will adhere to federal, state and local requirements, including <i>Hydraulic Design of Highway Culverts, HDS 05, Federal Highway Administration (FHWA) (2005); Guidelines for Drainage Studies and Hydraulic Design by NCDOT</i> ; and the requirements of the <i>Charlotte-Mecklenburg Storm Water Design Manual</i> . Information regarding the location of bridges and culverts is included in Chapter 11.0: Water Resources, Section 11.2.2.2 and within Table 11-3. Detail was also included in a handout provided to Ms. Lespinasse on December 6, 2010 and subsequently provided in the response letter included in Appendix B of this FEIS.
	Water Resources	The horizontal and vertical clearances provided by bridges shall allow for human and wildlife passage beneath the structure. Fish passage and navigation by canoeists and boaters shall not be blocked. Bridge supports (bents) should not be placed in the stream when possible.	Comment noted. As design progresses, this request will be taken into account to the extent practicable.

**Table 23-2 (continued)
Agency Comments and Responses**

Comments provided by	Topic	Comment	Response
<p>Polly Lespinasse, NC Dept. of Environment and Natural Resources, Division of Water Quality (continued)</p>	Water Resources	Bridge deck drains shall not discharge directly into the stream. Stormwater shall be directed across the bridge and pre-treated through site-appropriate means (grassed swales, pre-formed scour holes, vegetated buffers, etc.) before entering the stream.	Per the LYNX Blue Line Extension Northeast Corridor Light Rail Project Design Criteria document (available upon request), bridge deck drainage will be tied into the local drainage system and designed in accordance with North Carolina Department of Transportation (NCDOT) criteria. Structure designers are coordinating with stormwater designers for deck drainage design.
	Water Resources	Sediment and erosion control measures should not be placed in wetlands or streams.	CATS will implement sediment and erosion control BMP measures in accordance with local and state guidelines. Sediment and erosion control measures will not be placed in wetlands and streams per the requirements of local and state guidelines.
	Construction	Borrow/waste areas should avoid wetlands to the maximum extent practical.	Comment noted. The construction contractors will be required to acquire applicable permits relative to borrow pits, and to comply with the requirements for dewatering and other work conducted in jurisdictional areas; avoiding wetlands to the extent practical.
	Water Resources	The 401 Water Quality Certification application will need to specifically address the proposed methods for stormwater management.	Comment noted. The 401 Water Quality Certification application will address the proposed methods for stormwater management.
	Water Resources	Based on the information presented in the document, the magnitude of impacts to wetlands and streams may require an Individual Permit (IP) application to the Corps of Engineers and corresponding 401 Water Quality Certification.	Comment noted. Based on the magnitude of impacts, a Section 404 Individual Permit application will be submitted. This permit approach was discussed with and approved by the USCOE (A. Jones) and the NCDWQ (A. Johnson) in a Section 404/401 Permit Strategy Meeting held on December 16, 2010.
	Construction	If concrete is used during construction, a dry work area shall be maintained to prevent direct contact between curing concrete and stream water.	BMP measures for the protection of surface waters will be implemented during project construction. Accordingly, sandbags, cofferdams, or other diversion structures would be used, where possible, to prevent excavation in flowing water. If a dry work area is not necessary to place/cure concrete, special measures will be taken to ensure that water in contact with the concrete operations is contained and treated prior to releasing back into stream. Techniques such as cofferdams and/or pumping to special containment areas will be evaluated on a case-by-case basis during construction, if necessary.
	Construction	If temporary access roads or detours are constructed, the site shall be graded to its preconstruction contours and elevations. Disturbed areas shall be seeded or mulched to stabilize the soil and appropriate native woody species shall be planted.	Temporary access and haul roads constructed or used in connection with the project, other than public roads, will be considered a part of the project and addressed in the Erosion and Sedimentation Control Plans.

