

Appendix B.5: ACHP Submittal

Durham-Orange Light Rail Transit Project





Preserving America's Heritage

**Advisory Council on Historic Preservation
Electronic Section 106 Documentation Submittal System (e106) Form
MS Word format**

Send to: *e106@achp.gov*

I. Basic information

1. Name of Federal agency (If multiple agencies, state them all and indicate whether one is the lead agency):

- **Lead Agency:** Federal Transit Administration
- **Cooperating Agencies:**
 - United States Army Corps of Engineers (USACE)
 - US Environmental Protection Agency (USEPA)
 - Federal Highway Administration (FHWA)

2. Name of undertaking/project (Include project/permit/application number if applicable):

- **Project Name:** Durham-Orange Light Rail Transit Project, Durham and Orange Counties, North Carolina
- **State Environmental Tracking Number:** ER-12-0738
- **State Archaeological Resources Protection Act Permit:** applied for, but not issued at this time

3. Location of undertaking (Indicate city(s), county(s), state(s), land ownership, and whether it would occur on or affect historic properties located on tribal lands):

- **City(s):** City of Durham, Town of Chapel Hill
- **County(s):** Durham County and Orange County
- **State(s):** North Carolina
- **Land ownership:** a mix of privately-owned land, Federal-owned land (USACE), state-owned

ADVISORY COUNCIL ON HISTORIC PRESERVATION

401 F Street NW, Suite 308
Washington, DC 20001
Phone: 202-517-0200 Fax: 202-517-6381 achp@achp.gov www.achp.gov

(University of North Carolina, North Carolina Department Of Transportation (NCDOT), and local (City of Durham and Town of Chapel Hill rights-of-way)

- **Historic properties on Tribal lands:** while no known tribal lands are located within the APE of the project, FTA requested consultation of the Eastern Band of Cherokee Indians and the Catawba Indian Nation on April 20, 2015 (per Executive Order 13084, Section 106 of the National Historic Preservation Act and 36 CFR Part 800). The Eastern Band of Cherokee Indians did not respond to the request for consultation. However, the Catawba Indian Nation provided the following response on May 11, 2015:

“The Catawba have no immediate concerns with regard to traditional cultural properties, sacred sites or Native American archaeological sites within the boundaries of the proposed project areas. However, the Catawba are to be notified if Native American artifacts and/or human remains are located during the ground disturbance phase of this project.”

4. Name and title of Federal agency official and contact person for this undertaking, including email address and phone number:

Name: Julia Carrie Walker
Title: Environmental Protection Specialist
Agency: Federal Transit Administration, Region IV
Address: 230 Peachtree Street, NW – Suite 1400
 Atlanta, GA 30303
Email: julia.walker@dot.gov
Phone: 404.865.5645

5. Purpose of notification. Indicate whether this documentation is to:

- Notify the ACHP of a finding that an undertaking may adversely affect historic properties.

II. Information on the Undertaking*

6. Describe the undertaking and nature of Federal involvement (if multiple Federal agencies are involved, specify involvement of each):

Description of the undertaking: The Durham-Orange Corridor is located within the Triangle region. It extends roughly 17 miles from southwest Chapel Hill to east Durham, and includes several educational, medical, and other key activity centers which generate a large number of trips each day. The land uses in the D-O Corridor are supported by a network of major highways including North Carolina Highway 54 (NC 54) Interstate 40 (I-40), United States (US) 15-501, North Carolina Highway 147 (NC 147) and the North Carolina Railroad (NCR) Corridor in downtown Durham and east Durham.

The proposed undertaking consists of the planning, development, and construction of a Light Rail Transit (LRT) system on a 17 mile double track alignment, from the western terminus at the University of North Carolina at Chapel Hill (UNC) at the UNC Hospitals Station to the eastern terminus in Durham at the Alston Avenue Station. The proposed undertaking would generally follow NC 54, I-40, US 15-501, Erwin Road, NC 147, and the NCR Corridor in downtown Durham and east Durham. The alignment of the undertaking would begin in Chapel Hill at UNC Hospitals, parallel Fordham Boulevard, proceed eastward adjacent to NC 54, travel north along I-40, parallel US 15-501 before it would turn east toward Duke University and run within the median of Erwin Road, and then follow the NCR Corridor that parallels NC 147 through downtown and east Durham, before reaching its eastern terminus in Durham near Alston Avenue. The alignment would consist of at-grade alignment, fill and cut sections, and

elevated structures. A total of 17 stations are planned, and up to 5,100 parking spaces would be provided along the Light Rail Alternatives. In addition, a Rail Operations and Maintenance Facility (ROMF) would be constructed to accommodate the D-O LRT fleet (initially 17 vehicles, with the ability to accommodate up to 26 vehicles without needing expansion).

Cooperating agencies are the U.S. Environmental Protection Agency (USEPA), U.S. Army Corps of Engineers (USACE), and Federal Highway Administration (FHWA).

7. Describe the Area of Potential Effects:

The APE for archaeology is all areas of proposed construction activities or other potential ground-disturbing activities associated with construction. The following Archaeological APE determined through consultation with the North Carolina State Historic Preservation Office:

- From its terminus in Chapel Hill until it reaches east Durham at Alston Avenue, the APE generally extends 100 feet to either side of the centerline of the undertaking's various corridors, so is generally 200 feet wide. The APE extends farther than 100 feet from the centerline of the various corridors in the vicinity of the sites of five potential ROMFs in Durham County and at some sections where there are proposed park-and-ride sites associated with several stations.
- At the Leigh Village and Farrington Road ROMF sites, the APE extends 100 feet west of the site. At the Patterson Place ROMF site, the APE extends out 100 feet from the edges of the ROMF at all sides. It also extends 100 feet to the east of the Cornwallis Road ROMF site. At the eastern terminus of the undertaking at the Alston Avenue ROMF site, the APE terminates at the right-of-way on the south side of the Durham Freeway (NC 147), short of 500 feet from the centerline of the undertaking

8. Describe steps taken to identify historic properties:

In accordance with the Section 106 process, the lead Federal agency:

- Consulted with the SHPO and Federally recognized Native American tribes
- In consultation with the SHPO identified the project's APE
- Had the APE surveyed for architectural and archaeological historic properties/sites
- Assessed the effects of the project on identified historic properties
- Resolved adverse effects in consultation with the SHPO by exploring alternatives that avoid, minimize, or mitigate the adverse effects through project design, consultation with Section 106 consulting parties, and development of a Section 106 agreement document for mitigation of possible adverse effects to archaeological sites as project design is not finalized
- Due to ongoing design for this rail project, the lead Federal agency and the SHPO agreed to a Memorandum of Agreement to address any adverse effects that could impact archaeological sites in the APE. The APE is urban and it is unlikely that an adverse effect to archaeological sites would result from project implementation.
- Consulted with the SHPO and the SHPO concurred with the finding of no adverse effect to architectural resources

9. Describe the historic property (or properties) and any National Historic Landmarks within the APE (or attach documentation or provide specific link to this information):

Consultation with SHPO resulted in the identification of five locations along the proposed undertaking where Phase I archaeological survey studies should be performed. The *Archaeological Background Information, Durham-Orange Light Rail Transit Project* produced by Triangle Transit in November 2014

(Report), identified five (5) areas that should be subjected to archaeological field investigations through a Phase I survey. These five (5) areas include:

- (i) Mason Farm Road (corridor between UNC and US 15/501 parallel to Mason Farm Road);
- (ii) Leigh Village park and ride and corridor between George King Road and Interstate 40;
- (iii) Farrington Road Rail Operations and Maintenance Facility;
- (iv) Gateway park and ride; and,
- (v) the corridor between US 15/501 and the intersection of Erwin Road and NC Highway 751.

These studies are currently being performed with a report of results anticipated to be submitted to SHPO in early-2016 upon their completion.

Further, background research identified previously recorded archaeological resources within the APE; these resources will be revisited as part of the above referenced Phase I Archaeological Survey studies. FTA will also consult with Triangle Transit and SHPO to determine how to address one (1) archaeological resource and two (2) potential archaeological resources previously identified as warranting Phase II testing to determine NRHP eligibility. These three (3) actual and/or potential resources, detailed in the Report, include: archaeological site 31DH655, Potential Site 1, and Potential Site 3. Initial consultation between FTA, Triangle Transit, and SHPO in 2014 determined that these three (3) sites were identified and evaluated over ten (10) years ago, and therefore, the original recommendations may not be accurate for the resources' current conditions. Further, if it is determined no adverse effects will occur, testing of the resources may not be required. Therefore, FTA, Triangle Transit, and SHPO will need to consider the location, type, and extent of disturbances for the D-O LRT Project in conjunction with the reported locations and current conditions of the three (3) resources in order to evaluate any testing needs for them during ongoing project design.

10. Describe the undertaking's effects on historic properties:

Effects to be determined after completion of Phase I Archaeological Survey (and any follow up) studies. FTA was notified via telephone on December 13, 2016 that the NC SHPO has signed the MOA and mailed it to FTA.

11. Explain how this undertaking would adversely affect historic properties (include information on any conditions or future actions known to date to avoid, minimize, or mitigate adverse effects):

Adverse effects, if any, to be determined after completion of Phase I Archaeological Survey (and any follow up) studies. If NRHP-eligible historic and/or archaeological resources are identified during the Survey and/or Phase II study, FTA will determine if there are any adverse effects to the resources. FTA will determine if preservation in place is possible for any affected eligible resources. If it is determined that preservation in place is deemed unlikely for the D-O LRT Project as track alignment and structure have no tolerance for movement, then FTA, in consultation with Triangle Transit and SHPO, will develop and implement a data recovery plan that is consistent with the *Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation* (48 Fed. Reg. 44716) and the Advisory Council on Historic Preservation's (ACHP) handbook *Treatment of Archaeological Properties* (1980).

A Memorandum of Agreement (MOA) is currently under review by SHPO. Any data recovery plan developed under this MOA will consist of: (1) the development of significant research issues to be

investigated; (2) the phased recovery of resources; (3) the scientific investigation of the resources recovered in sufficient detail to address the identified research issues and test assumptions; (4) allowances for addressing unanticipated resources or site conditions; (5) a process for consultation with Triangle Transit and SHPO; and (6) a schedule of these proposed data recovery activities for each site.

12. Provide copies or summaries of the views provided to date by any consulting parties, Indian tribes or Native Hawai'ian organizations, or the public, including any correspondence from the SHPO and/or THPO.

See the attached following documents:

- Tribal Coordination (THPO) consultation letters and response received
- SHPO SHPO/OSA consultation and coordination letters and responses received
- Section 106 related Public Comments received during DEIS Public Comment Period

* see *Instructions for Completing the ACHP e106 Form*

III. Optional Information

13. Please indicate the status of any consultation that has occurred to date. Are there any consulting parties involved other than the SHPO/THPO? Are there any outstanding or unresolved concerns or issues that the ACHP should know about in deciding whether to participate in consultation?

For Archeological resources the only consulting parties are the THPO and SHPO. There are no concerns to date. A Phase I Archaeological Survey is being performed for five locations, and a Memorandum of Agreement has been signed by the SHPO as discussed above.

14. Does your agency have a website or website link where the interested public can find out about this project and/or provide comments? Please provide relevant links:

<http://ourtransitfuture.com/section106/>

15. Is this undertaking considered a “major” or “covered” project listed on the Federal Infrastructure Projects Permitting Dashboard or other Federal interagency project tracking system? If so, please provide the link or reference number:

- **Federal interagency project tracking system:** USEPA EIS Database

<https://cdxnodengn.epa.gov/cdx-enepa-II/public/action/eis/details?eisId=175429>

ERP Number: FHW-E54014-NC

CEQ EIS Number: 20150240

The following are attached to this form (check all that apply):

Section 106 consultation correspondence

Maps, photographs, drawings, and/or plans

___ Additional historic property information

___ Other:

Appendix N.2: Tribal Consultation

Durham-Orange Light Rail Transit Project



July 2015



U.S. Department
of Transportation
**Federal Transit
Administration**

REGION IV
Alabama, Florida, Georgia,
Kentucky, Mississippi,
North Carolina, Puerto
Rico, South Carolina,
Tennessee, Virgin Islands

230 Peachtree St.,
N.W., Suite 800
Atlanta, GA 30303
404-865-5600

Catawba Indian Nation
Attn: Wenonah G. Haire, THPO
1536 Tom Steven Road
Rock Hill, SC 29730

APR 20 2015

Re: Notification of Undertaking – Durham-Orange Light Rail Transit under Section 106 of the National Historic Preservation Act

Dear Ms. Haire:

The Durham-Orange Light Rail Transit Project (project), with the cooperation of the Federal Transit Administration (FTA), is currently in the initiation phase of this proposed major transit investment in the Durham, NC area. The project meets the definition of a federal undertaking per 36 CFR Part 800 and FTA is the lead federal agency. FTA is requesting your consultation for the project per Executive Order 13084, Section 106 of the National Historic Preservation Act and 36 CFR Part 800.

There are several light rail alternatives being considered for this project. Attached please find a project description, including an alternatives description, and a project map.

We would be pleased to discuss project details with you, as well as any confidential concerns you may identify.

Thank you in advance for your assistance with the proposed project. Please contact Julia Carrie Walker at (404) 865-5645 or julia.walker@dot.gov, or Stan Mitchell at (404) 865-5643 or stanley.a.mitchell@dot.gov, of my staff should you have any questions or concerns. Your timely response will greatly help us incorporate your concerns into project development.

Sincerely,

Yvette G. Taylor, Ph.D.
Regional Administrator

Encl: Project Description and Map

Cc: Meghan Makloid, Environmental Planner, Go Triangle



U.S. Department
of Transportation
**Federal Transit
Administration**

REGION IV
Alabama, Florida, Georgia,
Kentucky, Mississippi,
North Carolina, Puerto
Rico, South Carolina,
Tennessee, Virgin Islands

230 Peachtree St.,
N.W., Suite 800
Atlanta, GA 30303
404-865-5600

Mr. Russell Townsend
Eastern Band of Cherokee Indians
Qualla Boundary Reservation
88 Council House Loop
PO Box 455
Cherokee, NC 28719

APR 20 2015

Re: Notification of Undertaking – Durham-Orange Light Rail Transit under Section 106 of the National Historic Preservation Act

Dear Mr. Townsend:

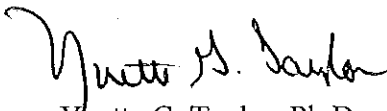
The Durham-Orange Light Rail Transit Project (project), with the cooperation of the Federal Transit Administration (FTA), is currently in the initiation phase of this proposed major transit investment in the Durham, NC area. The project meets the definition of a federal undertaking per 36 CFR Part 800 and FTA is the lead federal agency. FTA is requesting your consultation for the project per Executive Order 13084, Section 106 of the National Historic Preservation Act and 36 CFR Part 800.

There are several light rail alternatives being considered for this project. Attached please find a project description, including an alternatives description, and a project map.

We would be pleased to discuss project details with you, as well as any confidential concerns you may identify.

Thank you in advance for your assistance with the proposed project. Please contact Julia Carrie Walker at (404) 865-5645 or julia.walker@dot.gov, or Stan Mitchell at (404) 865-5643 or stanley.a.mitchell@dot.gov, of my staff should you have any questions or concerns. Your timely response will greatly help us incorporate your concerns into project development.

Sincerely,


Yvette G. Taylor, Ph.D.
Regional Administrator

Encl: Project Description and Map

Cc: Meghan Makloid, Environmental Planner, Go Triangle

Project Description

Durham-Orange Light Rail Transit Project



April 2015

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List of Acronyms and Abbreviations

Acronym/Abbreviation	Definition
AA	Alternatives Analysis
DEIS	Draft Environmental Impact Statement
D-O	Durham-Orange
D-O LRT	Durham-Orange Light Rail Transit
DTCC	Durham Technical Community College
I-40	Interstate 40
LPA	Locally Preferred Alternative
LRT	light rail transit
NC	North Carolina
NCCU	North Carolina Central University
NCRR	North Carolina Railroad
NHC	New Hope Creek
ROMF	rail operations maintenance facility
UNC	University of North Carolina
US	United States
VA	Veterans Affairs

1. Introduction

Triangle Transit, in cooperation with the Federal Transit Administration (FTA), is preparing a Draft Environmental Impact Statement (DEIS) to evaluate a potential high-capacity transit improvement in the Triangle region, within the Durham-Orange (D-O) Corridor, between Chapel Hill and Durham.

1.1 Description of the Study Corridor

The D-O Corridor is located within the Triangle region. It extends roughly 17 miles from southwest Chapel Hill to east Durham, and includes several educational, medical, and other key activity centers which generate a large number of trips each day. The land uses in the D-O Corridor are supported by a network of major highways including NC 54, I-40, US 15-501, Erwin Road, and NC 147.

1.2 Alternatives Considered

- No-Build Alternative
- Light Rail Alternatives

In addition to the Light Rail Alternatives, the DEIS will consider a No-Build Alternative comprised of the existing and programmed transportation network improvements without the planned rail improvements and associated bus network modifications.

1.2.1 No-Build Alternative

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 the proposed Light Rail Alternatives, rail transit improvements and related bus transit modifications that would be associated with the proposed D-O LRT Project.

1.2.2 Project Description

Through the Alternatives Analysis and Scoping process, a majority of the proposed D-O LRT Project alignment was identified. However, there are a few areas where alternatives were retained for further evaluation. As a result, multiple alignments crossing Little Creek and New Hope Creek will be evaluated in the DEIS, Figure 1.

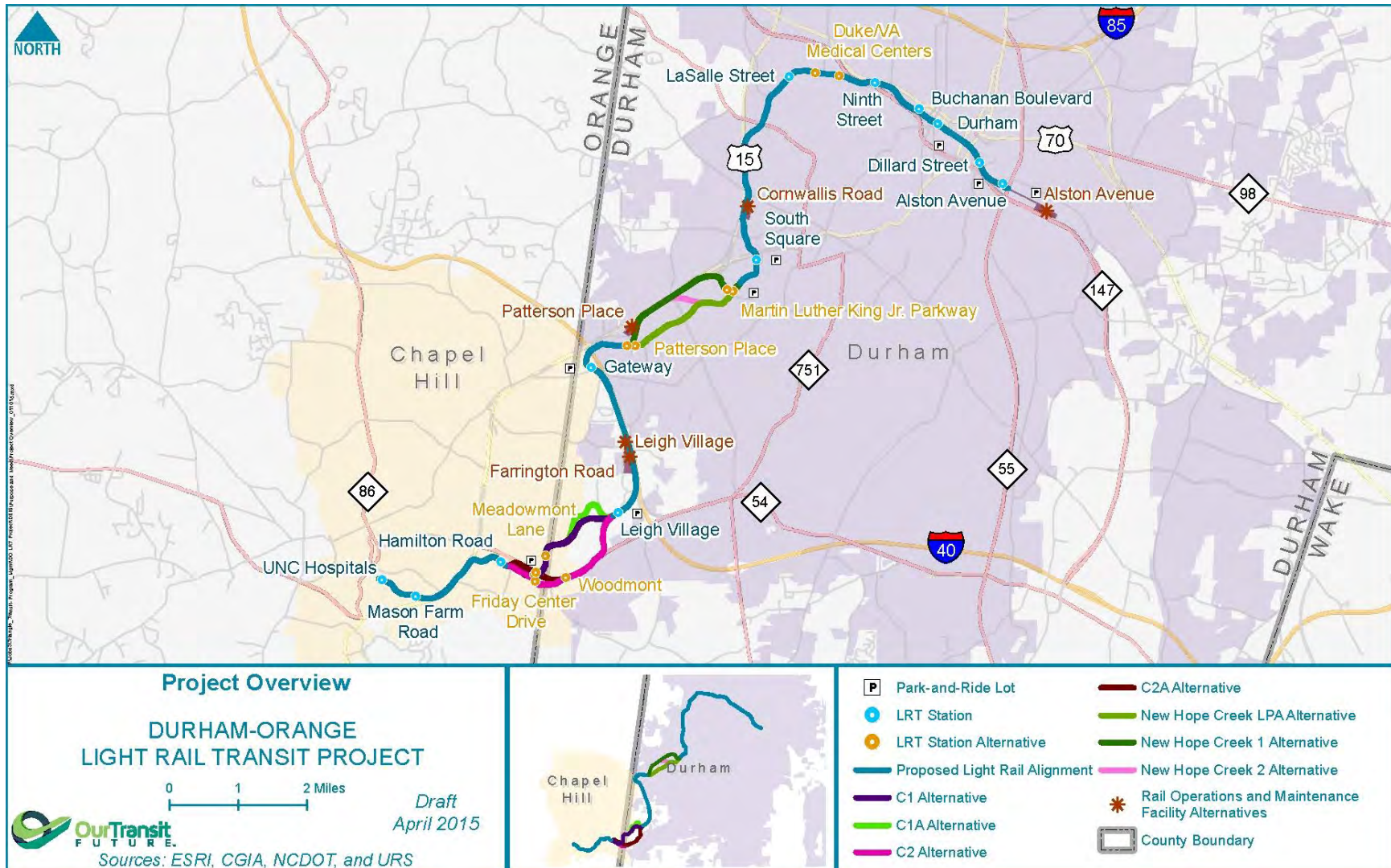
- Four potential crossings of Little Creek between Hamilton Road and the proposed Leigh Village Station (Alternatives C1, C1A, C2, and C2A)
- Three potential crossings of New Hope Creek and Sandy Creek between Patterson Place and South Square (Alternatives NHC LPA, NHC 1, and NHC 2)
- Station alternatives at Duke/VA Medical Centers (i.e., Duke Eye Center and Trent/Flowers Drive)
- Five proposed locations for the ROMF (i.e., Leigh Village ROMF, Farrington Road ROMF, Patterson Place ROMF, Cornwallis Road ROMF, and Alston Avenue ROMF)

The Light Rail Alternatives would generally follow North Carolina (NC) Highway 54 (NC 54), Interstate 40 (I-40), United States (US) 15-501, and the North Carolina Railroad (NCRR) Corridor in downtown Durham and east Durham. The alignment would begin in Chapel Hill at UNC Hospitals, parallel Fordham Boulevard, proceed eastward adjacent to NC 54, travel north along I-40, parallel US 15-501 before it would turn east toward Duke University and run within Erwin Road, and then follow the NCRR Corridor

that parallels NC Highway 147 (NC 147) through downtown Durham, before reaching its eastern terminus in Durham near Alston Avenue. The alignment would consist of at-grade alignment, fill and cut sections, and elevated structures. A total of 17 stations are planned, and up to 5,100 parking spaces would be provided along the Light Rail Alternatives. In addition, a Rail Operations and Maintenance Facility (ROMF) would be constructed to accommodate the D-O LRT fleet (initially 17 vehicles, with the ability to accommodate up to 26 vehicles without needing expansion).

Bus routes would be modified to feed into the D-O LRT stations, and headways would be adjusted to provide more frequent bus service and minimize transfer waiting times. These services would also connect light rail passengers with other area transportation hubs, including park-and-ride lots and transfer centers.

Figure 1: Project Overview



Catawba Indian Nation
Tribal Historic Preservation Office
1536 Tom Steven Road
Rock Hill, South Carolina 29730

Office 803-328-2427
Fax 803-328-5791



May 11, 2015

Attention: Meghan Makoid
GoTriangle
P.O. Box 13787
Research Triangle Park, NC 27709

Re. THPO #	TCNS #	Project Description
2015-844-1		Notification of Undertaking - Durham-Orange Light Rail Transit

Ms. Makoid,

The Catawba have no immediate concerns with regard to traditional cultural properties, sacred sites or Native American archaeological sites within the boundaries of the proposed project areas. **However, the Catawba are to be notified if Native American artifacts and / or human remains are located during the ground disturbance phase of this project.**

If you have questions please contact Caitlin Totherow at 803-328-2427 ext. 226, or e-mail caitlinh@ccppcrafts.com.

Sincerely,

A handwritten signature in cursive script that reads "Caitlin Totherow for".

Wenonah G. Haire
Tribal Historic Preservation Officer



CIN 130217

**North Carolina Department of Cultural Resources
State Historic Preservation Office**

Ramona M. Bartos, Administrator

Governor Pat McCrory
Secretary Susan Kluttz

Office of Archives and History
Deputy Secretary Kevin Cherry

October 10, 2013

Juanita Swink
Triangle Transit
PO Box 13787
Research Triangle Park, NC 27709

Re: Durham-Orange Light Rail Transit Project, Durham and Orange Counties, ER 12-0738

Dear Ms. Swink:

Thank you for your email of September 19, 2013, transmitting the minutes resulting from the meeting and webinar of August 27, 2013, concerning the above project.

As noted during the meeting, staff of the Office of State Archaeology have reviewed the Environmental Methodology Report and concur that it is appropriate for the project. We look forward to working with your consultants, URS Corporation, on this project and sharing information with them. As also noted during the meeting, archaeological site location information is sensitive and is protected pursuant to NC General Statute 70-18. Archaeological site locations are not to be made available to the public nor included in documents available to the public due to the risk of harm to the resources.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106 codified at 36 CFR Part 800.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, contact Renee Gledhill-Earley, environmental review coordinator, at 919-807-6579 or renee.gledhill-earley@ncdcr.gov. In all future communication concerning this project, please cite the above referenced tracking.

Sincerely,

A handwritten signature in blue ink that reads "Renee Gledhill-Earley".

for Ramona M. Bartos

Please note, the correct mailing address for environmental review projects is:

**Renee Gledhill-Earley
State Historic Preservation Office
4617 Mail Service Center
Raleigh, NC 27699-4617**

**FedEx: Renee Gledhill-Earley
State Historic Preservation Office
109 East Jones Street, 2nd Floor
Raleigh, NC 27601**

Or you may submit by email to: environmental.review@ncdcr.gov

Using this address will help ensure our timely receipt. Otherwise, your submittal may be lost or delayed in reaching us.

