



Proposed Refinements Supplemental Environmental Assessment



October 2018

Durham-Orange Light Rail Transit Project

Durham and Orange Counties, North Carolina

Proposed Refinements

Supplemental Environmental Assessment

Prepared pursuant to applicable federal environmental laws, regulations, and executive orders during the environmental review process. These requirements include, but are not limited to, National Environmental Policy Act of 1969 as amended (42 U.S.C. § 4321 et seq.); Moving Ahead for Progress in the 21st Century Act (Public Law 112-141); 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 Policies Act of 1970 (42 U.S.C. § 4601 et seq.); the Council on Environmental Quality regulations for implementing NEPA (40 CFR Parts 1500-1508) and Federal Transit Administration (FTA) regulations on environmental impact and related procedures (23 CFR Parts 771 and 774); Executive Order 11988 (Floodplain Management); Executive Order 11990 (Protection of Wetlands); Executive Order 12898 (Environmental Justice); Executive Order 13807 (Establishing Discipline and Accountability in Environmental Review and Permitting Process for Infrastructure Projects) 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

in cooperation with the

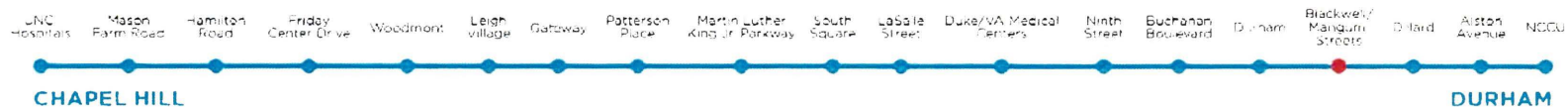
U.S. Environmental Protection Agency, U.S. Army Corps of Engineers, and Federal Highway Administration


Yvette G. Taylor, Ph.D.
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10-25-18
Date


Jeffrey G. Mann
General Manager
GoTriangle

10-24-18
Date



Title of Proposed Action

Supplemental Environmental Assessment for the Durham-Orange Light Rail Transit (D-O LRT) Project Proposed Refinements.

Comments

All Comments on the Supplemental Environmental Assessment are due by November 30, 2018.

Written comments may be sent:

Via U.S. Mail: D-O LRT Project – Proposed Refinements, c/o GoTriangle – ATTN: Ashley Schulz, Post Office Box 13787, Research Triangle Park, NC 27709

Via Email: lightrail@gotriangle.org

Via the D-O LRT Project's website: www.GoTriangle.org/lightrail

Three public meetings will be held on:

November 3, 2018 (Saturday)
12:00 – 2:00 p.m.
Spring Hill Suites by Marriott
at Patterson Place
5310 McFarland Drive
Durham, NC 27707

November 5, 2018 (Monday)
5:00 – 7:00 p.m.
Extraordinary Ventures
200 S Elliott Road
Chapel Hill, NC 27514

November 8, 2018 (Thursday)
5:00 – 7:00 p.m.
Monument of Faith Church
900 Simmons Street
Durham, NC 27701

For Additional Information Concerning this Document, Contact:

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Executive Summary

What is the Durham-Orange Light Rail Transit Project?

The Durham-Orange Light Rail Transit (D-O LRT) Project is a 17.7-mile light rail transit project linking the City of Durham and the Town of Chapel Hill in North Carolina. The D-O LRT Project connects three major universities (UNC Chapel Hill, Duke University, and North Carolina Central University [NCCU]), three major medical facilities (UNC Hospitals, Duke Medical Center, and Durham Veterans' Administration Medical Center), and three of the top ten employers in the state of North Carolina (Duke University, UNC Chapel Hill, and UNC Health Care). Key elements of the project include:

- 17.7 miles of light rail service
- 18 light rail stations, with a 19th station currently under study as part

of this Supplemental Environmental Assessment (Supplemental EA)

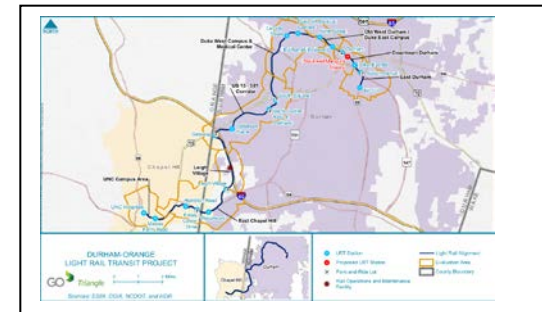
- Travel time between UNC Hospitals and NCCU of approximately 52-54 minutes
- A seven day per week operations schedule with service
 - Every 10 minutes during peak times
 - Every 20 minutes during off-peak times
 - Every 30 minutes during late nights on weekends, early morning, and on Sundays

The **purpose** of the proposed D-O LRT Project is to provide a high-capacity transit service within the Durham-Orange Corridor that improves mobility, increases connectivity through expanding transit options, and supports future development plans.