**Table 23-2 (continued)
Agency Comments and Responses**

Comments provided by	Topic	Comment	Response
<p>Polly Lespinasse, NC Dept. of Environment and Natural Resources, Division of Water Quality (continued)</p>	<p>Water Resources</p>	<p>Placement of culverts and other structures in waters, streams and wetlands shall be placed below the elevation of the streambed by one foot for all culverts with a diameter greater than 48 inches, and 20 percent of the culvert diameter for culverts having a diameter less than 48 inches, to allow low flow passage of water and aquatic life. Design and placement of culverts and other structures including temporary erosion control measures shall not be conducted in a manner that may result in dis-equilibrium of wetlands or streambeds or banks, adjacent to or upstream and downstream of the above structures.</p>	<p>Culverts and other structures will be placed below the elevation of the streambed by one foot, except in cases where existing at-grade culverts are to be extended. Existing low flow passages and the equilibrium of wetlands, streams and/or streambanks adjacent to the aforementioned structures will be maintained.</p>
	<p>Water Resources</p>	<p>If multiple pipes or barrels are required, they shall be designed to mimic natural stream cross section as closely as possible including pipes or barrels at flood plain elevation, floodplain benches, and/or sills may be required where appropriate. Widening the stream channel should be avoided.</p>	<p>Comment noted. In cases where multiple pipes or barrels are required, they will mimic the stream cross section to the extent practical. Widening of stream channels is not anticipated.</p>
	<p>Water Resources</p>	<p>If foundation test borings are necessary, it shall be noted in the document.</p>	<p>If geotechnical investigations are needed within wetlands or streams, subsurface investigations, including borings, will be conducted in accord with current state and local guidelines and within the parameters of the anticipated Section 404 Individual Permit and the Section 401 Water Quality Certification.</p>
	<p>Water Resources</p>	<p>Sediment and erosion control measures sufficient to protect water resources must be implemented and maintained in accordance with the most recent version of NC Sediment and Erosion Control Planning and Design Manual and the most recent version of NCS000523.</p>	<p>Development of an erosion control plan will be included as part of the final design approvals. The Erosion and Sediment Control and Stormwater Pollution Prevention Plan will be implemented and maintained during project construction.</p>

Table 23-2 (continued)
Agency Comments and Responses

Comments provided by	Topic	Comment	Response
<p>Polly Lespinasse, NC Dept. of Environment and Natural Resources, Division of Water Quality (continued)</p>	<p>Construction</p>	<p>All work in or adjacent to stream waters shall be conducted in a dry work area.</p>	<p>BMP measures for the protection of surface waters will be implemented during project construction. Accordingly, sandbags, cofferdams, or other diversion structures would be used, where possible, to prevent excavation in flowing water. If a dry work area is not necessary to place concrete, special measures will be taken to ensure that water in contact with the concrete is contained and treated prior to release into the stream. Techniques such as cofferdams or pumping to containment areas will be evaluated on a case-by-case basis.</p>
	<p>Water Resources</p>	<p>While the use of National Wetland Inventory (NWI) maps and soil survey maps are useful tools, their inherent inaccuracies require that qualified personnel perform onsite wetland delineations prior to permit approval.</p>	<p>Field surveys and delineations were performed by qualified wetland scientists on multiple dates between September 2008 and November 2009. Jurisdictional waters of the U.S. were delineated and flagged, and boundaries were surveyed with a hand-held GPS until capable of sub-meter accuracy. All jurisdictional boundaries were verified by the USCOE (Action I.D. 200901062), and a Jurisdictional Determination was obtained.</p>
	<p>Construction</p>	<p>Heavy equipment should be operated from the bank rather than in stream channels in order to minimize sedimentation and reduce the likelihood of introducing other pollutants into streams.</p>	<p>Approved BMP measures will be implemented, which will prohibit heavy equipment from operating within stream channels without appropriate measures.</p>
	<p>Water Resources</p>	<p>Riprap shall not be placed in the active thalweg channel or placed in the streambed in a manner that precludes aquatic life passage.</p>	<p>Measures to protect streams and aquatic life, including no placement of riprap in the active thalweg of the channel, will be implemented where practicable. Stream velocities may dictate the use and placement of riprap. Additional detail regarding riprap placement will be included in the Section 404 Individual Permit application and the Section 401 Water Quality Certification application.</p>
	<p>Water Resources</p>	<p>Riparian vegetation shall be preserved to the maximum extent possible.</p>	<p>Measures will be taken to preserve riparian vegetation to the extent practicable, and to reestablish riparian vegetation to the extent possible. This is a standard measure for construction projects. Information on this mitigation measure has been included as part of the mitigation plan for construction impacts and is included in Chapter 18.0: Construction. Impact minimization measures taken to date include confining the proposed construction limits within engineering plans to the extent practicable. This effort will continue as design progresses.</p>