01387



U.S. Department
of Transportation
**Federal Transit
Administration**

REGION IV
Alabama, Florida, Georgia,
Kentucky, Mississippi,
North Carolina, Puerto
Rico, South Carolina,
Tennessee, Virgin Islands

230 Peachtree St.,
N.W., Suite 800
Atlanta, GA 30303
404-865-5600

October 8, 2014

Ms. Renee Gledhill-Earley
State Historic Preservation Office
4617 Mail Service Center
Raleigh, North Carolina 27699-4617

RE: Authorization to Initiate Section 106 Consultation with SHPO/THPO and Others

Dear Ms. Gledhill-Earley:

This letter is notify you that the Federal Transit Administration (FTA) in cooperation with Research Triangle Regional Public Transportation Authority (dba "Triangle Transit") is currently in the preliminary design phase for a proposed major transit investment in Durham and Orange Counties that will be a Federal undertaking should FTA provide financial assistance. As such, the proposed project is subject to Section 106 of the National Historic Preservation Act of 1966, as amended, and associated implementing regulations 36 CFR 800.

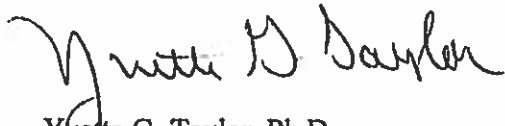
The proposed project would consist of the planning, development, and construction of a Light Rail Transit (LRT) system on double track alignment approximately 17.1 miles between east Durham (Alston Avenue/NCCU Station) and UNC Chapel Hill (UNC Hospitals Station). The proposed LRT alignment connects a range of activity centers including North Carolina Central University, east and downtown Durham, Duke University, Duke University Medical Center, Durham Veterans Administration Medical Center, the Friday Center, UNC Hospitals, and several park-and-ride lots. Convenient connections also will be made to Amtrak and local, regional, and intercity bus service in downtown Durham.

The exact locations of each element of the LRT are still to be determined however the LRT alignment generally follows the North Carolina Railroad Corridor, Erwin Road, US 15-501, I-40 and NC 54. A total of 17 stations are planned.

Per Subpart A, Section 800.2(a)(3) and 800.2(c)(4) of 36 CFR 800, FTA is authorizing TTA as an applicant for federal assistance, to prepare information, analyses, and recommendations regarding the Section 106 consultation process for the proposed project. The delegated authority to initiate consultation **does not extend** legal responsibility for any and all findings and determinations, **as this shall remain with FTA**. FTA will also remain responsible for all government-to-government relationships with all federally recognized tribes for the proposed project.

Thank you in advance for your assistance with the proposed project. Representatives from TTA and/or their consultants will be contacting your office as the project proceeds. Please contact Mr. Stan Mitchell of my staff at (404) 865-5643 or at stanley.a.mitchell@dot.gov should you have any questions.

Sincerely,

A handwritten signature in cursive script that reads "Yvette G. Taylor".

Yvette G. Taylor, Ph.D.
Regional Administrator

CC: Meghan Makoid, Triangle Transit Authority, P.O. Box 13787,
Research Triangle Park, NC 27709



November 6, 2014

Renee Gledhill-Earley, Environmental Review Coordinator
North Carolina State Historic Preservation Office
4617 Mail Service Center
Raleigh, NC 27699-4617

RE: Durham-Orange Light Rail Transit Project, Durham and Orange Counties, ER 12-0378

Dear Ms. Gledhill-Earley:

Thank you for consulting with the Federal Transit Administration (FTA) and Triangle Transit (TTA) and for meeting with us on August 25, 2014. As you may recall, we reviewed the preliminary historic Area of Potential Effects (APE) that TTA submitted to the North Carolina State Historic Preservation Office (SHPO) for the proposed Durham-Orange Light Rail Transit (D-O LRT) project (an Undertaking pursuant to 36 CFR 800.4(a)(1) and 800.16(d)).

During this meeting SHPO agreed that the proposed APE encompassed the geographic area within which the D-O LRT project might directly affect historic properties. However, SHPO expressed concern regarding the width of the proposed APE around stations due to the potential for indirect effects upon historic properties through future induced development.

SHPO requested that FTA consider expanding the APE to ½ mile around five station areas:

- Patterson Place Station
- Ninth Street Station
- Buchanan Station
- Durham Station
- Dillard Station

As a result of this consultation, FTA and TTA considered suggestion to expand the APE for these stations to determine the most appropriate approach for addressing SHPO's concerns. FTA also reviewed TTA's *Durham-Orange Light Rail Transit Corridor Transit Oriented Development (TOD) Assessment Report* (July 2011). This document was prepared to provide an initial evaluation of the potential future TOD within and near the station areas. FTA believes that these projections identify the potential for induced growth within and around the station areas.

FTA and TTA concluded that the best approach for addressing the potential effects of induced growth on historic resources is through the Indirect and Cumulative impact analysis, which will be completed as part of the National Environmental Policy Act (NEPA) process and included in the Draft Environmental Impact Statement. The Indirect and Cumulative impact analysis in the NEPA document will use information as appropriate from the TOD report and will

(919) 549-9999 • fax: (919) 485-7441
www.triangletransit.org • PO Box 13787, Research Triangle Park, NC 27709

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Gledhill-Earley
RE: D-O LRT ER-12-0378
Page 2

include an expanded discussion around the station areas where growth is anticipated directly, indirectly and cumulatively from the project. This analysis will consider the effects of potential growth from TOD on historic properties ½ mile around the stations. FTA and TTA will continue to consult with SHPO to address its concerns related to impacts on historic properties as part of the NEPA process.

In response to SHPO's concerns about the APE, FTA and TTA have revised the APE boundaries for historic properties along the entire D-O LRT project corridor. While the revised APE does not extend to ½ mile around the five stations, it follows property boundaries, includes the full boundaries of the National Register-listed or eligible properties/districts located partially or fully within the originally proposed APE, and considers physical barriers such as NC 147 to the south. These revisions are reflected in the updated APE maps and described in the enclosed revised Historic Resources – *Durham-Orange Light Rail Transit Historic Resources Area of Potential Effects Report*.

At the request of FTA, TTA submits this letter and the enclosed documents for your files. The enclosed APE for historic resources defines the APE for the Undertaking and will be used to evaluate and determine the effects. Please call Stan Mitchell with FTA Region IV at (404) 865-5643 or email stanley.a.mitchell@dot.gov if you have any questions about the enclosed APE.

Should you need any additional D-O LRT project information, please contact me at (919) 485-7554 or email me at mmakoid@triangletransit.org. We look forward to continued consultation with your office as the D-O LRT project progresses.

Sincerely,



Meghan Makoid, AICP
Environmental Planner

cc: David King, General Manager, Triangle Transit
Stan Mitchell, Environmental Protection Specialist, FTA Region 4

Enclosures:

- *October 2014 - Durham-Orange Light Rail Transit Historic Resources Area of Potential Effects*
- *July 2011 - Durham-Orange Light Rail Transit Corridor Transit Oriented Development (TOD) Assessment*

Dolores A. Hall, Deputy State Archaeologist
North Carolina Office of State Archaeology, Department of Cultural Resources
4619 Mail Service Center
Raleigh, NC 27699-4619

November 7, 2014

RE: Durham-Orange Light Rail Transit Project, Durham and Orange Counties, ER 12-0738.

Dear Ms. Hall:

Thank you for consulting with the Federal Transit Administration (FTA) and Triangle Transit (TTA) on August 25, 2014 and for meeting with us on August 25, 2014. As you may recall, we reviewed the preliminary archaeology Area of Potential Effects (APE) that TTA submitted to the North Carolina Historic Preservation Office for the proposed Durham-Orange Light Rail Transit (D-O LRT) project. SHPO agreed that the proposed APE encompassed the geographic area within which the D-O LRT project may affect archaeological resources. As such, FTA and TTA will use this APE to evaluate and determine the effects.

Also during the meeting on August 25, 2014, SHPO requested to meet with TTA's archaeological consultant, Matthew Jorgenson of URS Corporation (URS) to discuss the future archaeological fieldwork needs. The meeting between SHPO and Mr. Jorgenson occurred on September 14, 2014. During the meeting, SHPO identified the need for Phase I archaeological survey work along five sections of the D-O LRT project:

1. north of Mason Farm Road between UNC and US 15/501,
2. between George King Road and Interstate 40 (I-40),
3. the Leigh Village, Farrington Road, or Patterson Place Rail Operations and Maintenance Facility (ROMF) (if any of those options are chosen as the one ROMF planned for the entire project area),
4. the Gateway Park-and-Ride lot west of I-40 at the US 15/501 interchange, and
5. between US 15/501 and Erwin Road.

Further, it was agreed by SHPO that Phase II testing of site 31DH655**, which was previously recommended as potentially eligible for the National Register of Historic Places (NRHP) (Webb and Millis 1999:31), might be needed; however, re-locating and re-assessing the current state of the site would be the recommended first step to determining if this testing, recommended 15 years ago, is still warranted. Similarly, additional work in the form of mechanical removal of historic overburden/fill at potential site (PS) 1 (based on historic map evidence depicting a planning mill, office building, and a Durham Granite Company facility in the area) (Webb and Millis 1999:30), located immediately east of Buchanan Street and south of the North Carolina Rail Road (NCRR) right-of-way, may also be needed, depending on the relation of the chosen alignment of the D-O LRT and PS-1. Finally, similar mechanically-assisted overburden removal at PS-3 (based on historic map evidence depicting the Durham Bottling Works in that location) (Webb and Millis 1999:37), located west of Blackwell Street and south of the NCRR right-of-way, may be needed. PS-3 was initially assessed as not being adversely affected by the Wake-Durham Regional Rail project based on the plan to build the system on the existing gravel berm; however, as recommended by Webb and Millis (1999:37), the mechanical exposure

Hall
RE: D-O LRT ER-12 0738
Page 2

work may be needed if project plans include the removal or alteration of the berm, or if other ground disturbing activities are required.

As discussed in the meeting, the archaeological fieldwork tasks listed above would be performed at an undetermined future date during the final design phase of the project. TTA also understands that the archaeologist(s) involved in the fieldwork portion of the project would be required to obtain a permit from the state for any archaeological work performed on state-owned lands. Finally, TTA acknowledges that should significant changes to the D-O LRT alignment be made during the life cycle of the project, the above information would be amended as appropriate and further consultation with your office would be performed to address archaeological needs for any areas added to the project's APE.

At the request of FTA, TTA submits this letter and the enclosed document for your files. The enclosed document, *Archaeological Background Information: Durham-Orange Light Rail Transit Project*, summarizes known archaeological resources and past archaeological projects in relation to the archaeological APE for the proposed project. The document also makes recommendations regarding future fieldwork needs for the project as currently planned.

Please call Stan Mitchell with FTA Region IV at (404) 865-5643 or email stanley.a.mitchell@dot.gov if you have any questions about the APE for archaeological resources. Should you have any questions about the enclosed document or need any additional D-O LRT project information, please contact me at (919) 485-7554 or email me at mmakoid@triangletransit.org.

Again, thank you for meeting with our archaeological consultant on this matter. We look forward to continued consultation with your office as the D-O LRT project progresses.

Sincerely,



Meghan Makoid, AICP
Environmental Planner

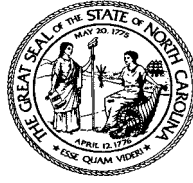
Cc: David King, General Manager, Triangle Transit
Stan Mitchell, Environmental Protection Specialist, FTA Region 4

Enclosure:

- *November 2014 - Archaeological Background Information: Durham-Orange Light Rail Transit Project*

References Cited:

Webb, Paul A., and Heather Millis
1999 *Archaeological Survey for Phase I of the proposed Triangle Transit Authority Regional Rail Project, Durham and Wake Counties, North Carolina*. Prepared by TRC Garrow Associates, Inc., Chapel Hill, North Carolina for Parsons Brinckerhoff Quade & Douglas, Inc., Morrisville, North Carolina. Manuscript on file, North Carolina Office of State Archaeology, Raleigh.



North Carolina Department of Cultural Resources
State Historic Preservation Office

Ramona M. Bartos, Administrator

Governor Pat McCrory
Secretary Susan Kluttz

Office of Archives and History
Deputy Secretary Kevin Cherry

January 6, 2015

Meghan Makoid
Triangle Transit
PO Box 13787
Research Triangle Park, NC 27709
mmakoid@triangletransit.org

Re: Architectural and Archaeological Area of Potential Effect Document and Archaeological Background Information Document, Durham-Orange Light Rail Transit Project, Durham and Orange Counties, ER 12-0738

Dear Ms. Makoid:

Thank you for your letters of November 6 and 7, 2014, transmitting the documents cited above for our review concerning the above project.

We appreciate your consideration of our concerns about the appropriate Area of Potential Effects (APE's).

We agree with your determination of APE for architectural resources.

The Archaeological Resources APE document accurately outlines the APE as developed and agreed upon during the August 25, 2014 meeting with the Federal Transit Administration, your agency and our office. On September 14, 2014, staff of the Office of State Archaeology met with Matthew Jorgenson of URS Corporation, your consultant, and reviewed previous archaeological investigations in the vicinity and delineated which areas of the proposed light rail transit project will require additional consideration of archaeological resources. The Archaeological Background Information document accurately reflects the results of that consultation.

We look forward to continued consultation and collaboration with you, your consultants and the Federal Transit Administration on this project.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106 codified at 36 CFR Part 800.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, contact Renee Gledhill-Earley, environmental review coordinator, at 919-807-6579 or environmental.review@ncdcr.gov. In all future communication concerning this project, please cite the above referenced tracking number.

Sincerely,



for Ramona M. Bartos



U.S. Department
of Transportation
**Federal Transit
Administration**

REGION IV
Alabama, Florida, Georgia,
Kentucky, Mississippi,
North Carolina, Puerto
Rico, South Carolina,
Tennessee, Virgin Islands

230 Peachtree St.
N.W., Suite 1400
Atlanta, GA 30303
404-865-5600

Renee Gledhill-Earley
Environmental Review Coordinator
North Carolina State Historic Preservation Office
4617 Mail Service Center
Raleigh, NC 27699-4617

Re: Durham-Orange Light Rail Transit Project, Durham and Orange Counties, ER 12-0378
Submission of Architectural History Survey for the Durham-Orange Light Rail Project,
Durham and Orange Counties, North Carolina: Durham – Orange Light Rail Transit
Project

Dear Ms. Gledhill-Earley:

This letter continues the Section 106 process for the proposed Durham-Orange Light Rail Transit (D-O LRT) project (an "Undertaking," pursuant to 36 CFR 800.4(a)(1) and 800.16(d)).

The attached documentation is the result of the *Architectural History Survey for the Durham-Orange Light Rail Project* that was undertaken in compliance with Section 106 of the National Historic Preservation Act of 1966. This survey was undertaken to identify historic resources listed in or eligible for listing in the National Register for Historic Places that may be affected by the proposed D-O LRT Project. The survey includes all resources within the defined Area of Potential Effects (APE) transmitted to you on November 6, 2014. This survey report and appendices were prepared by Marvin Brown of URS Corporation/AECOM, Triangle Transit's project consultant.

Triangle Transit and the FTA are in the process of preparing a Draft Environmental Impact Statement (DEIS). FTA is requesting your concurrence with our eligibility determinations for properties within the APE within 30 days.

Please call Stan Mitchell with FTA Region IV at (404) 865-5643 or via email at stanley.a.mitchell@dot.gov or Carrie Walker at FTA Region IV at (404) 865-5645 or via email at julia.walker@dot.gov, or my staff if you have any questions about the attached documents.

Re: Durham-Orange Light Rail Transit Project, Durham and Orange Counties, ER 12-0378
Submission of Architectural History Survey for the Durham-Orange Light Rail Project,
Durham and Orange Counties, North Carolina: Durham – Orange Light Rail Transit
Project

FTA and Triangle Transit look forward to continued consultation with SHPO to address its concerns related to impacts on historic properties as part of the NEPA process.

Sincerely,



For Yvette G. Taylor, Ph.D.
Regional Administrator

Enclosures:

- *March 2015 – Architectural History Survey for the Durham-Orange Light Rail Project, Durham and Orange Counties, North Carolina: Durham – Orange Light Rail Transit Project*
- *March 2015 – Appendix A - Architectural History Survey for the Durham-Orange Light Rail Project, Durham and Orange Counties, North Carolina: Durham – Orange Light Rail Transit Project*
- *March 2015 – Appendix B – Resume of Principal Investigator for Architectural History Survey for the Durham-Orange Light Rail Project, Durham and Orange Counties, North Carolina: Durham – Orange Light Rail Transit Project*

cc: David King, General Manager, Triangle Transit
Stan Mitchell, Environmental Protection Specialist, FTA Region 4
Carrie Walker, Environmental Protection Specialist, FTA Region 4



North Carolina Department of Cultural Resources
State Historic Preservation Office

Ramona M. Bartos, Administrator

Governor Pat McCrory
Secretary Susan Kluttz

Office of Archives and History
Deputy Secretary Kevin Cherry

April 16, 2015

Yvette G. Taylor, Ph. D.
Region IV Administrator
Federal Transit Administration
230 Peachtree Street NW, Suite 1400
Atlanta, GA 30303

Attention: Stan Mitchell
Carrie Walker

Stanley.a.mitchell@dot.gov
Julia.walker@dot.gov

RE: Architectural History Survey for Durham-Orange Light Rail Transit Project,
Durham and Orange Counties, ER 12-0738

Dear Dr. Taylor:

Thank you for your recent letter, which we received on March 19, 2015 and which transmitted the above-referenced historic survey report for the Durham-Orange Light Rail Transit Project. We have reviewed the report and offer the following comments.

We concur with the report's determinations of eligibility with the following notes and/or exceptions.

p. xii: The paragraph in the middle of the page is confusing as it seemed to be missing something. We believe the missing element is the beginning of the fourth paragraph on p. 2-1 – that as a result of the post-reconnaissance presentation and input from the various parties, Marvin Brown conducted additional fieldwork at and research into 11 resources and groups of resources.

pp. xii and 3-16: The entries on the Downtown Durham Historic District should note the Additional Documentation nomination listed in 2012 that updated the inventory list.

p. 3-45: The National Register assessment of the Shankle House, 2nd paragraph: Association with significant people is Criterion B, not C; and association with an architect, unless the property was his personal residence, is always Criterion C, not B. The last five sentences of this paragraph are thus irrelevant as far as Criterion B is concerned and should be deleted or moved to the end of the first paragraph and rephrased (i.e., not under C as the work of a master).

p. 3-49: The reference to the survey more than ten years ago of modernist buildings in Chapel Hill, here and elsewhere in the report, should be amended to note that it was conducted by Diane Lea and Claudia Brown. Ruth Little did selective follow-up interviews, including one with the owner of the Bowers-Nelson House, but Lea and Brown did the survey work. The foreword of Little's book alludes to "a recently updated survey of the town's modern architecture" but does not identify the surveyors, and consequently Mr. Brown naturally assumed that the work was Little's minus a closer examination of the SHPO survey files.

p. 3-55, 2nd paragraph: Again (see comments on p. 3-45 above), the suggestion that the house could be eligible under Criterion B for its association with the architect is erroneous.

p. 3-75: The Highland Woods HD should be found eligible under Criteria A and C, not just A, as the modernist designs of the majority of the houses is an intrinsic aspect of the overall design of the neighborhood and the number of houses that are so altered that they are noncontributing is not great enough to preclude significance under Criterion C.

p. 3-104 (a minor point): Sentences 5 and 6 in the first paragraph about the Robersons' purchase of property in Forest Hills is confusing (sentence 6 is not an obvious conclusion) without the insertion of the streets on which the three lots purchased in 1923 and the Tudor Revival-style house are located (Hermitage Court and Briar Cliff Road, respectively).

p. 3-115: The conclusion of ineligibility under Criterion A cannot be supported without comparing and contrasting the Ruth-Sizemore Store to the county's four other one-story frame stores similar in date and form, particularly in terms of integrity. Simply stating that it must have a high degree of integrity because there are four other similar stores is not sufficient, especially considering that the alterations to the store do not seem to be extensive.

p. 3-151: The extensive interior alterations preclude eligibility under Criterion C and possibly under Criterion A as well. Is any interior integrity retained? More information is needed to support eligibility under Criterion A.

pp. 3-179 to 3-181: The NC Mutual Building is eligible under Criterion A but the case has not been made for eligibility under Criterion C. (Note, regarding first full paragraph on p. 3-180: significance for engineering is Criterion C, not A.) The building's engineering and architecture are inextricable, as noted in the second paragraph on p. 3-180. The fact that the engineering failed to the point that structural retrofitting was required in the late 1980s is noted but played down. The impact of the retrofitting on the appearance of the building is barely noted, even though the retrofitting eliminated the appearance of the cantilevering that was essential to the building's engineering and architectural significance. Retaining strong horizontal and vertical lines is not an adequate argument for retention of sufficient integrity for eligibility under Criterion C.

We would very much appreciate the above revisions be made to the report so that we can fully agree to the determinations of eligibility and the criteria on which the determinations are based. Errata pages that we can insert into our hard copy of the report as well as a corrected copy of the report on a CD would be acceptable. For ease of future reference, we would also appreciate a complete listing of all National Register-listed and eligible properties within the project's Area of Potential Effects. The list should include the name of each property, its survey site number, National Register status and the criterion or criteria for its eligibility. The model for this list is found on pp. xi-xii, with the addition of the survey site number and criteria. We have found that such a list proves very helpful when assessing the project's effect on the historic properties.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106 codified at 36 CFR Part 800.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, contact Renee Gledhill-Earley, environmental review coordinator, at 919-807-6579 or environmental.review@ncdcr.gov. In all future communication concerning this project, please cite the above referenced tracking number.

Sincerely,



for Ramona M. Bartos

cc: David King, TTA, dking@triangletransit.org
Marvin Brown, URS, marvin.brown@urs.com

June 25, 2015

Renee Gledhill-Earley
 Environmental Review Coordinator
 North Carolina State Historic Preservation Office
 4617 Mail Service Center
 Raleigh, NC 27699

Connecting all points of the Triangle

RE: Revised Architectural History Survey and Section 106 Assessment of Effects for Historic Properties for Durham-Orange Light Rail Transit Project, Durham and Orange Counties, ER 12-0738

Dear Ms. Gledhill-Earley,

Thank you for your letter dated April 16, 2015, written in response to the submittal of the Architectural History Survey for the Durham-Orange Light Rail Transit Project. GoTriangle (formerly Triangle Transit) delivered this report to the North Carolina State Historic Preservation Office (NC SHPO) on behalf of the Federal Transit Administration (FTA) on March 19, 2015.

The FTA acknowledges that in your letter you note the SHPO's concurrence with the determinations of eligibility with notes and/or exceptions. As requested, the FTA is resubmitting the revised Architectural Historic Survey for the Durham-Orange Light Rail Transit Project to address your comments.

The table below notes the location of the SHPO comment in the report, the nature of the SHPO comment, and the response to address the comment. Due to the nature of the edits, a corrected hard copy of the report is being submitted along with the revised report on a CD.

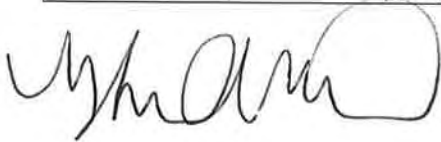
Page #/Comment	Response
Page xii – comment on unclear language	Language revised to clarify that Marvin Brown conducted fieldwork and research at 11 resources and groups of resources.
Pages xii and 3-16 – request to add 2012 reference	Reference to 2012 Additional Documentation for Downtown Durham Historic District added at both pages.
Page 3-45 – request for correction of NR Criterion cited	Reference to potential significance of architect Sumner Winn corrected from Criterion B to Criterion C and text concerning potential significance of Winn shifted to end of first paragraph.
Page 3-49 – additional citation request	Chapel Hill modernist survey completed by Claudia Brown and Diana Lea credited to them at this page; work also credited at page 2-1 and reference to it added to bibliography.
Page 3-55 -- request for correction of NR Criterion cited	Discussion of potential significance of architect Don Stewart corrected to refer to Criterion C rather than B.
Page 3-75 – comment on potential eligibility of resource	Architecture of resources reconsidered and eligibility assessment paragraphs revised to state that Highland Woods Historic District is National Register-eligible under Criteria A and C. Other reference to eligibility at Executive Summary table revised.
Page 3-104 – comment on unclear language	First paragraph revised to clarify that the Robersons owned two separate parcels/groups of parcels in Forest Hills.

(Continued on Page 2...)



Page #/Comment	Response
Former page 3-115/revised-report page 3-114 – comment on potential eligibility of resource	Integrity of other country stores in Durham County reconsidered and eligibility assessment revised to state that Ruth-Sizemore Store is National Register-eligible under Criterion A. Map and narrative description of National Register-eligible boundaries of store added to revised-report at page 3-115. Other references to eligibility of store at Executive Summary table and at APE maps/Figures 9 and 10 revised.
Page 3-151 -- comment on potential eligibility of resource	Extensive nature of interior alterations reconsidered and eligibility assessment of Durham Coca-Cola Bottling Plant revised to state that the resource is not National Register-eligible under any Criteria due to loss of integrity. Map and narrative description of proposed National Register-eligible boundaries of plant removed. Other references to eligibility of plant at Executive Summary table and APE maps/Figures 18 and 19 revised.
Pages 3-179 to 3-181 -- comment on potential eligibility of resource	Extensive nature of exterior alterations/retrofitting of corner columns reconsidered and eligibility assessment of North Carolina Mutual Building revised to state that it is not National Register-eligible under Criterion C due to loss of integrity. Other reference to eligibility at Executive Summary table revised.
Page 3-180 -- request for correction of NR Criterion cited	Reference to potential engineering significance of North Carolina Mutual Building corrected from Criterion A to Criterion C. Language assessing potential engineering significance of building shifted to paragraph assessing Criterion C.
General comment regarding corrections to report	All comments have been addressed in a revised report that includes final National Register assessments.
General comment regarding addition of complete list of resources	A table of National Register-Listed and Eligible Resources within Area of Potential Effect added as Appendix D. It includes resource name, survey site number, National Register status, and eligibility Criteria.

