Durham-Orange Light Rail Transit Project

Durham and Orange Counties, North Carolina

Combined Final Environmental Impact Statement and Record of Decision

Prepared pursuant to federal environmental laws, regulations, and executive orders applicable during the environmental review process. These requirements include, but are not limited to, National Environmental Policy Act of 1969 (42 U.S.C. § 4321 et seq.); Moving Ahead for Progress in the 21st Century Act (Public Law 112-114); Fixing America's Surface Transportation Act (Public Law 114-94); applicable Federal Transit Laws (49 U.S.C. § 5301 et seq. , 23 U.S.C. §139(n), and 49 U.S.C. 304(a)); Department of Transportation Act of 1966, Section 4(f) (49 U.S.C. § 303 and 23 U.S.C. § 138); National Historic Preservation Act of 1966, Section 106 (54 U.S.C. § 306108 et seq.); Clean Water Act (33 U.S.C. § 1251 et seq.); Endangered Species Act of 1973 (16 U.S.C. § 1531 et seq.); Clean Air Act (42 U.S.C. § 7401 et seq.); Uniform Relocation Assistance and Real Property Acquisition Polices Act of 1970 (42 U.S.C. § 4601 et seq.); the Council on Environmental Quality implementing NEPA (40 C.F.R. Parts 1500-1508) and Federal Transit Administration (FTA) regulations on environmental impact and related procedures (23 C.F.R. Parts 771 and 774); Executive Order 11988 (Floodplain Management); Executive Order 11990 (Protection of Wetlands); Executive Order 12898 (Environmental Justice); USDOT Order 5610.2(a) (Environmental Justice); and all relevant laws, regulations, and procedures of the State of North Carolina.

by the

U.S. Department of Transportation, Federal Transit Administration

and the

Research Triangle Regional Public Transportation Authority d/b/a Triangle Transit d/b/a GoTriangle (Triangle Transit)

in cooperation with the

U.S. Environmental Protection Agency, U.S. Army Corps of Engineers, and Federal Highway Administration

OurTransit FUTURE

Durham-Orange

Light Rail Transit Project

Combined Final Environmental Impact Statement Record of Decision

February 2016

Durham-Orange Light Rail Transit Project

Combined Final Environmental Impact Statement and Record of Decision

Prepared for:

U.S. Department of Transportation, Federal Transit Administration

and

Research Triangle Regional Public Transportation Authority d/b/a Triangle Transit d/b/a GoTriangle

Prepared by:

AECOM

February 2016

Title of Proposed Action

Combined Final Environmental Impact Statement (FEIS)/Record of Decision (ROD) for the Durham-Orange Light Rail Transit (D-O LRT) Project

For Additional Information Concerning this Document, Contact:

Stanley A. Mitchell
Environmental Protection Specialist
Federal Transit Administration, Region IV
230 Peachtree Street, NW – Suite 1400
Atlanta, GA 30303
404.865.5600
Email: stanley.a.mitchell@dot.gov

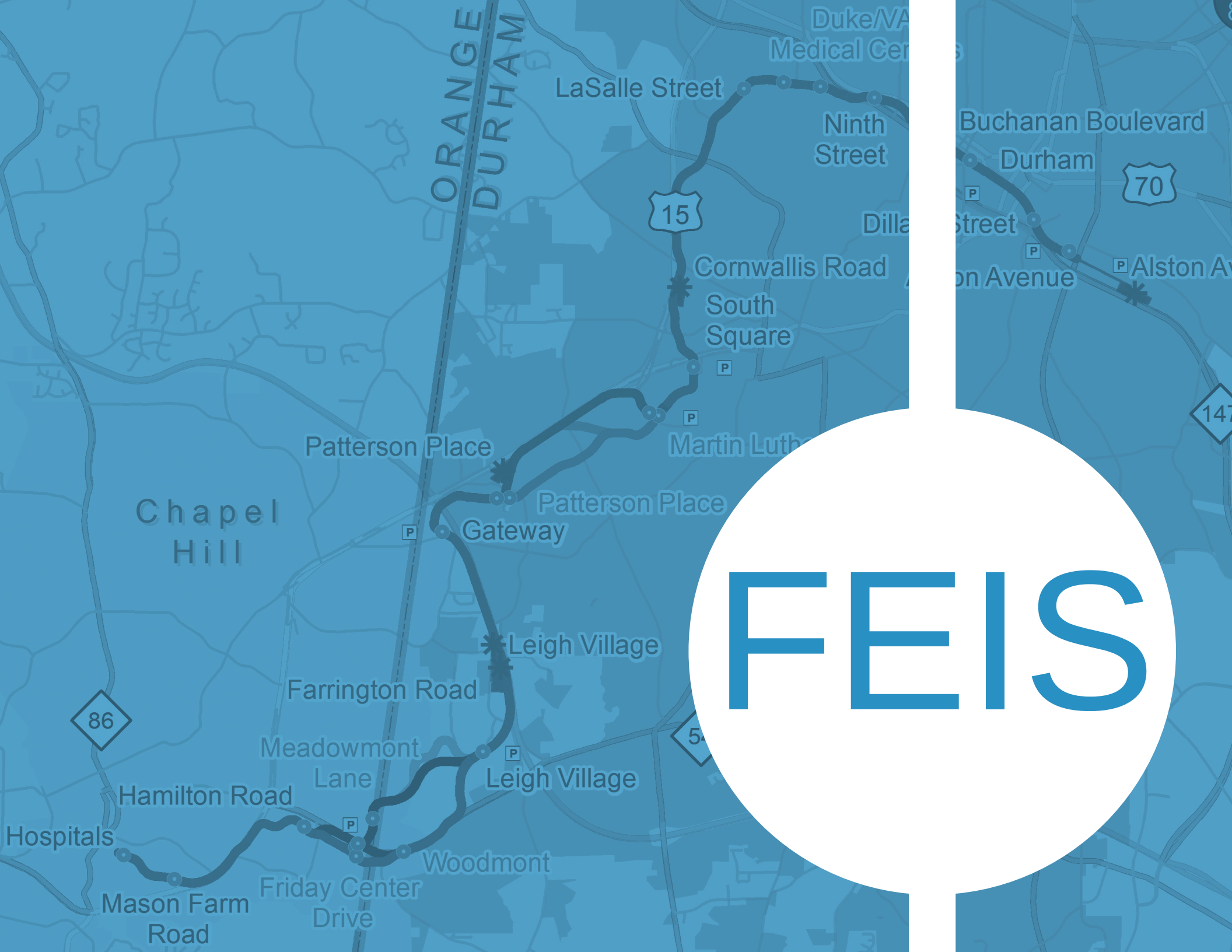
Natalie Murdock
Interim Director of Communications and Public Affairs
Triangle Transit
Post Office Box 530
Morrisville, NC 27560
919.485.7510
Email: nmurdock@gotriangle.org

Table of Contents

List of Figures

List of Tables

List of Appendices


ORANGE
DURHAM
LaSalle Street
Ninth Street
Buchanan Boulevard
Durham
70
15
Cornwallis Road
South Square
Alston Av
Patterson Place
Martin Luth
Patterson Place
Gateway
Chapel Hill
Leigh Village
Farrington Road
86
Meadowmont Lane
Leigh Village
Hamilton Road
Hospitals
Woodmont
Friday Center Drive
Mason Farm Road
FEIS


CHAPEL HILL
UNC Hospitals
Mason Farm Road
Hamilton Road
Friday Center Drive
Woodmont
Leigh Village
Gateway
Patterson Place
Martin Luther King Jr. Parkway
South Square
LaSalle Street
Duke / VA Medical Centers Trent / Flowers Drive
Ninth Street
Buchanan Boulevard
Durham
Dillard Street
Alston Avenue
DURHAM

Table of Contents

List of Figures

List of Tables

FEIS

Final Environmental Impact Statement

The Federal Transit Administration (FTA) and the Research Triangle Regional Public Transportation Authority d/b/a Triangle Transit d/b/a GoTriangle (Triangle Transit), in cooperation with the U.S. Environmental Protection Agency (USEPA), U.S. Army Corps of Engineers (USACE), and Federal Highway Administration (FHWA), initiated an Environmental Impact Statement (EIS) and Section 4(f) Evaluation for the Durham-Orange Light Rail Transit Project (D-O LRT Project) in 2012. The Draft Environmental Impact Statement (DEIS) was issued on August 28, 2015, with the public comment period occurring between August 28, 2015, and October 13, 2015.

The primary purpose of this combined Final Environmental Impact Statement /Record of Decision (ROD) (hereinafter referred to as FEIS/ROD) is to respond to substantive comments received during the public comment period. Responses are in the form of factual corrections or clarifications. The ROD states the decision, identifies the alternatives considered in reaching the decision, and states the means to avoid, minimize, or mitigate impacts. Mitigation plans, including any enforcement and monitoring commitments are included in the ROD. The Final Section 4(f) Determination is included as appendix A.

Project stakeholders, members of the public, local governments, elected officials, non-

governmental organizations, and federal, state, and local agencies have been, and will continue to be, involved in the D-O LRT Project throughout engineering, construction, and operations through public meetings, advisory committee and stakeholder meetings, and individual briefings.

The DEIS was issued pursuant to the transportation law entitled Moving Ahead for Progress in the 21st Century Act (MAP-21) (Public Law 112-114). In part, MAP-21 streamlined the NEPA process where possible, including the issuance of a combined FEIS/ROD.

After the DEIS was published, the Fixing America's Surface Transportation (FAST) Act (Public Law 114-94) was signed into law by President Obama on December 4, 2015. Its provisions became effective on October 1, 2015. Although the FAST Act supersedes MAP-21, it still incorporates environmental streamlining requirements, including the use of errata and developing a combined FEIS/ROD.

The use of errata sheets and this combined FEIS/ROD complies with the requirements of the FAST Act. The preparation of a FEIS by attaching errata sheets to the DEIS if certain conditions are met is set forth in 23 U.S.C. § 139(n). As a result of the FAST Act, 23 U.S.C. § Section 139(n) and 49 U.S.C. § 304(a) require, to the maximum extent practicable, and unless certain conditions exist, that the lead United States Department of Transportation (USDOT) agency expeditiously develop a single NEPA document that combines the FEIS and ROD.

This combined FEIS/ROD is organized as follows:

- Chapter 1: FEIS
  - Section 1.1 in this FEIS provides an overview of FAST Act regulations for the completion of a combined FEIS/ROD by errata
  - Section 1.2 in this FEIS documents the selection of the NEPA Preferred Alternative
  - Section 1.4 in this FEIS provides an overview of the public outreach that has occurred since the release of the DEIS
  - Section 1.5 in this FEIS contains the errata to the DEIS
- Chapter 2: ROD
  - Section 2.1 in this ROD contains the introduction
  - Section 2.2 provides a summary of the alternatives considered
  - Section 2.3 contains the basis for decision
  - Section 2.4 provides the NEPA Preferred Alternative Project Description
  - Section 2.5 contains the measures to minimize harm
  - Section 2.6 provides the monitoring and enforcement
  - Section 2.7 contains a summary of the public outreach and opportunities to comment on the DEIS.
  - Section 2.8 contains the determinations and findings regarding other laws
  - Section 2.9 contains the conclusion

The FEIS/ROD also contains appendices that include the following:

- Appendix A: Final Section 4(f) Evaluation
- Appendix B: Section 106 Determination and Memorandum of Agreement
- Appendix C: Public Outreach Update
- Appendix D: Response to Agency Comments
- Appendix E: Common Comment Categories with Responses
- Appendix F: Response to Substantive Public Comments
- Appendix G: Agency Letters Received
- Appendix H: Copy of All Public Comments
- Appendix I: DEIS

1.1 FAST Act Provisions

Section 1304 of the FAST Act, Efficient Environmental Reviews for Project Decision Making, sets forth the changes to Title 23 U.S.C. Section 139. In particular, subsection (j), Accelerated Decision Making; Improving Transparency in Environmental Reviews, amends 23 U.S.C. § 139 by adding subsection (n), Accelerated Decision Making in Environmental Reviews. 23 U.S.C. 139(n) provides for the preparation of an FEIS by attaching errata sheets to the DEIS if certain conditions are met. In addition, Section 139(n)(2) requires, to the maximum extent practicable, and unless certain conditions exist, that the lead USDOT agency expeditiously develop a single, combined FEIS/ROD. *See also* 49 U.S.C. § 304(a). Thus, errata sheets and the combined FEIS/ROD provisions can be utilized together, as long as the conditions of both subsections are met.

1.1.1 Use of Errata

The use of errata sheets in lieu of rewriting the DEIS is appropriate when comments received on a DEIS are minor and the responses to those comments are limited to factual corrections or explanations of why the comments do not warrant further response. When applying Title 23 U.S.C. Section 139(n)(1), the errata sheets will be made available to the public to the same extent as the DEIS and continued availability of the DEIS should be ensured.

Comments on the D-O LRT Project require factual corrections and minor clarifications to the DEIS; however, no comments warranted further response in the form of additional alternatives or consideration of undisclosed project impacts.

The D-O LRT Project DEIS is currently available to the public on the project website (http://ourtransitfuture.com/deis/) and at the following public locations:

- Bragtown Library Family Literacy Center, 3200 Dearborn Drive, Durham, NC 277704
- Duke University – Perkins Library, 411 Chapel Drive, Durham, NC 27708
- Durham City Hall, 101 City Hall Plaza, Durham, NC 27701
- Durham County Government Office, 200 East Main Street, Durham, NC 27701
- Durham Public Library – East Regional Library, 211 Lick Creek Lane, Durham, NC 27703
- Durham Public Library – Main Branch, 300 N. Roxboro Street, Durham, NC 27701
- Durham Public Library – North Regional Library, 221 Milton Road, Durham, NC 27712
- Durham Public Library – South Regional Library, 4505 S. Alston Avenue, Durham, NC 27713
- Durham Public Library – Southwest Regional Library, 3605 Shannon Road, Durham, NC 27707
- Durham Public Library – Stanford L. Warren Branch Library, 1201 Fayetteville Road, Durham, NC 27707
- Durham Technical Community College Library, 1637 East Lawson Street, Durham, NC 27703
- GoTriangle Office – 4600 Emperor Boulevard, Suite 100, Durham, NC 27709
- North Carolina Central University – James E. Shepherd Memorial Library, 1801 Fayetteville Street, Durham, NC 27701
- Orange County Public Library – Main Library, 137 W. Margaret Lane, Hillsborough, NC 27278
- Orange County Public Library – Carrboro Branch, McDougle Middle School, 900 Old Fayetteville Road, Chapel Hill, NC 27516
- Orange County Government Services Center, 200 S. Cameron Street, Hillsborough, NC 27278
- Town of Chapel Hill Town Hall, 405 Martin Luther King, Jr. Boulevard, Chapel Hill, NC 27517

- Town of Chapel Hill Public Library, 100 Library Drive, Chapel Hill, NC 27514
- University of North Carolina at Chapel Hill – Davis Library, 208 Raleigh Street, Chapel Hill, NC 27517

The DEIS errata are included in this combined FEIS/ROD and are also available with the DEIS on the project website and at the 18 locations noted above. The DEIS is included as appendix I to this combined FEIS/ROD.

1.1.2 Combined FEIS/ROD

Traditionally, and in accordance with the Council on Environmental Quality (CEQ) Regulations (40 C.F.R. § 1506.10(b)(2)), FEIS and ROD documents are issued separately with a minimum 30-day period between the FEIS and ROD. As explained above, the FAST Act, to the maximum extent practicable, directs the lead agency to expeditiously develop a combined FEIS/ROD unless:

- The FEIS makes substantial changes to the proposed action that are relevant to environmental or safety concerns or
- There is a significant new circumstance or information relevant to environmental concerns and that bears on the proposed action or the impacts of the proposed action.

Additionally, the applicable requirements for both an FEIS and a ROD must be met for the issuance of a single combined FEIS/ROD document.

The D-O LRT Project combined FEIS/ROD does not include substantial changes to the proposed action in terms of environmental or safety concerns, nor are there significant new circumstances or information relevant to environmental concerns of the proposed action or its impacts.

The D-O LRT Project has met the requirements for the issuance of a single combined FEIS/ROD, including the following:

- Identification of the preferred alternative (NEPA Preferred Alternative) included in section 1.2 of the FEIS
- Section 4(f) Determination and concurrence included in appendix A
- Section 106 concurrence, including a signed Memorandum of Agreement, included in appendix B
- List of commitments for mitigation measures for the NEPA Preferred Alternative included in section 2.4 of the ROD
- Summary of comments received on the DEIS, public hearing responses, and public and agency coordination activities that have taken place since the issuance of the DEIS included in section 1.4 of the FEIS and appendix C

1.2 Selection of NEPA Preferred Alternative

This section identifies the Preferred Alternative as the NEPA Preferred Alternative presented in the DEIS. The section also demonstrates why the NEPA Preferred Alternative remains the preferred alternative following the formal DEIS comment period.

As described in the DEIS, the proposed D-O LRT Project development and evaluation process responds to the requirements of NEPA, the FAST Act, and the FTA New Starts processes.

The USEPA published the Notice of Availability for the D-O LRT Project's DEIS in the Federal Register on Friday, August 28, 2015, thus beginning the formal 45-day public review and comment period. Distribution of the DEIS to local, regional, state, federal agencies, interested and affected parties, as well as the public provided opportunity for review and comment. The review and comment period ended on October 13, 2015. Triangle Transit held two public hearings on September 29 and October 1, 2015, where verbal and written comments could be made regarding the DEIS.

No substantive comments received on the DEIS resulted in changes to the NEPA Preferred Alternative. The Durham-Chapel Hill-Carrboro Metropolitan Planning Organization (DCHC MPO) and the local jurisdictions (City/County of Durham, Orange County, and the Town of Chapel Hill) endorsed the NEPA Preferred Alternative after reviewing the DEIS and/or the associated comments (appendix G). Additionally, no substantive comments raised new circumstances or new information relevant to environmental or safety concerns that would change the selection of the NEPA Preferred Alternative.

1.2.1 Purpose and Need

As explained in chapter 1 of the DEIS (appendix I), the purpose of the proposed D-O LRT Project is to provide a high-capacity transit service located within the D-O Corridor, between Chapel Hill and Durham, along the North Carolina (NC) 54, Interstate 40 (I-40), United States (US) 15-501, Erwin Road, and NC 147 transportation corridors, that improves mobility, increases connectivity through expanding transit options, and supports future development plans. The needs of the project are presented in chapter 1 of the DEIS (appendix I).

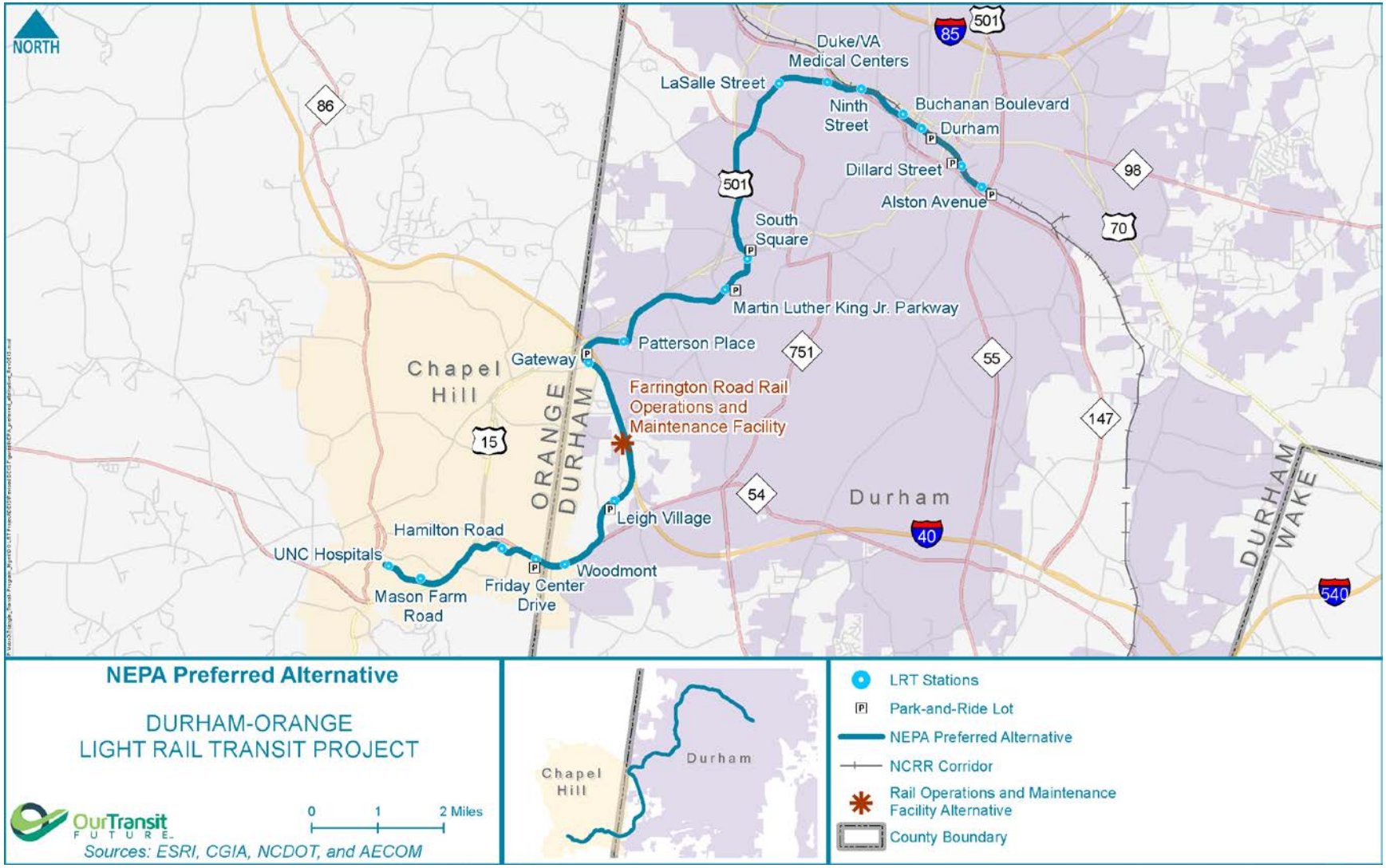
As described in chapter 2 of the DEIS (appendix I), the No Build Alternative serves as the basis of comparison for the NEPA Preferred Alternative.

The NEPA Preferred Alternative includes the C2A alternative crossing Little Creek, the NHC 2 alternative crossing New Hope Creek, Trent/Flowers Drive alternative for the Duke/VA Medical Centers Station, and the Farrington Road Rail Operations and Maintenance Facility (ROMF) alternative. **Figure FEIS-1** depicts the NEPA Preferred Alternative.

DEIS Table 8.1-1 (appendix I) summarizes the effectiveness of the NEPA Preferred Alternative in addressing the project needs using need criteria.

The NEPA Preferred Alternative would be highly effective at meeting four of the five project need criteria, and effective at meeting the fifth project need criteria.

Figure FEIS-1: NEPA Preferred Alternative



1.2.2 Comparison of Transportation and Environmental Consequences

This section discusses the potential transportation and environmental consequences of the NEPA Preferred Alternative as compared to the No Build Alternative.

Additionally, the NEPA Preferred Alternative in comparison to the Project Element Alternatives is discussed in section 2.2.2.2.1 including comments received.

1.2.2.1 No Build Alternative

The No Build Alternative serves as the basis for comparing the travel benefits and environmental impacts of the NEPA Preferred Alternative. The No Build Alternative includes existing and planned transit services; highway, bicycle, pedestrian, and transit facilities; and railroad improvements that are proposed to exist in 2040 and are included in the fiscally constrained Long Range Transportation Plan (LRTP) adopted by the DCHC MPO, known locally as the 2040 Metropolitan Transportation Plan (MTP). The No Build Alternative excludes only the proposed rail transit improvements and related bus transit modifications. No major transit investment is proposed in the D-O Corridor in the No Build Alternative. The transportation improvements included in the No Build Alternative are listed in chapter 2 of the DEIS (appendix I).

1.2.2.2 NEPA Preferred Alternative

Table FEIS-1 includes a summary of analysis results.

All of the proposed highway, transit, bicycle, pedestrian, and railroad projects included in the No Build Alternative are assumed to be built and in operation as scheduled in the MTP, with a subset of transportation projects that will be operational at the time the proposed D-O LRT Project is scheduled to begin revenue service (2026).

The effects of the NEPA Preferred Alternative on transportation and the environment would differ substantially from the No Build Alternative. The NEPA Preferred Alternative would introduce a new high-capacity light rail line that would improve mobility and accessibility within the D-O Corridor. Both Durham and Orange counties have included the light rail line in the D-O Corridor as a key component of their respective land use and transportation plans for more than a decade.

Differentiating impacts and benefits of the No Build and NEPA Preferred Alternative are described in the following sections.