The **goals** for the proposed D-O LRT Project are to address the transportation **needs** to:

- **enhance mobility**
- **increase connectivity**
- **promote future development**

What is Proposed in this Supplemental EA?



The proposed changes to the project (**called Proposed Refinements**) address public and agency comments received on the project, include measures to reduce the project's cost and/or reduce the impact to the human or natural environment, incorporate recommendations from other studies to improve accessibility and visibility of stations, and encourage potential future development. The Proposed Refinements include the following changes to the project design:

- A new station at Blackwell/Mangum Streets;
- Redesigned station platforms;
- Minor changes in the location or elevation of the rail line;
- Minor shifts in the location of the stations and associated alignment (e.g., Gateway Station, Patterson



Place Station, University Drive Station, Duke/VA Medical Centers Station)

- The addition of sidewalks, greenway paths, and other bicycle and pedestrian facilities,
- Changes to the design of some park-and-ride lots (e.g., MLK Jr. Parkway Station, South Square Station, Alston Avenue Station);
- Closure of a section of Blackwell Street between Ramseur and Pettigrew Streets and a proposed signature civic space between Blackwell and Mangum Streets;
- Minor changes to the design of the Rail Operations and Maintenance Facility (ROMF); and,
- Inclusion of drainage, grading, and other design details throughout the project.

Chapter 2 includes a full list of the Proposed Refinements to the D-O LRT Project; this chapter also includes side-by-side drawings to show what the project would look like without the proposed changes and what it would look like with the proposed changes. See an example drawing above.



Figure S-1: Sample Side-by-Side Project Rendering (left side illustrates Previous Design and right side illustrates Proposed Refinements)

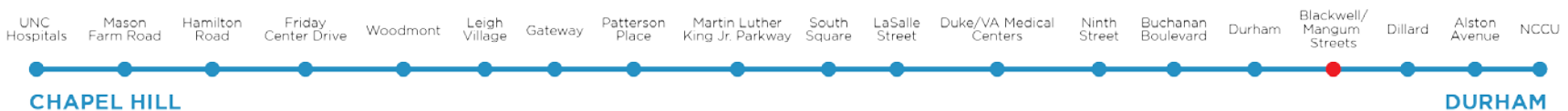
What is the Cost of the Project and How Will it be Funded?

The current budget for the capital cost of the D-O LRT Project is \$2.476 billion. GoTriangle anticipates funding as follows:

- \$1.238 billion from the Capital Investment Grants program
- \$738.4 million initially, with an added \$57.6 million, from Durham County's dedicated transit revenues

- \$149.5 million from Orange County's dedicated transit revenues
- \$190 million from the state of North Carolina
- \$102.5 million from a combination of private funding and other non-monetary contributions like right-of-way donations.

In early September 2018, GoTriangle updated the financial plan for the D-O LRT Project to reflect recent legislative action by the North Carolina General Assembly. Prior to this action, GoTriangle planned for \$247.6 million to come from state funding. The legislation limited funding for the Project to \$190



The National Environmental Policy Act (**NEPA**) requires federal agencies to consider the effects of their decisions (e.g., whether to fund or approve a project) on the human and natural environment.

As the lead federal agency for the D-O LRT Project, the Federal Transit Administration (**FTA**) must evaluate the effects of proposed design changes and disclose those effects to the public and agencies with approval authority.

This Supplemental Environmental Assessment meets FTA's requirements under NEPA and gives the public an opportunity to provide comments to GoTriangle on the proposed changes and the impacts of these changes.

million, which created a gap of \$57.6 million in the financial plan for the Project. On August 27, 2018, the Durham County Board of Commissioners voted unanimously in support of plans for Durham County to provide an additional \$57.6 million from their dedicated transit revenues to resolve the gap created by the General Assembly's action.