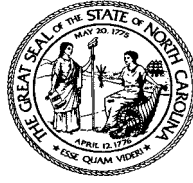
Other Changes/Location	Nature of Change
Addition of sources at Bibliography	References added for Cynthia deMiranda's Additional Documentation for Downtown Durham Historic District and for personal communication with Dennis Hoyle regarding retrofitting of North Carolina Mutual Building.
Addition of correspondence at new Appendix C	Appendix C added, which includes SHPO/FTA correspondence up to and including SHPO comment letter of April 16, 2015.
Updated series of APE maps/Figures 2 to 21 added to replace earlier maps	Updated maps bring report up to date regarding the alignment; changes do not affect eligibility or assessment of any of the resources included in the report.



Meghan A. Makoid, AICP
Environmental Planner
mmakoid@gotriangle.org

Enclosures: Revised Architectural History Survey [One (1) hard copy and one (1) CD]
Cc w/o enclosures: Stanley A. Mitchell, Environmental Protection Specialist, FTA Region IV





**North Carolina Department of Cultural Resources
State Historic Preservation Office**

Ramona M. Bartos, Administrator

Governor Pat McCrory
Secretary Susan Kluttz

Office of Archives and History
Deputy Secretary Kevin Cherry

July 17, 2015

Meghan A. Makoid
Environmental Planner
Go Triangle

mmakoid@gotriangle.org

RE: Revised Architectural Historic Survey and Section 106 Assessment of Effect for Historic Properties,
Durham-Orange Light Rail Transit Project, Durham and Orange Counties, ER 12-0738

Dear Ms. Makoid:

Thank you for your letter of June 25, 2015 documenting the submission of the above-referenced report for the Durham-Orange Light Transit Project. We have reviewed the revised report and find that all of the recommended changes have been made. The addition of Appendix D with the table of the National Register-listed and Eligible Resources within the APE is especially appreciated and serves to document the changes in criteria that we suggested for the eligible properties.

We note that the subject line for your letter reads "Revised Architectural Historic Survey and Section 106 Assessment of Effect for Historic Properties." However, having talked with you on July 9, 2015, we determined that the Assessment of Effects was not included as it is still under review by the Federal Transit Administration. Once it is available, we will promptly review it and comment.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106 codified at 36 CFR Part 800.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, contact Renee Gledhill-Earley, environmental review coordinator, at 919-807-6579 or environmental.review@ncdcr.gov. In all future communication concerning this project, please cite the above referenced tracking number.

Sincerely,


Ramona M. Bartos

cc: Marvin Brown, URS

August 11, 2015

Renee Gledhill-Earley
Environmental Review Coordinator
North Carolina State Historic Preservation Office
4617 Mail Service Center
Raleigh, NC 27699-4617

**RE: Durham-Orange Light Rail Transit Project, Durham and Orange Counties, North Carolina,
ER 12-0378, Submission of Section 106 Preliminary Assessment of Effects for Historic Properties Report**

Dear Ms. Gledhill-Earley:

This letter continues the Section 106 of the National Historic Preservation Act of 1966 process for the proposed Durham-Orange Light Rail Transit (D-O LRT) project (an "Undertaking" pursuant to 36 CFR 800.4(a)(1) and 800.16(d)).

The attached *Section 106 Preliminary Assessment of Effects for Historic Properties for Durham-Orange Light Rail Project, Durham and Orange Counties, North Carolina* report was prepared in compliance with CFR 800.4 and 800.5. It includes FTA's preliminary assessment of the project's potential to have effects on 25 historic properties previously identified within the project's Area of Potential Effects and provides the State Historic Preservation Officer (SHPO) with the opportunity to review the FTA's preliminary finding of No Adverse Effect.

Triangle Transit and the FTA are in the process of preparing a Draft Environmental Impact Statement. FTA is requesting your consultation and concurrence with their effects findings within 30 days of receipt of this letter and the attached report.

Please contact Stan Mitchell with FTA Region IV at (404) 865-5642 or via email at stanley.a.mitchell@dot.gov, or Carrie Walker at FTA Region IV at (404) 865-5645 or via email at Julia.walker@dot.gov, if you have any questions about the attached documents.

FTA and Triangle Transit look forward to continued consultation with the SHPO to address its concerns related to potential impacts on historic properties as part of the NEPA process.

Regards,

A handwritten signature in blue ink that reads "David A. Charters, Jr." in a cursive script.

David A. Charters, Jr, PE
Manager, Design & Engineering
GoTriangle (formerly Triangle Transit)

Enclosures: *Section 106 Preliminary Assessment of Effects for Historic Properties for Durham-Orange Light Rail Project, Durham and Orange Counties, North Carolina*

cc: Stanley A. Mitchell, Environmental Protection Specialist, FTA Region IV (with one hard copy via overnight delivery)
Julia Carrie Walker, Environmental Protection Specialist, FTA Region IV



North Carolina Department of Cultural Resources
State Historic Preservation Office

Ramona M. Bartos, Administrator

Governor Pat McCrory
Secretary Susan Kluttz

Office of Archives and History
Deputy Secretary Kevin Cherry

September 10, 2015

David A. Charters
GoTriangle
PO Box 13787
Research Triangle Park, NC 27709

Re: Assessment of Effects for Historic Properties, Durham-Orange Light Rail Transit Project,
Durham and Orange Counties, ER 12-0738

Dear Mr. Charters:

Thank you for your letter of August 11, 2015 and copy of the Preliminary Assessment of Effects for the above-referenced undertaking. We have reviewed the assessment of effects on historic properties in the Area of Potential Effects (APE) for the undertaking and agree with them as presented in the Summary of Effects (Figure 12 on page 5-1 Draft).

GoTriangle has done an excellent job in avoiding adverse effects on historic properties in the APE and should be proud of its work to do so. Our only other comment with regard to the project, the NEPA process, and Section 106; is that the Draft and the Final Environmental Impact Statements should clearly outline the environmental commitments for landscaping and other means proposed to reduce the effects of the undertaking on historic properties. The commitments should include the groups, organizations and/or agencies that will be involved in developing plans for any landscaping or other treatments that will be implemented to ensure that no adverse effects will occur.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106 codified at 36 CFR Part 800.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, contact Renee Gledhill-Earley, environmental review coordinator, at 919-807-6579 or environmental.review@ncdcr.gov. In all future communication concerning this project, please cite the above referenced tracking number.

Sincerely,

A handwritten signature in blue ink that reads "Renee Gledhill-Earley".

for Ramona M. Bartos

cc: Stanley A. Mitchell, FTA, Stanley.a.mitchell@dot.gov
Julia Walker, FTA, Julia.walker@dot.gov



North Carolina
Department of Administration

Pat McCrory, Governor

Bill Daughtride, Jr., Secretary

October 12, 2015

Mr. David Charters
Triangle Transit
Post Office Box 530
Morrisville, NC 27560

Re: SCH File # 16-E-0000-0065; DEIS; Proposed is a DEIS for the Durham-Orange Light Rail Transit Project. View documents at <http://ourtransitfuture.com/>

Dear Mr. Charters:

The above referenced environmental impact information has been submitted to the State Clearinghouse under the provisions of the National Environmental Policy Act. According to G.S. 113A-10, when a state agency is required to prepare an environmental document under the provisions of federal law, the environmental document meets the provisions of the State Environmental Policy Act. Attached to this letter for your consideration are **additional comments** made in the review of this document.

If any further environmental review documents are prepared for this project, they should be forwarded to this office for intergovernmental review.

Should you have any questions, please do not hesitate to call.

Sincerely,

A handwritten signature in black ink that reads "Teresa Matthews".

Teresa Matthews

State Environmental Review Clearinghouse

Attachments

Cc: Region J

Mailing Address:
1301 Mail Service Center
Raleigh, NC 27699-1301

Telephone: (919)807-2425
Fax (919)733-9571
State Courier #51-01-00
e-mail state.clearinghouse@doa.nc.gov

Location Address:
116 West Jones Street
Raleigh, North Carolina

NORTH CAROLINA STATE CLEARINGHOUSE
DEPARTMENT OF ADMINISTRATION
INTERGOVERNMENTAL REVIEW

COUNTY: DURHAM
ORANGE

F04: MASS TRANSIT

STATE NUMBER: 16-E-0000-0065
DATE RECEIVED: 08/28/2015
AGENCY RESPONSE: 09/23/2015
REVIEW CLOSED: 09/28/2015

MS RENEE GLEDHILL-EARLEY
CLEARINGHOUSE COORDINATOR
DEPT OF CULTURAL RESOURCES
STATE HISTORIC PRESERVATION OFFICE
MSC 4617 - ARCHIVES BUILDING
RALEIGH NC

REVIEW DISTRIBUTION

DENR LEGISLATIVE AFFAIRS
DEPT OF AGRICULTURE
DEPT OF CULTURAL RESOURCES
DEPT OF TRANSPORTATION
DPS - DIV OF EMERGENCY MANAGEMENT
TRIANGLE J COG

PROJECT INFORMATION

APPLICANT: Triangle Transit
TYPE: National Environmental Policy Act
Draft Environmental Impact Statement

DESC: Proposed is a DEIS for the Durham-Orange Light Rail Transit Project. View documents at <http://ourtransitfuture.com/>

The attached project has been submitted to the N. C. State Clearinghouse for intergovernmental review. Please review and submit your response by the above indicated date to 1301 Mail Service Center, Raleigh NC 27699-1301.

If additional review time is needed, please contact this office at (919)807-2425.

AS A RESULT OF THIS REVIEW THE FOLLOWING IS SUBMITTED: NO COMMENT COMMENTS ATTACHED

SIGNED BY: Renee Gledhill-Earley

DATE: 9.24.15

ER 12-0738
Draft letter
DMA 9/11/15

Dec 9/18/15

0880 9/24/15



SEP 11 2015



**North Carolina Department of Cultural Resources
State Historic Preservation Office**

Ramona M. Bartos, Administrator

Governor Pat McCrory
Secretary Susan Kluttz

Office of Archives and History
Deputy Secretary Kevin Cherry

September 25, 2015

David A. Charters, Jr., PE
GoTriangle
PO Box 13787
Research Triangle Park, NC 27709

Re: Durham-Orange Light Rail Transit Project – Draft Environmental Impact Statement,
Durham and Orange Counties, ER 12-0738

Dear Mr. Charters:

Thank you for your letter of August 25, 2015, transmitting the Draft Environmental Impact Statement (DEIS) for our review concerning the above project.

As noted in the document, areas within the project area of potential effect (APE) that have the potential to contain National Register eligible archaeological sites have been identified in consultation between our Office of State Archaeology and your archaeological consultants. As also noted in the DEIS, after selection of the alternative to be constructed, if any of these areas will be affected, appropriate archaeological investigations will be undertaken prior to project implementation.

We look forward to working with you and your consultants on future aspects of this project at the appropriate time.

The DEIS correctly notes the “Findings of Effects” on the twenty-five above-ground historic properties and outlines the steps that will be taken to avoid any adverse effects.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation’s Regulations for Compliance with Section 106 codified at 36 CFR Part 800.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, contact Renee Gledhill-Earley, environmental review coordinator, at 919-807-6579 or environmental.review@ncdcr.gov. In all future communication concerning this project, please cite the above referenced tracking number.

Sincerely,

for Ramona M. Bartos

November 30, 2015

CIN 150725

Via First Class U.S. Mail & Email

Ramona M. Bartos
Director, Historical Resources
North Carolina Department of Natural and Cultural Resources
4617 Mail Service Center
Raleigh, North Carolina 27699-4617
Email: ramona.bartos@ncdcr.gov

**RE: Durham-Orange Light Rail Transit Project, Durham and Orange Counties, North Carolina,
ER 12-0378, Submission of Memorandum of Agreement**

Dear Ms. Bartos:

The Research Triangle Regional Public Transportation Authority d/b/a Triangle Transit d/b/a GoTriangle (GoTriangle), on behalf of the Federal Transit Administration (FTA), writes to continue the Section 106 process for the proposed Durham-Orange Light Rail Transit (D-O LRT) Project as set forth by the National Historic Preservation Act of 1966.

Enclosed please find a Memorandum of Agreement between the FTA, GoTriangle, and the North Carolina State Historic Preservation Office (SHPO) to establish the procedures by which the parties will work to ensure the effective protection of historic and/or archaeological resources during the implementation and construction of the proposed D-O LRT Project.

Please contact Stan Mitchell with FTA Region IV at (404) 865-5642 or via email at stanley.a.mitchell@dot.gov, or Carrie Walker at FTA Region IV at (404) 865-5645 or via email at julia.walker@dot.gov, if you have any questions about the enclosed Memorandum of Agreement.

FTA and GoTriangle look forward to continued consultation with the SHPO to as the D-O LRT Project moves forward.

Sincerely,

A handwritten signature in black ink that reads "David A. Charters" with a small circular mark containing the number "10" to the right.

David A. Charters, Jr, PE
Manager, Design & Engineering

Enclosure: Memorandum of Agreement

cc: Stanley A. Mitchell, Environmental Protection Specialist, FTA Region IV
Julia Carrie Walker, Environmental Protection Specialist, FTA Region IV
Delores A. Hall, Deputy State Archaeologist, OSA, NCDNCR
Renee Gledhill-Earley, Environmental Review Coordinator, SHPO, NCDNCR
Meghan Makoid, Environmental Planner, GoTriangle
Diane Cowin, Project Manager, AECOM



Section 106 Comments

Affiliation	General Public
Sub-Group	Citizen
First Name	Curtis
Last Name	Booker
Comment	<p><i>To Whom It May Concern:</i>I am writing in reference to the impact of the Farrington Road ROMF on the Walter Curtis Hudson Farm. I have been and continue to be a strong advocate of Durham/Orange Light Rail, and, in general, I support the Farrington Road ROMF, but I feel that GoTriangle has not done all that must be done to protect the historic integrity of the Hudson site. I agree wholeheartedly with Rene Gledhill-Early's assessment in her September 10, 2015 letter to you in which she writes that "the Draft and Final Environmental Impact Statements should clearly outline the environmental commitments for landscaping and other means proposed to reduce the effect of the undertaking on historic properties." She further writes that "The commitments should include the groups, organizations and/or agencies that will be involved in developing plans for any landscaping or other treatments that will be implemented to ensure that no adverse effects will occur." These comments are particularly germane to the Hudson Farm as no other historic site along the light rail route is so significantly compromised by visual degradation from the project. The baffling aspect of this problem is why it persists when remedies are so readily available and do not compromise the placement of the Farrington Road ROMF. Figures 100, 101, 102 and 103 of the Preliminary Assessment of Effects for Historic Properties clearly illustrate both the problem and the solution. The images make clear the topographical and landscape difficulties that the assessment does not address. The ROMF intrudes into an open field that has been part of the historic landscape for nearly a century. Additionally, the Hudson farmhouse sits well above the grade of the ROMF and in plain view of the back of the ROMF buildings and the southern portion of the rail yard. The final paragraph of page 5-62 of the Assessment admits that the ROMF will "introduce new visual and atmospheric elements to the project setting," but ignore Rene Gledhill-Early's directive regarding "environmental commitments for landscaping and other means . . . to reduce the effects of the undertaking." Finally, the Assessment falsely states that due "to the presence of woodland between the northern National Registry boundary and the ROMF, the ROMF would be largely screened from view from the Walter Curtis Hudson Farm." The Assessment then concludes that "Given the presence of the woodland, the proposed project would have No Adverse Effect on this historic property." Evidence of the failure of this evaluation is presented in the Assessment itself. Figure 95 clearly shows that the sight line from the north front of the farmhouse travels unencumbered to the back of the ROMF buildings and the rail yard. As the woodland lies to the east of the farmhouse and the ROMF buildings and rail yard, the principle elements of the historic property are exposed to the most industrial aspects of the ROMF site with no screening whatsoever. Only the parking lot is partially obscured. The last sentence on page 5-62 is thus rendered false since "the presence of the woodland" is not at all a mitigating factor. As it is "the presence of the woodland" that solely leads to the conclusion that "the proposed project would have No Adverse Effect on this historic property," that conclusion is false. This brings us again to Ms. Gledhill-Early's observation, an observation that should lead to a happy solution to this problem. That solution is screening including a full complement of berms, walls, plantings and other mitigations. Note that Ms. Gledhill-Early calls for the identification of "groups, organizations and/or agencies that will be involved in developing plans for any landscaping or other treatments that will be implemented to ensure</p>

that no adverse effects will occur."Although the proper mitigations are readily available, they will require significant outlays of time, expertise and money; and since the false application of the eastern woodland leads to the equally false conclusion that "the proposed project would have No Adverse Effect on this historic property," it must be assumed that GoTriangle has no plans to follow the directives of the North Carolina Department of Cultural Resources. It is significant that, following a statement of praise for the work of GoTriangle, the only directive in the Gledhill-Early letter is that quoted above.I realize that the Final Environmental Impact Statement can rectify these omissions and misstatements of fact, and I sincerely hope that such is the case. However, if I am not satisfied that all appropriate means to visuallyscreen the Walter Curtis Hudson Farm from the clear adverse effects of the Farrington Road ROMF have been employed, I promise to use whatever political and legal means are available to force proper compliance.I add, as something of a postscript, that all available means must be used to fully screen Farrington Road from the ROMF facilities as well. The community as a whole deserves the best efforts of your organization to ameliorate any adverse consequences of this project. Visual screening is key to those efforts.Sincerely,[removed name]Acknowledgement: I am the only grandchild of Walter Curtis Hudson and attorney -in -fact for his only child, my mother, [removed name], who still resides in the house in which she was born 92 years ago. Additionally, I am general manager of Patterson's Mill LLC, the entity which owns about eight acres of property to be acquired by GoTriangle on the southern edge of the twenty-five acre site. All shares of Patterson's Mill LLC are owned by myself, my mother, my wife and my two children.

1st Comment Category

Human Environment - Section 4(f)

1st Comment Response

As stated in DEIS section 4.5.3.1, 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 (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.In DEIS section 4.5.4, it states, If ordered to mitigate any indirect impacts on historic properties, the FTA will consult with the SHPO and other consulting parties about the design, landscaping, and other features of the NEPA Preferred Alternative at these historic properties. These efforts, as determined, will be included in the Final EIS/ROD.

2nd Comment Category

2nd Comment Response

3rd Comment Category

3rd Comment Response

4th Comment Category

4th Comment Response

Affiliation	General Public
Sub-Group	Citizen
First Name	Curtis
Last Name	Booker
Comment	<p><i>Please note: this hard copy is mailed to you simply to ensure that either the email or this hard copy reaches you. There is no presumption that both should enter the record. They are identical. Curtis Booker</i></p> <p><i>To Whom It May Concern:</i>I am writing in reference to the impact of the Farrington Road ROMF on the Walter Curtis Hudson Farm. I have been and continue to be a strong advocate of Durham/Orange Light Rail, and, in general, I support the Farrington Road ROMF, but I feel that GoTriangle has not done all that must be done to protect the historic integrity of the Hudson site. I agree wholeheartedly with Rene Gledhill-Early's assessment in her September 10, 2015 letter to you in which she writes that "the Draft and Final Environmental Impact Statements should clearly outline the environmental commitments for landscaping and other means proposed to reduce the effect of the undertaking on historic properties." She further writes that "The commitments should include the groups, organizations and/or agencies that will be involved in developing plans for any landscaping or other treatments that will be implemented to ensure that no adverse effects will occur." These comments are particularly germane to the Hudson Farm as no other historic site along the light rail route is so significantly compromised by visual degradation from the project. The baffling aspect of this problem is why it persists when remedies are so readily available and do not compromise the placement of the Farrington Road ROMF. Figures 100, 101, 102 and 103 of the Preliminary Assessment of Effects for Historic Properties clearly illustrate both the problem and the solution. The images make clear the topographical and landscape difficulties that the assessment does not address. The ROMF intrudes into an open field that has been part of the historic landscape for nearly a century. Additionally, the Hudson farmhouse sits well above the grade of the ROMF and in plain view of the back of the ROMF buildings and the southern portion of the rail yard. The final paragraph of page 5-62 of the Assessment admits that the ROMF will "introduce new visual and atmospheric elements to the project setting," but ignore Rene Gledhill-Early's directive regarding "environmental commitments for landscaping and other means . . . to reduce the effects of the undertaking." Finally, the Assessment falsely states that due "to the presence of woodland between the northern National Registry boundary and the ROMF, the ROMF would be largely screened from view from the Walter Curtis Hudson Farm." The Assessment then concludes that "Given the presence of the woodland, the proposed project would have No Adverse Effect on this historic property." Evidence of the failure of this evaluation is presented in the Assessment itself. Figure 95 clearly shows that the sight line from the north front of the farmhouse travels unencumbered to the back of the ROMF buildings and the rail yard. As the woodland lies to the east of the farmhouse and the ROMF buildings and rail yard, the principle elements of the historic property are exposed to the most industrial aspects of the ROMF site with no screening whatsoever. Only the parking lot is partially obscured. The last sentence on page 5-62 is thus rendered false since "the presence of the woodland" is not at all a mitigating factor. As it is "the presence of the woodland" that solely leads to the conclusion that "the proposed project would have No Adverse Effect on this historic property," that conclusion is false. This brings us again to Ms. Gledhill-Early's observation, an observation that should lead to a happy solution to this problem. That solution is screening including a full complement of berms, walls, plantings and other mitigations. Note that Ms. Gledhill-Early calls for the identification of "groups, organizations and/or agencies that will be involved in developing plans for any landscaping or other treatments that will be implemented to ensure that no adverse effects will occur." Although the proper mitigations are readily available, they will require significant outlays of time, expertise and money; and since the false application of the eastern woodland leads to the equally false conclusion that "the proposed project would have No Adverse Effect on this historic property," it must be assumed that GoTriangle has no plans to follow the directives of the North Carolina Department of Cultural Resources. It is significant that, following a statement of praise for the work of GoTriangle, the only directive in the Gledhill-Early letter is that quoted above. I realize that the Final Environmental Impact Statement can rectify these omissions and misstatements of fact, and I sincerely hope that such is the case. However, if I am not satisfied that all appropriate</p>

means to visually screen the Walter Curtis Hudson Farm from the clear adverse effects of the Farrington Road ROMF have been employed, I promise to use whatever political and legal means are available to force proper compliance. I add, as something of a postscript, that all available means must be used to fully screen Farrington Road from the ROMF facilities as well. The community as a whole deserves the best efforts of your organization to ameliorate any adverse consequences of this project. Visual screening is key to those efforts. Sincerely, Curtis R. Booker
Acknowledgement: I am the only grandchild of Walter Curtis Hudson and attorney-in-fact for his only child, my mother, Elsie Hudson Booker, who still resides in the house in which she was born 92 years ago. Additionally, I am general manager of Patterson's Mill LLC, the entity which owns about eight acres of property to be acquired by GoTriangle on the southern edge of the twenty-five acre site. All shares of Patterson's Mill LLC are owned by myself, my mother, my wife and my two children.

Human Environment - Section 4(f)

As stated in DEIS section 4.5.3.1, 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 (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. In DEIS section 4.5.4, it states, If ordered to mitigate any indirect impacts on historic properties, the FTA will consult with the SHPO and other consulting parties about the design, landscaping, and other features of the NEPA Preferred Alternative at these historic properties. These efforts, as determined, will be included in the Final EIS/ROD.