Table FEIS-1: D-O LRT Project NEPA Preferred Alternative's Benefits and Consequences Matrix

Factor	No Build Alternative	NEPA Preferred Alternative
Project Features		
Light rail stations	N/A	17
Light rail vehicles	N/A	17
Light rail park and ride locations	N/A	8
Light rail park and ride spaces	N/A	5,100
Light rail maintenance facilities	0	1 Rail Operations Maintenance Facility (Farrington ROMF) ~25 acres
Transportation		
Forecasted average weekday light rail boardings in 2040	-	23,020
Forecasted average weekday corridor bus boardings in 2040	20,240	16,990
Forecasted average weekday corridor total boardings in 2040	20,240	40,010
Travel time	Varies	42 to 44 minutes from end-to-end
Pedestrian and bicycle facility crossings	0	80
Pedestrian and bicycle at-grade crossings	0	48
Parking spaces impacted (after mitigation)	0	545
Land Use and Zoning		
Consistency with local planning efforts	Not consistent with local planning efforts	Alignment and station locations consistent with local planning efforts; however Farrington Road ROMF is not consistent with local planning efforts
Socio-economic and Demographic Conditions		
Station area population 2040	NA	53,000
Station area employment 2040	NA	119,100
Change in On-Site Employment at ROMF	N/A	+85 to +175
Neighborhoods and Community Resources		
Neighborhoods and Community Resources	N/A	Impacts to access, mobility, and community resources Farrington Road ROMF: removal of six single-family homes, access modification to Patterson's Mill Country Store and acquisition of a portion of the parcel
Visual and Aesthetic Considerations		
#1 University (UNC Campus Area)	N/A	Moderate
#2 Mixed use/ Institutional (East Chapel Hill)	N/A	Low - Moderate
#3 Natural (East Chapel Hill)	N/A	Moderate
#4 Interstate (Leigh Village)	N/A	Moderate

Table FEIS-1: D-O LRT Project NEPA Preferred Alternative's Benefits and Consequences Matrix

Factor	No Build Alternative	NEPA Preferred Alternative
#5 Suburban Commercial (US 15-501 Corridor)	N/A	Moderate - High
#6 Recreational (Duke West Campus)	N/A	Moderate
#7 University (Duke West Campus)	N/A	Low - Moderate
#8 Historic/Emerging Urban (Old West Durham/Duke East Campus)	N/A	Moderate
#9 Downtown Urban (Downtown Durham)	N/A	Low
#10 Urban Industrial (East Durham)	N/A	Low - Moderate
Cultural, Historic, and Archaeological Resources		
Adversely Affected Historic properties	N/A	0
Parklands		
Parklands (acres)*	N/A	13.4*
Natural Resources		
Biotic Resources (acres)	N/A	316
Bottomland	N/A	4
Alluvial	N/A	4
Mesic Mixed	N/A	88
Maintained/Disturbed	N/A	220
Water Resources		
Streams (linear feet)	N/A	3,413
Riparian Zone 1 (square feet)	N/A	216,455
Riparian Zone 2 (square feet)	N/A	178,517
Wetland (acres)	N/A	0.56
Ponds (acres)	N/A	Less than 0.1
Floodplain 100-year (acres)	N/A	6.42
Floodway (acres)	N/A	0.88
Air Quality		
Air quality	All modeled concentrations are below the NAAQS	
Noise and Vibration		
Noise impacts	N/A	5
Vibration impacts	N/A	8
Ground-borne noise impacts	N/A	13
Hazardous, Contaminated, and Regulated Materials		
High risk sites	N/A	41
Medium risk sites	N/A	83

Table FEIS-1: D-O LRT Project NEPA Preferred Alternative's Benefits and Consequences Matrix

Factor	No Build Alternative	NEPA Preferred Alternative
Energy		
Annual transportation-related energy consumption (BTUs billions)	137,051	136,968
Safety and Security		
Safety and Security	N/A	Minimal impacts anticipated
Acquisitions, Relocations, and Displacements		
Full acquisitions	N/A	92
Partial acquisitions	N/A	138
Relocations/Displacements	N/A	65
Utilities		
Utility impacts	N/A	85 miles of utility lines; 1 cell tower at Farrington Road ROMF
Construction		
Construction impacts	N/A	Will generally result in temporary impacts to many of the resource topics discussed throughout this table

Note: *5.6 acres of the total parkland impacts listed for the NEPA Preferred Alternative is to private parklands, owned by Duke University.

Source: D-O LRT Project DEIS, 2015 (appendix I)

Differentiating Impacts and Benefits of the NEPA Preferred Alternative

Differentiating benefits of the NEPA Preferred Alternative, compared to the No Build Alternative and Project Element Alternatives evaluated in the DEIS based on the purpose and need, include:

- **Enhances mobility**
  - Adds new, high-capacity transit infrastructure
  - Provides a competitive, reliable alternative to automobile use
  - Substantially improves and expand transit access for transit-dependent persons by increasing transit frequency and coverage, and providing a new, high-capacity, transit alternative
  - Increases transit operating efficiency between existing and planned activity centers by offering a competitive, reliable transportation solution that maintains or improves travel time, and is not affected by increases in roadway congestion.
- **Increases Connectivity**
  - Expands transportation options between Durham and Chapel Hill within the D-O Corridor
  - Complements existing and planned transportation systems, plans, and infrastructure
  - Develops a seamless interface with other local and regional transit systems
  - Increases convenience and accessibility of transit service for employment and non-employment trips
  - Serves regional trips as well as trips between major activity centers (e.g., the University of North Carolina at Chapel Hill (UNC), east Chapel Hill, US 15-501 Corridor, Duke West Campus, Duke and Durham Veterans Affairs (VA) Medical Centers, Duke East Campus, downtown Durham and east Durham) unconstrained by traffic conditions
- **Promotes Future Development**
  - Develops transit investments that help focus compact development near activity centers
  - Maximizes the potential for economic development
  - Consistent with regional and local land use plans and policies
  - Avoids or minimizes impacts to the natural and built environment, particularly historic properties and parklands. Maintains or improves regional and corridor air quality, uses less energy, and provides health benefits
  - Uses or parallels existing transportation rights-of-way to avoid or minimize impacts to the natural and built environments such as the Upper Little Creek Waterfowl Impoundment, the Jordan Game Lands, the US 15-501 and NHC Bottomlands, and businesses along US 15-501 and in downtown Durham. While there will be more impacts compared to the No Build Alternative, there will also be more benefits
- **Has most consistency with local land use plans and policies.** In earlier transportation planning studies, portions of the NEPA Preferred Alternative were identified as the preferred corridor for high capacity transit and the areas around the proposed Friday Center, Woodmont, Leigh Village, Patterson Place, Martin Luther King Jr. Parkway, South Square, Duke/VA Medical Centers Trent/Flowers Drive, Ninth Street, and Alston Avenue Stations were identified for future growth. The No Build Alternative is not consistent with local land use plans and policies.

- **Has the most stakeholder support following the NOA for the DEIS including:**
  - USACE: concurs that the NEPA Preferred Alternative through Little Creek would have a *de minimis* impact
  - U.S. Department of Veteran Affairs (VA): supports the NEPA Preferred Alternative as it will provide veterans, families, and staff with dependable, cost-effective access to the Durham VA Medical Center
  - USEPA: supports the purpose and need and detailed study alternatives
  - DCHC MPO: endorses the NEPA Preferred Alternative
  - Durham County: endorses the NEPA Preferred Alternative
  - City of Durham: endorses the NEPA Preferred Alternative
  - Town of Chapel Hill: adopted a resolution endorsing the NEPA Preferred Alternative
  - Town of Carrboro: endorses the NEPA Preferred Alternative
  - North Carolina Railroad Company: supports the use of NCRR property along Pettigrew Street in Durham through a lease agreement for the purpose of construction, operation and maintenance of D-O LRT Project.
- **Received moderate support from the public during the DEIS public comment period.**

DEIS General Comments Received

The project as a whole received general support. Generally, stakeholders and the public continue to support the NEPA Preferred Alternative based on the comments received during comment period. However, this support is coupled with some project opposition expressed as concern over the projected capital cost of the project, the perception that ridership could be substantially lower than projected to justify a significant capital improvement, public concerns on the adopted future land use plans and policies, and localized safety concerns regarding at- grade light rail crossings, and safety concerns regarding the ROMF. Public comments did not indicate any Environmental Justice concerns that remain unresolved.

The FEIS includes clarifications to the DEIS by errata to address the concerns that were raised during the comment period.

Differentiating impacts of the NEPA Preferred Alternative's project element alternatives, as compared with the No Build Alternative, include:

NEPA Preferred Alternative: C2A Alternative (Little Creek Crossing)

Compared to the No Build Alternative and Project Element Alternatives evaluated in the DEIS, the C2A Alternative:

- **Supports Land Use Plans and Policies**: This alternative is consistent with local land use plans and policies. In earlier transportation planning studies, portions of the C2A Alternative were identified as the preferred corridor for high capacity transit and the areas around the proposed Friday Center Drive and Woodmont Stations were identified for future growth. The No Build Alternative is not consistent with local land use plans and policies.
- **Minimizes Impacts to Public Parklands**: Impacts to two parks with use of approximately 0.3 acre of land. This includes impacts to Finley Golf Course (0.1 acre) and USACE's Jordan Game Lands (0.2 acre). Within USACE owned property, an existing improved transportation corridor would be utilized. Triangle Transit has coordinated with both USACE and UNC and involved them in the development of the C2A alternative. The C2A Alternative also avoids impacts to existing Town of Chapel Hill public park and recreation facilities, Meadowmont Park and Little Creek Trail. The No Build Alternative

would have no impacts to public parklands.

- **Avoids Fragmentation of Natural Heritage Area**: Minimizes adverse impacts to the Little Creek Bottomlands and Slopes Significant Natural Heritage Area by using a parallel existing transportation corridor, so no new fragmentation of these sensitive resources would occur. The No Build Alternative would have no impacts to Natural Heritage Area.
- **Minimizes Vibration Impacts**: A single residence on George King Road would experience impacts from vibration and ground-borne noise impacts. The No Build alternative would have no vibration impacts.
- **Moderates Property Acquisitions and Displacements**: The fewest acquisitions would occur with the C2A alternative as compared to the other alternatives evaluated in the DEIS, but more than under the No Build Alternative, which would have no acquisitions.

C2A Alternative DEIS General Comments Received

As a whole, the project received general support during the 45-day comment period. However, several citizens have expressed concern about the safety of the proposed at-grade light rail crossing at Littlejohn Road and Downing Creek Parkway (within the C2A alternative). USACE, USEPA, and local agency comments are supportive of the C2A alternative. Triangle Transit has clarified its commitment to continue coordination with the Downing Creek neighborhood in the errata (see errata #36 of Table FEIS-1.

NEPA Preferred Alternative: NHC 2 Alternative (New Hope Creek Crossing)

Compared to the No Build Alternative and Project Element Alternatives evaluated in the DEIS, the NHC 2 Alternative:

- **Minimizes Total Impacts to Natural Resources**: The NHC 2 alternative is located within NCDOT right-of-way adjacent to the existing US 15-501 bridge over New Hope Creek. It avoids dividing the US 15-501 and New Hope Creek Bottomlands and has the least overall impact to biotic resources, but would have more impacts than under the No Build Alternative, which would have none.

However, light rail operations are less likely to disturb wildlife within the forested areas in the US 15-501 and New Hope Creek Bottomlands than the other alternatives considered in the DEIS. The NHC 2 alternative would not fragment habitats; although, as the NHC 2 alternative bridges Sandy Creek it may disturb wildlife.

- **Moderates Impacts to Water Resources**: The NHC 2 alternative would result in some impacts to streams and riparian zones, which would be greater than the No Build Alternative, which would result in no impacts.
- **Minimizes Impacts to Public Parklands**: The NHC 2 alternative would avoid crossing the existing New Hope Creek Preserve Trail. The NHC 2 alternative would cross over, on a bridge, the planned New Hope Creek Trail. It would cross the planned New Hope Creek Trail within the right-of-way for US 15-501 and lessen the potential for adverse impacts on trail users. The No Build Alternative would not impact public parklands.
- **Moderates Visual Impacts**: Would result in substantial visual impact to residents along US 15-501 west of Garrett Road. However, by passing behind businesses along US 15-501, there would be less visual impacts to the businesses east of Garrett Road than

the other DEIS alternatives, with the exception of the No Build Alternative, which would have none.

- **Moderates Property Acquisitions and Displacements**: Would require some property acquisitions and displacements, which would be greater than the No Build Alternative, but less than the other alternatives presented in the DEIS.

NHC 2 Alternative DEIS General Comments Received

While general comments regarding visual impacts and impacts to water resources were received project-wide, the NHC 2 alignment alternative demonstrates stakeholder and public support, based on comments received from the public, the USEPA, and local municipalities.

Duke/VA Medical Centers Station – Trent/Flowers Drive Alternative

- **More Supportive of Land Use Plans**: Duke University's *Illustrative Master Plan Update* (2010) calls for the development of a pedestrian corridor on the east side of Emergency Drive, one block from the Duke/VA Medical Centers Station - Trent/Flowers Drive Alternative. The No Build Alternative would not be supportive of these land use plans.

Duke/VA Medical Centers Station - Trent/Flowers Drive Alternative DEIS General Comments Received

Based on comments that were received on the Duke/VA Medical Centers Station - Trent/Flowers Drive Alternative, there is general support for the Duke/VA Medical Centers Station - Trent/Flowers Drive Alternative, including endorsement from the U.S. Department of Veteran Affairs and Duke University.

Farrington Road ROMF Alternative

The Farrington Road ROMF Alternative site is the most desirable from a construction and operations standpoint. It is a 25-acre site, the largest site of the alternatives considered, and the lowest cost compared to the other sites that were evaluated. The Farrington Road ROMF site is located on a long straight section of track, which accommodates crossovers for access to the yard. The site is reasonably flat making preparation of the site for construction easier. Effective screening buffers can be provided around the site. Compared to the Project Element Alternatives evaluated in the DEIS, the Farrington Road ROMF Alternative:

- **Requires Changes to Land Use Plans**: This site is designated as Commercial and Office on the Durham Future Land Use Map and is currently zoned suburban residential. This site would require rezoning and an amendment to the comprehensive plan.
- **Moderates Visual Impacts**: The Farrington Road ROMF would have visual impacts to residences. However, because it is the largest of the sites evaluated, it has more space on the site to install screening to mitigate visual impacts.
- **Avoids Adverse Effects to Historic Resources**: There would be no adverse effects to historic resources.
- **Moderates Impacts to Sensitive Natural Resources**: The Farrington Road ROMF would have the fewest impacted acres of alluvial and mesic mixed forests.
- **Moderates Impacts to Water Resources**: Would result in the least impact to floodplains, floodways, and ponds, but would have the largest impact to streams, stream buffers, wetlands and riparian zones.
- **Avoids Potentially High Risk and Medium Risk Properties for Hazardous, Contaminated, Regulated Materials**: No sites were identified at this location.

- **Moderates Property Acquisitions and Displacements**: Would require some property acquisitions. Would require some tenant relocations.

Farrington Road ROMF DEIS General Comments Received

A number of comments received throughout the DEIS public involvement encouraged the selection of another alternative. Public comment expressed concern regarding the location of the Farrington Road ROMF site selection based on several localized common comment threads. Some of the public is concerned about effects to local community character, noise, safety and security, hazardous materials handling, and surface waters and groundwater, as well as land use changes that would be required based on its current zoning classification of suburban residential.

Through errata Triangle Transit emphasizes the continued coordination with the Farrington Road ROMF neighborhoods during the Engineering phase and clarified the mitigation for the ROMF (errata #78).

Recommendation

The DEIS showed that the NEPA Preferred Alternative would achieve the Purpose and Need, performs effectively in terms of project goals and objectives, and would represent the least environmentally damaging practicable alternative as compared with the Project Element Alternatives considered in the DEIS.

While substantive comments received during the public comment period raised points of information, clarification, or correction, comments received during the public comment period did not result in new information, additional analyses, or a change from the selection of the NEPA Preferred Alternative.

1.3 Public Outreach since the Release of the DEIS

1.3.1 Notice of Availability

A Notice of Availability (NOA) for the DEIS was published on August 28, 2015, in the Federal Register. The NOA informed interested parties that the DEIS for the D-O LRT Project was available for public review. This publication initiated a 45-day comment period intended to encourage participation from the public through their review and input on the findings presented in the DEIS. The NOA announced two public information sessions and two public hearings, and invited comments through multiple means. Comments on the DEIS could be provided via the following:

- By **email** to info@ourtransitfuture.com
- By **postal mail** to D-O LRT Project – DEIS, c/o Triangle Transit, P.O. Box 530, Morrisville, NC 27560
- By **comment card** at two public information sessions:
  - Tuesday, September 15, 2015, from 4 p.m. to 7 p.m. at The Friday Center, 100 Friday Center Drive, Chapel Hill
  - Saturday, September 19, 2015, from 2 p.m. to 5 p.m. at Durham Station, 515 W. Pettigrew Street, Durham
- Through the D-O LRT Project's **website**: http://ourtransitfuture.com.
- In-person during two **public hearings** in Chapel Hill and Durham:
  - Tuesday, September 29, 2015, at The Friday Center, 100 Friday Center Drive, Chapel Hill
  - Thursday, October 1, 2015, at the Durham County Commissioners' Chamber, 200 East Main Street, Old Courthouse – Second Floor, Durham

Following the publication of the NOA, the DEIS was made available in public libraries in Orange and Durham counties, on the project website, www.ourtransitfuture.com, at select Durham and Orange County Administrative offices, and at the Triangle Transit Administrative office. A summary of these locations is listed in **DEIS appendix D**. Digital copies of the DEIS were also distributed to agencies and stakeholders for their review. The list of agencies and entities that received the DEIS are included in **DEIS appendix D**.

1.3.2 2015 Public Open Houses

In September 2015, Triangle Transit hosted two public information sessions to engage the public during the 45-day comment period. These meetings were focused on providing public access to professional staff to help answer questions and offer guidance on how to review and comment on the he DEIS. Materials made available included copies of the DEIS and appendices, a project and DEIS overview video presentation, and various exhibits. The exhibits, handouts, comments, and forms available at the public information sessions and a list of participants who signed in are included in **appendix C**.

Outcomes: The public engaged with professional staff and were given opportunities to get clarification on the information presented in the DEIS.

A total of 147 individuals attended at least one of the public information sessions. A summary of the attendees at each meeting is provided in **appendix C**.

1.3.3 2015 Public Hearings

The Council on Environmental Quality (CEQ) regulation (40 C.F.R. § 1506.6) defines the Public Involvement requirements that must be upheld to satisfy the requirements of the NEPA process. This regulation states that if a draft environmental impact statement is to be considered at a public hearing the agency should make the statement available to the public at least 15 days in advance (unless the purpose of the hearing is to provide information for the draft environmental impact statement). The NOA for the D-O LRT Project was published on

August 28, 2015, and on September 29, 2015, and October 1, 2015, Triangle Transit held public hearings to allow the public to submit verbal comments on the findings presented in the DEIS.

During the hearings, project materials were made available including the DEIS with appendices, exhibits, and a project and DEIS overview video presentation. Upon arrival, attendees were given the opportunity to sign up to speak and provide verbal comments. All exhibits, sign-in forms, and speaker registration cards provided at the meeting can be found in **appendix C**.

Outcomes: 90 attendees provided verbal comments on the D-O LRT Project DEIS.

A total of 333 individuals attended at least one of the two public hearings. Of these attendees, there were 90 speakers who provided verbal comments.

1.3.4 Continuous Engagement

Throughout the 45-day comment period, Triangle Transit received more than 1,300 comments from various citizens, stakeholders, and agencies. In an effort to remain transparent and responsive to the public during the public comment period, Triangle Transit provided a Frequently Asked Questions (FAQ) page on the project website to help publicly address common questions and concerns as they were received. The FAQ page was organized by topic and allowed the public to see answers to common questions or comments received.

Triangle Transit announced the availability of the DEIS and public meetings and hearings through various media channels including newsprint and radio. The full list of advertisements is provided in **appendix C**. In addition to media placements, Triangle Transit also sent the project updates electronically to members of the public who provided email addresses at previous public meetings or are current Triangle Transit riders. The digital project updates and email list are available in **appendix C**.

1.3.5 Limited English Proficiency (LEP) Communities

As part of the DEIS public comment period outreach efforts, Triangle Transit hosted a Spanish language hotline for the Spanish speaking public to make comments on the DEIS. Additionally, Spanish interpreters were available at the public information sessions and public hearings. Finally, a Spanish language website was created for the project and materials were available in both English and Spanish to ensure equal opportunity and access for LEP populations. These materials included the following:

- DEIS Executive Summary
- Frequently Asked Questions
- Project Fact Sheet
- Public Comment Card

Comments were received from Spanish speakers during the comment period and are included in appendices F and H.

1.4 DEIS Errata Sheets

The DEIS errata sheets document changes that have been made to the DEIS issued August 28, 2015, that are now reflected in the Final Environmental Impact Statement/ Record of Decision (FEIS/ROD). The DEIS is included as **appendix I**.

Table FEIS-2: DEIS Errata Sheet

Row #	Chapter	Page	Column (left, middle, right)	Location	Action Taken
1	Throughout			Throughout	Replaced “NCDENR” with “NCDEQ” throughout the FEIS to reflect the change in the department name.
2	Abstract	IV	Single Column Section	4th line of Abstract	Fixed typo by changing “cities” to “municipalities”
3	Abstract	VI	Single Column Section	4th line of Chapter 2 heading	Fixed typo by changing “schema” to “scheme”
4	Executive Summary	ES-6	Middle Column	Last paragraph	Fixed typo by adding “as” to “The AA identified the LPA *as* the most promising alternative for further analysis.”
5	Executive Summary	ES-8	Middle Column	First paragraph	Fixed typo by changing “These Build Alternatives” to “The Build Alternatives”
6	Executive Summary	ES-10	Figure ES-3	In graphic and in legend	Fixed typo by changing “Trent/Flowers" station label to "Duke/VA Medical Centers" and corrected spelling of “Facility” in legend
7	Executive Summary	ES-11	Right Column	Patterson Place to Martin Luther King Jr. Parkway figure	Replaced Patterson Place to Martin Luther King Jr. Parkway figure
8	Executive Summary	ES-15	Middle Column	7th line	Fixed typo by changing “schema” to “scheme”
9	Executive Summary/Chapter 2	ES-17/ 2-38	Middle Column/ Table 2.3-1	Figure at bottom of page Durham Station figure	In figure, for further clarification replaced “55’-0” minimum” with “40’-0” minimum potential future track, 55’-0” minimum existing track”.
10	Executive Summary	ES-18	Table ES-1	Project Element Alternatives in Roadways row	Edited for clarity “one less adversely impacted intersection” to “one less intersection would experience an adverse traffic impact”
11	Executive Summary/Chapter 4	ES-19/4-5	Table ES-1/ Table 4.0-1	NEPA Preferred Alternative in Land Use row	Changed “NHC LPA Alternative would be more consistent with transportation plans” to “NHC LPA Alternative is somewhat consistent with Durham Comprehensive Plan”
12	Executive Summary/ Chapter 4	ES-21/4-6	Table ES-1/ Table 4.0-1	Third bullet of Project Element Alternatives	Fixed typo by changing “Levine” to “Levin”
13	Executive Summary	ES-22	Table ES-1	Second bullet of NEPA Preferred Alternative	Edited for clarity “Indirect impacts” to “Direct effects” and added “(no adverse effect)” at end of bullet

Table FEIS-2: DEIS Errata Sheet

Row #	Chapter	Page	Column (left, middle, right)	Location	Action Taken
14	Executive Summary	ES-27	Table ES-1	NEPA Preferred Alternative in Energy row	Added for clarity "(from transportation)" and "for the Triangle Region"
15	Executive Summary	ES-30	Left Column	Second bullet	Fixed typo by changing "an" to "and"
16	Chapter 1	1-1	Right Column	Last paragraph	Added clarification "Per industry standards, Triangle Transit hired a consultant (AECOM) to provide independent environmental review of the project."
17	Chapter 1	1-3	Right Column	Last paragraph of section 1.1	Added clarification to the Research Triangle region section "Wake County is also planning for transit by evaluating future potential transit corridors in the Wake County Transit Plan."
18	Chapter 1	1-5	Right Column	Last paragraph	Corrected sentence "In 2007, UNC had just over 28,000 students and by 2017 total enrollment is projected to reach 33,000 students, a net increase of 18 percent" to "In 2007, UNC had just over 28,000 students and as of January 2015, total enrollment topped 29,000 students, an increase of about four percent."
19	Chapter 1	1-10	Left Column	After first paragraph of Existing Transit Network	Added clarification to the Existing Transit Network section "Within the D-O Corridor, transit use already rivals larger municipalities. For example, when Chapel Hill Transit, Durham Area Transit Authority, Duke University Transit, and Triangle Transit riders are counted together, approximately 70,000 transit trips occur every weekday within and between Chapel Hill and Durham. This level of ridership is comparable to the roughly 73,000 daily transit trips taken in Charlotte in 2006, the year before the LYNX Blue Line Light Rail Transit Line opened."
20	Chapter 1	1-20	Left Column	First paragraph of section 1.5.2.2	Clarified Orange County description by including "south Carrboro, and in northern Chapel Hill (near the I-40 corridor)" and "area surrounding Duke, Duke Medical Center, the Durham VA Medical Center, and the areas south of NCCU, north of I-85 between US 501 and US 501 Business, and north of NC 98 and west of US 70" is included in the Durham County description.
21	Chapter 2	2-14	Middle Column	ROMF section first paragraph	Added clarification to the ROMF section "The ROMF would not include a car body repair or a paint shop. These functions would be performed off site as needed."