GoTransit Partners, a 501c3 non-profit organization, has been established and is currently leading a capital campaign on behalf of the D-O LRT Project. The organization has planned or budgeted \$41.4 million in in-kind right of way

donations for the Project and \$61.1 million in private monetary contributions.

What Has Not Changed

The D-O LRT Project is fundamentally the same as it was when the last environmental document (the NCCU Station Amended Record of Decision [ROD]) was published in 2016: a 17.7-mile light rail line between UNC Hospitals in Chapel Hill and NCCU in Durham. Except as described in this Supplemental EA, the Project Refinements include the same 18 stations, but propose to add a new 19th station at Blackwell/Mangum Streets that would provide access to downtown Durham amenities like the City Center, the American Tobacco District, and the Durham Performing Arts Center (DPAC). The D-O LRT Project with the Proposed Refinements would also provide a similar level of service for transit riders with a total travel time between UNC Hospitals and NCCU of approximately 52-54 minutes.

What is Included in this Supplemental EA Document?

This Supplemental EA presents each of the Proposed Refinements and reviews how these changes would affect the public, community resources, and the

environment. The analysis looks at a number of types of impacts, including the following:

- Transportation Facilities (Bus transit, roadways, sidewalks, parking) – See **Chapter 3, Section 3.1**
- Land Use and Zoning – See **Chapter 3, Section 3.2**
- Neighborhoods and Community Resources – See **Chapter 3, Section 3.3**
- Minority and Low-Income Populations (Environmental Justice Communities) – See **Chapter 5**
- Visual and Aesthetic Resources – See **Chapter 3, Section 3.4**
- Cultural Resources, including Historic Sites and Archaeological Resources – See **Chapter 3, Section 3.5**
- Parks and Recreational Areas – See **Chapter 3, Section 3.6**
- Natural Resources, including Threatened and Endangered Species – See **Chapter 3, Section 3.7**
- Water Resources, including wetlands and streams – See **Chapter 3, Section 3.8**
- Hazardous Material Sites – See **Chapter 3, Section 3.9**
- Noise and Vibration – See **Chapter 3, Section 3.10**



- Passenger and Vehicle Safety – See **Chapter 3, Section 3.11**
- Energy Use – See **Chapter 3, Section 3.12**
- Property acquisitions and displacements – See **Chapter 3, Section 3.13**
- Utilities – See **Chapter 3, Section 3.14**
- Construction Methods and Mitigation – See **Chapter 3, Section 3.15**

The Supplemental EA considers how the project affects the community and the environment in combination with other transportation projects planned for Durham and Orange Counties. **Table S-1** summarizes the potential impacts of the Proposed Refinements by resource area and **Chapter 3** describes these potential impacts by topic area in further detail.

The Supplemental EA presents the impacts of the Proposed Refinements as compared to the Previous Design for the project and analyzes whether these impacts would be significant. To assess whether an impact would be significant, under the National Environmental Policy Act (NEPA), the analysis considers the context and intensity of the impact. Context refers to the setting or the surrounding environment where the impact would occur, and whether the impact would affect the environment at a national, regional, or local level. Intensity

considers whether the impact would be beneficial or adverse; whether the impacts would affect public health or safety, unique characteristics of the area, historic sites, or endangered species; or if the impacts would involve uncertain or unknown risks or controversy.

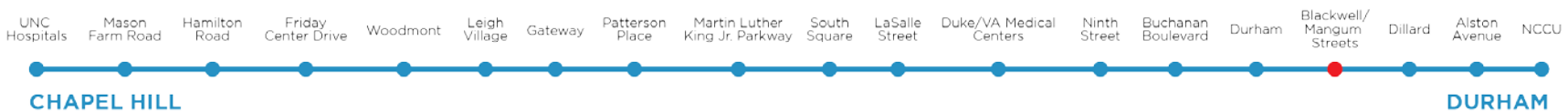
How has the Public Helped to Inform Decision-Making and Shape the Project?

Over 20 years of studies helped to shape the D-O LRT Project, including the Proposed Refinements under study in this Supplemental EA. Input from residents, business owners, community groups, elected officials, public agencies, and municipalities helped to develop a project that could meet the transportation needs and address the project goals in the most cost-effective and environmentally responsible manner possible.