Affiliation	General Public
Sub-Group	Citizen
First Name	Tammy
Last Name	Bouchelle
Comment	<p><i>I am VERY excited about the D-O LRT Project! It will serve as yet another vital link between Chapel Hill and Durham and those who live, work and play in these growing areas. The D-O LRT Project will provide access to educational opportunities, medical care, jobs, activity centers, neighborhoods and housing, community facilities, and other development potential for tens of thousands of people - not just in the southern part of Heaven and the Bull City - but for out neighbors within and visitors to the metro Research Triangle region. The d-O LRT will be a game changer, and I can't wait to ride it! I appreciate GoTriangle's commitment to work with Town and City personnel to provide walkable stations. I encourage GoT and local jurisdictions to focus on bike and ped facilities not just at D-O LRT stations, but along the entire 17 mile alignment. For example, a multi-use path along the entire alignment would be a welcomed consequence of or addition to the proposed D-O LRT Project. Additionally, I would like to see more sustainability measures incorporated into the final design of the project (e.g., LEED certified ROMF and certified stations (or the equivalent); solar lighting and solar powered project elements (ROMF, stations, project office, etc.); incorporation of recycling at stations; native plant species, etc. GoT should consider partnering with local jurisdictions to place historical markers, whether through the NC Department of Cultural resources, the Town of Chapel Hill, or the City of Durham, along the D-O LRT alignment and throughout the D-O Corridor. This is going to be amazing! Bring on the D-O LRT!</i></p>
1st Comment Category	Transportation - Freight / Passenger Rail
1st Comment Response	Comment noted.
2nd Comment Category	Natural Environment - Energy
2nd Comment Response	Triangle Transit will continue to consider sustainability measures during the Engineering phase. The combined FEIS/ROD will reflect that opportunities for green building design and low-impact development design will be reviewed during Engineering.
3rd Comment Category	
3rd Comment Response	
4th Comment Category	
4th Comment Response	

Affiliation	General Public
Sub-Group	Citizen
First Name	Susan and Bill
Last Name	Christopher
Comment	<i>The proposed light rail project comes at a tremendous cost in terms of money, environmental impact, safety concerns, and community discord. It is scheduled to cost over \$1 billion, impact hundreds of acres of habitat, run adjacent to an elementary school, and potentially destroy a beautiful historic site. It does nothing to connect Chapel Hill with Raleigh; the I40 Corridor connecting these cities is arguably our area's greatest traffic problem. Likewise, it will not take riders to Southpoint Mall or the airport, two popular destinations. Further, the proposed route does not branch out into neighborhoods; instead, riders must drive or take a bus to a station which could be 10-15 minutes from their home and then ride the train, potentially increasing their commute time and, we suspect, limiting ridership. We have seen nothing that convinces us that the proposed project is worth the price that we are all being asked to pay.</i>
1st Comment Category	Purpose and Need - Other Alternatives
1st Comment Response	<p>Planning for high-capacity transit in the 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 extensive coordination with stakeholders and members of the public to develop, evaluate, and refine the range of alternatives (Figure 2.1-1). The key studies, white papers, and reports that identified the need for high-capacity transit in the region and defined the D-O Corridor are summarized in Section 2.1. These past studies indicate that the estimated demand for a continuously connected rail line to RDU and RTP is not warranted or cost effective for the Project. RTP has a significant number of jobs, but they are widely distributed and dispersed compared to Chapel Hill and Durham. This dispersed development pattern is not as conducive to rail. The Wake County Transit Plan is currently evaluating future potential transit corridors, which could be studied if a funding source is secured for transit in Wake County. The Wake County Transit Plan is currently under development. For more information, please see WakeTransit.com. With the exception of a small percentage of regular business travelers, most Triangle residents use RDU between 1 and 10 times per year, but travel to their workplace 250+ days per year. As a region builds its transit system, a consistent model for success has been to link neighborhoods to those "250+ day destinations" with the highest capacity service, while ensuring quality bus links to other important trip generators like the primary regional airport. RDU is critical to our region's economic prosperity and is our gateway to the world. Triangle Transit recognizes this and recently launched its most significant airport services expansion in over 10 years. Triangle Transit currently serves Terminal 1 and Terminal 2 with buses 7 am – 11 pm Monday – Saturday, and 7 am – 5pm on Sunday. The airport is currently, and will continue to be, serviced by Triangle Transit buses (Route 100).</p>
2nd Comment Category	Purpose and Need
2nd Comment Response	<p>As summarized in DEIS section 8.1, and further explained in DEIS chapter 1, the purpose of the proposed D-O LRT Project is to provide a high-capacity transit service within the D-O Corridor, (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 need for the proposed D-O LRT Project is to attain the following:</p> <ul style="list-style-type: none"> • Improve Mobility • Enhance mobility: provide a competitive, reliable alternative to automobile use that supports 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), 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• Promote Future Developmento Support local land use plans that foster compact development, o Provide a transportation solution that supports compact development, promotes environmental stewardship, helps manage future growth, and maximizes the potential for economic development near activity centersThe D-O Corridor supports the travel of residents, visitors, and employees to major activity and employment centers within the corridor (Figure 1.1-1). These key activity centers generate a large number of trips each day. Population and employment projections for 2040 predict that these key activity centers will continue to generate a high number of trips. As shown on Figure 1.5-3, which illustrates the predicted number of trips per square mile, the highest number of trips is predicted to occur in the areas of UNC, UNC Hospitals, Leigh Village, Patterson Place, South Square, Duke University, Duke University Medical Center, Ninth Street, downtown Durham, and Alston Avenue (1.5.2.3).Light rail was chosen for the D-O Corridor because this technology will:• Connect residential, educational, and major employment centers throughout the corridor;• Serve the people in the D-O Corridor more cost-effectively in the long term than other transportation options;• Efficiently serve a corridor with some of the highest projected trips per acre in the Triangle region;• Support land use patterns that require closely spaced stops, best served by vehicles that are able to accelerate quickly;• Provide solid anchors needed to shape land use along this critical corridor; and,• Provide high-frequency rail service shown to support transit-oriented development (TOD) (ES-3).As described in 8.4, the NEPA Preferred Alternative (C2A, NHC 2, Trent/Flowers Drive Station, and Farrington Road ROMF) would achieve each element of the Purpose and Need of the proposed D-O LRT Project and is a highly effective performer in terms of the project goals and objectives for improving mobility, increasing transit efficiency, improving transit connections, supporting economic development and plans, fostering environmental stewardship, and providing a cost-effective transit investment.

3rd Comment Category

3rd Comment Response

4th Comment Category

4th Comment Response

Affiliation	General Public
Sub-Group	Citizen
First Name	David M.
Last Name	Cocchetto
Comment	<p>September 26, 2015[removed name and address]D-O LRT Project – DEISc/o Triangle TransitPO Box 530Morrisville, NC 27560RE: Comments in Response to Draft Environmental Impact Statement (EIS) for the proposed Durham-Orange Light Rail Transit ProjectDear Sir:The purpose of this letter is to provide written comments for your consideration regarding the proposed Durham-Orange Light Rail Transit (D-O LRT) project. Based on public notices published in The News & Observer and posted on your website (http://ourtransitfuture.com/), my understanding is that the project (including the draft EIS) is open for comment until October 12, 2015.I have been a resident of the Durham and Chapel Hill area for over 30 years. During this time, my wife and I have owned homes in Chapel Hill and Durham. Currently, I reside on Marcella Court, in a neighborhood off Farrington Road in Durham. I have worked and been active in the Durham community for many years. I have followed with keen interest the information and proposals regarding rail transit in the Triangle area.In this letter, I am providing the following main comments along with information on the basis for my positions: ● I support the “no build” alternative. I am opposed to construction of the proposed light rail system in the Durham and Chapel Hill areas.● I am opposed to all proposed routes with any rail line adjacent to Farrington Road.● I am opposed to construction of a Rail Operations and Maintenance Facility (ROMF) on Farrington Road.My opposition to the proposed D-O LRT system is due to the greatly diminished scope of this project, particularly following withdrawal of Wake County from participation in the light rail. The proposed D-O LRT system will not provide rail service to many of the most popular destinations in the Durham and Chapel Hill areas, and it will not provide any rail service to any location in Wake County. The estimates of riders per day seem very high relative to the data on riders on the existing LRT system in Charlotte, NC. The LRT system slows travel, rather than speeding travel; projected travel between Chapel Hill and Durham in 2040 is September 26, 2015Page 2slower on D-O LRT (42-44 minutes) and faster by car (27 minutes) and bus rapid transit (39 minutes). Further, the pace of light rail must be even slower during the months when temperatures are above 90°. Taken together, the diminished scope of the project, lack of service to many popular destinations, inflexibility, high front-loaded cost of a static rail system, slow pace of travel, and apparent overestimates of riders will result in a higher than projected burden on taxpayers and an underutilized light rail system. For these reasons, the proposed D-O LRT should not be built.My opposition to all routes that include any rail line adjacent to Farrington Road and my opposition to construction of a ROMF on Farrington Road are due to (1) the lack of prospective disclosure to homeowners in this area (while the future plan for construction of a light rail system in their development was prospectively disclosed to future homeowners in Meadowmont), (2) the inevitable increase in traffic congestion on the already congested corridors on NC 54, Farrington Road, and US 15-501, (3) the negative impact of increased traffic congestion and road-level rail crossings on timely service by emergency vehicles, (4) my support for the factors stated by the Durham City-County Planning Department that currently preclude construction of rail lines and the ROMF on Farrington Road, (5) noise pollution due to frequent, high decibel train horns imposed on homeowners along NC 54 and Farrington Road, (6) the negative impact on a historic site (Patterson’s Mill Store) on Farrington Road, and (7) light rail cars on lines adjacent to I-40 comprising an additional distraction, potentially leading to more high-speed accidents, particularly for drivers in the eastbound lanes on I-40 between US 15-501 and NC 54.The remaining pages of this letter provide additional comments in opposition to light rail transit, in particular my opposition to construction of a ROMF on Farrington Road and my opposition to construction of any route with a rail line adjacent to Farrington Road.Change in participating municipalities: In 2011, we in Durham had the opportunity to vote on a new tax for public transportation. Since Wake County decided against a light rail system, the original premise for the tax is no longer valid and the markedly different plan (with a much shorter rail line, slower trains, and no stations serving many major venues) for light rail in Durham and Chapel Hill should be terminated.Prospective disclosure: Those of us in neighborhoods adjacent to NC 54 and</p>

Farrington Road (e.g., Downing Creek, Falconbridge, Culp Arbor, and Glenview Park) had no prior notice before buying or building a home that our property would be adjacent to a light rail line or a Rail Operations Maintenance Facility. We had no prospective full disclosure. In contrast, future residents of Meadowmont had prospective disclosure - - they knew the site plan included light rail when they bought their lots and decided to build their homes. The Meadowmont site plan (as approved by local authorities) was designed and approved with light rail traveling through this development. It is wrong to transfer the burdens of the D-O light rail line from homeowners in Meadowmont who had prospective disclosure to homeowners in other neighborhoods who did not have disclosure prior to buying or building their homes.

September 26, 2015 Page 3 Popular venues without rail service: As a longstanding resident of Durham, I would be in rail service if it provided a means of transportation to stations at popular venues. It is not obvious to me who would be interested in riding the D-O LRT due to the lack of stations at many of the area's most popular venues. The decision-making authorities for D-O LRT, reviewers, and people who review requests for funds should carefully consider the likelihood of failure of D-O LRT in view of the fact that rail service is not provided to stations at the following popular venues: Downtown Chapel Hill (e.g., Franklin St.) Kenan Stadium Carrboro (e.g., Main St., Carr Mill area) Dean Smith Center UNC Chapel Hill campus Wallace Wade Stadium Duke University (main campus) Cameron Indoor Stadium NCCU campus Duke Regional Hospital Durham Technical Community College American Tobacco Campus Seymour Center Durham Performing Arts Center Durham Center for Senior Life Durham Bulls Athletic Park University Mall Raleigh-Durham Airport Streets at Southpoint Mall Northgate Mall

Without stations at these popular venues, I understand why some of my neighbors have called the proposed D-O LRT the "train to nowhere".

Input from the Durham City-County Planning Department: I noted the written comments provided by the Durham City-County Planning Department to Triangle Transit on March 13, 2015. I commend the Durham City-County Planning Department for providing comments that are clear and specific regarding the location of the proposed ROMF and certain other aspects of light rail. Note that the required buffer for the stream on parcel 0907-03-32-5392 on Farrington Road may make construction of the proposed ROMF nonviable. I obtained additional information on this topic at the public meeting with GoTransit on September 15, 2015 at The Friday Center. At the meeting, I spoke with a representative of GoTransit about the stream on the property at Farrington Road, i.e., the proposed site of the ROMF. I asked about GoTransit's plan to meet the required buffer around the stream (as stated in a letter of March 13, 2015 from the Durham City-County Planning Department to Triangle Transit). I was informed that GoTransit proposes not to comply with the buffer, but rather to enclose the stream inside a culvert that will go under the ROMF's parking lot. Such a culvert is a bad idea and a deviation from Durham's current requirements. Residents of Durham and Chapel Hill will be familiar with two well publicized examples of culverts that have failed. In Durham, the Rockwood Building (at the intersection of University Drive and James Street) has a history multiple businesses with repeated flooding due in part to a culvert that fails to function properly in handling water from a stream. In Chapel Hill, Eastgate Shopping Center (1800 East Franklin Street) is built over a culvert that fails, periodically, to handle water from a stream. Multiple businesses at Eastgate Shopping Center have flooded due to problems with the culvert. In view of these prominent examples in our own communities, Durham County

September 26, 2015 Page 4 should not accept GoTransit's proposal to enclose the stream on Farrington Road in an underground culvert. GoTransit should honor the required buffer as stated by the Durham City-County Planning Department.

I also want to highlight my support for the following statements in the letter (dated March 13, 2015) from the Durham City-County Planning Department

1. Regarding the proposed Farrington Road location for a ROMF:
 - "We find an industrial use to be incompatible with the existing land use pattern and/or designated future land uses."
 - "It appears there may be a stream crossing parcel 0907-03-32-5392. If it is determined to be a perennial stream, a buffer of 100 feet would be required. An intermittent stream would require a buffer of 50 feet. This would significantly alter the proposed footprint of the ROMF."
2. Regarding the proposed Leigh Village:
 - "We find an industrial use to be incompatible with the existing land use pattern and/or designated future land uses."
 - "It appears there may be a stream crossing parcel 0907-03-32-5392. If it is determined to be a perennial stream, a buffer of 100 feet would be required. An intermittent stream would require a buffer of 50 feet. This would significantly alter the proposed footprint of the ROMF."

Location of the ROMF: The NEPA preferred alternative for the location of the ROMF is the site on Farrington Road. However, through information in the DEIS, newspapers, and other sources, I have come to understand that the Farrington Road site was the only one

of the alternative sites that was even viable. I was told at the public meeting on September 15 that the Cornwallis Road site was never viable due to property deeded to the neighboring Jewish congregation. I've read in various documents that the Alston Avenue site was not viable due to issues with creek in that location. GoTransit should re-open consideration of location of the ROMF so that at least two truly viable locations are considered. Surely a forthright selection process must include more than one viable option for the location of the ROMF.

Adverse impact of routes on multiple neighborhoods: Many public comments have clearly stated that multiple rail routes will have multiple adverse impacts on longstanding residential neighborhoods along NC 54 and Farrington Road. Specifically, these neighborhoods include Culp Arbor, Downing Creek, and Falconbridge. Homeowners in these neighborhoods (who are all taxpayers in Durham County) have stated their concerns about the marked increase in congestion that will be caused by multiple street-level train crossings, as well as the adverse impacts of a ROMF on Farrington Road.

September 26, 2015

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Traffic congestion: The proposed plans call for thousands of rail riders to drive on I-40, NC 54, and US 15-501 to parking lots near rail stations (e.g., The Friday Center, Leigh Village). The rail plans do not appear to account for the increase in volume of motor vehicles on these already congested roads or the increase in road congestion that will result from multiple, proposed, road-level rail crossings along NC 54 (between the I-40 interchange at NC 54 and the intersection of NC 54 and US 15-501). These proposed crossings will impede motor vehicles and slow the very commuters the plan proposes to assist. Road-level crossings are proposed to be operating 24 hours a day, 7 days a week, with traffic to be stopped every 10 minutes during peak hours. Such crossings will delay thousands of drivers every day. Such crossings will also delay emergency responders. Note that these crossings in the NC 54 corridor will also wreak havoc with UNC alumni, sports fans, and others attempting to travel to and from Kenan Stadium and the Dean Smith Center to attend games and other events. Table 3.2-4 in the DEIS provides a roster of at-grade interfaces for the proposed light rail line. Note the large number of interfaces in the relatively short distances from UNC to US 15-501. Specifically, Table 3.2-4 lists 17 at-grade interfaces from UNC to NC 54 and an additional 13 at-grade interfaces from University Drive to US 15-501. This large number of interfaces, including multiple road-level crossings, will further increase congestion for emergency vehicles, automobiles, and buses on NC 54, US 15-501, and Farrington Road.

Crossing near Farrington Road: The C2A route includes a road-level crossing west of the intersection of Farrington Road and NC 54. Some of us residents along Farrington Road object to the delay of emergency vehicles caused by rail crossings and associated traffic congestion. Farrington is commonly used by emergency vehicles traveling to southwest Durham and Chapel Hill. Durham has two active fire stations on Farrington Road itself, i.e., 4200 Farrington Road and 6303 Farrington Road. Today, none of the emergency vehicles from these two stations are delayed by light rail. However, if routes with road-level crossings along NC 54 and near Farrington Road are implemented, emergency vehicles from these two fire stations, as well as police and other emergency vehicles, will be adversely impacted, inevitably prolonging emergency response times.

Traffic on Farrington Road: I live in a development off Farrington Road. I would be adversely impacted by the anticipated increase in traffic as employees of the ROMF (proposed for Farrington Road) drive to and from work. The ROMF would be open 24 hours a day, 7 days a week, thereby producing an increase, every day, in the number of drivers using Farrington Road. This source of increased traffic on Farrington Road is only one of the multiple, new sources of traffic and congestion fostered by light rail on Farrington Road, i.e.,

- Employees of the ROMF driving to and from work
- Commuters using Farrington Road to drive to lots where they can park and then board light rail car
- drivers diverting to Farrington Rd in hope of avoiding congestion on NC 54 or US 15-501
- a road-level crossing near the intersection of Farrington Road and NC 54
- traffic congestion due to delayed emergency vehicles (who always have the right-of-way)

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Parking: The proposed light rail system requires riders to get to stations where they can board a train. Many riders will get to a station by driving. Unfortunately, most stations appear to have inadequate parking adjacent to the stations. Lack of adequate parking, particularly free parking, will be a substantial disincentive to many riders to use light rail.

Potential for accidents on I-40: My understanding is that various rail routes take the train from the eastern side of Farrington Road to tracks that parallel I-40 (running below the road bridge, under Farrington Road and adjacent to I-40) until the train reaches 15-501, at which time the train proceeds north towards Durham. Just as human nature prompts many automobile drivers to be distracted and "rubber neck" at various sites along the highway, there is a real danger that drivers along I-40 will be distracted by a train running on rails adjacent to the eastbound lanes of I-40. This additional distraction could increase the potential for high-speed accidents along this key interstate highway. Such accidents can adversely affect drivers and their passengers, as well commuters

to work and travelers. Projected riders: Officials have projected 23,000 boardings per day on D-O LRT. This projection seems much higher than any reasonable expectation based on this area's population and the limited locations to receive rail service. For comparison, consider that the light rail system in Charlotte, NC had an average of 16,186 boarding per weekday (for the period from July-December 2014; reference 1) in the context of a population of 809,958 (reference 2). Note that the population of Charlotte is more than 2.5 times as large as the combined population of the city of Durham (251,893; reference 2) plus the Town of Chapel Hill (59,376; reference 2). LRT in Durham and Chapel Hill is likely to have ridership that is much less than 16,000 boardings per day, resulting in higher costs for the sponsoring municipalities and their taxpayers for many years into the future.

Historic site: Patterson's Mill Country Store is a business that has been in operation at 5109 Farrington Road in Durham County since 1973. Its predecessor was Patterson and Company Store which opened in the 1870s at the same location. This historic site is open to the public. Visitors can see an extensive collection of medical and pharmaceutical items from the 1800s and 1900s, as well as other items, primarily collected by Ms. Elsie Booker (a pharmacist and UNC alumnus). The land around Patterson's Mill Country Store has been occupied since 1834 by five generations of Ms. Booker's mother's family (reference 3). From my perspective, it is a shame and a disservice to history that any consideration is being given to building the ROMF next to this historic property or displacing any part of this family and their multigenerational business with a route for light rail or a ROMF.

Noise: My understanding is that a train's horn makes a sound in the range of 105-110 decibels. The horn is used at road-level crossings and when approaching stations. The high frequency of the horn, as well as its high decibels, makes it a source of noise pollution for residents living in the NC-54 corridor and along Farrington Road. This noise pollution may substantially reduce the likelihood of selling a home and substantially reduce property values for individuals who own homes in those areas.

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Previous vote in Durham: I have read a number of documents and heard multiple speakers say that voters in Durham supported use of a portion of taxes to pay for light rail service. Such verbal and written statements are a misrepresentation of the facts. "Light rail" or "rail" were not specified on the ballot for voters' consideration. Rather, voters were asked to cast ballots on whether to support use of a portion of taxes "... to be used only for public transportation systems". Therefore, it would be consistent with the vote to use these funds to improve existing bus services or evaluate bus rapid transit (by the total exclusion of the proposed D-O LRT).

Alternatives to light rail: Chapel Hill Transit and its partners are already progressing a plan to introduce bus rapid transit on the Martin Luther King Boulevard corridor. In view of this progress towards bus rapid transit, consideration should be given to bus rapid transit for the main corridors between Chapel Hill and Durham (i.e., US 15-501 corridor and the NC 54 corridor). Such bus rapid transit would be much more flexible and require much lower start-up funding than light rail. The need for new, public transportation may be negated in the coming years by emerging technological and lifestyle advances. New technologies (e.g., hybrid buses and cars; electric cars and buses; vehicles powered by natural gas or fuel cells) and lifestyle options (e.g., telecommuting) are changing our country and seem likely to markedly alter the need for new public transportation. In view of these rapidly changing factors, our representative and transit authorities would be wise to consider flexible, cost-effective options for transportation, rather than an inflexible LRT option requiring a large upfront capital investment and a decade or more from approval of the project to start of service. Some of these factors appear to have impacted the thinking in Wake County, prompting them to withdraw from construction of light rail.

Thank you for your consideration of these comments.

Sincerely, [removed name]

References

1. Lynx light rail ridership back to 2008 levels. The Charlotte Observer. January 21, 2015.
2. U.S. Census Bureau: State and County QuickFacts. Revised August 6, 2015.
3. <http://www.ourstate.com/carolina-collectors/> August 2014

1st Comment Category

Purpose and Need - Other Alternatives

1st Comment Response

Planning for high-capacity transit in the 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 extensive coordination with stakeholders and members of the public to develop, evaluate, and refine the range of alternatives (see Figure 2.1-1 of the DEIS). The key studies, white papers, and reports that identified the need for high-capacity transit in the region and defined the D-O Corridor are summarized in section 2.1 of the DEIS. These past studies indicate that the estimated demand for a continuously connected rail line to RDU and RTP is not warranted or cost effective for the Project.

RTP has a significant number of jobs, but they are widely distributed and dispersed compared to Chapel Hill and Durham. This dispersed development pattern is not as conducive to rail. Section 1.4 of the combined FEIS/ROD, Table FEIS-2, DEIS Errata 17 provides the following clarification for section 1.1 of the DEIS: Wake County is also planning for transit by evaluating future potential transit corridors in the Wake County Transit Plan. For more information, please see <http://www.WakeTransit.com>

2nd Comment Category

Transportation - Traffic

2nd Comment Response

In general, the project is not expected to have a significant effect on traffic on those roadways where it is close to D-O LRT Project, nor always offer a faster travel time. However, the D-O LRT Project will provide a competitive and reliable travel alternative to the congestion on these roadways, particularly during the peak traffic hours and will provide improved travel time reliability compared to bus transit services.

DEIS section 3.2 discusses the impact of the proposed D-O LRT Project on the existing roadway network and any measures recommended to mitigate such impacts. Technical reports that report the results of traffic simulations are included as Appendix K.4 through K.11 of the DEIS.

DEIS section 3.2.4 describes the proposed mitigation measures that are planned to mitigate for project-related roadway effects. These effects are summarized in Table 3.2-3 of the DEIS. In addition, as described in DEIS section 3.2.2, there are numerous roadway project planned by the NCDOT in the vicinity of the proposed D-O LRT Project. During Engineering, Triangle Transit will continue to coordinate with the NCDOT as the designs of these projects advance.

As described in DEIS section 3.2.4 and as shown in Table 3.2-5 of the DEIS, substantial modifications to the roadway are incorporated into the design including additional turn bays and restriping of intersection approaches to accommodate additional receiving lanes in order to minimize impacts to vehicular traffic operations (excessive delays and queues).

3rd Comment Category

Purpose and Need - Ridership

3rd Comment Response

As stated in section 3.1.1 of the DEIS, Ridership forecasts were developed for the NEPA Preferred and Project Element Alternatives and No Build Alternative for forecast year 2040 using the Triangle Regional Model (TRM), Version 5 based on the operating plans included in DEIS appendix K.1, consistent with DEIS appendix K.2. As clarified in section 1.4 of the combined FEIS/ROD, Table FEIS-2, DEIS Errata 30, 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.

The TRM was developed by the Triangle Regional Model Service Bureau (TRMSB), in cooperation with regional stakeholders Durham-Chapel Hill-Carrboro Metropolitan Planning Organization (DCHC MPO), Capital Area Metropolitan Planning Organization (CAMPO), NCDOT, and Triangle Transit. The TRMSB is housed at the North Carolina State University Institute for Transportation Research and Education (ITRE). The model is designed to forecast travel throughout the Triangle region's transit and roadway system. As such, it contains a network of existing and planned future transit services consistent with the 2040 Metropolitan Transportation Plan (2040 MTP).

Table 3.1-3 presents the 2040 ridership forecasts for the NEPA Preferred Alternative compared to the No Build Alternative, as well as the Project Element Alternatives. The NEPA Preferred Alternative is expected to carry just over 23,000 trips on the project per average weekday in 2040. Ridership forecasts also predict that bus service would remain an important component of the transit service's approximately 17,000 boardings per average weekday in 2040, a reduction of approximately 3,000 boardings from the No Build Alternative. See also DEIS appendix K2 for more information.

4th Comment Category

Safety / Security - Rail

4th Comment Response

As noted in DEIS section 2.4 and DEIS Table 2.4-1, there will be 12 trains per hour during peak service (six per direction, 5:30 to 9:00am and 3:30 to 7:00 pm). Traffic is anticipated to be disrupted/blocked due to gate activation for approximately 30 seconds per crossing. This includes the time for the following stages of the gate activation: gates descending, gates fully down ahead of the arrival of the train, gates fully down during passage of the train, gates ascending. Traffic would be unobstructed during approximately 90% of an hour during peak hours. During non-peak times (9:00am to 3:30pm and 7:00pm to midnight), there will be six trains per hour (three per direction). Accordingly, traffic would be unobstructed during approximately 95% of an hour during non-peak times.