Table FEIS-2: DEIS Errata Sheet

Row #	Chapter	Page	Column (left, middle, right)	Location	Action Taken
22	Chapter 2	2-14	Middle Column	ROMF section second paragraph	Added clarification to the ROMF section "During the Alternatives Analysis, 16 additional potential ROMF sites, several of which were suggested by the public, were analyzed for the D-O LRT Project. None of these sites met the criteria necessary to move forward for further study."
23	Chapter 2 and 3	2-19/ 3-18	Right Column/ Right Column	First paragraph in section 2.3.2/ Mitigation Measures section	Added clarification to the NEPA Preferred and Project Element Alternatives section "Roadway modifications as part of the D-O LRT Project were included in the project footprint and discussed in the environmental analysis and mitigation."
24	Chapter 2	2-20	Middle Column	End of paragraph before blue call out box	Added clarification to the Light Rail Technology section "Bicycles will be allowed on board the light rail vehicles (LRVs). At this time, Triangle Transit expects that each LRV will have capacity for four bicycles. Trains will run initially as either single-vehicle or two-vehicle trains, so each train would have capacity for either four or eight bicycles. Operational decisions about the use of space in the LRV will be made during the Engineering Phase."
25	Chapter 2	2-28	Right Column	End of paragraph before bullet	Added clarification to the Alignment of the NEPA Preferred Alternative section "The alignment of the NEPA Preferred Alternative would not preclude future extensions; however, extensions are not a part of this project."
26	Chapter 2	2-29	Figure 2.3-6	In graphic and in legend	Fixed typo by changing "Trent/Flowers" station label to "Duke/VA Medical Centers" and corrected spelling of "Facility" in legend
27	Chapter 2	2-43	Table 2.3-2	Martin Luther King Jr. Parkway Station	Added "Park-and-ride" to Access Type and "Center" to Platform Type
28	Chapter 2	2-46	Right Column	Below last paragraph in section 2.4.3	Added "Bus service at the Mason Farm Road Station may be considered in the future or for special events."
29	Chapter 3	3-2	Table 3.0-1	Project Element Alternatives Roadways factor	Changed "one less intersection would be adverse traffic impacted" to "one less intersection would experience an adverse traffic impact"
30	Chapter 3	3-8	Middle Column	Methodology subsection	Added explanation in the Methodology section "It should be noted that the regional model was utilized and is regional in nature, and minor changes to inputs (travel speeds or times, number of residents or employees, etc) do not always lead to changes in the output (ridership, travel times, etc) for specific projects like the D-O LRT Project."

Table FEIS-2: DEIS Errata Sheet

Row #	Chapter	Page	Column (left, middle, right)	Location	Action Taken
31	Chapter 3	3-12	Middle Column	In GoPass section	Added clarification in GoPass section "At UNC, the GoPass is available to UNC employees and students who are members of the Commuter Alternative Program. The pass is restricted to commuting trips to and from the UNC campus."
32	Chapter 3	3-13	Right Column	Last paragraph of Travel Times section	Added explanation in Travel Time section "Travel demand modeling was updated for the DEIS, which resulted in a travel time that increased since the AA."
33	Chapter 3	3-14	Left Column	Second sentence of first paragraph after bullets in Ridership Forecasts section	Added explanation in Ridership Forecasts section ", an increase of approximately 11,000 over the 2035 numbers reported in the AA, due in part to the change in forecast year as well as other changes in projected demographic data."
34	Chapter 3	3-14	Right Column	End of last paragraph	Added clarification in Mitigation Measures section "The proposed D-O LRT Project's fares will likely be comparable to the bus fares that are in effect at that time."
35	Chapter 3	3-33	Table 3.2-3	Top Row (Mangum Street at Main Street)	Shaded the P.M. cell of the 2040 NEPA Preferred Alternative.
36	Chapter 3	3-35	Right Column	End of first paragraph	Added clarification in the Environmental Consequences section "To avoid the potential of incidents at at-grade intersections, crossings would be signalized or equipped with gates and bells to warn of oncoming trains. The trains will also have bells and horns. Bells, gates, and horns would be activated according to Triangle Transit operating procedures and safety guidelines in close coordination with NCDOT (and NCRR and Norfolk Southern, as appropriate). Triangle Transit will also coordinate with surrounding neighborhoods on safety at at-grade intersections."
37	Chapter 3	3-42	Right Column	Top paragraph	Added note in the UNC/NC 54 section that "Triangle Transit will coordinate with UNC regarding impacts from the Mason Farm Road Station and parking lot reconstruction on pedestrian movements and adjacent undeveloped land."
38	Chapter 3	3-42	Right Column	Second paragraph	Added explanation in the UNC/NC 54 section "Detailed traffic analysis of potential impacts to the ingress/egress movements for the three parking decks and circulation on nearby roadways will be studied further in Engineering."

Table FEIS-2: DEIS Errata Sheet

Row #	Chapter	Page	Column (left, middle, right)	Location	Action Taken
39	Chapter 3	3-50	Right Column	Top	Modified text to add DCHC MPO and municipalities "During Engineering, Triangle Transit will continue to coordinate with the NCDOT, *DCHC MPO, and municipalities* as the designs of these projects advance."
40	Chapter 3	3-52	Left Column	Above last paragraph	Added clarification in the Erwin Road section that "During Engineering, Triangle Transit will coordinate with the City of Durham to address roadway impacts resulting from the conversion of driveways on Erwin Road to right-in/right-out, including impacts on the Crest Street neighborhood."
41	Chapter 3	3-51	Right Column	End of section 3.2.4.2	Added clarification in the US 15-501 section "A surface lot is currently proposed at the Gateway Station. Triangle Transit will consider structured parking at stations when and if approached by public/private developers."
42	Chapter 3	3-59	Middle Column	Section 3.3.4	Added clarification in the Mitigation Measures section that "Triangle Transit will coordinate with all entities, including UNC, Duke/VA Medical Centers, Aldersgate Methodist Church, and other affected property owners, regarding temporary or permanent loss of parking and to provide assistance with the identification of potential replacement parking where viable."
43	Chapter 3	3-61	Middle Column	Affected Environment section	Corrected sentence to reads "Railroad operations occur on the single mainline track through downtown Durham with NS freight operations and Amtrak daily passenger service through Durham."
44	Chapter 3	3-61	Right Column	Freight Railroads section	Corrected to read "Under a lease agreement" to "Under an operating and maintenance agreement"
45	Chapter 3	3-65	Right Column	Section 3.4.4.1	Added clarification in the NEPA Preferred Alternative section "The NEPA Preferred Alternative would impact the proposed project of grade-separating the existing NCRR Corridor at Blackwell and Mangum Streets. However, this proposed project, which is separate from the D-O LRT Project, has not been funded and is unlikely to be implemented according to the NCDOT Rail Division and the DCHC MPO. Triangle Transit will continue coordination with the NCDOT Rail Division and the DCHC MPO during Engineering."
46	Chapter 3	3-73	Middle Column	End of Bicycle Parking section	Added clarification in the Bicycle Parking section stating that "Station plans would not preclude a bike share program in the future."

Table FEIS-2: DEIS Errata Sheet

Row #	Chapter	Page	Column (left, middle, right)	Location	Action Taken
47	Chapter 3	3-73	Middle Column	End of first paragraph in Pedestrian and Bicycle Connections section	Added clarification in the Pedestrian and Bicycle Connections section "Often walking and bicycling are the most common modes for the first and last mile of a transit trip."
48	Chapter 3	3-73	Right Column	End of last paragraph	Added clarification in the Pedestrian and Bicycle Connections section "The existing pedestrian connection between the Durham Station and Amtrak Station will be maintained."
49	Chapter 4	TOC	Left Column	List of Tables	Fixed typo by adding Table 4.01 and 4.02 to the List of Tables
50	Chapter 4	4-7	Table 4.0-1	Both bullets of NEPA Preferred Alternative	Corrected text from "Preliminary determination of no adverse effects" to "Preliminary determination of no effect on 13 of 25 architectural historic properties within APE" and changed "Indirect impacts to 13 of 25 architectural historic properties within APE" to "Preliminary determination of no adverse effect on other 12 of 25 architectural historic properties within APE"
51	Chapter 4	4-15	Table 4.0-2	Visual and Aesthetic Conditions section	Corrected typo from " low visual impact" to "overall moderate visual impact" to match Table 4.4-7, line 2
52	Chapter 4	4-18	Table 4.0-2	Noise and Vibration row of NEPA Preferred Alternative	Removed both bullets, replaced with "No noise and vibration impacts identified at NEPA Preferred (Farrington Road) ROMF site or at other Project Element ROMF sites."
53	Chapter 4	4-20	Middle Column	Affected Environment section	Added "suburban" to first sentence
54	Chapter 4	4-21	Middle Column	UNC Campus section	Corrected number from "a 24,000-seat" with "21,750-seat" and added "Chapel Hill Transit (CHT) provides direct access from park-and-ride lots to the Smith Center."
55	Chapter 4	4-22	Left Column	Above Leigh Village section	Added clarification in the East Chapel Hill section "The Eastwood Park (Celeste Circle) neighborhood, east of Woodmont, is approximately 45 single-family homes on wooded lots built in the 1960s."
56	Chapter 4	4-22	Middle Column	Last sentence in the paragraph under Leigh Village section	Added "Other neighborhoods in the Leigh Village area include Woodland Acres, Trenton Road Estates, and Palladian Place Apartments."
57	Chapter 4	4-22	Middle Column	Last sentence under Leigh Village section	Removed "including Durham's Five Oaks Neighborhood."

Table FEIS-2: DEIS Errata Sheet

Row #	Chapter	Page	Column (left, middle, right)	Location	Action Taken
58	Chapter 4	4-27 and 5-34	Middle Column/ Right Column	Durham City and County section and paragraph preceding section 5.6.13	Added clarification in the Durham City and County section "The City and County adopted a resolution in 2014 supporting affordable housing within a half-mile of transit stations. The resolution establishes a goal of at least 15 percent of housing units be affordable to families with income less than sixty percent of the area median income."
59	Chapter 4	4-31	Left Column	Last sentence under East Durham	Added clarification in East Durham section "In 2014, the City of Durham completed a streetscape project in the Angier/Driver Commercial District to promote economic revitalization and improve the quality of life for residents and visitors."
60	Chapter 4	4-32	Middle Column	Before Project Element Alternatives section	Added new heading to separate existing discussion "NEPA Preferred ROMF Alternative"
61	Chapter 4	4-33	Middle Column	End of first paragraph in section 4.1.4.1	Added clarification in NEPA Preferred and Project Element Alternatives section "Rezoning will be coordinated with the municipalities for park-and-ride locations requiring it."
62	Chapter 4	4-36	Figure 4.1-2	In graphic and legend	Modified figure such that the "Mixed Use" category shown for the UNC main campus and Friday Center was changed to the "University" category.
63	Chapter 4	4-38/ 4-40	Right Column/ Right Column	End of bottom paragraph/ Last paragraph	Added clarification in the Government Finance and Tax Sources section "Many communities across the country are implementing or extending light rail transit systems because of the long term value and opportunities which they bring to businesses, home owners, and people of all generations living, working, learning, and traveling along light rail corridors. Studies of light rail projects around the country have shown a positive impact on properties within 1/4 to 1 mile of a station, closest to the improved transportation service. Nationwide, in a synthesis of 12 studies around the country, residential property value premiums of 3%-40% were observed in rail station areas. In Charlotte, a study by the *Journal of Transport and Land Use* of single-family home prices indicated increased value of properties close to light rail stations relative to properties farther from stations after opening the LYNX Blue Line light rail (https://www.jtlu.org/index.php/jtlu/article/viewFile/261/242)."
64	Chapter 4	4-43	Left Column	Last paragraph	Added explanation in the Mitigation Measures section "Triangle Transit is committed to working with the municipalities to keep existing residents in their homes through tax abatement and affordable housing programs."

Table FEIS-2: DEIS Errata Sheet

Row #	Chapter	Page	Column (left, middle, right)	Location	Action Taken
65	Chapter 4	4-54/ 4-82	Left Column/ Table 4.4-5	Second paragraph/ Landscape Unit #2 Representative Visual Resources	Corrected typo from "The Highlands" to "Highland Wood"
66	Chapter 4	4-56	Middle Column	Last paragraph	Added clarification in the Environmental Consequences section "No cemeteries are anticipated to be impacted by the NEPA Preferred or Project Element Alternatives."
67	Chapter 4	4-56/ 4-60	Right Column/ Middle Column	Community Resources section/ New bullet in bulleted list	Added clarification in the Community Resources section "Due to the reconfiguration of Fern Lane, the sidewalk and steps in front of Aldersgate United Methodist Church will require reconstruction."
68	Chapter 4	4-57	Right Column	After East Chapel Hill Area	In order to clarify localized public concerns added clarification in new subsection "Leigh Village Area" with the following text "Many residents in the Leigh Village Area consider the current rural nature of the community to be a defining characteristic. The D-O LRT Project may impact community cohesion by changing the land use from rural to a more urbanized use."
69	Chapter 4	4-57	Left Column	Top of left column	Added explanation in new subsection for Leigh Village that reads "The NEPA Preferred Alternative would require partial acquisition of a parcel located at 4702 Farrington Road and owned by the Church of the Harvest. The 7.5 acre church-owned parcel is currently vacant with a land use designation of residential."
70	Chapter 4	4-58	Middle Column	End of Farrington Road ROMF	Added clarification in the Farrington Road ROMF section "Direct impacts to Creekside Elementary School are not anticipated due to the distance from the Farrington Road ROMF and existing vegetation."
71	Chapter 4	4-58	Right Column	Last sentence of first paragraph	Added ", the Carter Community Charter School,"
72	Chapter 4	4-60	Middle Column	End of first bullet	Removed second period in sentence (also removed other occurrences of double period typos)
73	Chapter 4	4-60	Middle Column	End of first bullet	Added clarification in NEPA Preferred Alternative section "Triangle Transit will coordinate with Glenwood Elementary School during the Engineering phase to review these mitigation measures."

Table FEIS-2: DEIS Errata Sheet

Row #	Chapter	Page	Column (left, middle, right)	Location	Action Taken
74	Chapter 4	4-64/ 4-68/ 4-217/ 4-218	Table 4.3-4/ Middle Column/ Middle Column/ Middle Column	Schools row/ Table 4.3-8/ Table 4.10-4/ Table 4.10-5	Added or updated "Maureen Joy Charter School" to "Carter Community Charter School" and updated the address from "107 South Driver Street, Durham" to "1955 W. Cornwallis Road, Durham"
75	Chapter 4	4-78	Right Column	Last bullet point at top	Added clarification in NEPA Preferred Alternative that "Triangle Transit will coordinate with municipalities and neighborhoods on the aesthetic treatments for stations."
76	Chapter 4	4-78	Middle Column	Third to last bullet	Added clarification "to minimize the impacts of light on surrounding neighbors and wildlife"
77	Chapter 4	4-78	Middle Column	Next to last bullet	Clarified by adding "such as sculptures and murals at transit stations."
78	Chapter 4	4-78	Right Column	Paragraph between bullets	Added clarification in NEPA Preferred Alternative section "Visual and aesthetic impacts associated with the Farrington Road ROMF will be mitigated through coordination with the surrounding landowners and the City of Durham during Engineering. Potential treatments include landscaping, architectural treatments, visual barriers, and building height maximums."
79	Chapter 4	4-79	Left Column	After first bullet point at top	Added explanation in the NEPA Preferred Alternative section "Duke West Campus (Landscape Unit #6) Triangle Transit will coordinate with Duke University and NCDOT to determine appropriate mitigation measures for the Al Buehler Trail and aesthetic treatments to the elevated structure."
80	Chapter 4	4-104	Middle Column	First paragraph	Corrected typo from "NC State Archaeological Office" to "North Carolina Historic Preservation Office" and "termis" to "terms"
81	Chapter 4	4-111	Middle Column	Second paragraph of Environmental Consequences section	Corrected typo "N Potential" to "No Potential"
82	Chapter 4	4-118	Right Column	Last paragraph	Added names of parks that were developed using grants from the LWCF to highlight same parks already listed in Table 4.6-1. "These include Old Chapel Hill Road Park, Cornwallis Road Park, Morreene Road Park, Crest Street Park, Erwin Field, Burch Avenue Park, Oakwood Park, Hillside Park, Grant Street Park, Burton Park." (Also added to table 4.6-1 as noted below.)
83	Chapter 4	4-119	Middle Column	First paragraph of NEPA Preferred Alternative section	Added clarification in NEPA Preferred Alternative section "No parks that would qualify as Section 6(f) resources will be affected."

Table FEIS-2: DEIS Errata Sheet

Row #	Chapter	Page	Column (left, middle, right)	Location	Action Taken
84	Chapter 4	4-122	Right Column	Section 4.6.4 Mitigation Measures	Added clarification NC Botanical Gardens and Duke Forest to list of entities that Triangle Transit is coordinating with.
85	Chapter 4	4-123	Middle Column	First sub-bullet	Added clarification in Mitigation Measures section "Triangle Transit will continue coordination with UNC to address impacts to the golf course, and the golf course will remain open during construction."
86	Chapter 4	4-123	Middle Column	Second sub-bullet	Added clarification in Mitigation Measures section "Triangle Transit will continue to coordinate with UNC during Engineering to minimize impacts to these trails and will coordinate closings of the trails with UNC during Construction."
87	Chapter 4	4-125	Table 4.6-1	Throughout table	Added (*) to ten parks that were developed with grants from the LWCF as a clarification.
88	Chapter 4	4-129	Table 4.6-3	NEPA Preferred Alternative, Parkland (acres)	Corrected TOTAL to 7.8 to account for the subtraction of 5.6 acres of impacts that were previously calculated for Duke University (PRIVATE) parklands. Added footnote to explain.
89	Chapter 4	4-143	Middle Column	Last paragraph of Threatened and Endangered Species	Added clarification "Coordination with the NCWRC and the NCDA&CS were initiated during the planning of the DOLRT. The NCWRC and the NCDA did not indicate any concerns for potential adverse impacts to state listed species. (Note that the North Carolina Department of Agriculture is now the North Carolina Department of Agriculture and Consumer Services, as shown above)."
90	Chapter 4	4-146	Left Column	Habitat section	Added clarification "If construction is to take place during nesting season for migratory birds, a nesting survey will be conducted prior to construction in order to minimize/prevent impacts to nesting species."
91	Chapter 4	4-151	Left Column	Methodology section	Added clarification "(the Raleigh-Durham-Chapel Hill region)"
92	Chapter 4	4-156	Left Column	Environmental Consequences section	Added clarification "As the design progresses, construction related impacts, including temporary impacts or otherwise, will be identified and will be included as part of the 401 Water Quality Certification application."
93	Chapter 4	4-156 and 4-164	Right Column	Groundwater section	Added clarification ", including the ROMF."
94	Chapter 4	4-156	Right Column	Groundwater section	Added clarification "All fluids used at the ROMF will be captured and stored in tanks where they are periodically collected by an outside vendor for off-site recycling or disposal."

Table FEIS-2: DEIS Errata Sheet

Row #	Chapter	Page	Column (left, middle, right)	Location	Action Taken
95	Chapter 4	4-164	Right Column	Groundwater section	Added clarification "Maintenance operations at the ROMF would not contaminate private wells, as any chemicals used at the ROMF would be collected and disposed in the manner required by law." and "Opportunities for green building design and low-impact development design will be reviewed during Engineering."
96	Chapter 4	4-164	Right Column	Surface Waters and Wetlands section	Corrected acronym use from "DA" to "Department of the Army"
97	Chapter 4	4-164	Right Column	Surface Waters and Wetlands section	Added clarification "A floodplain development permit will be obtained from the local jurisdiction for all construction, grading, development, or the storage of equipment or materials within the Special Flood Hazard Area (SFHA)."
98	Chapter 4	4-165	Middle Column	Avoidance and Minimization of Impacts section	Added clarification "the *North Carolina Department of Transportation Stormwater Best Management Practices Toolbox* manual" and added "Bridge deck drains will not discharge directly into project area streams. Stormwater will be directed across bridges and will be pre-treated through BMPs. As the design progresses, construction related impacts, including borrow/waste areas and culvert placement and erosion control, will be identified and will be included as part of the 401 Water Quality Certification application."
99	Chapter 4	4-165	Right Column	Compensatory Mitigation of Impacts section	Added clarification "into the Riparian Buffer Restoration Fund" with "to the Division of Mitigation Services Riparian Buffer Restoration Fund"
100	Chapter 4	4-165 and 4-252	Middle Column	End of first paragraph/ Environmental Consequences section	Added clarification "Opportunities for green building design and low impact development design will be reviewed during the Engineering phase."
101	Chapter 4	4-165	Right Column	First paragraph	Added reference "(North Carolina Floodplain Management: 2008 Quick Guide, Page 44)"
102	Chapter 4	4-165	Right Column	Second paragraph of Compensatory Mitigation of Impacts section	Added clarification "If hydraulic studies during Engineering determine that the NEPA Preferred Alternative would cause an increase in flood levels during the base flood discharge, then a No-Rise Certification would be obtained from the NC Department of Public Safety Division of Emergency Management. If studies indicate that there would be an increase in flood levels, then a Conditional Letter of Map Revision would be requested."

Table FEIS-2: DEIS Errata Sheet

Row #	Chapter	Page	Column (left, middle, right)	Location	Action Taken
103	Chapter 4	4-166	Left Column	Last paragraph of section 4.8.4.3	Added clarification "The ROMF site plan will manage stormwater runoff in a manner consistent with local and state regulations to avoid and minimize impacts to neighborhoods and community resources in the vicinity such as Leigh Farm Park and the Piedmont Wildlife Center."
104	Chapter 4	4-210	Right Column	Section 4.10.5.1	Added clarification in Noise Mitigation Measures section "A noise wall for the Farrington Road ROMF would not be required due to the anticipated levels of noise at the site."
105	Chapter 4	4-210	Right Column	Last sentence under section 4.10.5.1	Added clarification in Noise Mitigation Measures section "Triangle Transit will coordinate with Duke University to confirm the appropriate land use category for the Center for Documentary Studies and its outdoor amphitheater and update the analysis as appropriate during Engineering."
106	Chapter 4	4-211	Middle Column	Section 4.10.5.2	Added clarification in Vibration Mitigation Measures section "Triangle Transit will continue to coordinate with UNC and UNC Hospitals to avoid and mitigate vibration impacts to sensitive medical and research equipment."
107	Chapter 4	4-235	Right Column	Mitigation Measures section	Added clarification "If it is recycled, used oil generated from operations or maintenance will be managed in accordance with the standards for the management of used oil described in 40 CFR Part 279. If used oil is disposed and not recycled, a hazardous waste determination will be made."
108	Chapter 4	4-246 and 4-249	Middle Column	Last paragraph of section 4.12.3.5 and Pedestrians, Bicyclists, and Motorists	Added clarification that "During the Engineering phase, Triangle Transit will continue to coordinate with NCDOT to evaluate additional engineering safety measures including vehicle detection technology at certain crossings where appropriate."
109	Chapter 4	4-248	Right Column	Station Platforms and Park-and-Ride Facilities section	Added clarification "Triangle Transit will continue to coordinate with Durham County during the Engineering phase to determine the appropriate location and design of this TPSS. The approaches to the Detention Center from Pettigrew Street will be modified as part of the D-O LRT Project to preserve truck access. Triangle Transit will continue to coordinate with Durham County during the Engineering phase to develop plans for Work Zone Traffic Control along Pettigrew Street."
110	Chapter 4	4-248	Left Column	Employees and Contractors section	Added clarification "The SEPP will include an evacuation plan for the ROMF."

Table FEIS-2: DEIS Errata Sheet

Row #	Chapter	Page	Column (left, middle, right)	Location	Action Taken
111	Chapter 4	4-253	Table 4.13-2	Added second row	Added the greenhouse gas emissions row as follows Change in Transportation-Related Greenhouse Gas Emissions (CO2e) (metric tons CO2e/million VMT), No Build =9,661,307; NEPA Preferred Alternative= 9,655,413; Little Creek Alternatives= +748 (C1), +840 (C1A), +1,191 (C2); New Hope Creek Alternatives=-1,634(NHC LPA), -794(NHC1); Duke Eye Center Alternative=+397.
112	Chapter 4	4-259	Left Column	Acquisitions section	Added clarification that "During Engineering, Triangle Transit will coordinate with UNC and Duke to determine if an acquisition or easement is appropriate."
113	Chapter 4	4-274	Middle Column	Top paragraph	Changed for clarity "Approximately 30 to 35 at-grade crossings" to "Approximately 30 to 45 at-grade interfaces"
114	Chapter 4	4-277	Middle Column	Water Resources section	Corrected typo "would" with "could"
115	Chapter 4	4-279	Middle Column	Mitigation Measures section	Added clarification "Construction and development of the D-O LRT Project will comply with all municipal and state regulations and policies regarding development. Triangle Transit will coordinate with municipalities on the design of the project during Engineering."
116	Chapter 4	4-284	Middle Column	Hazardous, Contaminated, and Regulated Materials section	Added explanation "During Construction, efforts will be made to minimize the generation of waste, to recycle materials for which viable markets exist, and to use recycled products and materials where suitable. Any waste generated during Construction that cannot be beneficially reused or recycled will be disposed of at a solid waste management facility approved to manage the respective waste type."

Table FEIS-2: DEIS Errata Sheet

Row #	Chapter	Page	Column (left, middle, right)	Location	Action Taken
117	Chapter 4	4-284	Right Column	Hazardous, Contaminated, and Regulated Materials section	Added clarification " • Developing a Spill Prevention Control and Countermeasure Plan prior to demolition, excavation or construction activities • Conducting sampling of hazardous materials intended for disposal • Assessing potential exposure levels through the use of monitoring equipment • Developing decontamination procedures Triangle Transit will perform a full Phase I and/or Phase II Environmental Site Assessment for high risk properties following ASTM standards prior to construction. Medium risk properties will have their closure status or current site status reviewed with NCDEQ before starting construction Any hazardous waste generated from the demolition, construction, maintenance, operation, and/or remediation (e.g. excavated soil) from the D-O LRT Project will be managed in accordance with the North Carolina Hazardous Waste Rules. The NCDEQ Hazardous Waste Section will be notified on the quantity of hazardous waste generated in order to make a determination if the D-O LRT Project qualifies as a small or large quantity generator."
118	Chapter 4	4-292	Middle Column	Water Resources section	Added note of clarification ", 15A NCAC .0265 for New Development,"
119	Chapter 4	4-292	Middle Column	End of last paragraph	Added explanation to end of last paragraph – "because of the mitigation through BMPs, including on-site storage and detention for stormwater, no indirect effect to wells from regulated materials generated at the ROMF are anticipated to occur.
120	Chapter 4	4-292	Left Column	Electromagnetic Fields (EMF) section	Added clarification "All equipment used will comply with FCC standards for radio frequency interference (RFI) as well as exposure to electromagnetic fields (EMF)."