Public input helped to inform key project decisions, including the:

- identification of transportation needs for the region
- goals for meeting the transportation needs
- transit technology to address the transit needs (i.e., light rail)
- location of the project study corridor

- identification of the project endpoints
- location of the light rail alignment
- station locations
- Rail Operations Maintenance Facility (ROMF)
- identification of an extension to NCCU and an additional station at NCCU
- landscaping and design features for the ROMF design
- identification of community expressions for station aesthetics and windscreen designs
- proposals to shift the alignment and station locations (e.g., Gateway Station, Patterson Place Station, MLK Jr. Parkway Station)
- proposal to add an additional station at Blackwell/Mangum to serve the City Center as well as destinations like DPAC, and
- proposals to add or improve sidewalk and bicycle connections to stations.



Tell Us What You Think

This Supplemental EA is available for the public to review, and public comments and questions are encouraged. Copies of this document are available at local libraries (please refer to the list on **Section 6.5** of the Supplemental EA) and on the GoTriangle website (<https://gotriangle.org/lightrail>).

Public meetings will be held in early November and through an online open house.

Comments on this document will be accepted between **October 26 and November 30, 2018**. Comments will be accepted through mail to GoTriangle's headquarters, email to lightrail@gotriangle.org, on comments forms available at public meetings and GoTriangle's headquarters, or on the project website, <https://GoTriangle.org/lightrail>.

Once the comment period is over, the FTA will carefully review and consider each substantive comment received, prepare responses to substantive comments, and determine if additional action is necessary based on the comments. Responses will be published in a future environmental document.



Summary of Anticipated Impacts

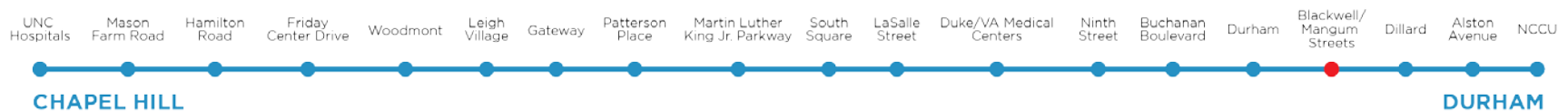
Resource	Potential Impact Summary		Net Change / Difference
	Previous Design (2016)	Proposed Refinements (2018)	
Public Transportation Section 3.1.1	26,880 average weekday light rail boardings in 2040	23,940 average weekday light rail boardings in 2040	2,940 fewer boardings with Proposed Refinements. No new significant impacts to light rail operations or bus routes associated with Proposed Refinements
Roadways Section 3.1.2	4 significant adverse Level of Service (LOS) impacts at intersections	<p>Reconfiguration of roadways at:</p> <ul style="list-style-type: none"> • UNC Hospitals Station • Leigh Village Station • Gateway Station • Sayward Drive • University Drive • Conifer Glen Lane • Blackwell Street and Pettigrew Street (closure of Blackwell Street Between Pettigrew and Ramseur streets) • Ramseur Street (conversion to 2-way) • Dillard Street • Alston Avenue <p>0 significant adverse LOS impacts at intersections</p>	<p>Eliminated all adverse LOS intersection impacts from Previous Design.</p> <p>Reduced roadway conflicts with light rail track Improved circulation in station areas.</p> <p>Altered the roadway system at Ramseur Street and Blackwell Street in downtown Durham.</p>