Section 4.12.4.6 of the DEIS states that Triangle Transit will coordinate with law enforcement, emergency and medical personnel, and other public agencies to investigate impacts of the light rail system on their day-to-day operations and to get input during the development of the SSMP. This and all other mitigation requirements are outlined in the Record of Decision (ROD), Table ROD-1.

All LRT systems in the US have grade crossings or run within public streets. Light Rail Transit (LRT) technology is designed to facilitate safe at-grade crossings of public streets. Other types of rail transit technology, such as heavy rail transit that uses an electrified third rail as opposed to overhead electric wires for propulsion (such as MARTA in Atlanta or Metro in DC), must be installed in fully grade separated exclusive guideway since the electrified rail must be kept away from the public. LRT, on the other hand, is designed with overhead electric wires with sufficient clearance to allow vehicular traffic to pass safely underneath where roadways cross the tracks. All at-grade crossings of the light rail tracks across public roadways will be designed in accordance with state and federal safety regulations pertaining to such crossing.

As discussed in section 4.16.2, three types of light rail crossings are proposed as part of the D-O LRT Project: at-grade crossings, crossings of the light rail alignment on a bridge over a roadway, and crossing of the light rail alignment under an existing roadway bridge. Approximately 30 to 35 at-grade crossings are proposed for the D-O LRT alignment. Table 3.2-4 lists the types of interface of the light rail alignment with the existing roadway network, when the light rail crossing is at-grade with the road.

The D-O LRT would include approximately 25-30 elevated light rail crossings over existing roadways, including crossings over US 15-501 (Fordham Boulevard), Business US 15-501 (Durham-Chapel Hill Boulevard), NC 54, I-40, Garrett Road (NHC 1 and NHC 2 only), NC 147, Erwin Road, Swift Avenue, and Campus Drive (4.16.2).

As described in 4.12.3.5, the proposed D-O LRT Project would have safety implications for the D-O Corridor as they would introduce a new mode of transit, a 17-mile transit alignment, and light rail transit vehicles that would interact with vehicular, bicycle, and pedestrian traffic. The safety implications are particularly important for higher volume areas where multiple modes of transportation coexist like the UNC campus, University Drive, Erwin Road, and in downtown Durham. Certain populations (e.g., elementary school students and retirement community residents) also pose safety implications. Detailed information regarding the roadways, sidewalks, and trails expected to be affected by the D-O LRT is provided in DEIS section 3.2, DEIS section 3.6, and the Basis for Engineering Design (appendix L).

Potential impacts from the development of light rail systems with exclusive and/or semi-exclusive rights-of-way include risks of injury or fatalities to pedestrians, bicyclists, vehicle occupants, light rail passengers, and employees due to light rail operations, collisions between light rail and road vehicles, increased street and alignment crossings, and incidents on/or around light rail facilities. Members of the public expressed concern for some of these risks through comments submitted as part of the Scoping meetings and subsequent public involvement as summarized in chapter 9, Public Involvement and Agency Coordination. The design of the project acknowledges these concerns and includes provisions for safe operation and appropriate connectivity for pedestrians, bicyclists, and motorists. To avoid the potential for incidents at at-grade intersections, crossings would 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.

Section 4.12.4.5 describes the proposed mitigation to address safety and security impacts of the introduction of light rail on pedestrians, bicyclists, and motorists.

Noise

Potential measures to mitigate noise and vibration impacts are described in the following sections. According to the FTA Noise and Vibration Guidance Manual, mitigation for noise impacts should be considered if the project falls within an "impact" range and should be implemented if the project would result in a severe impact. Receptors that would be experience noise impacts with the NEPA Preferred Alternative are identified in Table 4.10-7. All noise impacts would be at residential locations. In some cases, properties identified as noise-sensitive would be displaced by the NEPA Preferred Alternative. Descriptions of all property displacement and acquisitions are provided in DEIS section 4.14. There would be no noise or vibration impacts anticipated from the Farrington Road ROMF, or any of the other ROMF alternatives.

Table 4.10-13 identifies proposed mitigation measures for the NEPA Preferred Alternative and the Project Element Alternatives. Mitigation measures would be limited to noise barriers on the elevated track. The NEPA Preferred Alternative would result in no noise impacts beyond the properties to be acquired for the project. Triangle Transit will coordinate design and policies related to audible warning devices with NCDOT and local jurisdictions in accordance with applicable regulations, guidance, municipal policies, and best management practices.

Historic Resources

Historic Resources

DEIS section 4.5 describes the potential effects of the D-O LRT Project on historic and archaeological resources. The Patterson's Mill Store, which was erected in 1972-1973 and located to the north, along with a few outbuildings, was found in 2015 not to be National Register of Historic Places (NRHP)-eligible, either individually or in association with the store. Appendix G of the DEIS provides additional detail regarding the determination of eligibility for historic resources.

As also stated in Section 4.5, the Walter Curtis Hudson Farm and associated outbuildings, located south of the Patterson's Mill Store, was determined to be eligible for NHRP listing. The location of the proposed Leigh Village ROMF site would have an adverse effect upon this NRHP-eligible resource. However, the NEPA Preferred Alternative, Farrington ROMF would avoid this NRHP-eligible resource and would have no adverse effect on this resource.

Tax

As noted in Table 5.3-1 of the DEIS, the revenue from the half-cent sales tax in Durham County for public transportation is not being used solely to fund light rail project development. Revenue from the half-cent sales tax has already been used to implement near term improvements to DATA bus services. In addition, the sales tax will be used to support the design and construction of a Neighborhood Transit Center at The Village Shopping Center near the intersection of Raynor Street and Miami Boulevard, a location in east Durham that has the second-highest level of bus boardings in Durham after Durham Station. In coordination with the City of Durham, revenue from the half-cent sales tax will also be used to make improvements to bus stops and pedestrian/bicycle infrastructure along a Transit Emphasis Corridor where DATA routes 3 and 16 run through the city, including east Durham. When the light rail opens, funds for bus services made redundant by rail operations will also be used to improve connections from east Durham to the newly opened rail station

BRT

Various transit technologies were previously studied and evaluated in an extensive public process called the "Alternatives Analysis" (AA). Technologies considered during the AA included: conventional bus, Bus Rapid Transit (BRT), Streetcar, Light Rail Transit (LRT), and Commuter Rail Transit (CRT). Through the Alternatives Analysis, light rail was selected as the best transit technology

option to best serve the Durham-Orange Corridor and to meet the Purpose and Need of the proposed transit project. The findings of the Alternatives Analysis are summarized in 2.2.1 of the DEIS. The Alternatives Analysis is available on ourtransitfuture.com.

Parking

As described in Table 2.3-2 and further detailed in Table 3.3-2, park-and-ride facilities are currently planned at the following stations:

- Friday Center
- Leigh Village
- Gateway
- MLK Jr. Parkway
- South Square
- Durham
- Dillard Street
- Alston Avenue.

The number of parking spaces proposed varies and are 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. In general, automobile parking would not be provided at walk-up stations (section 2.3.2.1). See also typical images on p.2-23 and conceptual designs in appendix L.

Affiliation	General Public
Sub-Group	Citizen
First Name	Mark
Last Name	Iwinski
Comment	<p><i>Dear Go Triangle,I strongly support the Light Rail Project and commend Go triangle and the municipalities for taking Durham and Orange County into the 21 century in such a bold way. But I also feel that Go triangle needs to address certain flaws in the current plan. Therefore, I support the following changes based on the October 5th 2015 Durham City Council's vote to unanimously support not only the DOLRT but the recommendations of Durham Area Designers' positions regarding station locations in downtown Durham. I echo these recommendations and add my own concern regarding public art. First, I ask that Go Triangle modify the station locations to better serve Durham downtown. These recommendations include better station spacing and access to downtown by:</i></p> <ol style="list-style-type: none"> <i>1. Adding a City Center Station in front of DPAC to better serve and provide convenient access for Durham's government buildings including the County Courthouse, Detention Center and City Hall, and to better serve Main Street retail and offices and to anchor the Ballpark to Ballpark arts corridor. The arts corridor makes such a better gateway. This is a no brainer and I think not including it is a fatal flaw in the current Go Triangle plan. Please make this change as it makes so much sense!</i> <i>2. Move the Transit station back up to the original Go Triangle site across from the Amtrak Station! This is a true intermodal connection and better serves the community. Build a pedestrian bridge to walk over to the bus station like the one that has been proposed years ago! Besides if you get off the LRT in front of the bus station you have to walk a long distance under this nasty rail underpass! This is not the kind of gateway to downtown that Durham needs or wants! Whereas getting off in front of DPAC and being able to walk easily to Main Street provides way better connectivity to downtown and the ballpark. Also getting off at a station next to the Amtrak and and being able to readily access the intercity rail to Raleigh or Greensboro make so much more sense! Besides I even found an old image on the web where Go Triangle had plans to do exactly this! Switch it back to that plan, it is so much better! Come on we are talking historic, long term decisions here don't screw it up!</i> <i>3. Save the old warehouse at Buchanan by taking this old brick building, cutting it in two and making it the station! It will provide space for cafes, and more, as well as add historic architectural continuity and character to the neighborhood.</i> <i>4. Put the Alston Station on the east side of Alston, like you were originally going to do! It will provide for future expansion and connections to East Durham and you can link it by rapid bus shuttle to the colleges. East Durham has been disenfranchised too many times this would go a long way to serving this community and connecting it to the downtown.</i> <i>5. Lastly and close to my heart, as a visual artist I would like to address the roll that public art will play in enhancing the character of the transit infrastructure, specifically the stations. In looking at examples of public transportation infrastructure around the country it can be seen that public art has historically been a major aesthetic and economic element of all of them, from the grand old rail stations of another era to the Raleigh Durham Airport. We even have precedence here for public art in some of our bus shelters. But this is a much larger and consequently more involved and expensive project. Therefore I would like to ask that Go Triangle begin addressing this issue in two ways. First, for go Triangle to consider public art as an integral part of the process early on by engaging the involvement of appropriate entities both public and private now and not as an afterthought to be considered somewhere down the line. Secondly, because of the scale and to insure funding for such projects I would ask Go Triangle to seek the full one percent for the arts as it applies to the light rail and related CIP projects within the appropriate jurisdictions This great project deserves great art to enhance it and making these changes would not only ensure adequate resources for high quality public arts projects in the city's light rail stations but would showcase Durham as a leader integrating excellent urban planning, public transportation and public art. Thank you,[removed PII]</i>
1st Comment Category	Downtown / East Durham Refinement - DPAC Station
1st Comment Response	The Durham Station serves the American Tobacco area and the revised station location is closer to the DPAC, DBAP, and other

attractions. The Durham and Dillard Stations are approximately three-quarters of a mile apart; as such, any new station between those two stations would draw from half-mile walk-sheds already directly served by the line. Therefore, it is difficult to justify additional cost and operational compromises and add a station at this location. The addition of station locations and other refinements in the Project's design may be evaluated during the Engineering Phase of the project, which is slated for 2016-2019. As a result of ongoing coordination with both North Carolina Railroad (NCR) and the City of Durham and comments received, the alignment through downtown Durham was revised. These changes included converting a portion of Pettigrew Street to a one-way street. In addition, the proposed Durham Station shifted to the east of Chapel Hill Street, as a result of coordination with the NCR as described in DEIS chapter 2. Triangle Transit held numerous outreach meetings with the communities in downtown to gather their input on the proposed alignment and station location. See DEIS section 9.3.6 and section 5.3, for more information. As noted in DEIS chapter 3, the Durham Station is proposed to be located near the Durham Transit Station, a multi-modal transportation facility for local and regional bus service and intercity buses (e.g., Greyhound, Megabus). This is also near the Durham Amtrak station, which is located within the NCR Corridor along West Main Street (Section 3.4.2.2). Major production stations (where people would board the light rail in the morning and return in the afternoon/evening) would include Alston, Leigh Village, Friday Center, and Durham Stations, with the largest number of boardings in the morning peak period (Table 3.1-4) (section 3.1.3.1). During the development of the DEIS, in response to comments received, Triangle Transit evaluated the feasibility of an additional location at DPAC. Preliminary cost estimates for the Project indicate that the capital cost of a typical at-grade station is approximately \$1.6 million. The addition of a station at DPAC would be associated with approximately \$150,000 per year in additional operating and maintenance costs. Widening the tracks to accommodate a station platform between Blackwell & Mangum Streets would also require the negotiation and approval of an additional property lease with NCR beyond what is expected to be required for current alignment. Preliminary ridership model output based on an earlier iteration of the Pettigrew Street alignment indicated that the addition of a station at DPAC would not result in significant ridership gains. Increases in cost that are not offset by increases in ridership could result in a reduction in the project's FTA Cost Effectiveness rating. Operational concerns of adding a station between Blackwell & Mangum Streets include increases in overall run time (more than a minute) which would result in decreases in schedule recovery time and additional operating and maintenance costs.

2nd Comment Category

Downtown / East Durham Refinement - Downtown Connectivity

2nd Comment Response

The preliminary design of the Buchanan Boulevard Station will be refined during the subsequent phase of Engineering. Benefits and concerns with different alignment and station placement concepts will be evaluated at that time. One consideration is safety for people crossing the tracks at Buchanan Boulevard. From a safety perspective, it is most desirable for at-grade crossings to be as narrow as possible; in other words, it is safest if the LRT tracks are as close to 14' apart as possible at the crossing rather than widened out to accommodate an adjacent center platform. A narrow crossing design minimizes the risk of people standing or being stuck between trains as they pass, and the risks posed by a wider crossing will be evaluated as the design is refined. The additional cost for side platforms will also be considered in the context of other factors influencing the design process.

3rd Comment Category

Downtown / East Durham Refinement - Alston Station

3rd Comment Response

In the Alternatives Analysis, the proposed location for the Alston Avenue terminus station was just east of Alston Avenue. Triangle Transit determined that a station on the east side of Alston Avenue is infeasible due to the required 40-foot spacing between the light rail track and nearest future railroad track and space constraints imposed by the Pettigrew Street bridge over Alston Avenue, and the City of Durham water tower east of Alston Avenue. Therefore, the proposed location for the Alston Avenue Station was moved to just west of Alston Avenue approximately 1,200 feet from the location described in the AA. On May 21, 2015, the NCR Board of Directors agreed to permit NCR management to enter into lease negotiations with Triangle Transit based on this refined alignment (section 2.3.2.2). As further detailed in DEIS Table 5.3-1, the proposed Alston Avenue Station was relocated to the west side of Alston Avenue, as a result of coordination with the NCR as described in DEIS chapter 2. Revisions were due to NCR's horizontal track clearance requirements and constraints in relocating Pettigrew Street east of Alston Avenue. Triangle Transit held

numerous outreach meetings with the communities in downtown and east Durham to gather their input on the proposed alignment and station locations. See DEIS section 9.3.6 for more information. A conceptual alignment east of Alston Avenue, south of the NCRR Corridor, and adjacent to NC 147 was evaluated. This concept was determined to be technically infeasible, primarily due to constraints associated with the NCDOT right-of-way for NC 147, City of Durham historic water tower, and NCDOT's Alston Avenue widening project. Based on the results of preliminary engineering analysis of conceptual stations and alignments east of Alston Avenue, there are no reasonable, feasible station alternatives east of Alston Ave., primarily due to the constraints created by the North Carolina Railroad (NCRR) right-of-way, the North Carolina Department of Transportation (NCDOT) right-of-way and roadway facilities, and the City of Durham Water Tower infrastructure.

4th Comment Category

Human Environment - Visual and Aesthetic

4th Comment Response

As stated in DEIS section 4.4.4.1, arts in transit is being considered as a mitigation measure to minimize visual impacts of the project.

Affiliation	General Public
Sub-Group	Citizen
First Name	Mark
Last Name	Iwinski

IDear Go Triangle, I strongly support the Light Rail Project and commend Go triangle and the municipalities for taking Durham and Orange County into the 21st century in such a bold way. But I also feel that Go triangle needs to address certain flaws in the current plan. Therefore, I support the following changes based on the October 5th 2015 Durham City Council's vote to unanimously support not only the DOLRT but the recommendations of Durham Area Designers' positions regarding station locations in downtown Durham. I echo these recommendations and add my own concern regarding public art. First, I ask that Go Triangle modify the station locations to better serve Durham downtown. These recommendations include better station spacing and access to downtown by: 1. Adding a City Center Station in front of DPAC to better serve and provide convenient access for Durham's government buildings including the County Courthouse, Detention Center and City Hall, and to better serve Main Street retail and offices and to anchor the Ballpark to Ballpark arts corridor. The arts corridor makes such a better gateway. This is a no brainer and I think not including it is a fatal flaw in the current Go Triangle plan. Please make this change as it makes so much sense! 2. Move the Transit station back up to the original Go Triangle site across from the Amtrak Station! This is a true intermodal connection and better serves the community. Build a pedestrian bridge to walk over to the bus station like the one that has been proposed years ago! Besides if you get off the LRT in front of the bus station you have to walk a long distance under this nasty rail underpass! This is not the kind of gateway to downtown that Durham needs or wants! Whereas getting off in front of DPAC and being able to walk easily to Main Street provides way better connectivity to downtown and the ballpark. Also getting off at a station next to the Amtrak and being able to readily access the intercity rail to Raleigh or Greensboro make so much more sense! Besides I even found an old image on the web where Go Triangle had plans to do exactly this! Switch it back to that plan, it is so much better! Come on we are talking historic, long term decisions here don't screw it up! 3. Save the old warehouse at Buchanan by taking this old brick building, cutting it in two and making it the station! It will provide space for cafes, and more, as well as add historic architectural continuity and character to the neighborhood. 4. Put the Alston Station on the east side of Alston, like you were originally going to do! It will provide for future expansion and connections to East Durham and you can link it by rapid bus shuttle to the colleges. East Durham has been disenfranchised too many times this would go a long way to serving this community and connecting it to the downtown.

5. Lastly and close to my heart, as a visual artist I would like to address the roll that public art will play in enhancing the character of the transit infrastructure, specifically the stations. In looking at examples of public transportation infrastructure around the country it can be seen that public art has historically been a major aesthetic and economic element of all of them, from the grand old rail stations of another era to the Raleigh Durham Airport. We even have precedence here for public art in some of our bus shelters. But this is a much larger and consequently more involved and expensive project. Therefore I would like to ask that Go Triangle begin addressing this issue in two ways. First, for go Triangle to consider public art as an integral part of the process early on by engaging the involvement of appropriate entities both public and private now and not as an afterthought to be considered somewhere down the line. Secondly, because of the scale and to insure funding for such projects I would ask Go Triangle to seek the full one percent for the arts as it applies to the light rail and related CIP projects within the appropriate jurisdictions This great project deserves great art to enhance it and making these changes would not only ensure adequate resources for high quality public arts projects in the city's light rail stations but would showcase Durham as a leader integrating excellent urban planning, public transportation and public art. [REMOVED NAME]

1st Comment Category

Downtown / East Durham Refinement - DPAC Station

1st Comment Response

The Durham Station serves the American Tobacco area and the revised station location is closer to the DPAC, DBAP, and other attractions. The Durham and Dillard Stations are approximately three-quarters of a mile apart; as such, any new station between those two stations would draw from half-mile walk-sheds already directly served by the line. Therefore, it is difficult to justify additional cost and operational compromises and add a station at this location. The addition of station locations and other refinements in the Project's design may be evaluated during the Engineering Phase of the project, which is slated for 2016-2019. As a result of ongoing coordination with both North Carolina Railroad (NCRR) and the City of Durham and comments received, the alignment through downtown Durham was revised. These changes included converting a portion of Pettigrew Street to a one-way street. In addition, the proposed Durham Station shifted to the east of Chapel Hill Street, as a result of coordination with the NCRR as described in DEIS chapter 2. Triangle Transit held numerous outreach meetings with the communities in downtown to gather their input on the proposed alignment and station location. See DEIS section 9.3.6 and section 5.3, for more information. As noted in DEIS chapter 3, the Durham Station is proposed to be located near the Durham Transit Station, a multi-modal transportation facility for local and regional bus service and intercity buses (e.g., Greyhound, Megabus). This is also near the Durham Amtrak station, which is located within the NCRR Corridor along West Main Street (Section 3.4.2.2). Major production stations (where people would board the light rail in the morning and return in the afternoon/evening) would include Alston, Leigh Village, Friday Center, and Durham Stations, with the largest number of boardings in the morning peak period (Table 3.1-4) (section 3.1.3.1). During the development of the DEIS, in response to comments received, Triangle Transit evaluated the feasibility of an additional location at DPAC. Preliminary cost estimates for the Project indicate that the capital cost of a typical at-grade station is approximately \$1.6 million. The addition of a station at DPAC would be associated with approximately \$150,000 per year in additional operating and maintenance costs. Widening the tracks to accommodate a station platform between Blackwell & Mangum Streets would also require the negotiation and approval of an additional property lease with NCRR beyond what is expected to be required for current alignment. Preliminary ridership model output based on an earlier iteration of the Pettigrew Street alignment indicated that the addition of a station at DPAC would not result in significant ridership gains. Increases in cost that are not offset by increases in ridership could result in a reduction in the project's FTA Cost Effectiveness rating. Operational concerns of adding a station between Blackwell & Mangum Streets include increases in overall run time (more than a minute) which would result in decreases in schedule recovery time and additional operating and maintenance costs.

2nd Comment Category

Downtown / East Durham Refinement - Downtown Connectivity

2nd Comment Response

The preliminary design of the Buchanan Boulevard Station will be refined during the subsequent phase of Engineering. Benefits and concerns with different alignment and station placement concepts will be evaluated at that time. One consideration is safety for people crossing the tracks at Buchanan Boulevard. From a safety perspective, it is most desirable for at-grade crossings to be as narrow as possible; in other words, it is safest if the LRT tracks are as close to 14' apart as possible at the crossing rather than widened out to accommodate an adjacent center platform. A narrow crossing design minimizes the risk of people standing or being stuck between trains as they pass, and the risks posed by a wider crossing will be evaluated as the design is refined. The additional cost for side platforms will also be considered in the context of other factors influencing the design process.

3rd Comment Category

Human Environment - Visual and Aesthetic

3rd Comment Response

As stated in DEIS section 4.4.4.1, arts in transit is being considered as a mitigation measure to minimize visual impacts of the project.

4th Comment Category**4th Comment Response**

Affiliation	General Public
Sub-Group	Citizen
First Name	Katie
Last Name	Jamieson
Comment	<p><i>Dear GoTriangle I am a member of the Highland Woods Road residents' association, and I am delighted that the DEIS offers the following: 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 (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. I write to ask that this commitment be met if the building of the Light Rail indeed goes ahead, as we strongly believe it will help protect the UNC Open Space from noise and disturbance of the trains, as it will the houses that will most directly adjoin the line (including my own). We look forward to working with you on thinking through its design. With that said, I am still very reluctant about the entire DOLRT proposal. I am a European - and an ardent supporter of mass transit that is clean and affordable. I have grave concerns about the route served by the DOLRT proposal it seems at odds with what we can project the main movement of people to be over the coming decades. I would be very much more willing to tolerate a line running at the end of my yard if I thought the route was a smart choice. This is not a smart choice for many of the people who live in Chapel Hill, providing us with no access to our own downtown - instead dead-ending into a hospital system that seems to be the sole focus of the initiative. The unpleasant visual mess of elevated tracks over 15-501, and the ridiculously high number of at-grade crossings along 54 seem to me to be too high a price to pay for what is essentially a park and ride system for the hospital that only serves the citizens of Chapel Hill if they have a hospital appointment here or in Durham. Something that truly served the needs of both towns beyond patients and hospital employees would be a great boon; this is not that project.</i></p>
1st Comment Category	Human Environment - Cultural Resources
1st Comment Response	Comment noted. Commitments and mitigation described in the DEIS will be formalized in the Record of Decision. Commitments outlined in the Record or Decision will be required of the project design.
2nd Comment Category	Human Environment - Visual and Aesthetic
2nd Comment Response	As described in DEIS section 4.4.4.1, for locations where visual impacts occur, in addition to coordination with the Town of Chapel Hill and the City of Durham, planting appropriate vegetation in and adjoining the project right-of-way, replanting remainder parcels, and providing landscaping and aesthetic treatments when in close proximity to residences with aerial structures are three of the potential mitigation options that are proposed for affected areas.
3rd Comment Category	Transportation - Connections / Access
3rd Comment Response	Planning for high-capacity transit in the 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 extensive coordination with stakeholders and members of the public to develop, evaluate, and refine the range of alternatives (Figure 2.1-1). The key studies, white papers, and reports that identified the need for high-capacity transit in the region and defined the D-O Corridor are summarized in Section 2.1. As detailed in DEIS section 4.12.2.5, to the extent practicable, Triangle Transit seeks to reduce or eliminate pedestrian and motorist conflicts with transit vehicles at Triangle Transit facilities. Many safety measures, including crosswalks, signals, lighting, and fencing in certain locations, are used to help reduce the number of conflicts and incidents. In addition, basic design elements are used to

enhance safety, including the use of facility siting and parking lot layouts that avoid pedestrian/vehicle and vehicle/vehicle conflicts, as well as the careful use of landscaping to eliminate blind spots and provide openness for security surveillance. Furthermore, Triangle Transit facilities are designed to comply with the Americans with Disabilities Act (ADA) to improve safety and ease of movement for disabled individuals. Detailed information regarding the roadways, sidewalks, and trails expected to be affected by the proposed D-O LRT Project is provided in DEIS section 3.2, DEIS section 3.6, and the Basis for Engineering Design (appendix L). To avoid the potential for incidents at -grade intersections, crossings would 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.

4th Comment Category

Alternatives Considered - NEPA Preferred

4th Comment Response

Comment noted.