**Table 23-2 (continued)
Agency Comments and Responses**

Comments provided by	Topic	Comment	Response
<p>Britt Setzer, NC DENR, Public Water Supply Section</p>	<p>Utilities</p>	<p>Plans and specifications for any water line relocations or new water mains must be reviewed and approved prior to construction by Charlotte Mecklenburg Utilities Department (CMUD). The NC DENR – PWS section recently delegated all approvals for both public and private water mains to CMUD.</p>	<p>There are a number of utilities, both public and private located throughout the proposed project corridor, including water mains. As noted in Chapter 18.0: Construction, there are existing utilities in conflict with the proposed Light Rail Alternative. Utility relocations are currently being coordinated with utility providers, including Charlotte-Mecklenburg Utilities Department (CMU).</p>
<p>Robert W. Cook, Mecklenburg-Union Metropolitan Planning Organization</p>	<p>Transportation</p>	<p>Section 3.1.3.2, and more specifically Table 3-8, of the Draft Environmental Impact Statement for the Blue Line Extension correctly notes that improvements to N. Tryon St. From University City Boulevard to I-485 were funded in the Mecklenburg-Union Metropolitan Planning Organization's (MUMPO) 2030 Long Range Transportation Plan (LRTP), but were not funded in MUMPO's 2035 Plan adopted earlier this year. However, the DEIS does not provide the full context of the matter. Because funding was the only reason this project was not included in the LRTP, it is expected that it will be considered for funding during the next update of the LRTP. The update process will begin in 2011.</p>	<p>Comment noted. This matter is clarified in Section 3.1.3.2 of this Final Environmental Impact Statement (EIS) to indicate that while the North Tryon Street/US-29 improvements were not funded in the 2035 Long Range Transportation Plan (LRTP), it was identified as a needed transportation improvement. It is anticipated that the Record of Decision on this Final EIS will occur in late 2011, before the 2040 LRTP is adopted. Therefore, the Final EIS includes the 2035 LRTP as currently adopted.</p>
<p>Heinz J. Mueller, U.S. Environmental Protection Agency</p>	<p>Purpose and Need</p>	<p>EPA has rated the DEIS Lack of Objections (LO-1), and has not identified any potential environmental impacts requiring substantial changes to the preferred alternative. Additionally, the DEIS adequately sets forth the environmental impacts of the preferred alternative and no further analysis or data collection is believed to be necessary. Overall, EPA supports the proposed project's purpose and need and the recommended avoidance and minimization measures and mitigation.</p>	<p>Thank you for your comment. Comment noted.</p>

**Table 23-2 (continued)
Agency Comments and Responses**

Comments provided by	Topic	Comment	Response
<p>Heinz J. Mueller, U.S. Environmental Protection Agency (continued)</p>	<p>Alternatives Considered</p>	<p>From a natural resource perspective, EPA prefers the LRA-Sugar Creek Option.</p>	<p>Comment noted. Although the Light Rail Alternative – Sugar Creek Design Option has less impact on water resources than the Light Rail Alternative/Locally Preferred Alternative (LPA) and avoids impacts to the Carolina birdsfoot trefoil, the Light Rail Alternative/LPA avoids impacts to an historic resource, has significantly fewer acquisitions and displacements of businesses, fewer visual impacts, will include mitigation to eliminate noise/vibration impacts, and is significantly less costly. Therefore, the Light Rail Alternative is identified as the environmentally preferred alternative in this Final Environmental Impact Statement (EIS).</p>
	<p>Natural Resources</p>	<p>Chapter 10 of the DEIS also identifies farmlands as a natural resource. There are no farmlands within the proposed corridor. As a point of clarification, farmlands are not natural resources and should have been discussed in the human resource section of the DEIS. EPA requests that this be clarified in the Final Environmental Impact Statement.</p>	<p>Since farmlands are often defined by the presence of farmland soils (a natural resource), as per the requirements of the Farmland Protection Policy Act, it is common practice to include farmlands in natural resource discussions of environmental documents. However, the comment is noted and the discussion on farmlands has been moved to Chapter 4.0: Land Use in this Final EIS.</p>
	<p>Air Quality</p>	<p>The proposed project is considered consistent with local and State plans.</p>	<p>Thank you for your comment. Comment noted; consistent with Draft EIS and Final EIS.</p>
	<p>Neighborhoods / Noise</p>	<p>Table 6-4, Summary of Potential Impacts on Neighborhoods identified the Hidden Valley neighborhoods as having a potential noise impact. Under Table ES-2, Summary of Mitigation, Environmental Justice, it identifies that “noise mitigation for residential properties located within EJ communities of concern will be required.” Mitigation for noise impacts to this neighborhood is being deferred to the final project design. The DEIS does not specifically identify or quantify the type of scope of the noise mitigation. This issue needs to be further detailed and discussed in the FEIS.</p>	<p>For purposes of the Draft EIS, a general noise assessment was conducted. A detailed assessment has been completed for this Final EIS and identifies specific noise conditions and mitigation methods for each impacted receiver. Additional detail is provided in Chapter 13.0: Noise and Vibration in the Final EIS.</p>
	<p>Parklands</p>	<p>Minimal impacts are expected from the LRA-Sugar Creek Option to existing or planned parks or greenways.</p>	<p>Thank you for your comment. Comment noted; consistent with Draft EIS and Final EIS.</p>
	<p>Cultural Resources</p>	<p>There are no anticipated adverse impacts to historic or archaeological resources.</p>	<p>Thank you for your comment. Comment noted; consistent with Draft EIS and Final EIS.</p>