Table FEIS-2: DEIS Errata Sheet

Row #	Chapter	Page	Column (left, middle, right)	Location	Action Taken
121	Chapter 4	4-293	Left Column	New subsection heading titled ""Hazardous and Regulated Materials"	Added clarification and new subsection heading "The proposed D-O LRT Project would include a ROMF where light rail vehicles would be stored and maintained. This facility would have the indirect effect of generating regulated materials because of associated maintenance activities. These materials would include oils, greases, solvents, and other waste materials. While the light rail vehicles, as noted in section 4.8.3.1, do not operate on gasoline or oils that could spill and contaminate the groundwater through the operation of the light rail, as noted above, regulated materials would be generated from maintenance activities at the ROMF. As such, all regulated materials, including fluids (e.g., oils, greases, solvents and other waste materials), used at the ROMF will be captured and stored in tanks (inside buildings), where they will be periodically collected by an outside vendor for off-site recycling or disposal. All regulated materials will be disposed of in accordance with state and local guidelines and no substantial indirect impacts are anticipated."
122	Chapter 5	5-24/5-28	Table 5.4-1/ Left Column	Community Facilities row/ Community Facilities section	Added clarification "No community facilities would be displaced."
123	Chapter 5	5-27	Middle Column	5th bullet in list	Revised text for better explanation "along the field and playground, and improvements to the recreational facilities will be made. Also, road and pedestrian improvements along Grant Street and Pettigrew Street will be implemented including a marked crosswalk." with "around the play field, and improvements to the overall site will be made in cooperation with the owners. Existing access to the site and building will be maintained and improved where possible to meet the needs of the facility. Sidewalk improvements along Pettigrew Street and Grant Street will be implemented including marked crosswalks."

Table FEIS-2: DEIS Errata Sheet

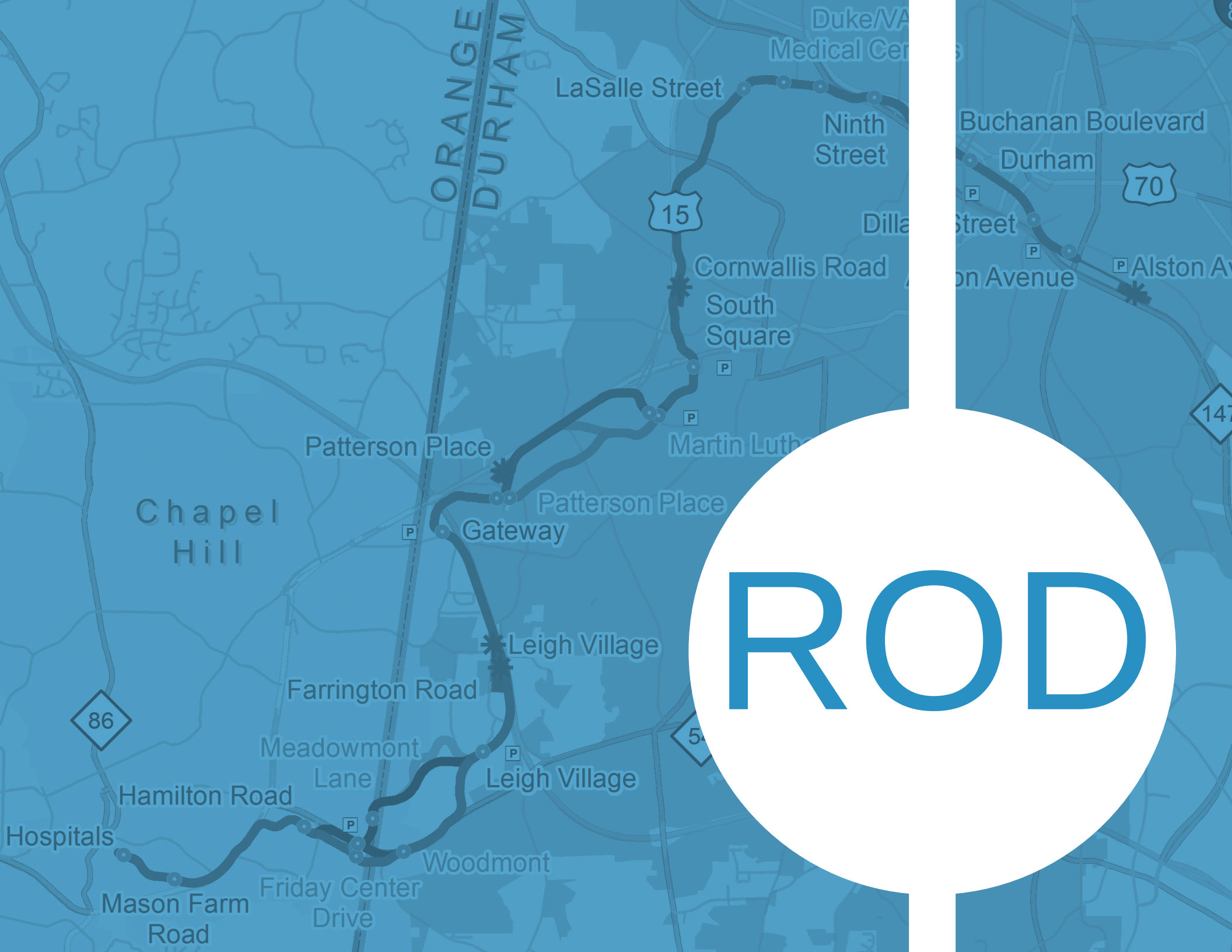
Row #	Chapter	Page	Column (left, middle, right)	Location	Action Taken
124	Chapter 5	5-28	Right Column	Access and Mobility section	Added clarification "Triangle Transit would implement several changes for DATA and CHT routes in the D-O corridor. (Duke Transit routes also operate in the transit corridor; however, no changes are proposed to Duke Transit routes.) Changes can be categorized as the introduction of new feeder bus routes; modifications to the background bus network; and the elimination of duplicative bus service. Further information on the proposed changes is provided in the DEIS may be found in appendix K.1."
125	Chapter 5	5-30	Middle Coumn	Acquisitions and Displacements section	Added clarification on An effort was made during design to minimize acquisitions and displacements in the Alston station area, including having the station parking in a parking deck to minimize the footprint associated with parking in an EJ community.
126	Chapter 5	5-35	Left Column	Bullet list	Removed "Affordable housing near transit"
127	Chapter 6	6-21/6-33/6-35	Table 6.3-3/ Middle Column/ Figure 6.3-11	Coker Pinetum row/ NEPA Preferred Alternative/ Call-out box in Figure	Fixed typo ".01" to "0.21" acres
128	Chapter 8	8-4	Table 8.1-1	No Build Alternative first row	Fixed typo and changed "Not Effective" to "Somewhat Effective"
129	Chapter 8	8-4	Table 8.1-1	No Build Alternative second row	Fixed typo and changed "Somewhat Effective" to "Not Effective"
130	Chapter 8	8-14	Right Column	Last bullet in right column	Added clarification "Support from the public is mixed with some support for C2A and some opposition due to localized impacts to the Downing Creek neighborhood."
131	Chapter 8	8-16	Right Column	Last bullet in middle column	Added clarification "1 medium risk site at Cornwallis,"
132	Chapter 8	8-16	Right Column	Recommendation	Fixed typos and softened text to read "The NEPA Preferred Alternative would achieve the Purpose and Need, perform very effectively in terms of project goals and objectives, and is the least environmentally damaging practicable alternative as compared with the Project Element Alternatives considered in this DEIS."
133	Chapter 8	8-17	Left Column	First line of C1A Alternative	Fixed typo "has the longest length" to "is the longest"
134	Chapter 8	8-17	Right Column	4th Bullet heading	Fixed typo "Imports" to "Impacts"
135	Chapter 8	8-20	Right Column	Leigh Village ROMF Recommendation	Fixed confusing text to read "there are other viable alternatives that would avoid this resource" to "there is another viable alternative that would avoid this resource"

Table FEIS-2: DEIS Errata Sheet

Row #	Chapter	Page	Column (left, middle, right)	Location	Action Taken
136	Chapter 8	8-23	Left Column	Second paragraph of Public and Stakeholder Input	Fixed typos "TJ COG" to "TJ COG staff" and added "and have suggested that this site would be more advantageous than other locations"
137	Chapter 9	9-15	Middle Column	Public Open Houses for Potentially Impacted Property Owners	Added clarification regarding Public Open Houses "In June 2015, additional data eliminated the Cornwallis ROMF location from consideration and indicated that the Farrington Road ROMF was the most appropriate alternative. Triangle Transit invited more than 1500 property owners within 1 mile of the Farrington Road ROMF site to solicit additional community input on ways to better integrate the Farrington Road ROMF site into the community. More than 200 people attended the meeting (Creekside Elementary School, August 18, 2015). Project staff circulated surveys and led a work session designed to determine the community's main concerns with the Farrington Road ROMF and mitigation measures that they would like considered. Overall, attendees were not in favor of the ROMF being located on Farrington Road. Top concerns and the corresponding desired mitigation considerations were increase in traffic congestion (optimize traffic signal timing near the ROMF), decrease in surrounding property values (No Build option or don't build the ROMF on Farrington Road), increase in noise due to the facility (include a noise barrier [wall or vegetation] in design), and danger from chemicals used at the site (use a containment system or develop safe storage)."
138	Chapter 5	5-3	Right Column	Second paragraph	Added clarification after second sentence "According to the US Census Bureau, the overall percentage of minorities and low income populations in North Carolina is 26.5 percent and 17.5 percent, respectively."
139	Chapter 5	5-21 5-25	Middle Column; Table 5.4-1 footnote	Second paragraph; Footnote d	Added clarification to text and Table 5.4-1 "Impacts are not expected to be disproportionately high and adverse, as 63 percent of the D-O Corridor Block Groups are EJ Block Groups. There are 230 total full and partial acquisitions projected for the NEPA Preferred Alternative. Of those 230, 137, or 60 percent, are located within a low-income and/or minority Block Group. There would be 45 residential relocation/displacements as a result of the NEPA Preferred Alternative with 27 of these residential relocation/displacements (60 percent) occurring in EJ Block Groups."

Table FEIS-2: DEIS Errata Sheet

Row #	Chapter	Page	Column (left, middle, right)	Location	Action Taken
140	Executive Summary / Chapter 4 / Chapter 8	ES-27 / 4-256 / 8-11	Table ES-1Second Column / Middle Column / Table 8.2-1	Acquisitions, Relocations, and Displacement Row / Last paragraph of Acquisitions / NEPA Preferred Alternative column	Revised “145 potential partial acquisitions” to “138 potential partial acquisitions”
141	Chapter 4	4-260	Table 4.14.2	NEPA Preferred Alternative column	Revised “44” residential partial acquisitions to “39” Revised “68” commercial partial acquisitions to “67” Revised “1” “other” partial acquisitions to “0” Revised “145” total potential partial acquisitions to “138”
142	Chapter 5	5-25	Table 5.4-1 Second Column	Acquisitions, Relocations, and Displacement Row	Revised “Partial 44R, 68C, and 28CR” to “Partial 39R, 66C, and 28CR”


ROD
ORANGE
DURHAM
LaSalle Street
Ninth Street
Buchanan Boulevard
Durham
70
15
Cornwallis Road
South Square
Alston Av
Patterson Place
Martin Luth
Patterson Place
Gateway
Chapel Hill
Leigh Village
Farrington Road
86
Meadowmont Lane
Leigh Village
Hamilton Road
Hospitals
Woodmont
Friday Center Drive
Mason Farm Road

Durham-Orange Light Rail Transit Project
Record of Decision

The Federal Transit Administration (FTA), pursuant to Title 23 of the Code of Federal Regulations (C.F.R.), Part 771, and Title 40 C.F.R. Parts 1500-1508, issues this Record of Decision (ROD) finding that the requirements of the National Environmental Policy Act of 1969 (NEPA) have been satisfied for the Durham-Orange Light Rail Transit Project (D-O LRT Project). As the D-O LRT project sponsor and potential recipient of FTA financial assistance, the Research Triangle Regional Public Transportation Authority d/b/a Triangle Transit d/b/a GoTriangle (Triangle Transit) served as a co-lead agency with FTA in conducting the environmental review process. The United States Environmental Protection Agency (USEPA), United States Army Corps of Engineers (USACE), and the Federal Highway Administration (FHWA) served as NEPA cooperating agencies. This process produced the *Durham-Orange Light Rail Transit Project Draft Environmental Impact Statement* (DEIS) dated August 2015, and this Combined Final Environmental Impact Statement (FEIS)/Record of Decision (ROD) document.

This ROD summarizes the D-O LRT Project; the factors and process that led to its development; the alternatives that FTA considered; the various opportunities to comment on the project and project documents; the public, tribal, and agency comments and responses thereto; the basis for FTA's decision regarding compliance with relevant environmental requirements; and the mitigation measures the project requires. The ROD does not replace or negate any of the information or descriptions in the environmental review documents. Rather, the ROD and the environmental review documents (incorporated herein by reference) are part of the FTA environmental record for the project.

Based on its consideration of the environmental review documents, FTA finds that the project has met all applicable requirements. FTA further finds that this ROD is complete and supports the determination that all NEPA Requirements have been met.

If the FTA provides financial assistance for the design and/or construction of the D-O LRT Project, the FTA will require Triangle Transit to design and build the project as presented in this Combined FEIS/ROD. Any changes to the D-O LRT Project that are inconsistent with this ROD must be evaluated in accordance with 23 C.F.R. Sections 771.129 and 771.130, and if required therein, they must be approved by FTA in writing before Triangle Transit can proceed with the change.

Yvette G. Taylor, Regional Administrator
Federal Transit Administration, Region IV

2-11-16
Date


CHAPEL HILL
UNC Hospitals
Mason Farm Road
Hamilton Road
Friday Center Drive
Woodmont
Leigh Village
Gateway
Patterson Place
Martin Luther King Jr. Parkway
South Square
LaSalle Street
Duke / VA Medical Centers Trent / Flowers Drive
Ninth Street
Buchanan Boulevard
Durham
Dillard Street
Alston Avenue
DURHAM

Table of Contents

List of Tables


CHAPEL HILL
UNC Hospitals
Mason Farm Road
Hamilton Road
Friday Center Drive
Woodmont
Leigh Village
Gateway
Patterson Place
Martin Luther King Jr. Parkway
South Square
LaSalle Street
Duke / VA Medical Centers Trent / Flowers Drive
Ninth Street
Buchanan Boulevard
Durham
Dillard Street
Alston Avenue
DURHAM

ROD Record of Decision

2.1 Introduction

This ROD applies to the "NEPA Preferred Alternative" described, evaluated, and recommended in the *D-O LRT Draft Environmental Impact Statement* (August 2015), all technical reports and supporting documentation, incorporated by reference; selected as the preferred alternative in the FEIS attached to this Combined FEIS/ROD document; with additional rationale for the Decision is contained in the remainder of this ROD.

2.2 Alternatives Considered

The following sections describe the alternatives considered in the DEIS, which ultimately led to the selection of the NEPA Preferred Alternative as the D-O LRT Project.

2.2.1 Draft Environmental Impact Statement/Draft Section 4(f) Evaluation

The DEIS evaluated the following alternatives:

- No Build Alternative
- NEPA Preferred Alternative
- Project Element Alternatives

The No Build Alternative served as the basis of comparison for the NEPA Preferred and Project Element Alternatives.

2.2.1.1 No Build Alternative

Federal regulations require that a No Build Alternative be evaluated in an Environmental Impact Statement (40 Code of Federal Regulations [C.F.R.] § 1502.14 2014). The No Build Alternative includes the existing and planned transportation programs and projects scheduled to be built and implemented before forecast year 2040 and contained in the 2040 MTP, excluding only Triangle Transit's Regional Rail program (D-O LRT Project and a commuter rail line between Durham and Raleigh) and related bus transit modifications.

The No Build Alternative was used as the baseline against which the other alternatives were compared for the extent of environmental and community impacts.

The No Build Alternative includes:

- The existing highway network
- Highway projects that the North Carolina Department of Transportation (NCDOT) has scheduled in the State Transportation Improvement Program
- Existing transit routes and schedules as of September 2013
- Other new bus services to which Triangle Transit, GoDurham (formerly Durham Area Transit Authority), and Chapel Hill Transit (CHT) have committed, some of which have already been implemented
- New bus services to serve areas that would be developed by forecast year 2040, with the exception of the proposed rail transit improvements and related bus transit modifications

2.2.1.2 NEPA Preferred and Project Element Alternatives

As described in chapter 2 of the DEIS, the majority of the proposed D-O LRT Project alignment, station locations, rail operating and maintenance facility (ROMF) locations were identified during the AA process and subsequently refined during NEPA Scoping in response to public and agency comments.

The DEIS evaluated each of these alignment, station and ROMF locations as part of the NEPA Preferred Alternative or Project Element Alternatives.

The following alignments crossing Little Creek and New Hope Creek were evaluated in the DEIS:

- Four potential crossings of Little Creek between Hamilton Road and the proposed Leigh Village Station (Alternatives C1, C1A, C2, and C2A)
- Three potential crossings of New Hope Creek and Sandy Creek between Patterson Place and South Square (Alternatives NHC LPA, NHC 1, and NHC 2)

The following station locations were evaluated in the DEIS:

- UNC Hospitals
- Mason Farm Road
- Hamilton Road
- Friday Center Drive
- Meadowmont Lane or Woodmont
- Leigh Village
- Gateway

- Patterson Place
- Martin Luther King Jr. Parkway
- South Square
- LaSalle Street
- Duke/VA Medical Centers (two alternatives)
- Ninth Street
- Buchanan Boulevard
- Durham
- Dillard Street
- Alston Avenue

Five alternative locations for the ROMF were evaluated in the DEIS:

- Leigh Village ROMF
- Farrington Road ROMF
- Patterson Place ROMF
- Cornwallis Road ROMF
- Alston Avenue ROMF

2.3 Basis for the Decision

The documents considered in making this decision include: the *US 15-501 Major Investment Study* (1998 and 2001), the *Regional Transit Vision Plan* (2008), the *2035 Long Range Transportation Plan* (LRTP) (2009), the *Transitional Analysis Report* (2010), the *Alternatives Analysis* (AA) (2012), the *2040 Metropolitan Transportation Plan* (MTP) (2013), and the *Draft Environmental Impact Statement/Draft Section 4(f) Evaluation* (DEIS) (August 2015), associated technical reports and supporting documents, the responses to comments received on the DEIS, this combined FEIS/ROD, the Final Section 4(f) Evaluation, as well as technical memoranda, correspondence, and other documents in the project file.

2.3.1 Planning and Project Development Process

Planning for high-capacity transit in the Research Triangle region began more than 20 years ago, and a number of studies have been conducted to advance major transit investments in the area, including the *US 15-501 Major Investment Study* (1998 and 2001), the *Regional Transit Vision Plan* (2008), the *2035 Long Range Transportation Plan* (LRTP) (2009), the *Transitional Analysis Report* (2010), the *Alternatives Analysis* (AA) (2012), the *2040 Metropolitan Transportation Plan* (MTP) (2013), and the *Draft Environmental Impact Statement/Draft Section 4(f) Evaluation* (DEIS) (August 2015).

The environmental process for the D-O LRT Project began with the Notice of Intent (NOI) to prepare an Environmental Impact Statement, published in 2012 and initiated project Scoping. The DEIS was published August, 2015.

After the publication of the DEIS and the close of the public comment period, the Durham Chapel Hill Carrboro Metropolitan Planning Organization (DCHC MPO) considered the DEIS information, public comments received, and supporting materials, and unanimously passed a resolution supporting the NEPA Preferred Alternative.

2.3.2 Purpose and Need

The purpose of the D-O LRT Project is to provide high-capacity transit service located within the D-O Corridor, between Chapel Hill and Durham, along the North Carolina Highway 54 (NC 54), Interstate 40 (I-40), United States (US) 15-501, Erwin Road, and NC 147 transportation corridors, that improves mobility, increases connectivity through expanding transit options, and supports future development plans. The purpose of the project is to provide high-capacity transit service within the D-O Corridor, between Chapel Hill and Durham, along the NC 54, I-40, US 15-501, Erwin Road, and NC 147 transportation corridors, that improves mobility, increases connectivity through expanding transit options, and supports future development plans.

The need for light rail transit in the D-O Corridor arises from various factors. Continued population and employment growth in the region, and more specifically in the D-O Corridor, is straining the already congested roadway network. This results in increased travel times and reduced reliability of the existing transportation system. If left unmanaged, this rapid growth will continue to constrain mobility within the D-O Corridor, and will result in sprawling development patterns, which would lead to the reduction of open space and farmlands. Local land use plans call for focused, compact development to manage future growth and reduce the likelihood of sprawl, but these plans require a high-quality transportation infrastructure solution to support this development. The project needs include the following:

- **Improve Mobility**
  - Enhance Mobility: provide a competitive, reliable alternative to auto use to support compact development
  - Increase Transit Operating Efficiency: offer a competitive, reliable transportation solution that will reduce travel time

- **Increase Connectivity**
  - Expand Transit Options Between Durham and Chapel Hill: enhance and seamlessly connect with the existing transit system
  - Serve Major Activity and Employment Centers Between Durham and Chapel Hill: serve the University of North Carolina at Chapel Hill (UNC) Campus Area, east Chapel Hill, Leigh Village, US 15-501 Corridor, Duke West Campus, Duke and Veterans Affairs (VA) Medical Centers, Old West Durham, Duke East Campus, downtown Durham, and east Durham
- **Promote Future Development**
  - Support Local Land Use Plans that Foster Compact Development: support compact development, manage future growth, and maximize potential for economic development near activity centers.

2.4 NEPA Preferred Alternative Project Description

The D-O LRT Project is the new construction of a 17.1-mile high capacity light rail transit (LRT) line between southwest Chapel Hill and Durham. The light rail will operate on double-tracked alignment in a dedicated guideway within new or existing right-of-way. It will generally operate in an exclusive guideway or on existing roadways alongside other traffic in a dedicated travel lane. For a portion of the alignment, light rail would operate in shared lanes with buses and emergency vehicles.

The NEPA Preferred Alternative would generally follow NC 54, I-40, US 15-501, and the NCRR Corridor in downtown Durham and east Durham. The alignment would begin at UNC Hospitals, parallel Fordham Boulevard, proceed east along NC 54, travel north along I-40, parallel US 15-501 before turning east toward the Duke University campus along Erwin Road, and then follow the NCRR Corridor parallel to NC 147 through downtown Durham, before reaching its eastern terminus near Alston Avenue.

The NEPA Preferred Alternative includes the Little Creek Alternative C2A, the New Hope Creek Alternative NHC 2, Duke/VA Medical Centers Station – Trent/Flowers Drive Station alternative, and the Farrington Road ROMF alternative.

The other alternatives were not recommended based on the DEIS impact and benefits analysis and public and stakeholder comments.

2.4.1 Technology

Light rail vehicles would be electrically powered by an overhead contact system using poles to support overhead wires. A light rail vehicle would have a passenger capacity of 40 to 60 seated and up to 125 with standees per vehicle (capacity varies depending on vehicle specifications), and can be linked to operate as multiple-car trains to increase passenger capacity. Trains are envisioned to operate with 1-2 cars initially, with the capability to expand to 3-car trains in the future as ridership warrants. Light rail would provide frequent, all-day service and passengers would board quickly with off-board fare payment, multiple doors, and level boarding platforms at designated station stops.

2.4.2 Alignment

The D-O LRT will begin at the western terminus of the project, located on the campus of the University of North Carolina Chapel Hill at UNC Hospitals, in southwest Chapel Hill and extend to the eastern terminus in Durham near Alston Avenue.

From UNC Hospitals, the alignment will parallel Fordham Boulevard, proceed eastward, adjacent to NC 54, travel north along I-40, parallel US 15-501 before it will turn east toward Duke University, and run within the median of Erwin Road, and then follow the North Carolina Railroad (NCRR) Corridor that parallels NC 147 through downtown before reaching its eastern terminus in Durham.

The D-O LRT Project consists of at-grade alignment, fill and cut sections, and elevated structures. It will primarily operate within an exclusive guideway, with the exception of the small portion of the alignment in downtown Durham, between Durham Station and Alston Avenue, which will operate within an exclusive transit way, only shared by transit buses and emergency vehicles.

2.4.3 Stations

The D-O LRT Project includes a total of 17 stations, with up to 5,100 parking spaces. Parking is proposed at several stations as described in DEIS section 3.3. The number of parking spaces proposed varies and is based on forecasted ridership and land availability. Stations with park-and-ride facilities would include bus bays for connecting feeder bus routes and “kiss-and-ride” spaces for passenger pick-up and drop-off. Walk-up stations would be accessed primarily by pedestrians, bicyclists, and passengers transferring from bus service.