Affiliation	General Public
Sub-Group	Citizen
First Name	Katie
Last Name	Jamieson
Comment	<p><i>Dear GoTriangle: Please find attached a letter that was submitted to GoTriangle in February of this year, on behalf of the residents' association of the Highland Woods Road neighborhood in Chapel Hill. We would like it to resubmit it as part of the public comment process on the DEIS. I will be writing an additional letter momentarily that comes on my own individual behalf. Thanks for your consideration. Attachments: 201503041114266382.pdf February 17, 2015 Dear Ms Murdock, We are writing on behalf of a number of residents, all named below, of the Highland Woods Road neighborhood in Chapel Hill, to request that TTA provide a protective sound and sight barrier for the section of the proposed Durham-Orange Light Rail Transit Project line that will run parallel to Fordham Boulevard, between Glenwood Elementary School and Old Mason Farm Road. This conservation area, under the Management of the NC Botanical Gardens, and also partially maintained by UNC, directly abut our quiet, historic neighborhood. The UNC running track, and the trails through the woods, are heavily used - by local and University runners, by child/youth running groups, by dog walkers and bikers. the area is much loved by those of us in our neighborhood, by our neighbors in Morgan Creek, and by the local Elementary school. It is a quiet oasis near two very busy roads, and wildlife is flourishing here, both in the protected wetland area and all through the woods. The noise and the visual disruption, that will be caused by the light railway is an extremely concerning prospect - to all of us who live here, and to the many others who love and use the track and trails. That disruption could be mitigated substantially by a wooden barrier, designed to screen out the sight and sound of the trains. Modeling such a barrier on the highly effective fence already in place between Old Mason Farm Road and Morgan Creek Road along the edge of the adjoining Botanical Gardens would provide visual continuity from the highway. It would be a greatly appreciated - and highly visible - demonstration that TTA is a responsible community partner, and would add only a marginal amount to the cost of this project.</i></p> <p><i>Many of us in this neighborhood are supportive in principle of the need for a light rail system in the Triangle. We have not collectively devoted our efforts to trying to change the route of the line - instead we want to ensure that the TTA does its best to build its line in a way that is minimally invasive to those in its path. Protecting the woods at the back of our neighborhood would be the right and responsible decision. A sight and sound barrier such as the one we suggest would also value to our small, historic neighborhood, by screening out the existing noise of traffic on the highway at the same time. The whole community that uses the woods would benefit from such a far-sighted decision, which would be to TTA's great credit. Such an effort would reflect very positively on the TTA, which doubtless faces concern over reduced property values along the route of the light rail. Thanks for your consideration of this proposal. Please be so kind as to let us know where in the TTA organization this suggestion will be forwarded, and whether we can expect a response, as we would like to keep my friends and neighbors in the loop. Correspondence can be sent care of [removed name], at the street address above or at the following email address: [removed email]</i></p>
1st Comment Category	Human Environment - Visual and Aesthetic
1st Comment Response	As described in DEIS section 4.4.4.1, for locations where visual impacts occur, in addition to coordination with the Town of Chapel Hill and the City of Durham, planting appropriate vegetation in and adjoining the project right-of-way, replanting remainder parcels, and providing landscaping and aesthetic treatments when in close proximity to residences with aerial structures are three of the potential mitigation options that are proposed for affected areas.
2nd Comment Category	Human Environment - Neighborhood / Community

2nd Comment Response

3rd Comment Category

Human Environment - Noise and Vibration

3rd Comment Response

DEIS section 4.10.4 and table 4.10-6 provides a summary of the noise and vibration impacts for the alternatives. For the proposed D-O LRT Project, it is anticipated that severe noise impacts would occur at one location and moderate noise impacts would occur at four locations with the NEPA Preferred Alternative. Vibration impacts would occur at 8 receptors and ground-borne noise impacts would occur at 13 receptors with the NEPA Preferred Alternative. Other alternative alignments would result in some additional impacts at receptors, but the number of additional impact locations is not substantial. None of the ROMF sites would result in noise or vibration impacts.

Figures 4.10-6 through 4.10-9 illustrate the locations of receptors that would be impacted by the NEPA Preferred and Project Element Alternatives. Additional detail on the impacted receptors is provided in appendix K.24.

As described in 4.10, noise and vibration levels are estimated for the proposed D-O LRT Project and compared to the thresholds defined in the FTA Transit Noise and Vibration Impact Assessment (2006) manual. Noise and vibration projections take into account the operations of the proposed light rail including the speed of the trains, headways, train consists, the use of audible warning devices, and the track design including at-grade crossings, special track work (crossovers and turnouts), track curvature, adjustments for elevated guideways, terrain, building rows, and other features that may affect sound propagation conditions. Other sources included in the projections are noise from park-and-ride facilities, traction power sub-stations, and noise and vibration from the ROMF.

In accordance with the FTA Guidance Manual, a detailed vibration analysis will be conducted 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. When the vibration assessment indicates that vibration levels will be excessive, it is usually the track support system that is changed to reduce the vibration levels. Floating slabs, resiliently supported ties, high-resilience fasteners, and ballast mats have all been used to reduce the levels of ground-borne vibration. To be effective, all of these measures must be optimized for the frequency spectrum of the vibration. Most of these relatively standard procedures have been successfully used on transit projects.

4th Comment Category

4th Comment Response

Affiliation	General Public
Sub-Group	Citizen
First Name	Winston
Last Name	Liao
Comment	<p><i>We live in the Rocky Ridge/Laurel Hill Historic District in Chapel Hill, which has a major entrance at the intersection of Old Mason Farm Rd/Fern Lane/Carmichael St, in front of Aldersgate Church. Having the light rail run at that location, along Fern Lane and the Pinetum/Meeting of the Waters, will cause the following harm, damage, and disruption to a major historic neighborhood in Chapel Hill:-The intersection at 15/501, Old Mason Farm Rd., Fern Lane, and Carmichael St., is one of the most dangerous intersections in Chapel Hill, with pedestrian and vehicular accidents throughout the years. Having the light rail cross there will further increase the pedestrian and vehicular traffic congestion and accident occurrences.-Noise from the train will negatively impact activities at two churches, St. Thomas More Catholic Church and Aldersgate Methodist Church, as well as at Aldersgate preschool, St. Thomas More preschool, elementary, and middle schools, and UNC Family Medicine Center.-Running the track across the Pinetum/Meeting of the Waters will destroy many species of plants, including rare, endangered species and those that still need to be identified, as well as existing flora unique to Chapel Hill and the Piedmont area of North Carolina.-Running the track along Fern Lane towards Manning Drive will substantially increase the noise level in that part of the Historical District. We ask that the light rail tracks from the Friday Center and Hamilton Road stations run on the east side of 15501 along the NC Botanical Garden, crossing Manning Dr. This will:-Avoid the negative impacts to the Pinetum/Meeting of the Waters, churches, schools, and Rocky Ridge/Laurel Hill Historical District, as listed above.-Provide a much safer pedestrian and vehicular environment at the 15501/Mason Farm Rd/Fern Lane/Carmichael St. intersection/area by not having tracks cross there.-Decrease the cost for the light rail to cross 15501 to run along Mason Farm Rd.-Allow ridership on the light rail to see and appreciate the views offered by the NC Botanical Garden, thus increasing the potential for visitors to that facility.-Decrease the noise level and any associated disruption to the UNC Family Medicine Center at the northwest corner of Manning Dr. and 15501. We support the light rail, but are extremely upset by the change in the original plan (which had the tracks running on the east side of 15501 from Old Mason Farm Rd., across Manning Dr., and up Mason Farm Rd. to UNC Hospitals). We ask that you seriously consider having the tracks run as proposed in the original plan. Thank you.</i></p>
1st Comment Category	Human Environment - Cultural Resources
1st Comment Response	<p>DEIS section 4.5.3 describes the effects of the project on historic resources. FTA has made a determination that the NEPA Preferred Alternative would have No Effect on 13 of the 25 architectural historic properties located within the Architectural APE as compared to the No Build. It would have No Adverse Effect upon the other 12 properties. However, 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 (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.</p>
2nd Comment Category	Safety / Security - Rail
2nd Comment Response	<p>The NEPA Preferred Alternative is elevated near the intersection at 15/501, Old Mason Farm Rd., Fern Lane, and Carmichael Street. Therefore it would not affect traffic flow or pedestrian movements. As detailed in DEIS section 4.12.2.5, to the extent practicable, Triangle Transit seeks to reduce or eliminate pedestrian and motorist conflicts with transit vehicles at Triangle Transit facilities. Many safety measures, including crosswalks, signals, lighting, and fencing in certain locations, are used to help reduce the number of conflicts and incidents. In addition, basic design elements are used to enhance safety, including the use of facility siting</p>

and parking lot layouts that avoid pedestrian/vehicle and vehicle/vehicle conflicts, as well as the careful use of landscaping to eliminate blind spots and provide openness for security surveillance. Furthermore, Triangle Transit facilities are designed to comply with the Americans with Disabilities Act (ADA) to improve safety and ease of movement for disabled individuals. Detailed information regarding the roadways, sidewalks, and trails expected to be affected by the proposed D-O LRT Project is provided in DEIS section 3.2, DEIS section 3.6, and the Basis for Engineering Design (appendix L). To avoid the potential for incidents at - grade intersections, crossings would 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.

3rd Comment Category

Human Environment - Noise and Vibration

3rd Comment Response

DEIS section 4.10.4 and table 4.10-6 provides a summary of the noise and vibration impacts for the alternatives. For the proposed D-O LRT Project, it is anticipated that severe noise impacts would occur at one location and moderate noise impacts would occur at four locations with the NEPA Preferred Alternative. Vibration impacts would occur at 8 receptors and ground-borne noise impacts would occur at 13 receptors with the NEPA Preferred Alternative. Other alternative alignments would result in some additional impacts at receptors, but the number of additional impact locations is not substantial. None of the ROMF sites would result in noise or vibration impacts. Figures 4.10-6 through 4.10-9 illustrate the locations of receptors that would be impacted by the NEPA Preferred and Project Element Alternatives. Additional detail on the impacted receptors is provided in appendix K.24. No noise or vibration impacts are anticipated for receptor 18 at this location. Mitigation measures proposed for potential noise effects are described in DEIS section 4.10.4. Triangle Transit will coordinate design and policies related to audible warning devices with NCDOT and local jurisdictions in accordance with applicable regulations, guidance, municipal policies, and best management practices.

4th Comment Category

Natural Environment - Natural Resources

4th Comment Response

Effects to the NC Botanical Gardens are discussed in DEIS sections 4.3 (Neighborhood and Community Resources); section 4.4 (Visual and Aesthetic Conditions), section 4.6 (Parklands and Recreational Areas, Draft Section 4(f) Evaluation), section 4.10 (Noise and Vibration), and section 6.3 (Section 4(f) Properties). The NC Botanical Gardens are considered a community resource; however, no direct impacts to access, mobility, the community resource, or community cohesion are anticipated (section 4.3.2.2). Visitors would be highly sensitive to visual changes. Locations where impacts occur (identified in Table 4.4-6) and the degree and nature of the impacts are noted in the previous sections. In the vicinity of the NC Botanical Gardens (located on the south side of the NC 54 highway); the NEPA Preferred Alternative would be located on the north side of the NC 54 highway. On the north side of NC 54, 0.1 acre of permanent easement would be required from the Coker Pinetum. Due to the proximity of both the NC Botanical Gardens and associated trails to existing transportation infrastructure (NC 54) potential impacts to the character and context of the gardens and trails would be negligible in this location. The proposed East 54 Trail/NC Botanical Gardens Trail would maintain its functional utility where intersecting with the proposed NEPA Preferred Alternative because the light rail alignment would be elevated in these locations. As such, direct impacts to the proposed East 54 Trail/NC Botanical Gardens Trail would be negligible. As noted in Table 4.10-3, the NC Botanical Gardens are considered a noise-sensitive receptor, classified as Land Use Category 1. No noise-related impacts are anticipated to the NC Botanic Gardens. DEIS section 4.7 discusses the natural resources located within the D-O Corridor, including wildlife and habitats, with a focus on ecologically-sensitive areas and contiguous expanses of undisturbed lands. It documents federal and state-listed threatened and endangered species (fauna, flora, aquatic, and terrestrial). This section also identifies the potential effects to natural resources that would result from implementation of the alternatives under study in this DEIS. Where potential adverse effects are identified, efforts to avoid, minimize, or mitigate these effects through design modifications are also discussed. Additional detail regarding the natural resources located within the D-O Corridor is contained in appendix K.21. Table 4.7-3 indicates the acreage of each biotic community that falls within the NEPA Preferred Alternative. Under the NEPA Preferred and Project Element Alternatives, no significant adverse impacts to terrestrial or aquatic habitat are anticipated.

Under the NEPA Preferred Alternative, significant adverse impacts to terrestrial or aquatic wildlife are not anticipated. Limited wildlife disturbance would occur for the duration of the construction activities (DEIS section 4.16). Impacts to wildlife are expected to be limited after construction is completed. The NEPA Preferred Alternative is not anticipated to result in significant impacts to federal or state-listed threatened or endangered species, or their habitats.

Affiliation	State
Sub-Group	State Environmental Review Clearinghouse
First Name	Teresa
Last Name	Matthews
Comment	<p>October 12, 2015Re: SCH File# 16-E-0000-0065; DEIS; Proposed is a DEIS for the Durham-Orange Light Rail Transit Project. View documents at http://ourtransitfuture.com/Dear Mr. Charters:The above referenced environmental impact information has been submitted to the State Clearinghouse under the provisions of the National Environmental Policy Act. According to G.S. 113A-10, when a state agency is required to prepare an environmental document under the provisions of federal law, the environmental document meets the provisions of the State Environmental Policy Act. Attached to this letter for your consideration are additional comments made in the review of this document.If any further environmental review documents are prepared for this project, they should be forwarded to this office for intergovernmental review.Should you have any questions, please do not hesitate to call.</p> <p style="text-align: right;">Sincerely, Teresa Matthews, State Environmental Review Clearinghouse</p> <p>J MS RENEE GLEDHILL- EARLEYCLEARINGHOUSE COORDINATORDEPT OF CULTURAL RESOURCESSTATE HISTORIC PRESERVATION OFFICEMSC 4617 - ARCHIVES BUILDINGRALEIGH NCREVIEW DISTRIBUTIONDENR LEGISLATIVE AFFAIRSDEPT OF AGRICULTUREDEPT OF CULTURAL RESOURCESDEPT OF TRANSPORTATIONDPS - DIV OF EMERGENCY MANAGEMENTTRIANGLE J COGPROJECT INFORMATIONAPPLICANT: Triangle TransitTYPE: National Environmental Policy ActDraft Environmental Impact StatementREVIEW CLOSED: 09/28/2015DESC: Proposed is a DEIS for the Durham-Orange Light Rail Transit Project. Viewdocuments at http://ourtransitfuture.com/The attached project has been submitted to theN. C. State Clearinghouse forintergovernmental review. Please review and submit your response by the aboveindicated date to 1301 Mail Service Center, Raleigh NC 27699-1301.If additional review time is needed, please contact this office at (919)807-2425.AS A RESULT FOLLOWING IS SUBMITTED: c=J NO COMMENT COMMENTS ATTACHED</p> <p style="text-align: right;">David A. Charters, Jr., PEGo TrianglePO Box 13787Research Triangle Park, NC 27709Ramona .f. Bartos, AdministratorOffice of Archives and HistoryDeputy Secretary KtT:in Cherry Re: Durham-Orange light Rail Transit Project- Draft Environmental Impact Statement, Durham and Orange Counties, ER 12-0738Dear Mr. Charters:Thank you for your letter of August 25, 2015, transmitting the Draft Environmental Impact Statement (DEIS) for our review concerning the above project.As noted in the document, areas within the project area of potential effect (APE) that have the potential to contain National Register eligible archaeological sites have been identified in consultation between our Office of State Archaeology and your archaeological consultants. As also noted in the DEIS, after selection of the alternative to be constructed, if any of these areas will be affected, appropriate archaeological investigations will be undertaken prior to project implementation.We look forward to working with you and your consultants on future aspects of this project at the appropriate time.The DEIS correctly notes the "Findings of Effects" on the twenty-five above-ground historic properties and outlines the steps that will be taken to avoid any adverse effects.The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106 codified at 36 CFR Part 800.Thank you for your cooperation and consideration. If you have questions concerning the above comment,contact Renee Gledhill-Earley, environmental review coordinator, at 919-807-6579 orenvironmental.review@ncdcr.gov. In all future communication concerning this project, please cite the abovereferenced tracking number. . ., Sincerely,Renee Gledhill-Earley(for Ramona M. Bartos)</p>
1st Comment Category	Human Environment - Cultural Resources
1st Comment Response	Comment noted.

Affiliation	General Public
Sub-Group	Citizen
First Name	Patricia M
Last Name	McDonald
Comment	<p>Section 106To Members of Our Transit Future:Please find attached our comments from Duke Memorial UMC regarding the Durham-Orange Light Rail Transit Project.If you have additional questions, please contact the individuals listed on the letter.[REMOVED PII]Attachments: Duke Memorial UMC_Light Rail Letter.pdf(Letter typed below):October 12, 2015OurTransitFutureP O Box 530Morrisville, NC 27560And via email: info@ourtransitfuture.comRe: Comments regarding Durham-Orange Light Rail Transit ProjectThe trustees of Duke Memorial United Methodist Church would like to thank Ms. Juanita Shearer-Swink for meeting with a group of church representatives in July and giving us an overview of the proposed Durham-Orange Light Rail Transit Project. From a community perspective, our Church is supportive of light rail that will provide affordable transportation for the citizens of Durham, Chapel Hill and the surrounding communities.As a vibrant and growing downtown Durham congregation, our church has an active preschool program (Duke Memorial Weekday School est. 1950), a Parents Morning Out program, and multiple missional activities and connections that support and engage the historical West End neighborhood and downtown Durham. In addition to our outreach and mission programs, we feel extremely fortunate to be housed in a property listed on the National Registry of Historic Places. Our congregation was founded over 125 years ago and has witnessed and adapted to the many changes of the downtown landscape.We have significant concerns about the land that will taken by the Light Rail path and the impact on the safety of our children's programs and parking availability. Our limited available parking that we own does not always meet our needs, and as such we could not be in favor of a plan that would reduce the number of parking spaces adjacent to the church. We have been told that the Light Rail will encroach into our parking area by approximately 50 feet. We have also been told that during construction - estimated at six months for our section - that an additional 100 feet into our parking area would be needed for construction activities. Currently, the only adjacent property where we are permitted overflow parking on Sundays is the small parking lot beside the Olive and Olive building and across the street at the Police Department. The police department will be moving in the next few years and it is reasonable to assume that property may no longer be available to us for overflow parking on Sundays. During construction, the Olive and Olive building would be demolished and that parking also would not be available.As a church with almost 24-hour activity, Sundays are not the only time when parking is a challenge. We also have serious concerns of how parking will be coordinated during the construction period because our parking lot is currently filled to capacity on weekdays with Church staff, visitors, and parents and teachers of our preschool programs. Our preschool parents need parking in very close proximity to the Church. Crossing busy streets can be difficult with young children in tow.Therefore we believe strongly that the construction phase of the project with the lack of parking would create a significant hardship to our preschool programs as parents drop off and pick up children on weekdays. DMWS is able to operate a carpool line that helps lessen the parking burden somewhat but the PMO program necessitates that parents park and walk the children into the Church. Traffic is heavy around 9 am (drop off time) and many cars use Memorial Drive as a cut through between Duke and Gregson streets. Because of these concerns, we believe adequate parking in very close proximity to the Church is a safety consideration and not just a matter of convenience. If the light rail project is to move forward, we must be permitted access to reasonable parking accommodations within close proximity of the Church as well as safe, adjacent areas during the construction period.It is our desire that our church be assisted in acquiring all of the remaining land in our city block so that after the Light Rail is completed we can replace, at minimum, our current footprint of parking. Once the Light Rail is completed and operating, we also have concerns that our members coming from the west Durham and north Durham would not have convenient park and ride locations if they wanted to come to church (and downtown) by light rail.We very much appreciate your efforts in bringing light rail to our community. We understand that there will be challenges along the way and hope that Duke Memorial can be a productive partner in this endeavor. We are confident that if GoTriangle understands</p>

our parking and safety requirements that we can structure a plan that would work for all stakeholders. Please feel free to contact me directly or our [REMOVED NAME AND TITLE], with any questions. Sincerely, (Signature)[REMOVED NAME AND TITLE](Signature)[REMOVED NAME AND TITLE]

1st Comment Category

Transportation - Parking

1st Comment Response

Mitigation measures to address parking impacts were considered during the proposed D-O LRT Project development. Table 3.3-4 in DEIS section 3.3.4 summarizes the new or reconfigured parking spaces that are proposed as mitigation based on the level of engineering completed to date. A statement will be added to the combined FEIS/ROD to indicate Go Triangle's intent to coordinate with all entities regarding temporary or permanent loss of parking and to provide assistance with the identification of potential replacement parking where viable.

2nd Comment Category

Process - Construction

2nd Comment Response

Proposed mitigation strategies for effects to parking are described in DEIS section 4.16.3.1. It is important that pedestrian and vehicular access to businesses, universities, medical facilities and residences be maintained with a priority placed on emergency facilities. Work zone traffic control plans will be prepared and approved by the appropriate agency during the Engineering and Construction phases. These plans will be coordinated with the City of Durham, Town of Chapel Hill, NCR, universities, emergency services and the NCDOT. The plans will identify requirements for maintaining access to businesses, university, medical and emergency facilities. GoTransit will coordinate with affected 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

3rd Comment Category

3rd Comment Response

4th Comment Category

4th Comment Response

Affiliation	General Public
Sub-Group	Citizen
First Name	Ramona H.
Last Name	McGee
Comment	<p><i>To Whom It May Concern:</i>Please find attached comments on the Draft Environmental Impact Statement for the Durham-Orange Light Rail Transit Project, submitted by the Southern Environmental Law Center on behalf of Clean Air Carolina, Medical Advocates for Healthy Air, and the Orange-Chatham Group of the North Carolina Chapter of the Sierra Club. Sincerely, Ramona H. McGee Associate Attorney Southern Environmental Law Center 601 West Rosemary Street, Suite 220 Chapel Hill, NC 27516-2356 T: 919-967-1450 F: 919-929-9421 Email: rmcgee@selcnc.org October 13, 2015 VIA E-MAIL D-O LRT Project – DEIS/GoTriangle Post Office Box 530 Morrisville, NC 27560 info@ourtransitfuture.com Re: Comments on Durham-Orange Light Rail Transit Project Draft Environmental Impact Statement</p> <p>These comments on the Draft Environmental Impact Statement (“DEIS”) for the Durham-Orange Light Rail Transit (“D-O LRT”) project are submitted by the Southern Environmental Law Center on behalf of Clean Air Carolina, Medical Advocates for Healthy Air, and the Orange-Chatham Group of the North Carolina Chapter of the Sierra Club. SELC is a 501(c)(3) non-profit organization dedicated to protecting the natural resources of the Southeast. In particular, SELC works with groups throughout North Carolina to promote transportation and land use decisions that strengthen our communities, protect our natural resources, and improve our quality of life. Clean Air Carolina is a non-profit committed to improving North Carolina’s air quality through education and advocacy efforts to reduce pollution in our state. Medical Advocates for Healthy Air is an initiative of Clear Air Carolina comprised of health professionals dedicated to educating others about the health impacts of poor air quality and advocating for stronger policies that will promote clean and healthy air for North Carolinians. The Orange-Chatham Sierra Club Group is a local division of the national nonprofit Sierra Club, which promotes protection of wild places and responsible use of natural resources through education and advocacy. Orange-Chatham Sierra Club Group’s members live in Orange, Chatham, Alamance, and Caswell Counties. We are pleased to indicate our enthusiastic support for the D-O LRT project and the National Environmental Protection Act (“NEPA”) Preferred Alternative identified in the DEIS. We see this project generating many benefits to the region, and we appreciate that GoTriangle has identified light rail as the best-fit solution for the growth demands of the Durham-Orange Corridor (“D-O Corridor” or “the Corridor”). In addition to our strong support for the project, we submit the following specific comments regarding the DEIS.</p> <p>I. Light Rail Creates Significant Benefits Beyond Public Transportation Improvement</p> <p>We are thrilled by the prospect of a light rail system within the Triangle Region. Light rail lines have been successfully implemented in cities across the country to enhance public transportation options while generating a variety of corresponding benefits. We are encouraged that a light rail system will finally be constructed within the Triangle, and we hope that the system will continue to expand as its promised benefits become a reality. In particular, we wish to highlight the environmental, human health, economic, and community benefits a light rail system will bring to the D-O Corridor and the greater Triangle area.</p> <p>A. Light Rail Yields Significant Environmental Benefits</p> <p>The environmental benefits of light rail are myriad. Most obvious, light rail reduces the number of vehicle trips that are made each day and correspondingly reduces tail pipe pollution. Pollutants from cars contain a variety of toxic and carcinogenic compounds.</p> <ol style="list-style-type: none"> 1 Such pollution includes harmful carbon monoxide (“CO”), nitrogen oxides (“NOx”), and volatile organic compounds (“VOCs”). 2 NOx and VOCs emissions are precursors to ozone, which is associated with a variety of detrimental human health and ecological effects. 3 Car emissions also contain greenhouse gases (“GHGs”) like carbon dioxide (“CO2”), which contribute to global climate change. In addition, urban light rail systems such as this one encourage concentrated growth in already disturbed environments, rather than the sprawling development into undeveloped, natural areas that is often enabled by new-location highway projects. 4 Light rail facilitates these concentrated growth patterns primarily because it is a “fixed-guideway” system. Once the light rail line is constructed and its various stations are fixed in place, the D-OLRT project will allow investors and developers to confidently invest in an area that will thrive due to the transportation options in place. Light rail will

effectively anchor development within a predictable corridor along the light rail route. Such guided, planned land use with built-in public transportation options is environmentally beneficial on many levels. By containing development within a specific, planned, high-density area, the light rail system will help stall sprawling, unplanned growth patterns into suburban and exurban areas. This type of unplanned growth can lead to long commute times and an associated increase in vehicle miles travelled (“VMT”). With more cars on the road driving for longer periods there is an associated increase in local air pollution and greenhouse gas emissions, as discussed above. Likewise, as growth sprawls out of urban areas