**Table 23-2 (continued)
Agency Comments and Responses**

Comments provided by	Topic	Comment	Response
<p>Heinz J. Mueller, U.S. Environmental Protection Agency (continued)</p>	<p>Hazardous Materials</p>	<p>There are a total of potentially 14 properties for hazardous material concerns on the proposed alignment and for the proposed park-and-ride facilities.</p>	<p>Thank you for your comment. Comment noted; consistent with Draft EIS and Final EIS.</p>
<p>Anil Panicker, NC Dept. of Transportation</p>	<p>Transportation</p>	<p>The following projects are in the vicinity of the Proposed LYNX Blue Line extension:</p> <ul style="list-style-type: none"> • R-2420 – City Boulevard Extension Relocated Mallard Creek Road (U-2507 to US 29-NC 49). Four lanes divided, part on new location • U-5008 – Sugar Creek Road grade separation of North Carolina railroad crossing • U-2507 – Mallard Creek Road from Sugar Creek Road to Mallard Creek Church Road. Widen to multi-lanes, part on new location <p>The planning, design, and construction of this project should be coordinated with the NCDOT Division 10, District Engineer, Louis Mitchell, PE, to ensure that all setback and other requirements for the ROW of the roadway projects listed above are met and there are no potential conflicts with any other NCDOT projects in the general area of the subject project.</p>	<p>Comment noted. Each of the listed projects is included in Chapter 3.0: Transportation of this Final Environmental Impact Statement (EIS). The planning, design and construction of the proposed project will be coordinated with the district engineer to ensure requirements are met and no conflicts exist with other North Carolina Department of Transportation (NCDOT) projects in the project area.</p>
<p>Renee Gledhill- Earley, Department of Cultural Resources</p>	<p>Cultural Resources</p>	<p>All properties and effects correctly noted.</p>	<p>Thank you for your comment. Comment noted.</p>

**Table 23-2 (continued)
Agency Comments and Responses**

Comments provided by	Topic	Comment	Response
<p>Willie R. Taylor, U.S. Department of the Interior, Office of Environmental Policy and Compliance</p>	<p>Water Resources</p>	<p>The DEIS does not contain sufficient information on the area of groundwater to support the finding of no impact. The document does not contain information on the depth to groundwater, flow direction, aquifers currently used, nor the quantity of water withdrawn for domestic and public water supply in the vicinity of the project. The document indicates that in some places the water table may be very shallow (a few feet below land surface); this increases the potential for contamination from spills during construction or operation. The location of domestic and public water supply wells as far as 2,000 feet from the rail corridor does not preclude contaminants from migrating through the groundwater to these pumped wells. The Department suggests that the Final EIS address the groundwater issue more completely.</p> <p>The statement that “efforts will be implemented to reduce the effects ... on groundwater resources” implies that effects will occur, yet none of these effects are described in the DEIS. The Department suggests that possible impacts and mitigation actions be documented in the Final EIS. One possible source for information that might be included in the report is the USGS, North Carolina Water Science Center waterdata.usgs.gov/nc/nwis/.</p>	<p>The supporting technical report entitled <i>Natural Resources Technical Report (NRTR)</i> prepared for the LYNX Blue Line Extension Northeast Corridor Light Rail Project (LYNX BLE) states that the majority of the LYNX BLE study area has a depth to groundwater greater than six feet. Discussions with Peggy Finley of the North Carolina Division of Water Quality (NCDWQ) Mooresville Field Office and Shana Caldwell of the Mecklenburg County Land Use and Environmental Services Agency (LUESA) Ground Water/Waste Water unit have indicated that the depth to groundwater in the crystalline aquifer that is present in the project study area, averages approximately 30 feet. The areas that have been mapped as Helena soils have a perched water table of one to two-and-one-half feet in depth, and areas mapped as Monacan soils have an apparent high water table of one-half to two feet in depth. The highest water tables within the study area are anticipated to be in the areas mapped as Monacan soils in the Little Sugar Creek drainage corridor and the railroad crossing of an unnamed tributary to Little Sugar Creek east of the 36th Street Station. Perched water tables associated within the areas mapped as Helena soils may be found in the area of the Sugar Creek Station proposed park-and-ride lot, the Old Concord Road Station proposed park-and-ride lot and along the railroad right-of-way between the Sugar Creek Station proposed park-and-ride lot and the Old Concord Road Station proposed park-and-ride lot.</p> <p>Geotechnical soil borings were done for the study area locations that will require a decrease in surface elevations (i.e., cuts), and the depth to groundwater at these boring locations was noted. The depth to groundwater in these proposed cut areas, and the proposed surface elevations were reviewed to determine where the groundwater would be closest to the proposed surface elevation. This review indicated that the proposed 36th Street underpass area would come nearest to intercepting the groundwater table in the development areas to be cut. The shallowest depth to groundwater at the proposed 36th Street underpass would be approximately five feet from the surface. Therefore, it has been determined that groundwater will not be encountered during the proposed development activities. This decreases the potential for contaminating the groundwater from spills during construction or operation.</p> <p><i>(response continues on next page)</i></p>