The stations include the following:

- UNC Hospitals
- Mason Farm Road

- Hamilton Road
- Friday Center Drive
- Woodmont
- Leigh Village
- Gateway
- Patterson Place
- Martin Luther King Jr. Parkway
- South Square
- LaSalle Street
- Duke/VA Medical Centers (Trent/Flowers)
- Ninth Street
- Buchanan Boulevard
- Durham
- Dillard Street
- Alston Avenue

2.4.4 Rail Operations Maintenance Facility (ROMF)

In addition, the D-O LRT Project includes a ROMF. The ROMF would include areas to store, service, and maintain the D-O LRT fleet (initially 17 light rail vehicles, which will be purchased as part of this project, with the capacity for up to 26 light rail vehicles without needing to expand the facility). The ROMF also would hold equipment needed to maintain the stations and trackway. The facility would operate 24 hours a day, 7 days a week and would accommodate staff that report for work at the facility, such as train operators and mechanics.

The following location is included in the D-O LRT:

- Farrington ROMF

2.4.5 Other Project Related Infrastructure

Other project related infrastructure included in the D-O LRT Project is:

- the light rail vehicles and trackway;
- station platforms;
- sidewalks, ramps or pedestrian bridges;
- the overhead catenary system that powers the electric light rail vehicles;
- Traction Power Substations (TPSS), communications cabinets, signal houses, and crossing cases;
- Modifications to existing rights-of-way (including new lane reconfigurations, lane additions, lane modifications); intersection modifications; new traffic signals; addition of auxiliary traffic signalization;
- construction of bridges and retaining walls; and park-and-ride lots/parking deck (including stormwater management facilities); as well as,
- landscaping, and public art.

The project approved in this ROD meets the purpose and need for the project. The project approved in this ROD also includes the avoidance, minimization, mitigation, permitting, and monitoring commitments further detailed in this ROD.

2.4.6 Effects of the NEPA Preferred Alternative

Table FEIS-1 of this combined FEIS/ROD provides a summary of project benefits and consequences of the NEPA Preferred Alternative. Project effects include transportation and environmental effects, which were assessed for both long-term and short-term periods. Long-term effects were assessed through the year 2040, unless otherwise indicated in the DEIS. Short-term effects are primarily those associated with construction activities.

The transportation benefits include: a competitive, reliable transportation alternative to automobile travel that will reduce transit travel times and expand transit options, enhance and seamlessly connect with the existing transit system, and serve major activity and employment centers between Durham and Chapel Hill, including the UNC at Chapel Hill Campus Area, east Chapel Hill, Leigh Village, US 15-501 Corridor, Duke West Campus, Duke and VA Medical Centers, Old West Durham, Duke

East Campus, downtown Durham, and east Durham.

The NEPA Preferred Alternative would result in transportation benefits, including: increased access to high capacity transit that will provide a more competitive, reliable transportation alternative that enhances and seamlessly connects to the existing transit network, and is not subject to roadway congestion. Prior to revenue service, Triangle Transit will work with service planning staff from CHT, GoDurham (formerly DATA), and Duke Transit to develop and implement a transit service plan to integrate bus and rail service within the Durham-Orange Corridor. As part of this process, the transit providers will engage the public and complete a Transit Service and Fare Equity Analysis.

The primary transportation effects include: modified roadway configurations, traffic patterns, and intersection operations. Triangle Transit will continue to work with the transportation departments with jurisdiction to ensure that the roadways and intersection operations are incorporated into the design of the NEPA Preferred Alternative.

Environmental effects include the direct and indirect benefits and consequences of the NEPA Preferred Alternative on the natural environment and community. The NEPA Preferred Alternative would result in environmental benefits, including: increased access to high capacity transit that will support local land use plans that foster compact development that will help to manage future growth, and maximize potential for economic development near activity centers.

The primary environmental impacts of the project include: 1 severe noise impact, 4 moderate noise impacts, 8 vibration impacts, and 13 ground-borne noise impacts; 92 potential full acquisitions and 138 potential partial acquisitions, which would result in 65 residential, commercial, or institutional displacements throughout the D-O Corridor; and a required zoning change at the proposed ROMF site. In accordance with Triangle Transit's Project Development process, a Real Estate Acquisition and Management Plan (RAMP) will be developed and followed and a pre-acquisition survey will be completed during the Engineering phase to facilitate displacements and gather information necessary to complete the relocation process.

While Environmental Justice (EJ) populations would experience some direct effects related to the proposed project, the EJ populations in the D-O Corridor would also benefit from the implementation of the D-O LRT Project. Disproportionately high and adverse effects to EJ populations are not expected as a result of the proposed D-O LRT Project. Further, substantial indirect effects to EJ populations are not anticipated because of the proposed project.

Means to avoid, minimize, and mitigate effects from the NEPA Preferred Alternative are presented in section 2.5 of this combined FEIS/ROD. **Table ROD-1** sets forth the commitment or mitigation measures to reduce the adverse effects of the project.

2.5 Measures to Minimize Harm

Triangle Transit worked to avoid, minimize, and mitigate the potential adverse effects of the proposed D-O LRT Project throughout the development of the environmental review process. This process included extensive efforts to involve the public and stakeholders in the planning and design of the proposed project. Information about public outreach and the opportunity for public comment is summarized in section 2.7 of this combined FEIS/ROD.

2.5.1 Commitments or Mitigation Measures

Table ROD-1 includes the commitments or mitigation measures to reduce the impacts of the D-O LRT Project. FTA will require implementation of the list of commitments and mitigation measures listed in this table as a condition of any grant for the D-O LRT Project. FTA will also require FTA to submit written reports on its progress in implementing the commitments and mitigation measures. FTA will monitor this progress through quarterly reviews of the D-O LRT Project's progress.

Any changes to the project that are inconsistent with this ROD must be evaluated in accordance with 23 C.F.R. Sections 771.129 and 771.130, and if required therein, they must be approved by FTA in writing before Triangle Transit can proceed with the change.

Table ROD-1: Commitments or Mitigation Measures

Mitigation ID and Reference	Construction or Long-Term Issue	Commitment or Mitigation Measure	Responsible Party
Public Transportation (PT) *Section 3.1*			
PT01 DEIS section 3.1.4	▪ No significant impacts	▪ NA	NA
Roadways (R) *Section 3.2*			
R01 DEIS section 3.2.3.2	▪ Traffic delays and queues at some intersections, resulting in traffic impacts at five intersections: – University Drive and Martin Luther King Jr. Parkway (a.m.). – Morreene Road/Towerview Road and Erwin Road (a.m.). – LaSalle Street and Erwin Road (a.m. and p.m.). – Main Street and Magnum Street (p.m.).	▪ Perform additional traffic analysis during the Engineering phase. ▪ Coordinate with NCDOT, DCHC MPO, and municipalities during the Engineering phase to refine roadway modifications included in the design and determine adjustments to project elements, which may include non-geometric mitigation strategies.	Triangle Transit with NCDOT and municipalities
R02 DEIS section 3.2.3.2 DEIS Errata 38	▪ Ingress/egress movements at the East Drive, Jackson, and Dogwood parking decks on UNC Campus.	▪ Perform a detailed traffic analysis on the UNC Campus during the Engineering phase evaluating potential effects of the project on the ingress/egress movements (e.g., East Drive, Jackson, and Dogwood parking decks and circulation on nearby roadways).	Triangle Transit and UNC
R03 DEIS section 3.2.3.2	▪ Introduction of new at-grade intersections and train operations along NC 54 with potential to cause roadway delays and intersection queues at intersections including: – Barbee Chapel Road – Littlejohn Road – Downing Creek Parkway	▪ Refine the traffic analysis along NC 54 during the Engineering phase, and if necessary make refinements to the roadway design.	Triangle Transit with NCDOT
R04 DEIS section 3.2.3 DEIS Errata 36 and 108	▪ Roadway safety from introduction of new at-grade intersections and train operations.	▪ Design safety measures and parameters into the proposed D-O LRT Project such as: – Using presently underdeveloped parcels and/or otherwise locating the alignment away from vehicular, pedestrian, and bicycle traffic. – Installing sidewalks and pedestrian paths to provide connectivity to stations. – Installing elevated structures to avoid significant impacts on existing roads and sidewalks. – Reconfiguring or relocating crosswalks to occur at safely	Triangle Transit with NCDOT and municipalities

Table ROD-1: Commitments or Mitigation Measures

Mitigation ID and Reference	Construction or Long-Term Issue	Commitment or Mitigation Measure	Responsible Party
		controlled intersections. – Reconfiguring the roadway signal and signage network to safely accommodate users in the context of light rail operations. – Installing visible and audible crossing signals and/or gates where appropriate for vehicles and pedestrians. – Segregating and delineating the track area using design elements such as fencing, pylons, road surface markings, rumble strips, unique paving materials, etc. – Installing illumination and signage at stations and where streets and light rail facilities interface. – Building pedestrian bridges and underpasses such as the ones currently proposed at UNC Hospitals Station and Hamilton Road Station. – Using best practices in the design of pedestrian and bicycle facilities that interface with light rail facilities, including ensuring adequate sight distance at crossings, providing pedestrian refuge areas where the light rail results in long crosswalks, and installing active warning devices where appropriate. ▪ At-grade crossings will be signalized or equipped with gates with bells to warn of oncoming trains. The trains will also have bells and horns. Bells, gates, and horns would be activated according to Triangle Transit operating procedures and safety guidelines. ▪ During the Engineering phase, coordinate with NCDOT to evaluate additional engineering safety measures, including vehicle detection technology, where appropriate.	
R05 DEIS section 3.2.4 DEIS Errata 39	▪ Potential transportation effects from other transportation projects in the vicinity of the D-O LRT Project.	▪ During Engineering, coordinate with the NCDOT, DCHC MPO, and municipalities as the designs of other transportation projects in the vicinity of the D-O LRT Project advance.	Triangle Transit with NCDOT and municipalities
R06 DEIS section 3.2.4.3 DEIS Errata 40	▪ Conversion of driveways on Erwin Road to right-in/right-out, resulting in impacts to the Crest Street Neighborhood.	▪ During Engineering, coordinate with the City of Durham to address roadway impacts resulting from the conversion of driveways on Erwin Road to right-in/right-out, including impacts to the Crest Street neighborhood.	Triangle Transit with City of Durham

Table ROD-1: Commitments or Mitigation Measures

Mitigation ID and Reference	Construction or Long-Term Issue	Commitment or Mitigation Measure	Responsible Party
Parking (P) *Section 3.3*			
P01 DEIS section 3.3.4	▪ Removal of 705 parking spaces from existing parking facilities at proposed stations and along the alignment.	▪ During the Engineering phase, develop a *Maintenance of Traffic Plan* to manage the temporary closure and access to parking facilities. Triangle Transit will include the *Maintenance of Traffic Plan* in construction plans and contract specification plans. ▪ To the extent that access to and/or affected parking facilities can be restored after construction, work to restore access; if identified as necessary, replacement parking will be provided to the extent practicable. ▪ Where parking facilities cannot be restored or replacement parking is not feasible, during real estate acquisition, work with the affected entities pursuant to the Uniform Relocation Assistance and Real Property Acquisition Policies Act.	Triangle Transit
P02 DEIS section 3.3.4	▪ Spillover parking onto nearby streets (either adjacent to park-and-ride facilities or adjacent to walk-up stations, where no parking is provided).	▪ Once the D-O LRT Project is in operation, monitor station areas and investigate any complaints of spillover parking. Work with the municipalities to develop appropriate parking enforcement if spillover parking becomes a concern.	Triangle Transit with municipalities
Freight and Passenger Railroads (FPR) *Section 3.4*			
FPR01 DEIS section 3.4.4.1 DEIS Errata 45	▪ Planned NCRR project to grade-separate the existing NCRR Corridor at Blackwell and Mangum streets through downtown Durham.	▪ During Engineering and Construction, coordinate with NCRR and NCDOT Rail Division on the use of the NCRR right-of-way and planned NCRR projects.	Triangle Transit with NCRR and NCDOT Rail Division
Airports (A) *Section 3.5*			
A01 DEIS section 3.5.5	▪ Portions of the project corridor located within 5 mile protection zone; as a result, indirect impacts could occur such as wildlife attractants from wet pond treatment sites.	▪ During Engineering, coordinate with the FAA to comply with FAA Advisory Circular 150/5200-33B Section 2-3(B) when it is necessary to locate stormwater best management practices (BMPs) such as bio retention along the alignment within 5 miles of Womble Field and Horace Williams Airport (i.e., the 5 mile protection zones). ▪ Include measures identified during Engineering regarding the design of BMPs located within 5-mile protection zones in construction plans and contract specifications.	Triangle Transit with FAA

Table ROD-1: Commitments or Mitigation Measures

Mitigation ID and Reference	Construction or Long-Term Issue	Commitment or Mitigation Measure	Responsible Party
Pedestrian and Bicycle Facilities (PBF) *Section 3.6*			
PBF01 DEIS section 3.6.4	▪ Where design requirements necessitate the addition of pedestrian and/or bicycle facilities, but constraints exist (either due to the existing built environment, roadways, and/or topographical constraints) some pedestrian and/or bicycle infrastructure would not be accommodated.	▪ During Engineering, coordinate with NCDOT and the municipalities to refine the project design to ensure that light rail station design includes improvements to bicycle and pedestrian facilities. The design shall ensure that: – Sidewalks and crosswalks at the stations are enhanced. – Pedestrian crossings of light rail tracks are designed in accordance with ADA requirements and standards to ensure access and mobility for all users. – Bicycle and pedestrian infrastructure within station areas are designed according to BMPs for pedestrian and bicycle safety. – Pedestrians are discouraged from crossing the tracks outside of the designated track crossings (e.g., fencing, signage, and/or pedestrian corals); and include measures to enhance the safety for pedestrians at permitted crossing locations (e.g., pedestrian signals and/or well-marked crosswalks). ▪ During Engineering, work with members of the public, the City of Durham, Town of Chapel Hill, NCDOT, the Durham Bicycle and Pedestrian Advisory Commission, the Town of Chapel Hill Connectivity Board, and representatives from the Alston Avenue neighborhood to identify ways to improve bicycle and pedestrian connections to stations.	Triangle Transit with NCDOT and municipalities
PBF02 DEIS section 3.6.4	▪ Need to maintain or provide new pedestrian and bicycle infrastructure as required by the development or design guidelines of the municipalities and/or NCDOT.	▪ Coordinate with the City of Durham's Station Area Strategic Infrastructure Program (SASI P) to incorporate pedestrian and bicycle improvements into the design of the D-O LRT Project.	Triangle Transit with NCDOT and municipalities
PBF03 DEIS section 3.6.4 DEIS Errata 37	▪ Impacts to 80 existing pedestrian and/or bicycle facilities.	▪ During Engineering, if the project design cannot avoid impacts to existing and/or planned pedestrian and/or bicycle facilities, coordinate with NCDOT and/or municipalities to discuss potential Project design refinements for facility reconstruction, and applicability of the design guideline requirements. ▪ If existing and/or planned pedestrian and bicycle facilities have restrictive covenants due to funds used for construction, avoid impacts to these facilities or reach an agreement with the agency(ies).	Triangle Transit with NCDOT, municipalities, and UNC

Table ROD-1: Commitments or Mitigation Measures

Mitigation ID and Reference	Construction or Long-Term Issue	Commitment or Mitigation Measure	Responsible Party
		▪ During Engineering, refine design to address the following commitments: – Coordinate with UNC regarding impacts from the Mason Farm Road Station and parking lot reconstruction on pedestrian movements and adjacent undeveloped land. – To mitigate the loss of opportunity for on-street bicycle facilities on Erwin Road and Pettigrew Street, work with the City of Durham, NCDOT, and local advocates to identify the potential for off-street facilities or on-street facilities on parallel or nearby roadways. – Maintain the existing pedestrian connection between the Durham Station and Amtrak Station. – Design and implement a sidewalk or multi-use path connection from the proposed Alston Avenue Station to the existing R. Kelly Bryant Pedestrian Bridge in consultation with the City of Durham, NCDOT, the Durham Bicycle and Pedestrian Advisory Commission, and representatives from the Alston Avenue neighborhood. ▪ During Engineering, develop a *Maintenance of Traffic Plan* to manage the temporary closure and access to pedestrian and bicycle facilities. Include the *Maintenance of Traffic Plan* in construction plans and contract specification plans. ▪ Where access to and/or affected pedestrian and/or bicycle facilities can be restored after construction, work to restore access; if identified as necessary, existing pedestrian and/or bicycle infrastructure (e.g., bicycle lanes, sharrow markings, sidewalks, crosswalks, curb ramps, and/or other pedestrian or bicycle infrastructure) will be reconstructed to the extent practicable as defined in the construction plans.	
PBF04 DEIS section 2.3.2.1 DEIS Errata 24	▪ Need for multi-modal transportation system that accommodates bicyclists on transit.	▪ During Engineering, when vehicle specifications are developed and refined, include the provision for bicycle storage on-board the light rail vehicles (LRVs) (e.g., bicycle racks or hooks). ▪ During Engineering, Construction, and Operations, develop and refine operational procedures to provide for the allowance of bicycles on-board the LRVs.	Triangle Transit

Table ROD-1: Commitments or Mitigation Measures

Mitigation ID and Reference	Construction or Long-Term Issue	Commitment or Mitigation Measure	Responsible Party
Land Use and Zoning (LUZ) *Section 4.1*			
LUZ01 DEIS section 4.1.4	▪ Rezoning may be necessary for the conversion of existing land uses to transit-oriented land uses in order to construct the park-and-rides or other elements of the project design. ▪ Through the rezoning process, it is expected that municipalities may require specific requirements or land use entitlements in order to comply with local land use ordinances or design principles (e.g., ground floor commercial space for parking decks in the City of Durham).	▪ During Engineering, coordinate rezoning with the municipalities for park-and-ride locations, where required. ▪ During Engineering, work with the City of Durham to ensure that the project design includes the incorporation of commercial space within the proposed parking deck at the Alston Avenue Station.	Triangle Transit with municipalities
LUZ02 DEIS section 4.1.4.1	▪ Farrington Road ROMF site is not consistent with existing zoning or with future land use as identified in the *Durham Comprehensive Plan.*	▪ During Engineering, continue to coordinate with property owners and residents near the Farrington Road ROMF to develop and refine strategies to complement the surrounding context such as use of architectural styles and/or landscape design. ▪ During Engineering, and after working with the Durham staff and the property owners near the Farrington ROMF site, coordinate with Durham to apply for an amendment to the Comprehensive Plan (if required) as well as the rezoning of the ROMF site at Farrington Road.	Triangle Transit with City of Durham
LUZ03 DEIS section 4.14.4	▪ Acquisitions, relocations, and/or displacements of existing uses.	▪ During Engineering and throughout the real estate process, work with the entities directly affected by construction, pursuant to the Uniform Relocation Assistance and Real Property Acquisition Policies Act.	Triangle Transit
LUZ04 DEIS section 4.2.4 DEIS Errata 64	▪ Higher density and mixed-use, including retail, commercial, and residential development surrounding stations consistent with future land use plans. ▪ Potential for fewer affordable housing opportunities surrounding station areas.	▪ Work with municipalities to identify tax abatement and affordable housing programs. ▪ During Engineering and Construction, work with the municipalities to identify the most appropriate programs for each station area and promote education of these programs within the station areas to help keep existing residents in their homes.	Triangle Transit with municipalities

Table ROD-1: Commitments or Mitigation Measures

Mitigation ID and Reference	Construction or Long-Term Issue	Commitment or Mitigation Measure	Responsible Party
Socioeconomic and Demographic Conditions (SDC) *Section 4.2*			
SDC01 DEIS section 4.2.4	▪ Potential tax revenue losses.	▪ During Engineering, work with the municipalities to identify proactive policies to promote redevelopment, infill, and economic development opportunities around affected areas. ▪ Work with the municipalities to identify proactive policies to relocate businesses near their existing location.	Triangle Transit with municipalities
SDC02 DEIS section 3.1.4	▪ Mobility options and affordability for transit-dependent populations.	▪ Prior to revenue operations, as part of the bus-rail integration planning process, engage the public and complete a Transit Service and Fare Equity Analysis.	Triangle Transit
Neighborhoods and Community Resources (NCR) *Section 4.3*			
NCR01 DEIS section 4.3.4.1	▪ Changes to neighborhood traffic operations and street patterns.	▪ During Engineering, coordinate with affected residents, businesses, and community facilities to identify strategies to minimize neighborhood effects through refinements in the project design.	Triangle Transit
NCR02 DEIS section 4.3.4.1 DEIS Errata 40 and 67	▪ Access to neighborhoods and community resources for the following locations: – Between Larchmont Road and the intersection of Snow Crest Trail and University Drive. – Pedestrian access to neighborhoods, hospitals, Duke University, and community facilities located along Erwin Road. – Vehicular access changes to Erwin Road that would result from the construction the Crest Street neighborhood. – Relocation of the John Hope Franklin Center, which would impact access to the services provided at the center. – Loss of property around the John Avery Boys and Girls Club near the play field and along the site frontage, which would also include pedestrian and vehicular changes to access the site. – Impacts to pedestrian access at the Aldersgate Methodist Church.	▪ During Engineering, incorporate and/or refine the following measures to ensure maintenance of access to directly impacted neighborhoods and community resources: – Add a new roadway between Larchmont Road and Snow Crest Trail to provide access from Larchmont Road to the signalized intersection at Snow Crest Trail and University Drive. – Coordinate with NCDOT to provide safe and convenient pedestrian access to neighborhoods and community facilities along Erwin Road. – Coordinate with the City of Durham to address roadway impacts resulting from the conversion of driveways on Erwin Road to right-in/right-out, including impacts on the Crest Street neighborhood. – Coordinate with Duke University to ensure that services provided at the John Hope Franklin Center are relocated and maintained. – Cooperate with owners of the John Avery Boys and Girls Club to maintain or replace the existing fence around the play field, maintain or improve existing access to the site and building, and improve the sidewalk along Pettigrew Street and Grant Street including marked crosswalks.	Triangle Transit with NCDOT, municipalities, Duke University

Table ROD-1: Commitments or Mitigation Measures

Mitigation ID and Reference	Construction or Long-Term Issue	Commitment or Mitigation Measure	Responsible Party
		▪ Work with Aldersgate Methodist Church to reconfigure the sidewalk and steps.	
R02 DEIS section 3.2.3.2 DEIS Errata 38	▪ Potential impacts to ingress/egress movements at the East Drive, Jackson, and Dogwood parking decks on UNC Campus.	▪ Perform a detailed traffic analysis on the UNC Campus on the potential effects of the project in ingress/egress movements (e.g., East Drive, Jackson, and Dogwood parking decks and circulation on nearby roadways) to determine whether additional refinements to the design are necessary.	Triangle Transit and UNC
NCR03 DEIS section 4.3.4.1 DEIS Errata 73	▪ Potential effect on the safety of students, staff, and faculty of Glenwood Elementary School and users of the adjacent trails.	▪ During Engineering, incorporate protective fencing and a pedestrian underpass to ensure safety at Glenwood Elementary School and to preserve access to the adjacent trails and enhance safety along the pedestrian path. ▪ Coordinate with Glenwood Elementary School during the Engineering phase to review the designs.	Triangle Transit
R04 DEIS section 3.2.3 DEIS Errata 36 and 108	▪ Operational effects of the introduction of new at-grade intersections and train operations on the safety, roadway delays, and intersection queues along NC 54.	▪ Refine the traffic analysis along NC 54 during the Engineering phase, and if necessary make refinements to the roadway design. ▪ At-grade crossings will be signalized or equipped with gates with bells to warn of oncoming trains. The trains will also have bells and horns. Bells, gates, and horns would be activated according to Triangle Transit operating procedures and safety guidelines. ▪ During the Engineering phase, coordinate with NCDOT to evaluate additional engineering safety measures, including vehicle detection technology, where appropriate.	Triangle Transit with NCDOT
LUZ02 DEIS section 4.1.4.1	▪ Neighborhood concerns regarding visual, noise, safety, and access effects on residential properties located near the ROMF site.	▪ During Engineering, coordinate with property owners and residents near the Farrington Road ROMF to develop and refine strategies to complement the surrounding context such as use of architectural styles and/or landscape design. ▪ During Engineering, and after working with the Durham staff and the property owners near the Farrington ROMF, coordinate with Durham to apply for an amendment to the Comprehensive Plan as well as the rezoning of the ROMF site at Farrington Road. The public will have the opportunity to comment on the design through a public hearing as part of the city and/or county approval process.	Triangle Transit with City of Durham