Resource	Potential Impact Summary		Net Change / Difference
	Previous Design (2016)	Proposed Refinements (2018)	
Parking Section 3.1.3	705 on-street parking spaces removed	<p>815 on-street parking spaces removed</p> <p>Changes at park-and-ride lots:</p> <ul style="list-style-type: none"> Increased number of parking spaces at Gateway Station and South Square Station park-and-ride lots No changes to park-and-ride lots at Friday Center, Leigh Village, and Durham stations Reduced number of parking spaces at Martin Luther King Jr. Parkway Station in order to avoid large property acquisition Dillard Street Station park-and-ride lot removed due to private development acquiring the lot Reduced number of parking spaces at Alston Avenue park-and-ride lot due to change from parking deck to two surface lots 	<p>Removed an additional 110 on-street parking spaces removed with Proposed Refinements.</p> <ul style="list-style-type: none"> Conversion of Ramseur Street to a two-way street would remove 39 existing on-street parking spaces; intersection reconfigurations and residential property impact reduction along Alston Avenue would remove 16 on-street parking spaces Various additions and reductions in proposed number of parking spaces at park-and-ride lots <p>No new significant impacts to parking associated with Proposed Refinements</p>
Pedestrian and Bicycle Facilities Section 3.1.4	<p>34 pedestrian facilities</p> <p>14 bicycle facilities</p> <p>No significant impacts to existing facilities anticipated</p>	<p>53 pedestrian facilities</p> <p>24 bicycle facilities</p> <p>Altered access along Blackwell Street between Pettigrew Street and Ramseur Street, no new significant impacts anticipated</p>	<p>Added 19 pedestrian facilities and 10 additional bicycle facilities with Proposed Refinements</p>
Land Use and Zoning Section 3.2	No impacts anticipated; consistent with local planning efforts	Modifications to streets, parking, pedestrian routes, and multi-use paths consistent with the municipal and county goals to encourage development in a compact, sustainable, and transit-oriented manner; no new significant impacts anticipated	Improved consistency with land use plans and policies with Proposed Refinements



Resource	Potential Impact Summary		Net Change / Difference
	Previous Design (2016)	Proposed Refinements (2018)	
Neighborhoods and Community Resources Section 3.3	Impacts to access and mobility and community resources in some places	Improved access and mobility between stations and surrounding neighborhoods, altered access to Tower Boulevard from Conifer Glen Lane, altered access at Blackwell Street between Pettigrew Street and Ramseur Street, no new significant impacts anticipated	Improved access in station areas with Proposed Refinements
Visual and Aesthetic Conditions Section 3.4	Low, moderate, and moderate-to-high visual impacts distributed among each of the 11 landscape units	Impact levels would remain the same with Proposed Refinements in 10 landscape units, impact levels would increase in Landscape Unit #9 (Downtown Durham)	Increased visual impact in Landscape Unit #9 (Downtown Durham) from low to moderate with Proposed Refinements due to the addition of Blackwell/Mangum Streets Station and the proposed signature civic space
Historic and Archaeological Resources Section 3.5	Recommended Effects Determinations 10 No Adverse Effect 2 No Effect	Recommended Effects Determinations 10 No Adverse Effect 2 No Effect Change in Recommended Effects Determinations: <ul style="list-style-type: none"> Durham Water Tower from No Adverse Effect to No Effect with Proposed Refinements 5 newly-identified historic resources in the revised Area of Potential Effect (APE) 2 historic resources recommended as eligible for listing on the NRHP (both with recommended determinations of No Adverse Effect)	No net change in number of properties affected. No additional archaeological resources or impacts. No new significant impacts to historic and archaeological resources associated with Proposed Refinements
Parklands and Recreational Areas / Section 6(f) Section 3.6	9.4 acres impact to existing facilities 0.9 acres impact to planned facilities	7.4 acres impact to existing facilities 1.9 acres impact to planned facilities	2 fewer acres of impacts to existing facilities and 1 additional acre of impacts to planned facilities with Proposed Refinements. No new significant impacts to parklands and recreational areas associated with Proposed Refinements.



Resource	Potential Impact Summary		Net Change / Difference
	Previous Design (2016)	Proposed Refinements (2018)	
Natural Resources Section 3.7	334 acres impact to biotic communities	391 acres impact to biotic communities	57 additional acres of impacts on biotic communities with Proposed Refinements. No new significant impacts on federal or state-listed threatened or endangered species or their habitats associated with Proposed Refinements
Water Resources Section 3.8	17.76 acres of impact to water resources	16.57 acres of impact to water resources	1.19 fewer acres of impacts to water resources with the Proposed Refinements No new significant impacts associated with Proposed Refinements
Hazardous, Contaminated and Regulated Materials Section 3.9	Identified 41 high risk sites and 83 medium risk sites	Identified 4 high risk sites, 24 medium risk sites and 10 indeterminate risk sites	Fewer sites in area of Proposed Refinements. No new significant impacts, no new mitigation required
Noise and Vibration Section 3.10	1 severe noise impact 4 moderate noise impacts 8 vibration impacts 13 ground-borne noise impacts	New analysis method used: 34 (2 buildings) severe noise impacts 376 (12 buildings) moderate noise impacts 0 vibration impacts	Increased noise impacts identified with new analysis method used for Proposed Refinements.
Safety and Security Section 3.11	Minimal impacts anticipated; potential safety hazards at stations, light rail vehicles, park-and-ride facilities, impacts to police, security, and emergency service operations	Changes to station platforms, park-and-ride facilities and track alignment; the addition of sidewalks, multi-use paths, and changes in at-grade crossings to improve safety and reduce vehicular and pedestrian rail conflicts; additional pedestrian and bicycle facilities	Similar overall impacts with no net change. No new significant safety and security impacts associated with Proposed Refinements
Energy Section 3.12	No impacts anticipated	No impacts anticipated	No net change