**Table 23-2 (continued)
Agency Comments and Responses**

Comments provided by	Topic	Comment	Response
<p>Willie R. Taylor, U.S. Department of the Interior, Office of Environmental Policy and Compliance (continued)</p>	<p>Water Resources (continued)</p>		<p><i>(response continued from previous page)</i></p> <p>No information is available on the direction of flow, although discussions with the NCDWQ and the Mecklenburg County LUESA personnel have indicated that the ground water flow typically follows the surface topography.</p> <p>No information is available on the quantity of water withdrawn for domestic water supply. The one public well that was identified in the Draft Environmental Impact Statement (EIS) has been reported to be inactive and no information is available on the Well Information System 2.0 provided by Mecklenburg County.</p> <p>This additional information relative to the potential for impacts to groundwater is included in Chapter 11.0: Water Resources.</p>
	<p>Natural Resources</p>	<p>1) The Department concurs with the DEIS conclusion that no listed species occur within the project area. We do not believe any endangered or threatened species will be affected by the proposed project; therefore, the requirements under Section 7 of the Act are fulfilled. However, obligations under Section 7 of the Act must be reconsidered if: (1) new information reveals impacts of this identified action that may affect listed species or critical habitat in a manner not previously considered, (2) this action is subsequently modified in a manner that was not considered in this review, or (3) a new species is listed or critical habitat is identified that may be affected by the proposed action. <i>(comments continue on next page)</i></p>	<p>1) Comment noted regarding the obligations under Section 7 of the Act. <i>(response continues on next page)</i></p>

**Table 23-2 (continued)
Agency Comments and Responses**

Comments provided by	Topic	Comment	Response
<p>Willie R. Taylor, U.S. Department of the Interior, Office of Environmental Policy and Compliance (continued)</p>	<p>Natural Resources (continued)</p>	<p>2) The Migratory Bird Treaty Act (16 U.S.C. 703-712) prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests, except when specifically authorized by the Department. Implementing regulations define "take" under the Migratory Bird Treaty Act as to "pursue, hunt, shoot, wound, kill, trap, capture, possess, or collect." Unlike the Endangered Species Act, neither the Migratory Bird Treaty Act nor its implementing regulations at 50 CFR Part 21, provides for the permitting of "incidental take" of migratory birds. To avoid impacts to migratory birds, the Department recommends conducting a visual inspection of migratory bird nesting habitat within the project area during the nesting season of March through September. If migratory birds are discovered nesting in the project impact area, avoid impacting the nests during the migratory bird nesting season (March through September). Bald and golden eagles are afforded additional legal protection under the Bald and Golden Eagle Protection Act (16 U.S. C. 668-688d).</p>	<p>2) Natural resource surveys were conducted at various times from 2006 to 2010, including during the March to September timeframe. The project study area was not found to contain nesting sites for migratory birds. If it becomes evident that migratory birds are utilizing the project area, additional surveys will be conducted as warranted. Additional information on the natural resource surveys can be found in the Natural Resources Technical Report (July 2010). In addition, the findings related to nesting sites for migratory birds has been added to Chapter 10.0 Natural Resources of this FEIS.</p>