Table ROD-1: Commitments or Mitigation Measures

Mitigation ID and Reference	Construction or Long-Term Issue	Commitment or Mitigation Measure	Responsible Party
LUZ03 DEIS section 4.14.4	▪ As a result of the construction of the ROMF, displacements of residents would occur.	▪ During Engineering, ensure that any displaced residents would be relocated in accordance with Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (49 C.F.R. Part 24).	Triangle Transit
NCR04 DEIS section 4.3.4.1	▪ Acquisition of a portion of the parcel that contains the Patterson's Mill Country Store (which is considered to be a community resource) would be necessary, but the store could remain.	▪ Develop landscaping, vegetative screening, and modified access to the store.	Triangle Transit
NCR05 DEIS section 4.16.3.3	▪ Temporary impacts to school bus routes and vehicular travel patterns during construction of the project.	▪ Coordinate with Chapel Hill-Carrboro City Schools and Durham Public Schools to identify detours for impacted school bus routes. ▪ During the Engineering phase, develop a *Maintenance of Traffic Plan* to manage the temporary closure and access to parking facilities. Triangle Transit will include the *Maintenance of Traffic Plan* in construction plans and contract specification plans.	Triangle Transit
Visual and Aesthetic Conditions (VAC) *Section 4.4*			
VAC01 DEIS section 4.4.4.1 DEIS Errata 75, 76, and 77	▪ Introduction of new visual elements to the viewshed. These new elements could negatively affect visually sensitive resources by altering the view to and/or from the resource, or by adding an element that would be out of scale or character with the existing visual context.	▪ During Engineering, coordinate with the Town of Chapel Hill and the City of Durham as well as with affected residents, businesses, neighborhoods, and community facilities to identify strategies to further minimize the visual effects of the project. ▪ For locations where visual impacts cannot be avoided, incorporate the following measures in the project design: – The use of interdisciplinary design teams to create aesthetic guidelines and standards. – The interdisciplinary design teams will use input from the coordination with municipalities, residents, businesses, neighborhoods, and community facilities to inform the strategies for minimizing visual effects in the project design. – Integrate facilities with area redevelopment plans. – Work with the municipalities and NCDOT to identify landscape planting and appropriate vegetation in and adjoining the project right-of-way. – Replant remainder parcels when portions of a parcel will remain after the construction. – Use source-shielding in exterior lighting at ROMFs, stations, and auxiliary facilities to reduce light pollution from new light sources.	Triangle Transit, NCDOT, and municipalities

Table ROD-1: Commitments or Mitigation Measures

Mitigation ID and Reference	Construction or Long-Term Issue	Commitment or Mitigation Measure	Responsible Party
		– Identify and integrate Art-in-Transit opportunities in the design (e.g., unique artistic design in the etching, color, or materials of windscreens, canopies, and seating at transit stations, landscape planting along the project right-of-way, and/or incorporation of color, murals, form design in the project's walls, bridges, and/or murals at transit stations). ▪ Incorporate landscaping and aesthetic treatments to the design of elevated or aerial structure in close proximity to residences.	
VAC02 DEIS section 4.4.4.1 DEIS Errata 78 and 79	▪ Site-specific visual impacts include: – UNC Finley Golf Course (Landscape Unit #2) – changes in the viewshed and the introduction of new visual elements that would result from the project (station, lighting, OCS poles, track, etc.). – East 54/Hamilton Road Station (Landscape Unit #2) – changes in the viewshed and the introduction of new visual elements that would result from the project (station, lighting, OCS poles, track, etc.). – Patterson's Mill Country Store and Walter Curtis Hudson Farm (Landscape Unit #4) – changes in the viewshed and introduction of new visual elements that would be located adjacent to the community resource and historic property, respectively (Section 106 and Section 4(f) Resources). – Duke West Campus (Landscape Unit #6) – introduction of aerial structure adjacent to the Al Buehler Trail. – Duke University Golf Course (Landscape Unit #7 and #8) – introduction of new visual elements adjacent to the Duke University Golf Course and would require the removal of some existing landscaping and vegetative screening. – The ROMF would include built facilities (maintenance buildings, office spaces, and	▪ Implement the following mitigation measures for site-specific visual impacts: – UNC Finley Golf Course – reconstruct the affected hole and provide landscaping and a protective screen, which is based on a plan developed by the golf course designer, as described in chapter 6, Draft Section 4(f) Evaluation. – East 54/Hamilton Road Station – incorporate additional landscaping along Prestwick Road. – Patterson's Mill Country Store and Walter Curtis Hudson Farm – provide a landscape visual buffer for the Walter Curtis Hudson Farm including additional landscaping. – Duke West Campus – coordinate with Duke University and NCDOT to determine appropriate mitigation measures for the Al Buehler Trail and aesthetic treatments to the elevated structure. – Duke University Golf Course - coordinate with Duke University to provide landscaping and vegetative screening for the golf course. ▪ Farrington Road ROMF – coordinate with the surrounding landowners and the City of Durham during Engineering to identify potential treatments including landscaping, architectural treatments, visual barriers, and building height maximum.	Triangle Transit with City of Durham, Duke University, NCDOT, and SHPO

Table ROD-1: Commitments or Mitigation Measures

Mitigation ID and Reference	Construction or Long-Term Issue	Commitment or Mitigation Measure	Responsible Party
	shops) and infrastructure (parking and paved areas, tracks, switches, OCS lines and poles, TPSS, and signals). The site topography would change due to grading, and would include changes in structural features, such as the removal of existing structures and the construction of new buildings; changes in vegetation, such as the removal of vegetation and planting of new vegetation; and the addition of lighting.		
Historic and Archaeological Resources (CHAR) *Section 4.5*			
CHAR01 DEIS section 4.5.3.1	Architectural Historic Resources ▪ Indirect impacts to 13 of 25 architectural historic properties within the area of potential effect: – Dr. Robert Jack Shankle House – H.G. Baity House – Bowers-Nelson House – Dubose Tenant Farm Complex – Meadowmont – West Durham Historic District – Powe House – Trinity Historic District – Watts and Yuille Tobacco Warehouses – Bright Leaf Historic District – Downtown Durham Historic District – Durham Water Tower – East Durham Historic District	Architectural Historic Resources ▪ Provide a landscape visual buffer for the following historic resources due to their non-urban settings: the Rocky Ridge Farm Historic District, the Highland Woods Historic District, the Walter Curtis Hudson Farm, and the Ruth-Sizemore Store (Table 4.5-1). This visual buffer would provide a blooming of at least two seasons of each year. Triangle Transit will consult with property owners, historic district representatives, and the SHPO on the appearance of this buffer.	Triangle Transit with SHPO
CHAR02 DEIS section 4.5.4.2	Archaeological Resources ▪ Impacts to archaeological resources will not be more fully understood until Engineering. Therefore, Triangle Transit has entered into a Memorandum of Agreement (MOA) with FTA and SHPO. ▪ The Archaeological Background Information identified areas where further archaeological surveys (Phase 1 and II) will be conducted during	Archaeological Resources ▪ Conduct Phase I archaeological surveys for the following locations of the proposed D-O LRT Project (Table 4.5-2): – North of Mason Farm Road between UNC and Fordham Boulevard. – Between George King Road and Interstate-40 (I-40). – Farrington Road ROMF site. – West of I-40 at the US 15-501 Interchange (Exit 270) (Gateway	Triangle Transit with SHPO

Table ROD-1: Commitments or Mitigation Measures

Mitigation ID and Reference	Construction or Long-Term Issue	Commitment or Mitigation Measure	Responsible Party
	future engineering and prior to construction.	Station). – Between US 15-501 and the NC 751 – Erwin Road intersection. ▪ Triangle Transit may conduct Phase II archaeological testing projects at the following locations dependent on the nature and extent of potential ground-disturbing activities: – Archaeological site 31DH655 – PS-1 – PS-3 ▪ FTA, Triangle Transit, and SHPO entered into a MOA for the proposed D-O LRT Project to establish the procedures by which FTA, Triangle Transit, and SHPO will work together to ensure the effective protection of historic and/or archaeological resources during the implementation and construction of the proposed D-O LRT Project. FTA, Triangle Transit, and SHPO agree that the D-O LRT Project shall be implemented in accordance with the stipulations outlined in the MOA – The MOA and Final EIS/ROD identify measures required to mitigate impacts to archaeological historic properties if any are identified during archaeological Phase I or Phase II studies. ▪ In the event of an inadvertent discovery of archaeological materials, cease construction within a 50 foot buffer around the material. The construction manager will immediately contact the SHPO, FTA, and Triangle Transit. The SHPO and FTA will consult to determine appropriate actions to identify archaeological materials and mitigate adverse effects.	
Parklands and Recreational Areas (PRA) *Section 4.6* (Refer to Section 4(f) entries for additional information)			
PRA01 DEIS section 4.6.4 DEIS Errata 84, 85, and 86	▪ Impacts to three existing public parks (UNC Open Space, UNC Finley Golf Course, and USACE Lands), one private park (Duke University), and one planned public park (UNC Central Park South), with a total impact to 13.3 acres of parklands.	▪ During Engineering and Construction, continue to coordinate with agencies with jurisdiction (i.e., UNC, North Carolina Botanical Gardens, Town of Chapel Hill, USACE, NCWRC, Duke Forest, and City-County of Durham) to minimize potential impacts to parklands and recreational resources. ▪ Provide financial compensation for purchase and development of replacement park property of at least equivalent value with the property acquired, or, where appropriate, enhancement of the	Triangle Transit with UNC, North Carolina Botanical Gardens, Town of Chapel Hill, USACE, NCWRC, Duke Forest, and City-County of Durham

Table ROD-1: Commitments or Mitigation Measures

Mitigation ID and Reference	Construction or Long-Term Issue	Commitment or Mitigation Measure	Responsible Party
	▪ Crossing of three proposed trails (East 54/Botanical Gardens, Little Creek Connector Trail, and the New Hope Creek Trail).	existing facility to compensate for impacts in coordination with the respective agencies with jurisdiction. This mitigation will be provided for UNC Open Space, the planned UNC Central Park South, Coker Pinetum, Meadowmont Park, and Duke University properties that will be impacted by the NEPA Preferred Alternative. ▪ During Engineering, as the result of ongoing stakeholder coordination, incorporate the following site-specific commitments into the project design: – UNC Finley Golf Course – One golf hole (#17) will be redesigned based on the plan developed by the golf course designer and golf course cart paths will be realigned. Triangle Transit will reconstruct the affected hole and provide landscaping. Triangle Transit will continue to coordinate with UNC, and the golf course will remain open during construction. – UNC Cross Country Trails – Install a pedestrian underpass and realign the trails to maintain connectivity in a manner consistent with existing conditions. Triangle Transit will continue to coordinate with UNC during Engineering to minimize impacts to these trails and will coordinate closings of the trails with UNC during Construction. – Jordan Game Lands (USACE Property) –Triangle Transit commits to the following: • Replace reservoir water-storage volume lost due to fill below elevation 245 feet msl by excavation of an equal amount of new storage volume at the same elevation as the lost storage volume. • Compensate the NCWRC for loss of marketable timber. Timber value will be determined by a registered government forester and payment for timber will be collected at the time the easement is issued. • Relocate the access road to the existing impoundment parking area, place gravel on the parking lot, provide and install a new gate and informational signs. • Construct a gravel access road (16 feet wide) from the existing parking area to a second parking area along the NEPA Preferred Alternative for the impoundment, and provide and install a new gate and informational signs.	

Table ROD-1: Commitments or Mitigation Measures

Mitigation ID and Reference	Construction or Long-Term Issue	Commitment or Mitigation Measure	Responsible Party
		• Construct a public access parking area on the south side of NC 54, and provide and install a double gate and informational signs. • Replace the existing Waterfowl Impoundment sign and install a new Game Lands access directional sign for new area along NC 54. ▪ Coordinate with USACE to locate fencing as appropriate.	
Natural Resources (NR) *Section 4.7*			
NR01 DEIS section 4.7.4 DEIS Errata 90	▪ Impacts to approximately 316 acres of habitat. ▪ Crossing of the USACE property and the NCWRC Jordan Game Lands, potentially impacting habitat and wildlife movement. ▪ Potential impacts to the Little Creek Bottomlands and Slopes, a Significant Natural Heritage Area.	As a result of ongoing coordination with the agencies with jurisdiction, Triangle Transit commits to the following: ▪ Revegetate bare soils after construction to minimize erosion. Disturbed land would be re-vegetated with a native seed mix or landscaping in the urban environment. During Engineering, Triangle Transit will include these provisions in the construction plans and contract specifications. ▪ Minimize adverse effects to aquatic wildlife by bridging wetland and stream areas, and employing sediment and erosion control BMPs. Efforts to avoid, minimize, or mitigate impacts to wildlife and their habitats will continue during final design and construction. Mitigation measures, such as nesting surveys if required, will be developed in consultation with NCWRC and the NCDA. During Engineering, Triangle Transit will work with NCWRC and NCDA to determine if nesting surveys are required prior to construction. ▪ During Engineering and Construction, periodically review the county species list to ensure the status of the northern long-eared bat. If the bat is listed in the county and tree removal has not yet been completed for the project, then Triangle Transit will consult with USFWS at that time. ▪ Conduct surveys if it becomes evident that bald eagles are utilizing the project area. During Engineering, Triangle Transit will include these specifications in the design and construction plans. ▪ While impacts to migratory birds are not anticipated, Triangle Transit commits to the following: Between October 1 and February 15, the contractor would remove all old migratory bird nests from any structures that would be affected by the proposed project, and	Triangle Transit with USACE, USFWS, NCWRC, and NCDA

Table ROD-1: Commitments or Mitigation Measures

Mitigation ID and Reference	Construction or Long-Term Issue	Commitment or Mitigation Measure	Responsible Party
		complete any necessary construction on existing bridges and/or vegetation clearing. In addition, the contractor would be prepared to prevent migratory birds from building nests between February 15 and October 1, per the *Environmental Permits, Issues, and Commitments* Plan (EPIC). In the event that migratory birds are encountered on-site during project construction, adverse impacts on protected birds, active nests, eggs, and/or young would be avoided. However, if construction is to take place during nesting season for migratory birds, Triangle Transit will conduct a nesting survey prior to construction. During Engineering, Triangle Transit will include these provisions in the construction plans and contract specifications.	
Water Resources (WR) *Section 4.8*			
WR01 DEIS section 4.8.4 DEIS Errata 92, 94, 95, 97, 98, 100, 102, and 103	▪ Impacts to 3,413 linear feet (0.438 acre) of streams. ▪ Impacts to 0.558 acre of wetlands. ▪ Impacts to 216,455 square feet (4.97 acres) of Riparian Buffer Zone 1. ▪ Impacts to 178,517 square feet (4.10 acres) of Riparian Buffer Zone 2. ▪ Impacts to 0.005 acre of open water/ponds. ▪ Impacts to 6.420 acres of 100-year floodplain. ▪ Impacts to 0.378 acre of 500-year floodplain. ▪ Impacts to 0.880 acre of floodway.	▪ Use the Erosion and Sediment Control Planning and Design Manual (NCDENR [NCDEQ] 2009) and the NCDOT design specifications to minimize the impacts to land and water resources. ▪ Abide by local standards set by the City of Durham and the Town of Chapel Hill when designing erosion and sediment controls. These sediment and erosion control measures will help to protect aquatic resources that may contribute to groundwater recharge within the study area. ▪ Implement BMPs for the collection and treatment of stormwater runoff at each station location and park-and-ride facility. ▪ Capture and store all fluids used at the ROMF in tanks where they are periodically collected by an outside vendor for off-site recycling or disposal. ▪ Avoid and minimize impacts by consideration during Engineering of alternative alignments, placement of piers outside of wetlands and streams to the greatest extent possible, use of bottomless culverts, and top-down construction techniques. ▪ For wetland crossings where it is not feasible to use aerial structures, minimize impacts to these resources by using retaining walls or similar structures and 2:1 side slopes. ▪ Develop specific compensatory mitigation measures in consultation with the USACE and NCDWR as part of the Section 404/401	Triangle Transit with NCDOT, USACE, NCDWR, and North Carolina Division of Mitigation Services

Table ROD-1: Commitments or Mitigation Measures

Mitigation ID and Reference	Construction or Long-Term Issue	Commitment or Mitigation Measure	Responsible Party
		permitting process during the Engineering phase. Compensatory mitigation measures may include: – Purchase of credits at a USACE-approved mitigation bank. – Payment of a compensatory mitigation fee into the Riparian Buffer Restoration Fund. – The donation of real property or an interest in real property if the property is maintained as a riparian buffer. – Restoration or enhancement of an existing riparian buffer that is not otherwise required to be protected or the creation of a new riparian buffer. – Construction of an alternative measure that reduces nutrient loading as well as or better than the riparian buffer that is lost in the same river basin. ▪ Coordinate a buffer mitigation with the North Carolina Division of Mitigation Services. ▪ Implement mitigation measures for increases in 100-year flood elevation greater than 0.1 feet pending hydraulic studies. Mitigation measures would include either purchasing the additional potentially flooded property from any private landowner, or making floodplain modifications to decrease the 100-year flood elevation to within 0.1 feet to avoid purchasing property. ▪ Obtain a floodplain development permit from the local jurisdiction for all construction, grading, development, or storage of equipment or materials within the Special Flood Hazard Area (SFHA). ▪ If hydraulic studies during Engineering determine that there would be an increase in flood levels during the base flood discharge, obtain a No-Rise Certification from the North Carolina Department of Public Safety Division of Emergency Management. If studies indicate that there would be an increase in flood levels, request a Conditional Letter of Map Revision. ▪ The *Basis for Engineering Design* calls for bridging over the major streams of the study area that include Meeting of the Waters (Stream YY), Little Creek (Stream Y), New Hope Creek (Stream T), and Sandy Creek (Stream J) in an effort to minimize impacts to 100-year floodplains, 500-year floodplains, and the FEMA floodways. These bridges will be designed to minimize impacts to floodplains	

Table ROD-1: Commitments or Mitigation Measures

Mitigation ID and Reference	Construction or Long-Term Issue	Commitment or Mitigation Measure	Responsible Party
		and regulated floodways. ▪ Review opportunities for green building design and low-impact development design during Engineering. Water Quality ▪ Implement BMPs, including on-site storage and detention for stormwater, as engineering controls along the alignment, at station park-and-ride facilities, and at the ROMF for stormwater runoff collection and treatment. ▪ Maintain stormwater BMPs to ensure that the controls are functioning properly for the protection of area water quality. ▪ Design the ROMF to manage stormwater runoff in a manner consistent with local and state regulations to avoid and minimize impacts to neighborhoods and community resources in the vicinity such as Leigh Farm Park and the Piedmont Wildlife Center. ▪ Complete analysis of cumulative and secondary impacts anticipated as a result of the project as part of the Section 401 Water Quality Certification application and in conformance to the Division of Water Resources policy on the assessment of secondary and cumulative impacts dated April 10, 2004. ▪ Identify construction-related impacts during the Engineering phase, including temporary impacts and include them as part of the 401 Water Quality Certification application. ▪ Design bridge deck drains so that they do not discharge directly into project area streams. Stormwater shall be directed across bridges and will be pre-treated through BMPs. Temporary Mitigation ▪ Conduct construction activities in accordance with local, state, and federal regulations, as well as BMPs, including the NCDENR *Stormwater Best Management Practices Manual* (2007), the *Erosion and Sediment Control Planning and Design Manual* (NCDENR 2009), the North Carolina Department of Transportation Stormwater Best Management Practices Toolbox manual, and the Design Standards in Sensitive Watersheds (15A N.C.A.C. § 04B.0124).	

Table ROD-1: Commitments or Mitigation Measures

Mitigation ID and Reference	Construction or Long-Term Issue	Commitment or Mitigation Measure	Responsible Party
		▪ Locate construction staging areas away from wetlands, and demarcate preserved wetland areas prior to construction. ▪ Restore wetlands anticipated to be temporarily affected by construction as close to their original condition as possible and plant with an appropriate native wetland seed mix. ▪ During Engineering, coordinate aforementioned water resource commitments, with appropriate agencies with jurisdiction, and include provisions in the construction plans and contract specifications, as appropriate.	
Air Quality (AQ) *Section 4.9*			
AQ01 DEIS section 4.9.4	▪ No significant impacts.	▪ NA	NA
Noise and Vibration (NV) *Section 4.10*			
NV01 DEIS section 4.10.5 DEIS Errata 105 and 106	▪ One severe noise impact, 4 moderate noise impacts, 8 vibration impacts, and 13 ground-borne noise impacts.	▪ Coordinate design and policies related to audible warning devices with NCDOT and local jurisdictions in accordance with applicable regulations, guidance, municipal policies, and BMPs. ▪ In accordance with the FTA Guidance Manual, conduct a detailed vibration analysis during the Engineering phase to further evaluate geotechnical conditions and more precisely predict the vibration effects of the proposed light rail system on area receptors. ▪ Implement noise mitigation measures, including property acquisition and elevated track barriers. During real estate acquisition, work with the affected properties pursuant to the Uniform Relocation Assistance and Real Property Acquisition Policies Act. ▪ Implement vibration mitigation measures consisting of special track support systems, resilient fasteners, ballast mats, resiliently supported ties, and floating slabs. ▪ Coordinate with UNC and UNC Hospitals to avoid and mitigate vibration impacts to sensitive medical and research equipment. ▪ Coordinate with Duke University to confirm the appropriate land use category for the Center for Documentary Studies and its outdoor amphitheater and update the analysis as appropriate during Engineering.	Triangle Transit with NCDOT, UNC, UNC Hospitals, and Duke University

Table ROD-1: Commitments or Mitigation Measures

Mitigation ID and Reference	Construction or Long-Term Issue	Commitment or Mitigation Measure	Responsible Party
		▪ During Engineering, include the aforementioned provisions in the construction plans and contract specifications.	
Hazardous, Contaminated, and Regulated Materials (HCRM) *Section 4.11*			
HCRM01 DEIS section 4.11.4 DEIS Errata 107	▪ Chance of disturbing 41 high risk sites, 83 medium risk sites within 500 feet of NEPA Preferred Alternative.	▪ Perform a full Phase I or Phase II Environmental Site Assessment for high risk properties following American Society for Testing and Materials (ASTM) standards prior to construction. ▪ During Engineering, coordinate with NCDEQ to review the closure status or current site status for the medium risk properties prior to starting construction. ▪ Coordinate with NCDEQ to have the current site status of the three high risk properties (Flintom Services Inc. [former], Bob's Service Garage, and Graybar Building Site [former]) reviewed prior to any construction activities to determine whether any cleanup activities have occurred. If cleanup has occurred, Phase II sampling will be conducted again to determine whether remediation of the site has been performed to acceptable standards. If cleanup has not occurred, coordinate with NCDEQ to determine what cleanup actions, if any, are necessary. ▪ Train engineering and construction crews to be alert for signs of apparent contamination during excavations or pre-construction borings, even if the Phase I assessment indicates low probability of contamination at a given location. ▪ Train engineering and construction crews to immediately report apparent contamination to their supervisor. Upon discovery of contamination, supervisors will be aware of whom to contact at Triangle Transit, the managing contractor's office, NCDEQ, and EPA, if necessary. ▪ Develop a *Spill Prevention, Control, and Countermeasure Plan* prior to demolition, excavation, and construction activities. ▪ Handle and manage potentially hazardous materials in compliance with applicable regulatory standards and dispose of them in accordance with an approved remediation plan or within an approved disposal site. Sampling will be conducted for hazardous materials intended for disposal.	Triangle Transit with NCDEQ

Table ROD-1: Commitments or Mitigation Measures

Mitigation ID and Reference	Construction or Long-Term Issue	Commitment or Mitigation Measure	Responsible Party
		▪ Conduct asbestos surveys at all locations where demolition and renovations may occur. ▪ Manage used oil generated from operations or maintenance in accordance with the standards for the management of used oil described in 40 C.F.R. Part 279. Temporary Mitigation: ▪ Implement preventive measures to minimize exposure of the public, community residents, and construction workers to hazardous materials. ▪ Dispose of construction waste at approved sites. ▪ Follow Occupational Safety and Health Administration (OSHA), state, and local standards for the handling and storage of fuels and other materials. ▪ Establish provisions for the identification and management of known and unexpected buried tanks or contaminated materials that might be encountered during soil disturbance activities associated with construction. ▪ During Engineering, include the aforementioned provisions in the construction plans and contract specifications.	
Safety and Security (SS) *Section 4.12*			
SS01 DEIS section 4.12.4 DEIS Errata 108, 109, and 110	▪ Potential safety hazards at stations, light rail vehicles, park-and-ride facilities, impacts to police, security, and emergency service operations.	Passenger Safety: ▪ Before revenue service begins, develop transit system safety management procedures. This safety program will be documented in the *System Safety Program Plan* (SSPP), a plan to guide system risk management and a core aspect of the State Safety Oversight program. ▪ Develop system security management during revenue service guided by the *Safety and Emergency Preparedness Plan* (SEPP), which will be developed prior to the opening of revenue service. The SEPP will include an evacuation plan for the ROMF. ▪ Before revenue operations begin, develop additional protocols to protect passenger safety near and on the platforms and in the light rail vehicles as part of the SSPP and SEPP. Security patrols and	Triangle Transit with local law enforcement, emergency medical personnel, NCDOT, railroads, and Durham County

Table ROD-1: Commitments or Mitigation Measures

Mitigation ID and Reference	Construction or Long-Term Issue	Commitment or Mitigation Measure	Responsible Party
		cameras, lighting, communications systems, and public announcements will be employed as appropriate to increase passenger safety. Clear instructions to passengers will be developed regarding emergency exiting from the light rail vehicles and from tracks that are at ground level or elevated. ▪ Locate the NEPA Preferred Alternative a minimum of 40 feet from any potential future railroad track, a safety separation distance required by the NCRR. A fence with intrusion detection equipment will be installed between the railroad tracks and light rail tracks to automatically alert operations staff in the event of a railroad train derailment. Policies and procedures pertaining to railroad train derailments will be included in the SEPP for the project and will be coordinated with local emergency response agencies. Station Platforms and Park-and-Ride Facilities: ▪ Consult with local law enforcement and other public agencies to design the project's public facilities to maximize the safety and security of light rail patrons and the transit system's employees. ▪ Design station platforms and park-and-ride facilities using Crime Prevention Through Environmental Design (CPTED) principles to increase natural surveillance opportunities. CCTV cameras will be placed on every platform and in park-and-ride facilities. Blue light emergency phones will be available at regular intervals on station platforms and in park-and-ride locations. The ticket vending machines will contain passenger assistance telephones to link passengers with a central control center. Security will be provided using roving patrols along the corridor, at stations, and at the proposed park-and-ride facilities. Each station platform will be equipped with a public notification system. Durham County Detention Center: ▪ Coordinate with Durham County during the Engineering phase to determine the appropriate location and design of TPSS #16 near the Durham County Detention Center. ▪ Modify the approaches to the Detention Center from Pettigrew Street to preserve truck access. Coordinate with Durham County during the Engineering phase to develop plans for work zone traffic control along Pettigrew Street.	