Footnotes Page 2: 1 E.g. HEALTH EFFECTS INST., SPECIAL REPORT 17: A CRITICAL REVIEW OF THE LITERATURE ON EMISSIONS, EXPOSURE, AND HEALTH EFFECTS OF TRAFFIC-RELATED AIR POLLUTION 2-17–2-18 (2010), available at <http://pubs.healtheffects.org/getfile.php?u=5532> E.g. id.; EPA, AUTOMOBILE EMISSIONS: AN OVERVIEW 2 (1994), available at <http://www3.epa.gov/otaq/consumer/05-autos.pdf>; Greenhouse Gas Emissions: Transportation Sector Emissions, EPA, <http://www3.epa.gov/climatechange/ghgemissions/sources/transportation.html> (last updated September 11, 2015). 3 Ground-Level Ozone, EPA, <http://www3.epa.gov/ozonepollution/> (last updated October 1, 2015). 4 DEIS at 4-291 (noting that “[t]he proposed D-O LRT Project and associated land use policies are expected to encourage more compact development, which has a smaller footprint than the auto-oriented development likely to occur without the transit investment”). into less disturbed, rural areas, there can be significant impacts on other aspects of the natural environment. Forests may be cleared, farmland developed, and wetlands and streams paved over. The increase in impervious surfaces from this development can have an extremely detrimental effect on water quality as run-off increases. In contrast, compact, planned land use enables developers to use space more efficiently, requiring less new development into rural areas. Moreover, compact, mixed-use communities mean residents can walk, bike, or use public transportation to reach destinations. In turn, fewer people rely on cars in their daily lives, which equates to fewer harmful pollutants being emitted into our air and water on a daily basis. Moreover, the D-O LRT will serve as a keystone piece of a long-term vision for an improved Triangle-wide public transit system. As explained in the DEIS, the D-O LRT has not been proposed or developed in isolation; instead, it is part of a broader regional plan to invest in fixed-guideway transportation solutions. 5 As such, the D-O LRT is an important regional investment in an environmentally-sound public transit solution which will facilitate compact, less environmentally damaging transit-oriented development. Indeed, the affected municipalities have premised their public transportation plans on this light rail project being implemented. 6 Local governments’ land-use visions “call for more compact, walkable, higher-density, mixed use development within the D-O Corridor,” and a light rail system will accordingly “channel future growth by providing a transportation option that supports compact, high-density developments.” 7 B. Light Rail Improves Physical and Mental Health By driving mixed-use, compact development near public transportation options, light rail encourages more active lifestyles. Walking and bicycling to destinations, or to the closest light rail station, will be feasible and easier than driving and finding parking. Transit-oriented development, and the corresponding greater use of public transportation, increases physical activity and improves physical health. 8 For example, mixed-use neighborhoods with public transportation access correspond to lower rates of obesity, while sprawling neighborhoods correspond to higher rates of hypertension, diabetes, asthma, and cancer. 9 One study of individuals living near the Charlotte Lynx light rail system showed significant increases in physical health, including that light rail users lost weight and substantially reduced their likelihood of becoming obese. 10 Public transportation access and

Footnotes Page 3: 5 Id. at 2-2–2-8. 6 E.g. id. at 8-7. 7 Id. at 1-22; see id. at 4-291, 4-298. 8 See TODD LITMAN, VICTORIA TRANSPORT POLICY INSTITUTE, EVALUATING PUBLIC TRANSPORTATION HEALTH BENEFITS 13–15 (2015), available at http://www.vtpi.org/tran_health.pdf. 9 Id. at 15. 10 John M. MacDonald, et al., The Effect of Light Rail Transit on Body Mass Index and Physical Activity, 39 AM. J. PREVENTIVE MED. 105, 108 (2010). The study concluded that “[t]he findings from the current study suggest that walkable communities are also associated with numerous mental health benefits, such as reducing emotional stress and symptoms of depression. 11 Moreover, in terms of general public health, public transit use is safer than private automobile use, with a much lower fatality rate than automobile travels. 12 As one researcher has observed, “[p]eople who live or work in transit oriented communities tend to drive fewer annual miles, drive at lower speeds, and have better travel options that allow them to avoid high risk driving, such as after drinking alcohol or when ill.” 13 Light rail, as a fixed public transportation system, will lay the foundation for such healthier and safer transit-oriented communities in the D-O Corridor. Additionally, light rail’s resulting reduction in tailpipe emissions corresponds to significant human health effects. As noted above, driving individual automobiles

creates toxic particulate matter pollution and ozone-producing chemicals that can have a wide range of adverse health effects. A recent study published in the journal *Nature* suggests that air pollution was responsible for 3.3 million premature deaths worldwide in 2010.¹⁴ Air pollution exacerbates asthma, which was the leading medical cause for school absences in North Carolina during the 2009-2010 school year.¹⁵ It is also linked to low birth weight, premature birth, miscarriage, autism, ADHD, obesity, diabetes, compromised immune response, increased susceptibility to allergies, stroke, liver disease, dementia, anxiety, and depression.¹⁶ Particulate matter pollution is created not only by burning fossil fuels, but also by road wear, brake wear, and tire wear. The cleanest electric car will still cause particulate matter pollution because it cannot avoid friction with the petroleum-based asphalt comprising our roads. However, light rail avoids these friction-based sources of pollution by not using the petroleum-based asphalt. Moreover, light rail can avoid or mitigate these many adverse health impacts by providing a high-capacity public transit alternative to driving private vehicles. Fewer cars on the road equates to cleaner air for North Carolinians. Footnotes Page 4: increasing the access to LRT transit for individuals to commute to work may help overcome some of the barriers to engaging in daily utilitarian exercise.” *Id.* at 110.¹¹ LITMAN, *supra* note 9, at 17.¹² *Id.* at 8–9.¹³ *Id.* at 8.¹⁴ J. Lelieveld et al. The Contribution of Outdoor Air Pollution Sources to Premature Mortality on a Global Scale, 525 *NATURE*, 367–371 (2015).¹⁵ N.C. DEPT. OF HEALTH & HUMAN SERVS., *ASTHMA IN NORTH CAROLINA FACT SHEET 1* (2011), available at <http://www.asthma.ncdhhs.gov/docs/factsheets/2011/AsthmaInNorthCarolina.pdf>; N.C. DEPT. OF HEALTH & HUMAN SERVS., *THE NORTH CAROLINA ASTHMA PLAN 2013-2018 2* (2013), available at <http://www.asthma.ncdhhs.gov/docs/NorthCarolinaAsthmaPlan-2013-2018.pdf> (identifying Reducing school absences due to asthma as one of four priorities of the North Carolina Asthma Plan).¹⁶ E.g. Ambient (Outdoor) Air Quality and Health, *WORLD HEALTH ORG.*, <http://www.who.int/mediacentre/factsheets/fs313/en/> (last updated Mar. 2014); ARB Fact Sheet: Air Pollution and Health, *AIR RES. BD.*, <http://www.arb.ca.gov/research/health/fs/fs1/fs1.htm> (last updated Dec. 2, 2009); Bradley S. Peterson, et al., Effects of Prenatal Exposure to Air Pollutants (Polycyclic Aromatic Hydrocarbons) on the Development of Brain White Matter, Cognition, and Behavior in Later Childhood, 72 *JAMA PSYCHIATRY* 531 (2015); W. James Gauderman, et al. Association of Improved Air Quality with Lung Development in Children, 372 *N. ENG. J. MED.* 905 (2015).¹⁷ *C. Light Rail Brings Business and Boosts Economic Development* As alluded to above, the proposed light rail system will draw concentrated economic development.¹⁸ Large companies are deliberately investing in and developing areas connected to permanent public transit systems like light rail. Mercedes-Benz relocated to downtown Atlanta,¹⁸ and Kaiser-Permanente decided on Georgia over Colorado because of the public transit options available, specifically the rail system in the Midtown area.¹⁹ Indeed, The Charlotte Lynx System has proven to be an enormous economic success for the area: “From 2005 to-date, the Blue Line has generated approximately \$900M in development projects completed within a ½ mile of the Blue Line Stations.”²⁰ This has “transformed portions of the community from vacant or underutilized parcels to vibrant, pedestrian friendly communities including housing, restaurants, retail and small businesses.”²¹ Charlotte Area Transit System staff project an additional \$500 million-worth of development in the coming years.²² The Blue Line Extension, which is set to begin operations in 2017, has already attracted more than \$200 million in new, private development projects along the future route.²³ Clean Air Carolina, which is based in Charlotte, has witnessed first-hand these positive community—not to mention environmental and health—benefits of the Lynx system. While this success story from within our State is particularly impressive, it is not an isolated instance. Light rail systems across the country, in metropolitan regions similar to the D-O corridor, have likewise experienced substantial economic benefits. These include systems in Portland, Oregon; Dallas, Texas; Denver, Colorado; Santa Clara County, California; and St. Paul-Minneapolis, Minnesota.²⁴ Notably, bus service, including bus rapid transit (“BRT”), has not and cannot spur such economic benefits precisely because of its unpredictable, ever-changing routes.²⁵ A BRT system includes fixed guideways for buses, thus removing segments of bus service from mixed-use traffic to enable quicker travel times. However, BRT is still characterized by flexibility in route. Footnotes Page 5: 17 See DEIS at 1-22; *id.* at Table 8.1-1: Project Need Performance Summary for No Build, NEPA Preferred, and Project Element Alternatives.¹⁸ Matt Kempner and J. Scott Trubey, MARTA A Sudden Factor in Company Moves, *THE ATLANTA JOURNAL CONSTITUTION*, Jan. 16, 2015, <http://www.myajc.com/news/business/marta-a-sudden-factor-in-company-moves/> njpnF/.¹⁹ Maria Saporta, Transit and Walkability Key Factors in Kaiser Permanente’s Decision to Put 900 New Jobs in Midtown, *SAPORTAREPORT*, Apr. 17, 2015, <http://saportareport.com/transit-and-walkability-key-factors-in-kaiser-permanentes-decision-to-put-900-new-jobs-in-midtown/>.²⁰ E-

mail from Tina Votaw, Transit Oriented Dev. Specialist, Charlotte Area Transit Sys., to Kym Hunter, Staff Attorney, S. Envtl Law Ctr. (April 22, 2015); see also Alternatives Analysis at 5-86 (“North Carolina’s first LRT line, the Blue Line, has been a catalyst for almost \$1.5 billion of new or planned development along Charlotte’s South Corridor, a formerly underutilized railroad corridor.”).²¹ E-mail from Tina Votaw, *supra* note 20.²² Id.²³ Id.²⁴ Alternatives Analysis, at 5-86–5-87 (listing the significant economic benefits which have accrued to the areas surrounding the respective light rail systems).²⁵ Alternatives Analysis, at 5-88 (citing limited available studies on BRT and noting that potential economic benefits of BRT are unproven and speculative, unlike light rail’s demonstrated positive effects).and still relies on mixed-use traffic for portions of its trip. Businesses cannot plan on bus service, but businesses can and will plan on a fixed light rail system.D. Light Rail Creates Desirable Mixed-Use CommunitiesPrivate citizens are also increasingly choosing to live near established publictransportation options. Indeed, a recent Chapel Hill poll indicated that the D-O LRT project is “overwhelmingly popular” with 69% of voters supporting the project.²⁶ This is in line with national trends showing that people, particularly the Millennial generation, are consciously driving less and prefer to use alternate modes of transportation.²⁷ The vast majority of Millennials express a preference for living in more urbanized, mixed-use, walkable communities with public transportation access.²⁸ Existing compact, mixed-use development along public transportation routes have shown that such less automobile-dependent communities are a reality with corresponding real benefits: “[r]esidents of communities with high-quality, well integrated public transit . . . own half as many vehicles, drive half as many annual miles, walk and bicycle four times more, and use public transit ten times more than residents of more automobiledependent communities.”²⁹ Light rail will also assist less mobile populations, such as the elderly, 0- or low-car households, and lower-income families. These populations will be able to depend on light rail for their transportation needs, while also making long-term housing and employment decisions knowing that light rail will remain, fixed in route, for the future. Indeed, the D-O LRT system will connect large employment and education centers with its end points near the institutions of the University of North Carolina and Duke University, respectively.³⁰ Public transportation to such employment hubs will provide a low-cost, reliable means of transportation to jobs for lowincome and 0-car households. These same individuals will also have greater access to the educational opportunities at both universities on the D-O LRT project route. Light rail and its corresponding transit-oriented development “provide basic mobility and accessibility, particularly for physically and economically disadvantaged people, such as people with disabilities and lower-income seniors.”³¹ Public transportation and more compact, mixed-use communities can provide a means of greater access to necessary medical services for the elderly and disabled.³² The D-O LRT project exemplifies this attribute by connecting to both the UNC

Footnotes Page 6: 26 Memorandum from Tom Jensen, Dir. of Pub. Policy Polling, State of the Chapel Hill Election 2 (Sept. 23, 2015), available at <http://chapelboro.com/wp-content/uploads/2015/09/ChapelHillPoll2015.pdf>.²⁷ TONY DUTZIK & PHINEAS BAXANDALL, U.S. PIRG FUND & FRONTIER GRP., A NEW DIRECTION: OUR CHANGING RELATIONSHIP WITH DRIVING AND THE IMPLICATIONS FOR AMERICA’S FUTURE 21-25 (2013), available at <http://www.uspirg.org/sites/pirg/files/reports/A%20New%20Direction%20vUS.pdf>.²⁸ Id. at 23; Millennials Prefer Cities to Suburbs, Subways to Driveways, NIELSON (Mar. 4, 2014), <http://www.nielsen.com/us/en/insights/news/2014/millennials-prefer-cities-to-suburbs-subways-to-driveways.html>.²⁹ LITMAN, *supra* note 9, at 3.³⁰ E.g. DEIS, at 1-3–1-4.³¹ LITMAN, *supra* note 9, at 16.³² E.g. WENDY FOX-GRAGE & JANA LYNOTT, AARP PUB. POLICY INST., EXPANDING SPECIALIZED TRANSPORTATION: NEW OPPORTUNITIES UNDER THE AFFORDABLE CARE ACT 1 (Jan. 2015), available at <https://www.aarp.org/policy/2015/01/01/expanding-specialized-transportation/> Hospitals and the Duke/VA Medical Centers. Furthermore, fixed-route transportation helps older adults maintain a more independent lifestyle while remaining in their homes and communities, particularly when paired with well-coordinated, community-focused transportation and growth policies.³³ Public transportation and compact, walkable communities will also assist families living in poverty by enhancing transportation options and access. As recognized in a Federal Highway Administration paper, “[i]mproving mobility and job accessibility are very important factors to escape poverty.”³⁴ Light rail will serve as a reliable, fixed, accessible transportation option and drive development of less automobile-dependent communities. Such characteristics appeal to and benefit populations in need of greater transportation accessibility, as well as those who are deliberately choosing to rely less on private automobiles for their travel needs.II. The NEPA Preferred Alternative is the Best Option for the D-OLRT ProjectThe above-stated benefits of light rail inform our support for the specific D-O LRT project. The stated Purpose and Need of the D-O LRT project includes implementing a hightransit transportation solution that facilitates future land use plans which focus on compact, transit-oriented development.³⁵ As the DEIS states, “[i]n order

to address the transportation challenge faced by the region and more specifically within the D-O Corridor, and to cultivate a more sustainable cycle of growth for a future, a high-capacity transportation infrastructure solution is required.”³⁶ Thus, this project is intended to address not only transportation demands, but land-use demands. Indeed, the Alternatives Analysis completed at an earlier stage of this project identified four needs to be addressed, one of which was “to foster compact development.”³⁷ A light rail system is by far the best high-transit option in terms of promoting compact, less-environmentally damaging development. As documented throughout the DEIS, the D-O LRT project will best satisfy the defined Purpose and Need of the project as compared to other transportation options and the studied alternative light rail routes. A. Light Rail is the Best Transportation Alternative for Meeting the Stated Purpose and Need of the Project Light rail represents the best option for alleviating the already-present problems of increasing congestion in the project area. As identified in the DEIS, population growth in Footnotes Page 7: <http://www.aarp.org/content/dam/aarp/ppi/2015/AARP-New-ACA-Transportation-Opportunities.pdf> (identifying access to transportation as a critical need for elderly individuals).³³ E.g. TRANSP. FOR AM., AGING IN PLACE, STUCK WITHOUT OPTIONS 3, 35 (2011), available at <http://www.t4america.org/docs/SeniorsMobilityCrisis.pdf>.³⁴ FED. HIGHWAY ADMIN., NATIONAL HOUSEHOLD TRAVEL SURVEY BRIEF: MOBILITY CHALLENGES FOR HOUSEHOLDS IN POVERTY 3 (2014), available at <http://nhts.ornl.gov/briefs/PovertyBrief.pdf>.³⁵ DEIS at 1-22–1-23; see also Alternatives Analysis at 3-1.³⁶ DEIS at 1-16.³⁷ Alternative Analysis at 3-1. The other three needs were: “to enhance mobility,” “to expand transit options between Durham and Chapel Hill,” and “to serve populations with high propensity for transit use.” Id. Durham and Orange Counties is exploding; indeed, “[b]etween 2010 and 2040, the population of each county is expected to grow by 64 percent and 52 percent, respectively.”³⁸ We agree with and applaud the DEIS’s acknowledgment that “[t]he existing built and natural environments limit the ability to widen the roadways to accommodate additional travel lanes,” and that “[i]f left unmanaged, this rapid growth will not only continue to constrain corridor mobility, but will also result in sprawling development patterns, which would lead to the reduction of open space and farmlands.”³⁹ Building more roads is not the answer to population growth and increased transportation demands, and expanding such roads would result in environmentally harmful development patterns and further exacerbate dependence on automobile travel. We further agree with the DEIS’s conclusion that “[e]ven with implementation of all roadway projects programmed in the 2040 MTP, the capacity of the roadway system will not keep pace with the increase in traffic volumes.”⁴⁰ Importantly, building new roads can sometimes paradoxically cause an increase in congestion. Travelers who previously avoided congested roads by foregoing discretionary trips or by traveling at non-peak hours might now opt to take more trips at different times. Moreover, development might expand along the new road, creating new communities and new travel demands. As such, building roads entices new vehicle trips, creating what is known as “induced demand” and in turn causing more, not less, congestion. Light rail is uniquely suited to meet the transportation needs in the D-O Corridor. GoTriangle analyzed a variety of different transit system options in the Alternatives Analysis phase, and correctly concluded that they would not meet the identified Purpose and Need of the project.⁴¹ As identified in the earlier Alternatives Analysis, “the flexibility in the delivery of conventional bus services fails to provide the permanency in routing and stop placement necessary to shift current development patterns.”⁴² Furthermore, adding additional buses on already congested roadways will not address increased travel demands.⁴³ As observed by the DEIS, “[t]he number of buses serving each of these areas [near UNC hospitals and /Durham VA Medical Center/Duke University Medical Center] has surpassed or is approaching the feasible limit of the number of buses that can be accommodated on the roadways.”⁴⁴ We have been pleased by the increased bus ridership in the region, as identified by the DEIS, and believe this is indicative of the shift in the public’s desire and willingness to utilize public transportation options. However, the DEIS correctly identifies that the current bus system at our present-day population levels is increasingly inconsistent and unreliable in adhering to bus schedules.⁴⁵ Footnotes Page 8: 38 DEIS at 1-5.³⁹ Id. at 1-6.⁴⁰ Id. at 1-17.⁴¹ Alternatives Analysis, ES-4–ES-8, 5-113–5-118, (2012); see 42 U.S.C. § 4332 (C), (E) (requiring evaluation of “appropriate alternatives” when preparing EIS); 40 C.F.R. § 1502.14 (limiting EIS review of alternatives to those that are “reasonable”).⁴² Alternatives Analysis at 3-8.⁴³ DEIS at 1-18–1-19.⁴⁴ Id. at 3-9; see Clogged roadways already prevent efficient travel times of both private cars and buses, and this will only worsen with an increased population in the area.⁴⁶ Like increased bus service, BRT falls far short of meeting the Purpose and Need of the project. Triangle Transit ruled out BRT largely because of its inability to meet the economic development and compact growth elements of the project’s Purpose and Need.⁴⁷ While proponents of BRT tout its flexibility and ability to respond to growth and development, this

characteristic is precisely why BRT is less effective in driving compact land use patterns. Light rail outcompetes BRT in passenger capacity, partially because cars can be added to trains, and additional trains can be added to the entire light rail system with minimal impact so as to easily pass passenger capacity. Finally, commuter rail or heavy rail was appropriately rejected as a feasible option for the D-O corridor. Such vehicles are incapable of stopping quickly enough between closely-spaced stations, such as are needed on Duke and UNC campuses and in downtown Durham. In contrast to other options, the D-O LRT project is a fixed transportation system which will drive smart, compact development while decreasing the numbers of cars on the road and enhancing public transportation accessibility. As the Alternatives Analysis succinctly summarized, after extensive evaluation of other modes of transportation, “the [light rail alternative] alone can fully address the stated Purpose and Need for a fixed-guideway investment in the Durham-Orange Corridor.”⁴⁸ Ridership forecasts of the NEPA Preferred Alternative demonstrate that light rail will provide a substantial reduction in automobile trips; by 2040, the preferred alternative will account for more than 23,000 trips per average weekday.⁴⁹ These forecasts are supported by the ridership rates of the Charlotte Lynx system where daily ridership exceeded 2020 forecast levels within three years of its initial operations “and now averages about 15,000 trips per day.”⁵⁰ The DEIS also projects that the light rail system will yield 23 million fewer vehicle miles traveled annually by year 2040.⁵¹ We agree with and support GoTriangle’s determination that light rail is the best mode of public transportation for meeting the transportation and development needs of the D-O Corridor. B. The NEPA Preferred Alternative is the Superior Alignment for the D-OLRT Project We urge GoTriangle to proceed with the currently identified NEPA Preferred Alternative. We agree with and applaud the DEIS’s observation that “[t]he NEPA Preferred Alternative would cause the least damage to the biological and physical environment and best protect, Footnotes Page 9: 46 Id. at 1-18.47 E.g. Alternatives Analysis at 5-88, 5-113 ; DEIS at 1-16.48 Alternatives Analysis at 5-113.49 DEIS at 3-14.50 Alternatives Analysis at 5-86.51 DEIS at 4-252; id. at Table 4.13-1: Comparison of Estimated Annual VMT for the Triangle Region (2040) (in millions of miles). preserve, and enhance historic, cultural, and natural resources.”⁵² The NEPA Preferred Alternative represents the Least Environmentally Damaging Practicable Alternative (“LEDPA”), as determined by the U.S. Environmental Protection Agency (“EPA”).⁵³ The United States Army Corps of Engineers (“USACE”) likewise supports the NEPA Preferred Alternative.⁵⁴ In completing its thorough review of alternatives, GoTriangle carefully considered whether certain sections of the proposed D-OLRT route could be aligned differently. These Project Element Alternatives constitute different possible routes in the New Hope Creek and Little Creek areas of the project’s route. As determined by the DEIS after careful evaluation, the other Project Element Alternatives have greater environmental impacts, particularly to undisturbed natural habitats, than the NEPA Preferred Alternative. For example, the C2 Alternative impacts 23 more acres of biotic resources than the NEPA Preferred Alternative.⁵⁵ The C1 and C1A Alternatives would impact undisturbed natural areas, such as the Little Creek Bottomlands and Slopes Significant Natural Heritage Area.⁵⁶ Importantly, the USACE informed GoTriangle that given the existence of a less-environmentally damaging alternative, the USACE would not authorize the C1 alternative with its corresponding significant adverse impacts to natural resources and public use of the Jordan Lake Game Lands.⁵⁷ Although the DEIS nonetheless carefully studied this alternative, the USACE’s unwillingness to grant GoTriangle use of the Jordan Lake Game Lands for the C1 Alternative effectively eliminates it as an option.⁵⁸ The NEPA Preferred Alternative also outperforms the New Hope Creek Alternatives in terms of impacts to the natural environment. The New Hope Creek LPA (“NHC LPA”) Alternative would result in fragmentation of undisturbed forested areas and wetlands, and would create a new transportation corridor in the New Hope Creek Bottomlands. ⁵⁹ The New Hope Creek 1 (“NHC 1”) Alternative fares slightly better than the NHC LPA Alternative, but would impact 7 more acres of hardwood forests than the NEPA Preferred Alternative. We are pleased that the selected NEPA Preferred Alternative impacts the fewest acres of biotic resources as compared to the other element alternatives, and we support GoTriangle in advancing this route for further evaluation and implementation.⁶⁰Footnotes Page 10: 52 Id. at 8-26.53 See id. at 8-14.54 See id. at 8-14.55 Id. at 8-18.56 Id. at 8-17.57 Id. at 8-17, G-99.58 See 16 U.S.C. § 460d (authorizing USACE to “grant leases of lands . . . at water resource development projects . . . for such purposes as [the Secretary] may deem reasonable in the public interest”).59 Id. at 8-18–8-19.60 See DEIS at Table 8.2-1: D-O LRT Alternatives Benefits and Consequences Matrix.