Table 23-2 (continued)
Agency Comments and Responses

Comments provided by	Topic	Comment	Response
<p>Willie R. Taylor, U.S. Department of the Interior, Office of Environmental Policy and Compliance (continued)</p>	<p>Water Resources</p>	<p>1) Use spanning structures for all permanent roadway crossings of streams and associated wetland to minimize impacts to aquatic resources, allow for the movement of aquatic organisms, and eliminate the need to fill and install culverts. If culverts are the only option, we suggest using bottomless culverts. Bottomless culverts need not be buried, thereby minimizing adverse impacts to streams. The use of a common round culvert should be a last resort, and it should be buried at least a foot below the natural streambed to allow for proper water depth and the movement of aquatic organisms. Under no circumstances should stream-channel widening for culverts occur nor should riprap be placed in the stream channel. We also recommend that all wetland/stream crossings be made perpendicular to the stream.</p> <p>2) Maintain and/or restore wetland/stream buffers throughout the project area. Forested riparian buffers, a minimum of 100 feet wide along perennial streams and 50 feet wide along intermittent streams, should be created and/or maintained along all aquatic areas. We are concerned about impacts to any aquatic habitat, including the removal of the riparian zone, which may occur in the project area.</p> <p>3) To effectively reduce erosion and sedimentation impacts, Best Management Practices should be designed, installed, and maintained during land-disturbing activities.</p> <p>4) For maximum benefits to water quality and bank stabilization, riparian areas should not be mowed. We recommend planting disturbed areas with native riparian species.</p>	<p>1) Structure and culvert design will adhere to federal, state and local requirements, including <i>Hydraulic Design of Highway Culverts, HDS 05, Federal Highway Administration (FHWA) (2005); Guidelines for Drainage Studies and Hydraulic Design by NCDOT</i>; and the requirements of the <i>Charlotte-Mecklenburg Storm Water Design Manual</i>. Culverts and other structures will be placed below the elevation of the streambed by one foot, except in cases where existing at-grade culverts will be extended. Existing low flow passages and the equilibrium of wetlands, streams and/or streambanks adjacent to the aforementioned structures will be maintained. The use of riprap will be kept to a minimum and will be located only in places where sheer stress requires it.</p> <p>2) Measures will be taken to preserve riparian vegetation to the extent practicable and to re-establish riparian vegetation to the extent possible. As noted previously and in the following responses, Best Management Practice (BMP) measures that avoid degradation of aquatic habitat and water quality will be implemented.</p> <p>3) Best Management Practice (BMP) measures are being incorporated into the proposed project, both during construction and as part of the build condition of the proposed light rail and associated facilities. For example, each station location and park-and-ride facility would implement best management practices for the collection and treatment of stormwater. BMP measures will comply with federal, state and local guidelines on sediment discharge thresholds, particularly the City of Charlotte Post-Construction Controls Ordinance (PCCO). As noted in Chapter 18.0: Construction, a detailed analysis of the sediment load from the proposed project will be generated, in addition to the BMP measures that would be employed. These analyses will be outlined in the Erosion and Sediment Control Plans developed during final design.</p> <p>4) Comment noted. These measures are standard for all construction projects of this magnitude and will be implemented accordingly.</p>