Resource	Potential Impact Summary		Net Change / Difference
	Previous Design (2016)	Proposed Refinements (2018)	
Acquisitions, Relocations, and Displacements Section 3.13	126 full acquisitions 142 partial acquisitions 88 relocations/displacements	Design changes requiring additional roadway right-of-way to accommodate intersection reconfigurations and improvements, shifts in station and track alignment, and addition of parking spaces require 153 full acquisitions 214 partial acquisitions 114 relocations/ displacements	Additional property impacts with Proposed Refinements: +27 full acquisitions +72 partial acquisitions +26 relocations/ displacements No new significant acquisition, relocations, and displacements impacts associated with Proposed Refinements
Utilities Section 3.14	Minimal impacts anticipated	Avoidance of 3 major utilities Relocation of 1 utility New utility service required for 1 station	Reduced major utility conflicts, minimal relocations and new services required. No new significant impacts anticipated with Proposed Refinements
Construction Section 3.15	Impacts generally temporary	New or modified construction techniques resulting in additional temporary impacts at: <ul style="list-style-type: none"> • Farrington Road Bridge Underpass • New Hope Creek Bridge • ROMF Rock Cut • Shannon Road / University Drive Underpass • Al Buehler Trail • Erwin Road Elevated Structure 	New or modified construction techniques in 6 areas with Proposed Refinements. No new significant impacts anticipated with Proposed Refinements.



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Acronyms and Abbreviations

Acronym	Definition
ACS	American Community Survey
Amended ROD	Amended Record of Decision
APE	Area of Potential Effect
ASTM	American Society for Testing and Materials
CFR	Code of Federal Regulations
CMAQ	Congestion Mitigation and Air Quality
DCHC MPO	Durham-Chapel Hill-Carrboro Metropolitan Planning Organization
DEIS	Draft Environmental Impact Statement
D-O	Durham-Orange
D-O LRT	Durham-Orange Light Rail Transit
DPAC	Durham Performing Arts Center
EA	Environmental Assessment
EIS	Environmental Impact Statement
EJ	Environmental Justice
EPA	U.S. Environmental Protection Agency
ESA	Environmental Site Assessment
FAST	Fixing America's Surface Transportation
FEIS	Final Environmental Impact Statement
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
LOS	Level of Service
LRT	Light Rail Transit

Acronym	Definition
MOA	Memorandum of Agreement
MTP	Metropolitan Transportation Plan
NC	North Carolina
NCCU	North Carolina Central University
NCDEQ	North Carolina Department of Environmental Quality
NCDEQ-DWR	North Carolina Department of Environmental Quality – Division of Water Resources
NCDOT	North Carolina Department of Transportation
NCNHP	North Carolina Natural Heritage Program
NCRR	North Carolina Railroad Company
NCWRC	North Carolina Wildlife Resources Commission
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NRHP	National Register of Historic Places
OSA	Office of State Archaeology
ROD	Record of Decision
ROMF	Rail Operations and Maintenance Facility
SHPO	State Historic Preservation Office
Supplemental EA	Supplemental Environmental Assessment
TOD	Transit-oriented Development
UNC	University of North Carolina at Chapel Hill
US or U.S.	United States
USACE	United States Army Corps of Engineers
U.S.C.	United States Code
USDOT	United States Department of Transportation
USFWS	United States Fish and Wildlife Service

1

Introduction

This Supplemental Environmental Assessment (Supplemental EA) has been prepared to evaluate the inclusion of Proposed Refinements to the Durham-Orange Light Rail Transit (D-O LRT) Project. It discloses the potential effects of the Proposed Refinements on the natural and human environment.