Table ROD-1: Commitments or Mitigation Measures

Mitigation ID and Reference	Construction or Long-Term Issue	Commitment or Mitigation Measure	Responsible Party
		Transit Vehicles: ▪ Light rail vehicles will be compliant with a number of requirements, codes, and other design criteria. These include, but are not limited to, tamper-resistant equipment, dependable/redundant communication networks, CCTV monitoring, intrusion alarm systems, and relevant fire, life, and safety requirements. Employees and Contractors: ▪ Before revenue operations begin, develop operational manuals and establish procedures consistent with the SSPP to ensure the safety of the transit system's employees and contractors. Pedestrians, Bicyclists, and Motorists: ▪ Design safety measures and parameters into the proposed D-O LRT Project including: – Using presently underdeveloped parcels and/or otherwise locating the alignment away from vehicular, pedestrian, and bicycle traffic. – Installing sidewalks and pedestrian paths to provide connectivity to stations. – Installing elevated structures to avoid significant impacts on existing roads and sidewalks. – Reconfiguring or relocating crosswalks to occur at safely controlled intersections. – Reconfiguring the roadway signal and signage network to safely accommodate users in the context of light rail operations. – Installing visible and audible crossing signals and/or gates where appropriate for vehicles and pedestrians. – Segregating and delineating the track area using design elements such as fencing, pylons, road surface markings, rumble strips, unique paving materials, etc. – Installing illumination and signage at stations and where streets and light rail facilities interface. – Developing public education programs to explain how to use the system safely, and how to respect the operation of the system to ensure safety of the non-user. These education programs would be implemented before revenue operation	

Table ROD-1: Commitments or Mitigation Measures

Mitigation ID and Reference	Construction or Long-Term Issue	Commitment or Mitigation Measure	Responsible Party
		near the end of the construction period, and would continue during the initial months of revenue operation. – Building pedestrian bridges and underpasses such as the ones currently proposed at UNC Hospitals Station and Hamilton Road Station. – Using best practices in the design of pedestrian and bicycle facilities that interface with light rail facilities, including ensuring adequate sight distance at crossings, providing pedestrian refuge areas where the light rail results in long crosswalks, and installing active warning devices where appropriate. ▪ Follow all national, state, and local safety guidelines and best practices, and coordinate with NCRR, Norfolk Southern (NS), CSX Corporation (CSX) (as appropriate), NCDOT, and local jurisdictions regarding motorist and pedestrian safety near at-grade crossing of the light rail alignment within the NCRR corridor, and along the light rail alignment. Police, Security, and Emergency Service Operations: ▪ As design advances, coordinate with law enforcement, emergency and medical personnel, and other public agencies to investigate impacts of the potential light rail system on their day-to-day operations. For example, work with fire departments to determine whether implementation of the NEPA Preferred Alternative warrants changing dispatch locations for emergency services. ▪ Coordinate with local emergency management departments during the Engineering phase to get input on the development of a *Safety and Security Management Plan*, and to develop plans and materials useful for training of police, security, and emergency service personnel. The training would include methods by which these personnel can assist in informing and educating the public about system safety. ▪ Construct the guideway in embedded track such that emergency vehicles can bypass other vehicles via use of the embedded track condition. The light rail operation would yield to these infrequent occurrences. Access to emergency and health care facilities would not be compromised by the light rail.	

Table ROD-1: Commitments or Mitigation Measures

Mitigation ID and Reference	Construction or Long-Term Issue	Commitment or Mitigation Measure	Responsible Party
		▪ Work with local law enforcement and emergency medical personnel to develop a training plan that involves responding to incidents at light rail facilities and on light rail vehicles. This plan will include a schedule for training prior to and during revenue operations. ▪ During Engineering, include the aforementioned provisions in the construction plans and contract specifications.	
Energy (E) Section 4.13			
E01 DEIS section 4.13.4	▪ No significant impacts.	▪ NA	NA
Acquisitions, Relocations, and Displacements (ARD) *Section 4.14*			
ARD01 DEIS section 4.14.4 DEIS Errata 112	▪ Acquisitions, relocations, and displacements include 92 potential full acquisitions, 138 potential partial acquisitions, and 65 displacements.	▪ Conduct the acquisition and relocation process in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended. ▪ For property owners and tenants whose primary language is not English, conduct the property acquisition and relocation discussions in alternate languages. ▪ If exercising eminent domain is necessary, follow the procedures set forth under North Carolina law, including NC Eminent Domain (N.C.G.S. §§ 40-A-1 – 40A-85) and NC Relocation Assistance Act (N.C.G.S. § 133-5 – 133-22). ▪ Pursuant to 23 C.F.R. Part 810 Subpart C, request authorization from the Federal Highway Administration (after an assessment by NCDOT) to use federally-owned rights-of-way in conjunction with the proposed D-O LRT Project. ▪ Conduct any relocation of a displaced use in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970. Provide ample notice to those being relocated to allow for any planning contingencies that may arise. ▪ In accordance with Title VI of the Civil Rights Act of 1964, provide relocation advisory assistance to all eligible persons without discrimination. ▪ Provide relocation planning and services to businesses including review of site requirements, current lease terms, and other	Triangle Transit with UNC and Duke University

Table ROD-1: Commitments or Mitigation Measures

Mitigation ID and Reference	Construction or Long-Term Issue	Commitment or Mitigation Measure	Responsible Party
		contractual obligations; outside specialists to assist in planning and moving; identification and resolution of personal property/real property issues; an estimate of time required for the business to vacate the site; an estimate of the anticipated difficulty in locating replacement property; and an identification of any advance relocation payments required for the move. ▪ During Engineering, coordinate with UNC and Duke University to determine whether an acquisition or easement is appropriate.	
Utility Impacts (UI) *Section 4.15*			
UI01 DEIS section 4.15.4	▪ Potential impacts to 85 miles of utility lines. ▪ Potential impacts to the cell tower on the Farrington Road ROMF site.	▪ Survey existing utilities during the Engineering phase and seek to avoid or limit impacts to existing utilities. ▪ All protection in place, relocation, replacement, or abandonment will be conducted in consultation with the utility owner. ▪ Where relocation will be required, make efforts to consolidate existing utilities. ▪ Minimize utility service outages and schedule them with the utility owner and the customer such that they would present the least inconvenience. ▪ Incorporate special measures to ensure continuous service to life safety functions such as hospitals, fire protection, emergency response, detention centers, and other facilities providing critical support such as private medical offices/care facilities or university laboratories. ▪ Notify residences and businesses of utility work. ▪ During Engineering and construction, coordinate with the utility owners to monitor relocation activities and execute any necessary relocation agreements. ▪ Coordinate with the utility owner and property owners to determine the feasibility of accommodating the cell tower and access for the utility owner for operations and maintenance into the Farrington Road ROMF site design.	Triangle Transit

Table ROD-1: Commitments or Mitigation Measures

Mitigation ID and Reference	Construction or Long-Term Issue	Commitment or Mitigation Measure	Responsible Party
Construction (C) *Section 4.16*			
C01 DEIS section 4.16.3 DEIS Errata 115, 116, 117, 120, and 121	▪ Temporary impacts to: – Transportation, traffic, and parking – Access for residents and businesses – Neighborhood and community resources – Visual and aesthetics – Historic and archaeological resources – Natural resources – Water resources – Air quality – Noise and vibration – Hazardous, contaminated, and regulated materials – Safety and security – Energy use – Utilities	▪ Develop a project construction, education, and outreach plan during the Engineering phase. This plan will identify how to educate the public and stakeholders about ongoing and upcoming construction and construction impacts (e.g., detours, service interruptions). It will include both broad-based approaches to educate the public (e.g., media, web site, newsletters, public meetings) and targeted outreach to those who may be more directly affected by construction activities (e.g., direct mail, small group meetings, in-person communication). ▪ Minimize construction impacts through selection and implementation of BMPs. ▪ Comply with all municipal and state regulations and policies regarding development for the construction and development of the D-O LRT Project. Coordinate with municipalities on the design of the project during Engineering. Transportation, Traffic, and Parking: ▪ Maintain pedestrian and vehicular access to businesses, universities, medical facilities, and residences with a priority placed on emergency facilities. ▪ Prepare work zone traffic control plans during the Engineering and Construction phases. Coordinate these plans with the City of Durham, Town of Chapel Hill, NCRR, universities, emergency services, and the NCDOT. The plans will identify requirements for maintaining access to businesses, university, medical, and emergency facilities. They will include advanced warning for lane closures. ▪ Construct the structures employing methods that minimize the impact to the roadway user. Lane closures on the major arterials must be approved by the NCDOT and coordinated with the Highway Patrol and local police authority. ▪ Restrict lane closures to night and weekend lane closures to minimize traffic inconvenience. Traffic detours will be restricted to minimum time durations via the contract and work zone traffic control plans.	Triangle Transit with NCDOT, railroads, and municipalities

Table ROD-1: Commitments or Mitigation Measures

Mitigation ID and Reference	Construction or Long-Term Issue	Commitment or Mitigation Measure	Responsible Party
		▪ Include appropriate access provisions in the Work Zone Traffic Control Plans, and BMPs to manage debris for potential disruptions to bicycle and pedestrian facilities during construction. ▪ Minimize closing adjacent crosswalks at the same time to allow for continued pedestrian movement across streets. Provide sidewalks and crosswalks to meet minimum standards for accessibility and free of slipping and tripping hazards. ▪ Provide special facilities (such as handrails, fences, barriers, ramps, and walkways) to maintain bicyclist and pedestrian safety in the event of temporary closures or impacts to sidewalks. ▪ During the Engineering phase, develop a plan to manage the closure of pedestrian crossings and other restrictions on non-motorized transportation facilities and crossings throughout the construction process. ▪ Temporary off-site detours of traffic and/or phased construction would be necessary when the Farrington Road bridge is lengthened to accommodate the light rail line. Traffic on I-40 would be maintained during the construction period. Short periods of lane closure may be necessary to construct the pier adjacent to I-40 traffic and to erect the girders. ▪ Reduce construction-related transportation impacts by scheduling construction activities during off-peak hours; coordinating freight and passenger rail schedules and construction activities with NCRR, Norfolk Southern, and Amtrak; coordinating with appropriate traffic control authorities to maintain reasonable and safe traffic operations at affected roadway crossings; and coordinating with hospitals, universities, and businesses in order to make reasonable efforts to mitigate concerns regarding reduction of parking through education of patrons and employees about parking alternatives, such as carpooling, park and rides, and transit options. Access for Residents and Business: ▪ Avoid and/or minimize adverse impacts to residents and businesses during project construction by maintaining traffic, parking, and access during construction, modifying business signage to maintain business visibility, using marketing campaigns to advise patrons of	

Table ROD-1: Commitments or Mitigation Measures

Mitigation ID and Reference	Construction or Long-Term Issue	Commitment or Mitigation Measure	Responsible Party
		required construction in areas with multiple businesses, installing temporary directional signage, and providing advance communication of construction activities. ▪ Include temporary arrangements for safe pedestrian access in the construction documents. Site-specific business and access management plans will also be developed by the contractor. Neighborhood and Community Resources: ▪ Inform local property owners of roadway disruptions and other construction-related activities and consequences through construction education and outreach plans. ▪ Coordinate with emergency response personnel to maintain continuous access for emergency vehicles throughout the duration of construction. ▪ Prior to construction, coordinate with Chapel Hill-Carrboro City Schools and Durham Public Schools to identify potential impacts on school bus routes and appropriate temporary detour routes during construction. Visual and Aesthetic Considerations: ▪ Stabilize embankments and plant vegetation in construction areas as quickly as possible so that sediment and erosion control devices can be removed. ▪ Locate staging areas in the least visibly sensitive project areas. Whenever possible, these facilities will be located out of view of residences, businesses, or any potential viewer. ▪ Implement height limits for staged materials and excavated soil so that they are less visible ▪ Direct lighting toward the interior of the construction areas or provide shielding to minimize light pollution into adjacent properties. ▪ Screen construction activities whenever possible. ▪ Clear dirt and debris from areas adjacent to the construction sites in a timely manner.	

Table ROD-1: Commitments or Mitigation Measures

Mitigation ID and Reference	Construction or Long-Term Issue	Commitment or Mitigation Measure	Responsible Party
		▪ Keep construction sites well organized and clear of trash and debris. Historic and Archaeological Resources: ▪ Address mitigation measures and construction control through consultation with the North Carolina State Historic Preservation Office as part of the process for compliance with Section 106 of the National Historic Preservation Act of 1966. ▪ Develop an *Archaeological Recovery Plan* during Engineering. ▪ Avoidance and minimization measures are outlined in the MOA. Coordinate these measures pursuant to the MOA through ongoing consultation with the North Carolina State Historic Preservation Office and FTA. Natural Resources: ▪ BMPs will be followed by the contractor during construction. BMPs could include the demarcation of the construction limits and staging areas prior to the initiation of construction to limit the disturbances to habitat and wildlife. Create a plan to minimize impacts and losses of vegetation. Water Resources: ▪ Implement appropriate BMPs during construction, such as installing fabric barriers at storm drain inlets. ▪ Locate the placement of the piers outside of wetlands and streams and employ top-down construction of the aerial structures to minimize disturbance to the wetland soils. ▪ Require contractors to have spill prevention, containment, and collection plans in place to address the risk of contamination from construction equipment. ▪ Develop a *Stormwater Pollution Prevention Plan* (SWPPP) during the Engineering phase of the project. The SWPPP will include provisions to control erosion and reduce sedimentation and other pollutants associated with construction activities. Air Quality: ▪ Minimize dust generated during construction through standard dust	

Table ROD-1: Commitments or Mitigation Measures

Mitigation ID and Reference	Construction or Long-Term Issue	Commitment or Mitigation Measure	Responsible Party
		control measures such as applying water to exposed soils and limiting the extent and duration of exposed soil conditions. ▪ Employ the following measures to mitigate fugitive dust kicked up into the air from earthmoving and other ground disturbance and emissions from construction equipment: – Shutting off construction equipment not in direct use. – Watering areas of exposed soil. – Covering open body trucks transporting materials to and from construction sites. – Rerouting truck traffic away from schools and residential communities when possible. – Repaving and/or replanting exposed areas as soon as possible following construction. – Securing tarps, plastic, or other material over debris piles. – Prohibiting delivery trucks or other equipment from idling during periods of extended unloading or inactivity. Noise and Vibration: ▪ During Engineering, complete a detailed construction noise assessment that will provide property specific details to develop mitigation plans to keep the noise levels at or below acceptable levels during construction. ▪ Construction equipment will be required to be properly muffled and maintained. ▪ Limit certain construction activities to weekday daytime hours (typically from 7 a.m. to 6 p.m.) and consider prohibition of nighttime construction near residential neighborhoods. ▪ Monitor noise on a regular basis during construction near potentially affected sensitive receptors. ▪ Conduct vibration and noise monitoring during construction depending on the sensitivity of the surrounding resources. ▪ Limited duration of pile driving operations resulting in short term levels of annoyance. Monitor vibration levels at sensitive building structures during construction.	

Table ROD-1: Commitments or Mitigation Measures

Mitigation ID and Reference	Construction or Long-Term Issue	Commitment or Mitigation Measure	Responsible Party
		▪ In the event monitoring results in impacts beyond acceptable levels, implement additional site-specific mitigation. ▪ Where construction of deep foundations for elevated structures is required near sensitive receptors, employ drilled shaft footings to reduce noise and vibration. ▪ Implement other noise mitigation during construction: – Noise barriers. – Minimizing the distance of truck routing and routing trucks away from residential streets. – Relocating noise-generating equipment as far away from the sensitive noise areas as possible. – Drilled pile instead of impact pile driving. – Specifying quieted equipment in construction specifications. – Alternative demolition or pavement breaking techniques. Hazardous, Contaminated, and Regulated Materials: ▪ Minimize construction-related impacts related to hazardous materials: – Comply with applicable federal and state regulations. – Follow OSHA, state, and local standards in handling and storage of fuels and other materials. – Dispose of hazardous materials according to applicable federal, state, and local guidelines. – Clean construction vehicles to prevent off-site contamination. – Dispose of construction waste at approved sites. ▪ During Construction, minimize the generation of waste, to recycle materials for which viable markets exist, and to use recycled products and materials where suitable. Any waste generated during Construction that cannot be beneficially reused or recycled will be disposed of at a solid waste management facility approved to manage the respective waste type. ▪ Develop a *Spill Prevention, Control, and Countermeasure Plan* prior to demolition, excavation, or construction activities. ▪ Conduct sampling of hazardous materials intended for disposal. ▪ Assess potential exposure levels through the use of monitoring	

Table ROD-1: Commitments or Mitigation Measures

Mitigation ID and Reference	Construction or Long-Term Issue	Commitment or Mitigation Measure	Responsible Party
		equipment. ▪ Develop decontamination procedures. ▪ Perform a full Phase I and/or Phase II Environmental Site Assessment for high risk properties following ASTM standards prior to construction. ▪ Review the closure status or current site status of medium risk properties with NCDEQ before starting construction. ▪ Manage any hazardous waste generated from the demolition, construction, maintenance, operation, and/or remediation (e.g., excavated soil) from the D-O LRT Project in accordance with the North Carolina Hazardous Waste Rules. Notify the NCDEQ Hazardous Waste Section on the quantity of hazardous waste generated in order to make a determination whether the D-O LRT Project qualifies as a small or large quantity generator. Safety and Security: ▪ Provide construction barriers and fencing to secure construction sites and staging areas, and evaluate the need for additional security measures such as guards, if needed. ▪ Address the safety of the public, particularly the passage of pedestrians, bicyclists, and other spectators near open excavations and other construction activity through the creation, proper timing, and placement of protective safety programs, public information efforts, and selected protective measures. Energy Use: ▪ Minimize energy consumption during construction by limiting the idling of construction equipment and employee vehicles as well as locating staging areas and material processing facilities as close as practical to work sites. Utilities: ▪ Avoid and minimize utility disruptions by coordinating utility construction with other construction activities and limiting construction around existing utility lines such as excavations, removal of fill, and grading.	

Table ROD-1: Commitments or Mitigation Measures

Mitigation ID and Reference	Construction or Long-Term Issue	Commitment or Mitigation Measure	Responsible Party
		▪ Prior to construction, contact area utility companies and utility agencies and request them to provide line location measures and approval of the proposed alteration of utility lines. ▪ Coordinate with businesses such as restaurants, grocery stores, and food preparation/manufacturing facilities in order to protect food preparation and storage. ▪ During construction, should utilities be identified that were not identified prior to construction, contact appropriate utility companies and agencies to identify the line(s). The newly identified line(s) will not be disrupted until businesses and residences are notified and the utility owner/operator has approved the proposed alteration. ▪ During Engineering, include the aforementioned provisions in the construction plans and contract specifications. During Construction, Triangle Transit will monitor contractor compliance.	
Environmental Justice (EJ) *Section 5*			
EJ01 DEIS section 5.5 DEIS Errata 123	▪ There will be no disproportionate impacts to EJ populations. Effects on specific resources within EJ areas include the following: – Visual impacts near the Oak Creek Village Apartments on Garrett Road. – One moderate noise impact in downtown Durham. – Commercial, institutional, and residential displacements along the entire D-O Corridor, most of which would occur in the US 15-501 and east Durham evaluation areas. – Acquisitions in the east Durham community could be perceived as an adverse effect since historically, transportation projects have adversely affected community cohesion, access, land use planning, and development in this evaluation area. – Indirect effects associated with gentrification, resulting in reduction in affordable housing opportunities.	▪ Some of the specific impacts of the NEPA Preferred Alternative may adversely affect EJ populations. Therefore, where possible, the alignment options have been refined through the NEPA process to minimize impacts to both the human and natural environments. ▪ Continue to provide outreach to EJ communities to implement the proposed mitigation strategies effectively. ▪ Continue coordination with EJ populations and assess design and aesthetic treatments during further design development to address visual impacts throughout the corridor. ▪ Provide design treatments to reduce visual impacts at affected locations, where possible, including those in EJ areas. ▪ Reduce operational vibration by evaluating and implementing specific materials and construction methods in the construction of the light rail line. ▪ Conduct the acquisition and relocation process in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended.	Triangle Transit and municipalities

Table ROD-1: Commitments or Mitigation Measures

Mitigation ID and Reference	Construction or Long-Term Issue	Commitment or Mitigation Measure	Responsible Party
		▪ Continue working with EJ communities to address ways that their concerns could be mitigated further. ▪ Work with the City of Durham to provide opportunities for local businesses to benefit from commercial space within the parking deck at the proposed Alston Avenue Station. ▪ Work directly with the Town of Chapel Hill and Durham City/County Planning staff to encourage, support, and facilitate the development and implementation of affordable housing policies for the D-O Corridor. ▪ Continue to participate in the Coalition for Affordable Housing and Transit, a citizens group led by the Durham People's Alliance that is focused on working with local governments to develop policies to protect existing affordable housing and promote creation of new affordable housing in proposed D-O LRT Project station areas.	
Section 4(f) Property – Jordan Game Lands *Section 6.3.1.1*			
PRA01 DEIS section 4.6.4 DEIS Errata 84, 85, and 86	▪ Permanent easement of approximately 3.6 acres in the area of the Jordan Game Lands. This is comprised of approximately 1.7 acres of permanent easement within an existing transportation easement held by NCDOT for the occupancy of NC 54; approximately 1.7 acres of permanent easement within the George King Road right-of-way, and approximately 0.2 acre of land in the Jordan Game Lands at the western edge of George King Road and northern edge of NC 54. ▪ The latter 0.2 acre is not within an existing easement or right-of-way and would constitute a Section 4(f) use of the property. ▪ Approximately 1.4 acres of land would be needed for a temporary construction easement. *Section 4(f) Determination: de minimis impact.*	▪ After considering previous measures to minimize harm, FTA has determined that the impacts to this resource are *de minimis* and require no mitigation. That is, the impacts will not adversely affect the activities, features, or attributes that qualify the property for protection under Section 4(f). ▪ Triangle Transit will provide the following commitments regarding the Jordan Game Lands: – Replace reservoir water storage volume lost due to fill below elevation 245 feet msl by excavation of an equal amount of new storage volume at the same elevation as the lost storage volume. – Compensate NCWRC for loss of marketable timber. Timber value would be determined by a registered government forester and payment for timber would be collected at the time the permanent easement is issued. – Coordinate with USACE and NCWRC regarding location of fencing on government property necessary for safety and security of the D-O LRT Project. – Complete the following to the satisfaction of NCWRC: • Relocate the access road to the existing impoundment	Triangle Transit with USACE and NCWRC

Table ROD-1: Commitments or Mitigation Measures

Mitigation ID and Reference	Construction or Long-Term Issue	Commitment or Mitigation Measure	Responsible Party
		parking area #1, place gravel on the parking lot, provide and install a new gate and informational signs. • Construct a gravel access road (16 feet wide) from parking area #1 to parking area #2 along the alignment. Improve parking area #2 by installing gravel; provide and install a new gate and informational signs. • Construct a public access parking area #3 on the south side of NC 54, provide and install a double gate and informational signs. • Replace the existing Waterfowl Impoundment sign and install a new Game Lands access directional sign for the new parking area #3, along NC 54. – Restore the area used for the temporary construction easement of the aerial structure along NC 54 to the condition it was in before construction or utilized by the USACE for its identified purposes as part of the mitigation for the D-O LRT Project. ▪ Sign an agreement with USACE, consistent with the measures stated above prior to issuance of the easements (permanent and temporary) required for the D-O LRT Project.	
Section 4(f) Property – Central Park South *Section 6.3.1.2*			
PRA01 DEIS section 4.6.4 DEIS Errata 84, 85, and 86	▪ Would require acquisition of approximately 0.9 acre of permanent easement of the 13.7 acres of UNC lands designated for the future development of Central Park South. ▪ Triangle Transit will ensure that construction would not preclude future development of Central Park South. *Section 4(f) Determination: de minimis impact.*	▪ After considering previous measures to minimize harm, FTA has determined that the impacts to this resource are *de minimis* and require no mitigation. That is, the impacts will not adversely affect the activities, features, or attributes that qualify the property for protection under Section 4(f).	NA
Section 4(f) Property – Coker Pinetum *Section 6.3.1.3*			
PRA01 DEIS section 4.6.4 DEIS Errata 84, 85, and 86	▪ Would require a permanent easement of approximately 0.1 acre of land from the Coker Pinetum and a temporary construction easement of approximately 0.01 acre. *Section 4(f) Determination: de minimis impact.*	▪ After considering previous measures to minimize harm, FTA has determined that the impacts to this resource are *de minimis* and require no mitigation. That is, the impacts will not adversely affect the activities, features, or attributes that qualify the property for protection under Section 4(f).	NA