**Table 23-2 (continued)
Agency Comments and Responses**

Comments provided by	Topic	Comment	Response
<p>Willie R. Taylor, U.S. Department of the Interior, Office of Environmental Policy and Compliance (continued)</p>	<p>Water Resources</p>	<p>Implement stringent measures to control sediment and erosion prior to any ground disturbance and maintain them throughout project construction. Temporary (e.g., rye grain, wheat, millet) or permanent herbaceous vegetation should be planted on all bare soil within 5 days of ground-disturbing activities to provide long-term erosion control. Native annual small grains appropriate for the season are recommended. Biodegradable erosion-control matting should be used in conjunction with appropriate seeding on disturbed soils in steep slope and riparian areas. Matting should be secured in place with staples, stakes, or live stakes of native trees (whenever possible).</p> <p>1) Maintain a dry work area for all work in or adjacent to the stream. Sandbags, cofferdams, or other diversion structures should be used, where possible, to prevent excavation in flowing water. These diversion structures should be removed immediately after the in-stream work is finished.</p> <p>2) Divert ditch water into a constructed sump or, where possible, onto stable forested vegetation that can filter sediment before the water reaches the stream. Side ditches should not be allowed to drain directly into the stream. Ensure that adequate cross drainage is in place before the culvert approach to minimize the water volume directed into approach ditches at culvert sites. Consider the use of rolling grades to divert surface runoff from roads. Where cross ditches are used, ensure that they are properly armored at the outlet and along the base.</p> <p><i>(comments continue on next page)</i></p>	<p>Stormwater basins will be designed and built at each of the proposed stations that encompass surface parking lots. These basins will capture surface water run-off, thereby reducing the amount of runoff into nearby waterways. Additionally, as described in Chapter 18.0: Construction, BMP measures will be incorporated as well. BMP measures will comply with federal, state and local guidelines on sediment discharge thresholds, particularly the City of Charlotte PCCO. A detailed analysis of the sediment load from the proposed project will be generated, in addition to BMP measures that would be employed. These analyses will be outlined in the Erosion and Sediment Control Plans developed during final design. Coordination with the appropriate local, state and federal agencies will continue throughout design.</p> <p>1) BMP measures for the Protection of Surface Waters will be implemented during project construction. Accordingly, sandbags, cofferdams, or other diversion structures will be used, where possible, to prevent excavation in flowing water. If a dry work area is not necessary to place/cure concrete, special measures will be taken to ensure that water in contact with the concrete operations is contained and treated prior to releasing back into stream. Techniques such as cofferdams and/or pumping to special containment areas will be evaluated on a case-by-case basis during construction, if necessary</p> <p>2) BMP measures for the Protection of Surface Waters will be implemented during project construction. Accordingly, side ditches will not drain directly to adjacent/nearby stream channels. Ditch water will be diverted into a sump or stable forested vegetation where sediment can be filtered appropriately before entering nearby/adjacent stream channels. Likewise, measures such as sandbags, cofferdams, or other diversion structures will be used, where possible, to minimize flow of water into approach ditches at culvert sites and from surface runoff from roads. Where cross ditches are used, appropriate armoring of the base will be utilized to prevent the release of disturbed sediment into the stream channel.</p> <p><i>(response continues on next page)</i></p>

**Table 23-2 (continued)
Agency Comments and Responses**

Comments provided by	Topic	Comment	Response
<p>Willie R. Taylor, U.S. Department of the Interior, Office of Environmental Policy and Compliance (continued)</p>	<p>Water Resources (continued)</p>	<p>3) Keep equipment out of streams by operating from the banks in a fashion that minimizes disturbance to woody vegetation. It should be inspected daily and maintained to prevent the contamination of surface waters from leaking fuels, lubricants, hydraulic fluids, or other toxic materials. All fuels, lubricants, and other toxic materials should be stored outside the riparian management area of the stream in a location where the material can be contained.</p> <p>4) Keep wet concrete from contacting the stream or any other water that has the potential to enter the stream. Uncured concrete or grout can kill aquatic organisms, including fish, by altering the pH of the water. Precast concrete should be sued to eliminate the risk to fish. However, when cast-in-place concrete is required, all work should be conducted "in the dry," and the site should be effectively isolated from any water that may enter the stream for a minimum of 48 hours.</p> <p>5) Minimize the amount of impervious surface area that will result from this project. We recommend that all parking areas be constructed of a pervious material (i.e., pervious concrete, interlocking/open paving blocks, etc.). Pervious materials are less likely to absorb and store heat and are less likely to allow the cooler temperatures of the earth below to cool the pavement. Pervious concrete also requires less maintenance and is less susceptible to freeze/thaw cracking due to large voice spaces within the concrete. Pervious parking areas minimize changes to the hydrology of the watershed, can be used to facilitate groundwater recharge, and often eliminate the need for curb and gutter for drainage.</p>	<p>3) Approved BMP measures will be implemented. These measures will prohibit heavy equipment from operating within stream channels, without appropriate measures.</p> <p>4) BMP measures for the Protection of Surface Waters will be implemented during project construction. Accordingly, sandbags, cofferdams, or other diversion structures would be used, where possible, to prevent excavation in flowing water. If a dry work area is not necessary to place/cure concrete, special measures will be taken to ensure that water in contact with the concrete operations is contained and treated prior to releasing back into stream. Techniques such as cofferdams and/or pumping to special containment areas will be evaluated on a case-by-case basis during construction, if necessary.</p> <p>5) Stormwater basins will be designed and built at each of the proposed stations that encompass surface parking lots. These basins will capture surface water run-off, thereby reducing the amount of runoff into nearby waterways. Additionally, as described in Chapter 18.0: Construction, BMP measures will be incorporated as well. BMP measures will comply with federal, state and local guidelines on sediment discharge thresholds, particularly the City of Charlotte PCCO. A detailed analysis of the sediment load from the proposed project will be generated, in addition to BMP measures that would be employed. These analyses will be outlined in the Erosion and Sediment Control Plans developed during final design. Coordination with the appropriate local, state and federal agencies will continue throughout design.</p>