All prior environmental documents, including the Draft Environmental Impact Statement (DEIS) in August 2015, the Combined Final Environmental Impact Statement / Record of Decision (FEIS/ROD) in February 2016, the Supplemental EA for the North Carolina Central University (NCCU) Station Refinement in November 2016, and the Amended ROD in December 2016, as well

as the appendices and supporting technical memoranda, are incorporated by reference and referred to collectively as the “NEPA documentation for the Previous Design” or “previous NEPA documentation.”

The footer of this Supplemental EA document shows a representation of the existing D-O LRT Project defined in the Amended ROD (in blue), with a proposed new station, which is one of the Proposed Refinements, at Blackwell/Mangum Streets (in red). The new station and the other Proposed Refinements described in chapter 2 are the subject of this Supplemental EA.

1.1 Background

The Federal Transit Administration (FTA) and the Research Triangle Regional Public Transportation Authority doing business as (d/b/a) Triangle Transit d/b/a GoTriangle, in cooperation with the U.S. Environmental Protection Agency (EPA), 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 D-O LRT Project in 2012 in accordance with National Environmental Policy Act (NEPA). The DEIS was issued on August 28, 2015, with the public comment period occurring between August 28, 2015, and October 13, 2015.

In compliance with the Fixing America's Surface Transportation (FAST) Act, a Combined FEIS/ROD was prepared using errata sheets. The FTA signed the Combined FEIS/ROD on February 11, 2016.

In response to comments made on the DEIS, in the Combined FEIS/ROD, FTA and GoTriangle committed to analyzing the feasibility of extending the alignment to the NCCU campus and adding a new eastern terminal station near NCCU.

The FTA and GoTriangle prepared a Supplemental EA to document the effects of this NCCU Station Refinement. The Supplemental EA was published on November 7, 2016, and included a draft evaluation and preliminary determination in accordance with Section 4(f) of the U.S.

Department of Transportation (USDOT) Act of 1966.

On December 14, 2016, the FTA issued an Amended ROD and Final Section 4(f) Determination for the D-O LRT Project NCCU Station Refinement, which concluded that the NCCU Station Refinement would not result in significant adverse social, economic, or environmental impacts and that the requirements of NEPA and Section 4(f) had been satisfied.

New requirements related to NEPA since the 2016 Amended ROD include Executive Order 13807 of August 15, 2017, Establishing Discipline and Accountability in Environmental Review and Permitting Process for Infrastructure Projects.

1.2 Proposed Refinements

In response to comments received on the DEIS, GoTriangle committed to evaluate several refinements during the New Starts Engineering Phase. The Proposed Refinements occur in the same study area as the Previous Design and are proposed to be incorporated into the Project design based on the following:

- Advancements in design since the Amended ROD, including refinements resulting from Value Engineering workshops and evaluation of additional measures to reduce project cost;

- Responses to public comments and stakeholder feedback on the previous NEPA documentation;
- Recommendations from a grant-funded Transit Oriented Development (TOD) study to optimize platform locations for future development (for more information on GoTriangle's grant-funded TOD study, please see **appendix C-6** and <https://gotriangle.org/tod>); and
- Recommendations from the updated Durham County and Orange County transit plans approved in April 2017.

As engineering design advanced, GoTriangle instituted a change control procedure to monitor and evaluate proposed modifications to the physical and operational scope of the project. When a modification was proposed, GoTriangle evaluated the change for technical feasibility and environmental impacts. The FTA directed GoTriangle to prepare a Supplemental EA to evaluate the changes in social, economic, and environmental effects that would result from the Proposed Refinements, as compared to the effects previously disclosed in the Amended ROD. This Supplemental EA also evaluates whether the commitments outlined in the Amended ROD remain valid or if additional mitigation commitments would be required.

In accordance with NEPA, and based on FTA regulations on environmental impact and related procedures (23 Code of Federal



Regulations [CFR] Parts 771 and 774), FTA and GoTriangle prepared this Supplemental EA to identify new impacts associated with the Proposed Refinements and determine if any new impacts are significant. The Proposed Refinements are changes to the D-O LRT Project identified in the Amended ROD. Once the environmental impacts of the Proposed Refinements and mitigation identified in this Supplemental EA are accepted by GoTriangle and FTA, the impacts and mitigation commitments will be incorporated into the Amended ROD for the D-O LRT Project.