Table ROD-1: Commitments or Mitigation Measures

Mitigation ID and Reference	Construction or Long-Term Issue	Commitment or Mitigation Measure	Responsible Party
Section 4(f) Property – Disc Golf Course and Athletic Fields *Section 6.3.1.4*			
PRA01 DEIS section 4.6.4 DEIS Errata 84, 85, and 86	*Section 4(f) Determination: The proximity impacts from construction and operation of the NEPA Preferred Alternative would not substantially impair the protected activities, features, or attributes that qualify the property for protection under Section 4(f).*	▪ Coordinate with UNC on the schedule of construction activities near the disc golf course and athletic fields.	Triangle Transit with UNC
Section 4(f) Property– UNC Finley Golf Course and Athletic Fields *Section 6.3.1.5*			
PRA01 DEIS section 4.6.4 DEIS Errata 84, 85, and 86	▪ Would require approximately 2.6 acres of permanent easement from the UNC Finley Golf Course and Athletic Fields. ▪ Would also require a 0.3 acre temporary construction easement. ▪ Construction of the alignment would require cart paths and tee boxes to be re-located and vegetation to be cleared. ▪ Visual changes, such as clearing vegetation, would result in adverse impacts to the recreational features. *Section 4(f) Determination: de minimis impact.*	▪ After considering previous measures to minimize harm, FTA has determined that the impacts to this resource are *de minimis* and require no mitigation. That is, the impacts will not adversely affect the activities, features, or attributes that qualify the property for protection under Section 4(f). ▪ Triangle Transit will provide the following commitments regarding the UNC Finley Golf Course and Athletic Fields: – Place landscaping and tree buffers along the alignment to increase privacy and minimize noise impacts to users of this Section 4(f) property in accordance with the UNC Finley Golf Course Design Concept Plan and Construction Cost Estimates, by Fazio Golf Course Designers, Inc., last updated in April 2014 (Fazio 2014). – Coordinate with UNC to minimize disruption to the golf course users and staff. – Restore the area used for the temporary construction easement to the condition it was in before construction or better. ▪ Work with UNC to minimize construction-related effects and maintain access to the public properties during construction.	Triangle Transit with UNC
Section 4(f) Property – UNC Open Space *Section 6.3.1.6*			
PRA01 DEIS section 4.6.4 DEIS Errata 84, 85, and 86	▪ Approximately 0.8 acre of the 120 acre UNC Open Space property would be acquired for a permanent easement. ▪ Approximately 1.0 acre would be acquired as a temporary construction easement. *Section 4(f) Determination: de minimis impact.*	▪ After considering previous measures to minimize harm, FTA has determined that the impacts to this resource are *de minimis* and require no mitigation. That is, the impacts will not adversely affect the activities, features, or attributes that qualify the property for protection under Section 4(f).	Triangle Transit with UNC

Table ROD-1: Commitments or Mitigation Measures

Mitigation ID and Reference	Construction or Long-Term Issue	Commitment or Mitigation Measure	Responsible Party
		▪ Triangle Transit will provide the following commitments regarding the UNC Open Space: – Notify UNC at least 48 hours in advance as to when the paths will be temporarily closed and coordinate closely with UNC to communicate the closure to users to minimize impacts to the public's recreational use of the property during construction. – Restore the area being used for the temporary construction easement to the condition it was in before construction or better. ▪ Relocate a UNC Athletics cross country trail and direct users to a short segment of the golf course cart path to avoid crossing the proposed alignment at-grade.	
Section 4(f) Property – Glenwood Elementary School *Section 6.3.1.11*			
NCR03 DEIS section 4.3.4.1 DEIS Errata 73	▪ Would require a permanent easement of approximately 0.1 acre of undeveloped land in the southeast corner of the school's property. ▪ Temporary easement of 0.1 acre would be required for construction of the light rail alignment. ▪ Would not directly impact the area of the school property developed or used for recreational purposes, as the proposed alignment is over 150 feet away in a wooded area not used by students for recreation. *Section 4(f) Determination: The proximity impacts from construction and operation would not substantially impair the protected activities, features, or attributes that qualify the property for protection under Section 4(f).*	▪ No substantial impacts to the activities, features, or attributes that qualify the property for protection under Section 4(f), and as such, no mitigation measures are warranted.	NA
Section 4(f) Property – New Hope Creek Trail *Section 6.3.1.13*			
PRA01 DEIS section 4.6.4 DEIS Errata 84, 85, and 86	▪ Would cross the proposed New Hope Creek Trail in the vicinity of US 15-501 on an elevated platform and require less than 0.1 acre of land for permanent easement. ▪ While the guideway would be a new visual element in the vicinity of the planned trail, the overall	▪ After considering previous measures to minimize harm, FTA has determined that the impacts to this resource are *de minimis* and require no mitigation. That is, the impacts will not adversely affect the activities, features, or attributes that qualify the property for protection under Section 4(f).	NA

Table ROD-1: Commitments or Mitigation Measures

Mitigation ID and Reference	Construction or Long-Term Issue	Commitment or Mitigation Measure	Responsible Party
	change in visual character of the area would be moderate, given the existing highway structure that would be viewed from the trail. *Section 4(f) Determination: de minimis impact.*		
Section 4(f) Property – Venable Tobacco Company Warehouse *Section 6.3.2.2*			
CHAR01 DEIS section 4.5.3.1	▪ A portion of the NEPA Preferred Alternative would be constructed at-grade approximately 25 feet north of the Venable Tobacco Company Warehouse within the current alignment of East Pettigrew Street, in an urban setting. ▪ The NEPA Preferred Alternative has been designed to avoid taking any property located within the warehouse's National Register boundaries. Therefore, no use under Section 4(f) would occur. ▪ Construction of the NEPA Preferred Alternative would require a temporary construction easement of approximately 0.03 acre from the northeast/northwest corner of the parcel's National Register boundaries. ▪ Temporary easement would have no effect on the features or attributes that qualify the property for protection under Section 4(f). ▪ The area to be used for the temporary construction easement would be restored to the condition it was in before construction or better. *Section 4(f) Determination: de minimis impact.*	▪ After considering previous measures to minimize harm, FTA has determined that the impacts to this resource are *de minimis* and require no mitigation. That is, the impacts will not adversely affect the activities, features, or attributes that qualify the property for protection under Section 4(f). No adverse effects on the NRHP-listed property under Section 106, and as such, no mitigation measures are warranted. ▪ Triangle Transit will restore the area to be used for the temporary construction easement to the condition it was in before construction or better.	NA

2.6 Monitoring and Enforcement

The FTA and Triangle Transit are ultimately responsible for monitoring and enforcing mitigation measures. Triangle Transit, as well as its contractors, will be responsible for compliance assurance of all related commitments and regulatory permit conditions made or obtained for the D-O LRT Project. **Table ROD-2** contains a list of permits that are anticipated to be required for the construction of the D-O LRT Project.

Table ROD-2: Anticipated Permits and Approvals

Regulatory Program or Proposed Action	Applicability	Responsible Entity
Federal Permits		
Section 404 of the Clean Water Act of 1977 as amended Nationwide or Individual Permit	Required for discharge of dredged or fill materials into waters of the United States, including wetlands and streams, in conjunction with this project	USACE
Section 810 Application (23 U.S.C. § 142(g); 23 C.F.R. § 810)	Required to permit the Federal Highway Administration (FHWA) to authorize a state to make available to a publicly-owned mass transit authority existing highway rights-of-way for rail or other non-highway public mass transit facilities	FHWA
Section 7 Endangered Species Consultation	Required for project sites with potential federally listed threatened and endangered species	USFWS
USACE Memorandum of Agreement	Required for the use of property managed by USACE	USACE
State Permits		
Buffer Authorization	Required since the project will result in impacts to stream buffers within the Neuse River and Jordan Lake watersheds.	NCDEQ Division of Water Resources
Burn Permit	To regulate certain open burning, such as land clearing for right-of-way, in order to protect the public from the hazards of forest fires and air pollution, a burn permit is required if open burning is needed.	NC Division of Forestry
Conditional Letter of Map Revision	Required if the project results in an increase in flood levels during the base flood discharge.	NCDPS Emergency Management
Industrial Activities Stormwater Permit	Operation of maintenance facility for transportation equipment required NPDES Permit for stormwater discharges unless facility is constructed with no exposure.	NCDEQ Division of Water Resources
Isolated Wetlands/Non-404 Jurisdictional Permit	Required for impacts to waters of the state that are not considered jurisdictional by the USACE under Section 404	NCDEQ Division of Water Resources
Land Disturbance Activities	Required for construction activities disturbing lands	NCDEQ Division of Land Quality
NCDOT State Safety Oversight Approval	Required prior to revenue service	NCDOT
NCDOT Construction, Use and Occupancy Agreements	Required for construction within and use of NCDOT and federal ROW	NCDOT
NCRR Site Approval	Required for plans within the NCRR Corridor	NCRR
NCRR Lease Agreement	Required for operating the light rail within the NCRR Corridor	NCRR
No-Rise Certification	Required if the project does not increase flood levels during the base flood discharge.	NCDPS Emergency Management

Table ROD-2: Anticipated Permits and Approvals

Regulatory Program or Proposed Action	Applicability	Responsible Entity
Road Crossing Permit	Required if crossing of NCDOT controlled access road right-of-way	NCDOT
Section 106 MOA (Historic and Archeological)	Required for mitigating impacts to historic and archaeological properties	SHPO
Section 401 of the Clean Water Act of 1977 as amended (Water Quality Certification)	Required when a Section 404 permit is needed for the discharge of dredged or fill materials into waters of the United States, including wetlands and streams	NCDEQ Division of Water Resources
Sediment and Erosion Control Plans Approval	Required prior to construction	NCDEQ Division of Energy, Mineral, and Land Resources Land Quality Section
State Stormwater Permits	Required when impervious surface percentage thresholds are exceeded. Since Orange and Durham counties are classified as Phase II Tipped Counties, the NCDEQ Division of Energy, Mineral and Land Resources must issue state stormwater permits unless post-construction discharges are authorized under the Town or City's MS4 permits	Town of Chapel Hill, City of Durham, NCDEQ Division of Energy, Mineral and Land Resources
Regional and Local Permits		
Building Permits	Required for the construction of buildings, mechanical, electrical, and plumbing systems to ensure code compliance	County or Municipal
Comprehensive Plan Amendment and Rezoning	Required for the construction and siting of the Farrington Road ROMF	City of Durham and Durham County
Encroachment Permit or Agreement	Required if crossing of uncontrolled access road right-of-way	County or Municipal
Pretreatment Wastewater Discharge Authorization	Required if process wastewater, such as vehicle washing, will be discharged into the municipal sewer	County or Municipal
Floodplain development permit	Required for all construction, grading, development, or the storage of equipment or materials within the Special Flood Hazard Area	Local jurisdiction
Major Special Use Permit	Required for sections of track crossing through the Major Transportation Corridor Overlay District	City of Durham, Durham County
Minor Special Use Permit	Required for stations in Durham, outside of Downtown Tier, and without park-and-rides	City of Durham
Railroad		
North Carolina Railroad Company (NCRR) Operating and Lease Agreement	Required to operate D-O LRT within the NCRR Corridor.	NCRR

2.7 Public Outreach and Opportunities to Comment

For Triangle Transit, education, inclusion, transparency, accountability, and responsiveness have been key principles of the planning process for transit service in the D-O Corridor from before the AA was completed in 2012 through the ongoing NEPA and Project Development process.

Agencies, non-governmental groups, and the public have been engaged throughout the planning process for the proposed D-O LRT Project as required by federal and state law. NEPA mandates agency and public participation in defining and evaluating the impacts of project alternatives. The project has also followed U.S. Department of Transportation (USDOT) guidelines for public participation, including Title VI of the Civil Rights Act of 1964 (42 United States Code [U.S.C.] § 2000d) and Executive Order (EO) 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, Fed. Reg. 7,629 (February 11, 1994).

Coordination activities required under the regulations to promulgate Section 106 of the National Historic Preservation Act (54 U.S.C. § 306108) have also been implemented during the course of developing the proposed D-O LRT Project.

NEPA requires that a DEIS provide full disclosure of the environmental impacts associated with a proposed action. The agencies and the public must be given a reasonable opportunity to comment on that action.

The public has been engaged through:

- Public meetings, workshops, and information sessions
- Meetings with community groups and neighborhoods
- Project newsletters and email distribution lists
- D-O LRT Project website
- Interaction with community organizations
- Presentations to boards and elected officials

Informational materials at all public meetings, including presentation materials, handouts, and comment sheets, have been available in Spanish as well as English, and a Spanish-speaking staff member has been present at all meetings.

All DEIS public outreach materials are included in **appendix C**.

The public review and comment period for the DEIS began when the NOA was published in the Federal Register on August 28, 2015, and ended on October 13, 2015. Two public informational sessions on the DEIS were held:

- Tuesday, September 15, 2015 from 4:00-7:00 p.m. at The Friday Center (100 Friday Center Drive, Chapel Hill, NC)
- Saturday, September 19, 2015 from 2:00-5:00 p.m. at Durham Station (515 W. Pettigrew Street, Durham, NC)

Two public hearings for the DEIS were held:

- Tuesday, September 29, 2015, from 4:00-7:00 p.m. at The Friday Center (100 Friday Center Drive, Chapel Hill, NC)
- Thursday, October 1, 2015, from 4:00-7:00 p.m. at the Durham County Commissioners' Chamber (200 East Main Street, Old Courthouse - Second Floor, Durham, NC)

Ninety attendees provided verbal comments on the D-O LRT Project DEIS at the public hearings. Comments on the DEIS, a map of where commenters reside, and exhibits, sign-in forms, and speaker registration cards provided at the public hearings can be found in **appendix C** of the FEIS/ROD.

2.8 Determinations and Findings Regarding Other Laws

2.8.1 Conformity with Air Quality Plans

The Transportation Conformity Rule, which was promulgated by USEPA under the Clean Air Act (CAA), provides criteria and procedures for determining conformity of transportation plans, programs and projects funded or approved under 49 U.S.C. § 5323(c) and 49 U.S.C. § 5309 to State Implementation Plans (SIPs). The NOA for the DEIS was published in the Federal Register on August 28, 2015.

Durham and Orange counties are currently classified as attainment for all National Ambient Air Quality Standards (NAAQS). Durham County is additionally classified as a maintenance area for carbon monoxide (CO); therefore, only intersections in Durham County were considered for the CO modeling analysis.

Modeling was performed for the No Build Alternative for the selected intersections to provide a basis for comparison with the NEPA Preferred Alternative. No violations of the 1-hour or 8-hour NAAQS for CO are expected under the No Build Alternative. The results of the mobile source air quality modeling analysis are provided in appendix K.23 of the DEIS. No violations of the 1-hour or 8-hour NAAQS for CO are projected under the NEPA Preferred Alternative.

2.8.2 Section 106 of the National Historic Preservation Act

Any federal agency whose project, funding, or permit may affect a historic property, both those listed or eligible for inclusion in the National Register of Historic Places, must consider the effects on historic properties and "seek ways to avoid, minimize or mitigate" any adverse effects on historic properties.

2.8.2.1 Architectural Historic Resources

Applicable laws addressing historic properties include Section 106 of the National Historic Preservation Act (NHPA) (54 U.S.C. § 306108 and implemented in 36 C.F.R. Part 800) and Section 110 of the NHPA (54 U.S.C. §§ 306101-306114), which require federal agencies to consider the potential effects of a proposed federally funded project, also referred to as an undertaking, on historic properties.

FTA has determined that the NEPA Preferred Alternative would have No Effect on 13 of the 25 architectural historic properties located within the Architectural Area of Potential Effect (APE) as compared to the No Build. It would have No Adverse Effect upon the other 12 properties.

Nonetheless, Triangle Transit is committed to provide a landscape visual buffer for the following historic resources due to their non-urban settings: the Rocky Ridge Farm Historic District (HD), the Highland Woods HD, the Walter Curtis Hudson Farm, and the Ruth-Sizemore Store. This visual buffer would provide a blooming of at least two seasons of each year. Triangle Transit will consult with property owners, historic district representatives, and the State Historic Preservation Office (SHPO) on the appearance of this buffer.

2.8.2.2 Archaeological Resources

Archaeological site location information is confidential information under North Carolina General Statute 70-18 and not intended for public display or public viewing.

Based on Archaeological Background Information, appendix K19, impacts to archaeological resources will be minimal due to the previously disturbed nature and development within the APE. The Archaeological Background Information identified areas where further archeological surveys (Phase 1 and II) will be conducted during future engineering and prior to construction. The goal of a Phase I archaeological investigation is to locate and define the boundaries of archaeological site within a project area. The goal of Phase II archaeological investigation is to determine if a site is eligible for nomination to the NRHP under Criteria A, B, C, or D.

Phase I archaeological surveys are recommended for the following locations of the proposed D-O LRT Project (Table 4.5-2):

- North of Mason Farm Road between UNC and Fordham Boulevard
- Between George King Road and Interstate-40 (I-40)
- Farrington Road ROMF Site
- West of I-40 at the US 15/501 Interchange (Exit 270) (Gateway Station)
- Between US 15/501 and the NC 751-Erwin Road intersection

Additional Phase II archaeological testing projects may be required at the following locations dependent on nature and extent of potential ground disturbing activities.

- Archaeological site 31DH655
- PS-1
- PS-3

FTA, Triangle Transit, and SHPO entered into a Memorandum of Agreement (MOA) for the proposed D-O LRT Project to establish the procedures by which FTA, Triangle Transit, and SHPO will work together to ensure the effective protection of historic and/or archaeological resources during the implementation and construction of the proposed D-O LRT Project. FTA, Triangle Transit, and SHPO agree that the D-O LRT Project shall be implemented in accordance with the stipulations outlined in the MOA.

2.8.3 Section 4(f)

Section 4(f) of the US Department of Transportation Act of 1966, 49 U.S.C. § 303 and 23 U.S.C. § 138, is a federal law that protects publicly owned parks, recreation areas, wildlife and/or waterfowl refuges, and significant historic sites, whether publicly or privately owned. Section 4(f) requirements apply to all transportation projects that require funding or other approvals by the USDOT. As a USDOT agency, FTA must comply with Section 4(f). FTA's Section 4(f) implementing regulations are at 23 C.F.R. Part 774.

FTA cannot approve a transportation project that uses a Section 4(f) property, as defined in 23 C.F.R. § 774.17, unless FTA determines that:

- There is no feasible and prudent avoidance alternative, as defined in 23 C.F.R. § 774.17, to the use of land from the Section 4(f) property, and the action includes all possible planning, as defined in 23 C.F.R. § 774.14, to minimize harm to the property resulting from such use (23 C.F.R. § 774.3(a)) or
- The use of the Section 4(f) property, including any measure(s) to minimize harm (such as any avoidance, minimization, mitigation, or enhancement measures) committed to by the applicant will have a *de minimis* use, as defined in 23 C.F.R. § 774.17, on the property (23 C.F.R. § 774.3(b)).

As described in the Draft Section 4(f) Evaluation in section 6.3 in the DEIS and FEIS/ROD **appendix a**, the NEPA Preferred Alternative will result in the use of the following Section 4(f) properties:

- Jordan Game Lands (USACE)
- Central Park South (planned) (UNC)
- Coker Pinetum (UNC)
- UNC Finley Golf Course and Athletic Fields
- UNC Open Space
- New Hope Creek Trail (planned) (Durham County)

However, impacts associated with the NEPA Preferred Alternative would not adversely affect the activities, features, and attributes that qualify these properties for protection under Section 4(f). Therefore, as described in section 6.3 of the DEIS, after considering measures to minimize harm (such as any avoidance, minimization, mitigation, or enhancement measures), and after consultation with the USACE, UNC, and Durham County, the determinations are that the impacts associated with the uses of each of these Section 4(f) properties would be *de minimis*, pursuant to 23 C.F.R. § 774(b). As a result, a discussion of avoidance alternatives is not required.

2.8.4 Environmental Justice

The environmental documentation for the D-O LRT Project was prepared in accordance with EO 12898; DOT Order 5610.2(a); and FTA Circular 4703.1 and Title VI of the Civil Rights Act of 1964, 42 U.S.C. § 2000d (Title VI). The general methodology for addressing EO 12898 involves:

- Identifying the EJ populations within the study area
- Providing information on the efforts that Triangle Transit made to involve minority and low-income populations in the study area
- Assessing whether the project alternatives would result in disproportionately high and adverse effects on EJ populations, taking into consideration minimization, mitigation, and enhancement measures and project benefits, as appropriate

Chapter 5 of the DEIS notes the evaluation areas, study area, and counties and indicates percentages of minority and low-income populations. Of the 84 block groups in the study area, 37 (44 percent) have higher concentrations of EJ populations than the county averages. Details of the census block group data are listed in appendix I of the DEIS.

2.8.4.1 Outreach to EJ Populations

A public outreach program with an emphasis on interaction and communication with EJ populations is a key element of the proposed D-O LRT Project. The engagement of local residents, business owners, and other stakeholders began with project scoping (2012) and is ongoing. The outreach program was conducted in accordance with the D-O LRT Project Public Involvement Plan, EO 12898, and guiding principles contained in FTA Circular 4703.1.

Outreach efforts were designed to provide all community members with equal opportunities to engage in the decision-making process. Many of the proposed D-O LRT Project's public and stakeholder meetings were held in low income and minority communities (**appendix C**). Small group and public meetings/workshops were held throughout the D-O Corridor. The meetings were held on weekdays and weekends, and in different locations at different times of the day, to facilitate attendance by all members of the community. Examples of steps taken to ensure equal opportunity access include:

- Holding public open houses within a quarter mile of a bus stop within the corridor
- Attending other meetings and events
- Making community visits and holding public meetings in the east Durham, downtown Durham, and Garrett Road EJ target areas
- Making community visits and holding public meetings in the north of Erwin Road EJ target area
- Requesting referrals and project publicity from special organizations: Justice United; Durham Congregations, Associations and Neighborhoods; El Centro; and Durham Rescue Mission

2.8.4.2 Assessment of Disproportionately High and Adverse Effects

Approximately 51 percent of the population in the study area is minority and 43 percent is low-income, so it is to be expected that effects of the project would be experienced by EJ populations. The adverse effects of the project would be distributed proportionately between EJ and non-EJ areas.

While EJ populations would experience some direct effects related to the proposed project, the EJ populations in the D-O Corridor would also benefit from the project. Disproportionately high and adverse effects to EJ populations are not expected because of the proposed D-O LRT Project. Further, substantial indirect effects are not anticipated to EJ populations because of the proposed D-O LRT Project.

The temporal resource study area is 1960 to 2040. Past and present actions during this time have contributed to changes in transportation facilities, land development, and building uses, which in turn have

affected the location and concentration areas for minority and low-income populations. The development and urbanization that has occurred since 1960, as well as changes to the study area's economic bases, have resulted in changes in setting, employment opportunities, and other issues important for these populations.

In summary, taking all factors described above into account, the project would not have "disproportionately high and adverse effects" on EJ populations. Nonetheless, Triangle Transit recognizes that some of the specific impacts of the NEPA Preferred Alternative may adversely affect EJ populations. Therefore, where possible, the alignment has been refined through the NEPA process to minimize impacts to both the human and natural environments. As previously stated, mitigation measures identified throughout DEIS chapters 3 and 4 and in the FEIS/ROD **Table ROD-1** would address impacts from light rail operations and construction activities that may affect EJ populations. Triangle Transit will continue to provide outreach to EJ communities to implement the proposed mitigation strategies effectively.

2.8.5 Title VI of the Civil Rights Act of 1964

Title VI of the Civil Rights Act of 1964 provides that "No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance." (42 U.S.C. § 2000d).

A Title VI analysis was conducted pursuant to FTA Circular 4702.1B, Title VI Requirements and Guidelines for Federal Transit Administration Recipients (2012), which requires an equity analysis to ensure that the location of a maintenance, storage, or operation facility is selected without regard to race, color, or national origin. The Title VI analysis is available on the D-O LRT Project website (www.ourtransitfuture.org /projects/durham-orange).

All alternatives identified and evaluated for the location of the ROMF were selected without regard to race, color, or national origin. Minority, low-income, and Limited English Proficiency (LEP) populations were evaluated at the census block group level in the vicinities of the five ROMF alternatives. The averages for these populations in the vicinity of the Farrington Road (NEPA Preferred Alternative) are lower than the study area averages. Therefore, disparate impacts to EJ populations are not anticipated with the selection of the NEPA Preferred ROMF Alternative. Further, a survey of other transit facilities operated by area transit agencies demonstrates that there are no facilities with similar impacts in close proximity to the Farrington Road ROMF Alternative that would result in adverse cumulative impacts.

In light of the foregoing, the selection of the Farrington Road ROMF site as part of the NEPA Preferred Alternative is not expected to result in disparate impacts to Title VI populations. Inclusion of the Farrington Road ROMF site in the NEPA Preferred Alternative is consistent with Title VI, Title 49 C.F.R. Part 21, and implementing guidance promulgated by FTA in Circular 4702.1B.

2.9 Conclusion

The environmental record for this decision includes the following documents:

- D-O LRT Project DEIS
- D-O LRT Project Combined FEIS/Section 4(f) Determination/ ROD
- All technical reports, white papers, Title VI analysis, and supporting documentation incorporated by reference into the DEIS and FEIS

These documents, incorporated herein by reference, constitute the statements required by NEPA and Title 23 of the United States Code on:

- The environmental impacts of the project
- The adverse environmental effects that cannot be avoided should the project be implemented
- Alternatives to the proposed project
- Irreversible and irretrievable impacts on the environment that may be involved with the project should it be implemented

Having carefully considered the environmental record noted above, the mitigation measures as required herein, the written and oral comments offered by agencies and the public on this record and the written responses to the comments, the FTA has determined that the NEPA Preferred Alternative is also the environmentally preferred alternative. The NEPA Preferred Alternative represents the best option for the D-O LRT Project. The FTA finds that all practicable measures to minimize environmental harm have been incorporated into the design of the NEPA Preferred Alternative and will ensure that the commitments outlined herein will be implemented as part of final design, construction contract, and post-construction monitoring. The FTA also determines that this decision is in the best overall public interest.