Table 23-2 (continued)
Agency Comments and Responses

Comments provided by	Topic	Comment	Response
<p>Willie R. Taylor, U.S. Department of the Interior, Office of Environmental Policy and Compliance (continued)</p>	<p>Water Resources</p>	<p>Implement low-impact-development designs into the project plans. Where feasible, we recommend that a rooftop garden, or a “green” rooftop, design be incorporated into any “station/building” construction plans.</p>	<p>The proposed project currently includes Low Impact Development (LID) techniques, such as landscape islands in park-and-ride lots and planting strips along sidewalks; and a rain garden is currently proposed at Old Concord Road Station park-and-ride. CATS will also be evaluating the feasibility of pervious materials in other locations (e.g. grass-crete for fire & maintenance access areas). The proposed project does not include any building appropriate for a rooftop garden, or a “green” rooftop. For stations, the project is utilizing station canopy design that is consistent with existing LYNX Blue Line light rail canopies. This information about LID design has been added to the description of the light rail stations in Chapter 2.0 Alternatives Considered.</p> <p>In addition, as discussed in Chapter 4.0: Land Use, CATS will evaluate sustainable design features for the proposed project in compliance with the City of Charlotte’s Policy for Sustainable Facilities.</p>
	<p>Water Resources</p>	<p>Any Clean Water Act 404/401 permit applications should clearly show why impacts are unavoidable and how impacts that are unavoidable have been minimized. Unavoidable impacts will require mitigation. The DEIS also indicates that mitigation will be provided by Charlotte’s Umbrella Stream and Wetland Mitigation Bank. Our normal practice is to recommend that all direct impacts to both wetlands and streams be mitigation with the restoration comparable on-site streams and wetlands at a minimum ratio of 2:1. However, we are aware that may of the streams that will be impacted by the proposed project are in “poor” condition with little or no aquatic resource value; therefore, we believe a 1:1 mitigation ratio for stream impacts would be sufficient. From our recent experiences working with the City of Charlotte, we do not believe that the Umbrella Stream and Mitigation Bank has enough credits to off-set the impacts of this project. If the <i>(comment continues on next page)</i></p>	<p>This Final EIS includes a summary of the estimated impacts to streams and wetlands. The Section 404 Individual Permit application and Section 401 Water Quality Certification application will include additional detail on the proposed impacts along with corresponding mapping and drawings. A detailed review of avoidance and minimization measures will be included to show why impacts are unavoidable and how impacts have been minimized.</p> <p>As noted, it is anticipated that required mitigation to satisfy compensatory mitigation requirements will be provided through the Charlotte Umbrella Stream and Wetland Mitigation Bank and the North Carolina Department of Environment and Natural Resources (NCDENR) Ecosystem Enhancement Program. The project team discussed these mitigation options with representatives of Charlotte Stormwater Services, the U.S. Army Corps of Engineers and the North Carolina Division of Water Quality. All parties are in agreement with the proposed preliminary mitigation strategy; more details will be developed with the Section 404 Individual Permit and Section 401 Water Quality Certification progress.</p>

**Table 23-2 (continued)
Agency Comments and Responses**

Comments provided by	Topic	Comment	Response
<p>Willie R. Taylor, U.S. Department of the Interior, Office of Environmental Policy and Compliance (continued)</p>	<p>Water Resources (continued)</p>	<p><i>(comment continued from previous page)</i> Mitigation Bank does not have enough credits, and if an on-site/in-kind mitigation plan cannot be established, then we recommend a payment to the North Carolina Ecosystem Enhancement Program to compensate for the unavoidable impacts. The same recommended ratio of 2:1 for wetlands and 1:1 for streams should be studied to calculate the payment amount.</p>	
	<p>Section 4(f)</p>	<p>The Department concurs that there is no feasible and prudent alternative to the proposed use and that all possible planning has been done to minimize harm to Section 4(f) resources.</p>	<p>Thank you for your comment. Comment noted.</p>