C. Fewer Harmful Effects Correspond to the Farrington Road Rail Operations and Maintenance Facility In addition to studying different alignment routes, the DEIS reviewed different possible locations for a rail

operations and maintenance facility (“ROMF”), where trains will be serviced and stored, and where the technical operations for the system will be based. The Farrington Road ROMF included in the NEPA Preferred Alternative surpasses each of the alternative ROMF locations. Leigh Village would permanently impair use of the historic Walter Curtis Hudson Farm, and the Patterson Place ROMF is incompatible with the Preferred Alternative New Hope Creek Element (“NHC 2”), as well as the perhaps “second best” New Hope Creek route possibility of NHC 1.61 Because the Patterson Place ROMF would rule out these two environmentally-preferable routes, we oppose the Patterson Place ROMF and strongly concur with the NEPA Preferred Alternative’s selection of the Farrington ROMF. While the Cornwallis and Alston Avenue ROMF locations may result in fewer impacts to water resources, and natural resources in the case of the Alston Avenue ROMF, the resulting operational difficulties, higher costs, and community impacts render these locations less desirable to the NEPA Preferred Alternative location.⁶² Specifically, the Cornwallis Road location would have significant impacts on the Judea Reform Congregation, Levin Jewish Community Center, and the Lerner Jewish Community Day School.⁶³ The Alston Avenue Location would be located in an area with high low-income and minority populations, result in a net loss of jobs, and displace multiple businesses.⁶⁴ Such significant community impacts would undermine the community support and longevity of the D-O LRT project. In sum, the NEPA Preferred Alternative utilizes existing transportation right-of-ways and follows a route that minimizes new impacts to sensitive environmental resources. By sticking close to established transportation corridors, most of the NEPA Preferred Alternative’s environmental impacts are to already disturbed environments. As such, we are pleased with the identified NEPA Preferred Alternative and strongly support GoTriangle’s continued selection of this route and ROMF location as the NEPA Preferred Alternative.

III. GoTriangle Should Continue to Analyze Certain Environmental Impacts and Develop Further Mitigation Measures

On the whole, the DEIS carefully and thoroughly documents the possible impacts to natural resources, streams and wetlands, water quality, and air quality within the project area. We are pleased with the consistent recommendation of best management practices to avoid and reduce certain environmental impacts. The below comments applaud some of the specific aspects of the DEIS’s discussion of the affected environment and environmental consequences.

Footnotes
Page 11: 61 Id. at 8-20.62 Id. at 8-21–8-22.63 Id. at 8-21.64 Id. at 8-22–8-23.

while also noting areas in which the Final Environmental Impact Statement (“FEIS”) should be improved.

A. Natural Resources

Overall, we are content with how the DEIS addresses potential impacts to natural resources, including wildlife and broader ecosystem impacts. The DEIS recognizes that the indirect impacts—largely compact development in the affected area—“would be more beneficial to natural resources than the type of dispersed growth that typically occurs with auto-oriented development.”⁶⁵ We believe such acknowledgments and comparisons are important when considering a project such as this, where some minimal environmental harm may result in the construction and implementation phases, but where the long-term environmental effects are substantial. Even then, the natural resource impacts will largely be limited to already disturbed habitats.⁶⁶ However, the DEIS provides an incomplete picture regarding endangered and threatened species. We are pleased that GoTriangle carefully analyzed the occurrence of federally listed species in the project area, and that the DEIS includes preliminary measures to be taken in the event the species are observed in the area. Nonetheless, the DEIS lists many North Carolina state-listed endangered and threatened species, but does not include any information about their abundance in the project area or how to mitigate possible harm to the species. We understand that studies and coordination with North Carolina agencies are ongoing, and we encourage careful evaluation of possible harm to these species and implementation of necessary mitigation measures. The FEIS should include a more thorough discussion regarding these state-listed species.

B. Water Resources

While the NEPA Preferred route will have impacts to water resources in the project area—particularly wetlands, streams, and floodplains—the impacts are relatively minor when considered in comparison with the sprawling, car-oriented development that would occur under a No Build scenario.⁶⁷ Nonetheless, we note that the NEPA Preferred Alternative will impact approximately .558 acres of wetlands,⁶⁸ and that the Little Creek project elements alternatives would actually impact .05 acres fewer than the NEPA Preferred Little Creek route (C2A).⁶⁹ We have limited concerns about this as the acreage impact is so slight. Moreover, we understand that while the Little Creek alternatives may impact a smaller acreage of wetlands, these alternatives “would impact one or two more [discrete] wetlands.”⁷⁰ Nonetheless, GoTriangle

Footnotes
Page 12: 65 Id. at 4-92.66 Id. at 4-138, 4-142.67 E.g. id. at 4-290, 4-292.68 Id. at 4-156.69 Id. at 4-159.70 Id. at 4-

should continue to evaluate the possible wetlands impacts associated with the NEPA Preferred Alternative and identify specific mitigation measures to ensure the least impact possible to these special water resources.

C. Air Quality The DEIS's cursory examination of air quality impacts does a disservice to the project by failing to document the significant positive effects the D-O LRT will have on air quality. While "[m]odeling analyses are only required for areas that are in nonattainment or maintenance for a particular pollutant" in terms of National Ambient Air Quality Standards ("NAAQS") under the Clean Air Act, the FEIS should discuss more of the air quality impacts than are discussed in the DEIS.⁷¹ The DEIS identifies that Durham County is a maintenance area for carbon monoxide and then limits air quality discussion to this sole pollutant and area. Even if modeling analyses are not required, the FEIS should document and consider the possible air quality impacts that will result from this project. For example, the FEIS should note that by reducing the numbers of cars on the road, there will be a corresponding reduction in multiple harmful pollutants. Moreover, even if additional modeling analyses are not required, they certainly are not prohibited, and we would support GoTriangle conducting further modeling analyses to document the positive effects this system will have on air quality.

D. Greenhouse Gas Emissions One of the prime environmental benefits of the D-O LRT is the potential for reductions in tailpipe emissions of GHGs. In December 2014, the Council of Environmental Quality ("CEQ") issued a draft guidance on "Consideration of Greenhouse Gas Emissions and the Effects of Climate Change," under NEPA.⁷² The draft guidance instructs agencies to consider impacts on GHGs when conducting a NEPA analysis. The DEIS failed to conduct such an analysis, citing a lack of a "national strategy to address greenhouse gas emissions from transportation," and asserting that "[i]t is technically unfeasible to accurately model how negligible increases or decreases of CO₂ emissions at a project scale would add or subtract to the carbon emissions from around the world."⁷³ We disagree with this sentiment. As recognized by the CEQ's draft guidance, while "climate impacts are not attributable to any single action," they are "exacerbated by a series of smaller decisions, including decisions made by the government" and should be analyzed as such.⁷⁴ Here, the D-O LRT's impact would almost certainly have the positive environmental effect of reducing GHGs. Documenting such a positive effect is important for future transportation planning and to establish the precedent of conducting such evaluations.

Footnotes Page 13: 71 The FEIS should also clarify that 40 C.F.R. 93, subpart A, requires modeling analyses for only nonattainment or maintenance areas for a given pollutant. While reference is made in Appendix K23, the source of this requirement should be clarified within the text of the FEIS.⁷² Revised Draft Guidance on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change, 79 Fed. Reg. 77801 (Dec. 24, 2014).⁷³ DEIS at 4-201.⁷⁴ Revised Draft Guidance, 79 Fed. Reg. at 77825.

IV. GoTriangle Should Continue to Collaborate with Low-Income and Minority Communities Who May be Impacted Although there is wide community support for enhanced public transit options in the D-O Corridor and for light rail in particular,⁷⁵ the D-O LRT project has the potential to disproportionately burden certain low-income and minority communities in Durham. While the Durham-Chapel Hill Metropolitan Statistical area is economically robust, the DEIS notes that the census tracts within the D-O Corridor have a 19 percent lower median household income than the combined median household income in Durham and Orange counties on the whole.⁷⁶ More than thirteen percent of households within the Corridor do not have an available vehicle, and 42.6 percent of households in the Corridor have only one vehicle.⁷⁷ Moreover, Durham has a history of proposed transportation projects having a disproportionate impact on people of color and low-income communities.⁷⁸ GoTriangle must be mindful of these disparities and the historical backdrop in continuing to proactively engage communities that will be affected by the D-O LRT project. We are pleased by GoTriangle's thoughtful efforts to date in informing and collaborating with affected communities. The DEIS identifies access to proposed stations is a primary concern voiced by low-income and racial minority communities in the area.⁷⁹ The DEIS also highlights concerns about affordable housing, business displacements, and inequitable distribution of sales tax revenues from the area.⁸⁰ While the DEIS identifies responses to each of these concerns, we hope GoTriangle continues to collaborate and develop additional means of mitigating these concerns, as required by Executive Order 12898.⁸¹ We are pleased that Durham County and the City of Durham have set goals of having "15 percent housing within a ½ mile of each station be affordable to people at or below 60 percent of the median area income."⁸² However, we encourage GoTriangle to work with local leaders to develop more hard-and-fast policies and mechanisms to keep housing affordable. Such measures should include methods to help current residents in the

affected areas remain in their homes and not be priced-out of their residences. Additionally, the DEIS should be clearer and more consistent about the potential problem ofFootnotes Page 14: 75 E.g. Jensen, supra note 26, at 2.76 DEIS at 1-8.77 Id. at 1-5.78 See id. at 5-30; Removal of Los Primos Supermarket – Analyzing and Identifying Alternatives, FED. HIGHWAY ADMIN. (last updated Feb. 4, 2013), https://www.fhwa.dot.gov/environment/environmental_justice/ej_and_nepa/case_studies/case04.cfm; Case Studies: East-West Expressway Environmental Impact Study, FED. HIGHWAY ADMIN. (last updated Aug. 29, 2011). http://www.fhwa.dot.gov/environment/environmental_justice/case_studies/case3.cfm.79 DEIS at 5-18.80 Id. at Table 5.3-1: EJ Community Concerns Expressed and Triangle Transit Actions/Response.81 Exec. Order No. 12,898, 59 Fed. Reg. 7629 (Feb. 11, 1994).82 DEIS at Table 5.3-1: EJ Community Concerns Expressed and Triangle Transit Actions/Response; id. at 5-31; see N.C. GEN. STAT. § 136-252(b)(3)(d) (requiring recipients of state public transportation grant money to develop strategies “to provide replacement housing for low-income residents displaced by transit development . . . for the purpose of increasing the stock of affordable housing to at least fifteen percent (15%) [near the transit development] to be affordable to families with income less than sixty percent (60%) of area median income.”)

affordable housing; a few pages after identifying this problem, the DEIS includes “[a]ffordable housing near transit” as one of the offsetting beneficial impacts the project will have on low-income and minority populations.⁸³ Affordable housing should be eliminated from this list of benefits in the FEIS, unless concrete and enforceable policies are instituted that guarantee access to affordable housing proximate to light rail stops. The DEIS observes that acquisitions and displacements required by the D-O LRT project might “be perceived as a disproportionately high and adverse effect on the east Durham community in particular.”⁸⁴ The DEIS lacks documentation or analysis of the businesses and community resources that may be displaced due to the project. This missing information creates an incomplete picture of the nature and extent of the adverse effects such displacements and acquisitions will have on affected people of color and low-income communities. As such, we urge GoTriangle to devote detailed discussion in the FEIS to the precise businesses and resources to be displaced in the affected areas. Further, as much as possible, GoTriangle should select routes that will require as few business, community resource, and residential displacements as possible. Retaining community pillars is key for community cohesion. We are mindful that community members have expressed concerns that the current D-O LRT project does not reach East Durham, where low-income and minority populations are in dire need of better access to public transportation. Instead, light rail will reach these communities only during a possible later phase of light rail expansion. In the transportation mitigation section, the FEIS should address coordinating connecting bus service from East Durham communities to the nearest D-O LRT stop as well as provide realistic numbers on the ridership projections for D-O LRT from East Durham. Because community members have expressed that the D-O LRT will not serve the East Durham community due to the local nature of community travel, these additional actions would work toward establishing how East Durham residents would get to the D-O LRT, assessing the level of current East Durham community transportation need, and firmly determining how this project can actually provide transit to those lower-income, less mobile households. Indeed, since a prime part of the Purpose and Need for the project is providing public transit access to lower-income, less mobile households, connecting East Durham communities to this light rail project should be prioritized. Finally, we urge GoTriangle to study and include in the FEIS information about the estimated fares for light rail passengers. We note that the DEIS stated Go Triangle will work with public transportation staff to “engage the public and complete a Transit Service and Fare Equity Analysis” prior to initiating revenue service.⁸⁵ If the light rail service is cost-prohibitive for low-income populations, the project will not satisfy its stated Purpose and Need, and may not yield as many positive benefits for target populations as forecast by the DEIS. Footnotes Page 15: 83 DEIS at 5-35.84 Id. at 5-30.85 Id. at 3-14. As noted throughout the DEIS’s section on impacts to low-income and minority populations, despite the possible negative impacts, many positive impacts will accrue to the affected communities. These include new employment prospects and greater mobility and connectivity with other communities through the greater access to reliable public transportation.⁸⁶ We agree that in many ways, low income and people of color communities stand to benefit from the D-O LRT project, but we nonetheless encourage GoTriangle to continue to carefully analyze and avoid potential impacts to these communities. V. Conclusion We are thrilled to offer our support for the D-O LRT project and to submit these overwhelmingly positive comments regarding the project. As discussed above, the D-O LRT system represents an opportunity to improve the public transportation network in the region, while driving compact, prosperous growth and development in the face of

future population growth in the D-O Corridor. In turn, the D-O LRT project corresponds to environmental, health, and community benefits. We urge GoTriangle to enhance its analysis and address our limited concerns regarding the project. We look forward to continuing to work with GoTriangle in advancing this exciting public transit investment. Sincerely, Kym Hunter, Staff Attorney Ramona McGee, Associate Attorney KH/lvcc (via email): Stanley A Mitchell, FTAS. Kenneth Jolly, USACE John Sullivan, FHWA Chris Militscher, USEPA Pete Benjamin, USFWS Joey Hopkins, NCDOT Renee Gledhill-Earley, NC SHPO Jay Zimmerman, NCDENR - DWQ Felix Nwoko, DCHC MPO June Blotnick, CAC Laura Wenzel, MAHA Terry Lansdell, MAHA Max Felsher, Orange-Chatham Group of the North Carolina Chapter of the Sierra Club Olga Grlic, Orange-Chatham Group of the Sierra Club May Becker, Orange-Chatham Group of the Sierra Club Roger Diedrich, North Carolina Chapter of the Sierra Club

1st Comment Category

Economic Impacts - Regional Economy

1st Comment Response

Comments on the many benefits of the Project outlined in the letter are noted. Triangle Transit is mindful of the history of the effects of past transportation projects on people of color. To address this, Triangle Transit has a public outreach program with an emphasis on interaction and communication with EJ populations as a key element of the proposed D-O LRT Project. The engagement of local residents, business owners, and other stakeholders began with scoping (2012) and is on-going. 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. Triangle Transit will continue to coordinate with the EJ communities throughout the duration of the project. At this time, Triangle Transit does not have information on minority-owned businesses. However, Triangle Transit will continue outreach as part of the Uniform Act regarding any minority business relocations/acquisitions. As described in DEIS sections 4.3 and 4.14, the only community resources that would be acquired are associated with Duke University. No community resources would be acquired in areas with high concentrations of EJ populations. Clarification was added to chapter 5 of the FEIS/ROD. "Affordable housing near transit" was removed from the bulleted list of benefits. As stated in DEIS chapter 2, along with the introduction of the proposed D-O LRT Project, No Triangle Transit would implement several changes for DATA, and CHT routes in the corridor. (Duke Transit routes also operate in the transit corridor; however, no changes are proposed to Duke Transit routes.) Changes can be categorized as follows: Introduction of new feeder bus routes; Modifications to the background bus network; and Elimination of duplicative bus service. Further information on the proposed changes is provided in DEIS appendix K.1. Clarification was added to chapter 5 of the FEIS/ROD. The fares will be determined by the Triangle Transit board of trustees and should be similar to bus fares. Once the fares are determined, an equity analysis will be conducted according to FTA Title VI guidelines.

2nd Comment Category

Natural Environment - Endangered & Threatened Species

2nd Comment Response

DEIS section 4.7 discusses the natural resources located within the D-O Corridor, including wildlife and habitats, with a focus on ecologically-sensitive areas and contiguous expanses of undisturbed lands. It documents federal and state-listed threatened and endangered species (fauna, flora, aquatic, and terrestrial). This section also identifies the potential effects to natural resources that would result from implementation of the alternatives under study in this DEIS. Where potential adverse effects are identified, efforts to avoid, minimize, or mitigate these effects through design modifications are also discussed. Additional detail regarding the natural resources located within the D-O Corridor is contained in appendix K.21. Table 4.7-3 indicates the acreage of each biotic community that falls within the NEPA Preferred Alternative. Under the NEPA Preferred and Project Element Alternatives, no significant adverse impacts to terrestrial or aquatic habitat are anticipated. Under the NEPA Preferred Alternative, significant adverse impacts to terrestrial or aquatic wildlife are not anticipated. Limited wildlife disturbance would occur for the duration of the construction activities (DEIS section 4.16). Impacts to wildlife are expected to be limited after construction is completed. The NEPA Preferred Alternative is not anticipated to result in significant impacts to federal or state-listed threatened or endangered species, or their habitats. Adverse effects to aquatic wildlife would be minimized 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. Coordination with the NCWRC and the NCDA were initiated during the planning of the DOLRT. The NCWRC provided comments that reflected in the identification of preferred alternatives as well as the specific mitigation measures

documented in the DEIS. Additional mitigation measures, such as nesting surveys or plant relocation, if required, will be developed in consultation with these agencies (see DEIS section 4.7.4).

3rd Comment Category

Natural Environment - Wetlands / Water Resources

3rd Comment Response

Throughout the Project Development and preliminary engineering design process, efforts have been made to avoid and minimize impacts to wildlife habitat, including streams and wetlands. This is exemplified by the development of several alternative alignments in the vicinity of Little Creek and New Hope Creek that follow existing travel corridors, and the shifting of sections of alternative alignments to avoid wetland impacts. Further, several measures were incorporated in the design to avoid and minimize impacts to wetlands and streams, such as using aerial structures on piers to cross larger wetland areas. See DEIS section 4.8.4 for more information. Triangle Transit will continue to investigate ways to avoid impacts to wetlands during the FEIS and engineering phases of the project. As discussed in DEIS section 4.8.4.2, Triangle Transit will develop specific compensatory mitigation measures in consultation with the USACE and NCDWR as part of the Section 404/401 permitting process during the Engineering phase.

4th Comment Category

Natural Environment - Air Quality

4th Comment Response

Information is included in the FEIS/ROD indicating corresponding reductions in multiple harmful pollutants. Triangle Transit also revised DEIS table 4.13-2 to include the change in transportation related greenhouse gas emissions (CO₂e) to better reflect the anticipated air quality benefits of the project and the reduction of greenhouse gas emissions. This calculation is based on the change in Vehicle Miles Traveled by mode (e.g. automobile, diesel bus, light rail vehicle) using the methodology and values included in the Final Interim Policy Guidance Federal Transit Administration Capital Investment Grant Program, Aug. 2015, http://www.fta.dot.gov/documents/Final_CIG_interim_policy_guidance_August_2015.docx

Affiliation	Federal
Sub-Group	Environmental Protection Agency (EPA)
First Name	Christopher
Last Name	Militscher
Comment	<p><i>SUBJECT: Draft Environmental Impact Statement (DEIS) and Draft §4(f) Evaluation for the Durham-Orange Light Rail Transit (D-O LRT) Project, Durham and Orange Counties, North Carolina; ERP No.: FHW-E54014-NC; CEQ No.: 20150240Dear Mr. Charters:The U.S. Environmental Protection Agency (USEPA) Region 4 Office has received and reviewed the subject document and is commenting in accordance with §309 of the Clean Air Act (CAA) and §102(2)(C) of the National Environmental Policy Act (NEPA). We are providing cooperating agency remarks for your consideration. GoTriangle (formerly Triangle Transit Authority), in cooperation with the Federal Transit Administration (FTA), prepared a Draft Environmental Impact Statement (DEIS) which proposes several alternatives for a high-capacity transit service within the Durham-Orange (D-O) Corridor-an approximately 17-mile corridor from southwest Chapel Hill to eastern Durham, North Carolina. The proposed project also entails the construction of 17 stations and a Rail Operations and Maintenance Facility (ROMF). The purpose of this project is to augment mobility, expand transit options, serve major employment centers, increase transit operating efficiency, and sustainably support land use plans that promote compact development within a rapidly-growing metropolitan area.The USEPA staff has been participating on the D-O LRT Technical Advisory Committee for the proposed project, including the purpose and need, the detailed study alternatives to be carried forward and the alignment review. Specific technical review comments on the DEIS are attached to this letter (See Attachment A).The USEPA rated the DEIS as 'Environmental Concerns' (EC-2), indicating that several environmental concerns requiring additional information regarding impacts to the natural and human environment, including environmental justice (EJ) were identified. The USEPA's review of the DEIS identified the opportunity for potential avoidance and minimization of impacts as well as mitigation measures related to stream and wetland impacts, water quality, and EJ and community health issues. The '2' rating indicates that the DEIS information and environmental analysis will require some additional information and clarification as the project moves forward, including: stream and wetland impacts, §303(d) listed impaired waters, residential and business relocations, socio-economic and community health issues, and a re-assessment and clarification of potential minority and low-income population impacts.In general, the USEPA strongly supports the development of mass transit options for the Research Triangle Park metropolitan area as it provides a meaningful alternative to sole reliance on surface transportation such as highways and local collector roads for mobility. The USEPA also supports the proposed project's purpose and need and detailed study alternatives. With appropriate disclosure and proper mitigation, this project should result in reduced adverse impacts. The USEPA recommends that all of the technical comments in the Attachment be addressed in the Final EIS (FEIS). All relevant environmental impacts that have not been disclosed in this document or covered in the FEIS should also be addressed in additional NEPA documentation prior to the issuance of a Record of Decision (ROD).Dr. Cynthia F. Van Der Wiele, of my staff, will continue to work with you as part of the D-O LRT Technical Advisory Committee in the identification of reasonable and feasible alternatives. Should you have any questions concerning these comments, please feel free to contact her at vanderwiele.cynthia@epa.gov or (919) 450-6811.Sincerely,Christopher A. Militscher Chief, NEPA Program OfficeResource Conservation and Restoration Divisionw/ AttachmentATTACHMENT ADraft Environmental Impact StatementDurham-Orange Light Rail Transit Project, Durham and Orange Counties ERP No.: FHW-E54014-NC; CEQ No.: 20150240Project Purpose and NeedThe purpose of the project are outlined in Section 1.4 of the DEIS and are summarized as: to provide a high-capacity transit service within the Durham-Orange (D-O) Corridor between Chapel Hill and Durham [along the NC 54, 1-40, US 15-501, Erwin Road, and NC 147 transpo1tation corridors] that improves mobility, increases connectivity by expanding transit options, and supports future development plans.The needs for the proposed project are detailed in Section 1.5. These include: 1) enhance mobility-by providing a competitive, reliable alternative to auto use that supports compact development while increasing transit operating efficiency; 2) increase connectivity by expanding</i></p>

transit options between Durham and Chapel Hill to enhance and seamlessly connect with the existing transit system and by serving major activity and employment centers between Durham and Chapel Hill; and 3) promote future development by supporting local land use plans that foster compact development and manage future growth while maximizing the potential for economic development near activity centers. The USEPA generally supports the purpose and need of the project as a viable solution that promotes a more sustainable means of managing growth and transportation needs while supporting economic growth and protecting natural and human resources. Detailed Study Alternatives The DEIS Selection of a Build Alternative was based on four key decisions: transit technology, alignment, station locations, and rail operations and maintenance facility (ROMF) location. Light rail was selected as an alternative that best meets the Purpose and Need due to higher forecasted ridership and its ability to promote transit-oriented development, while conventional bus, bus rapid transit, streetcar, and commuter rail transit were eliminated from consideration. The USEPA concurs with the elimination of these transit technology alternatives. The DEIS evaluated the No Build alternative along with several light rail alternatives. The No Build alternative examined existing and planned transportation programs and projects scheduled to be constructed and open before the forecast year 2040 (and included in both the State Transportation Improvement Plan (STIP) and the Durham Chapel Hill Carrboro Metropolitan Planning Organization's transportation plan), and was used as a baseline against which the Build alternatives were compared in relation to impacts to the natural and human environment. Four potential crossings of Little Creek between Hamilton Road and the proposed Leigh Village State (Alternatives C1, C1A, C2, and C2A) were evaluated in detail, with Alternative C2A identified as the NEPA Preferred Alternative. Additionally, three potential crossings of New Hope Creek and Sandy Creek between Patterson Place and South Square (Alternatives NHC LPA, NHC 1, and NHC 2) were also evaluated in detail; NHC 2 was identified as the NEPA Preferred Alternative. USEPA Recommendations: Due to the high potential for large mammal interactions [wildlife collisions] with the D-O Light Rail, the USEPA encourages collaboration with the NC Wildlife Resources Commission (NCWRC) and the US Fish & Wildlife Service (USFWS) to design appropriate wildlife under- and overpasses to reduce wildlife mortality and increase safety and reliability of the rail in "hotspot" areas along the corridor. Seventeen (17) rail stations are proposed with two station alternatives evaluated for the Duke/VA Medical Center Station location: Duke Eye Center and Trent/Flowers Drive. The success of the D-O LRT project depends on ridership levels and in strategically locating stations where demand will be the highest. These stations may have an impact on air quality, community resources, land use (i.e., transit-oriented development along with in-fill and redevelopment), impervious surfaces, stormwater management, etc. USEPA Recommendations: The USEPA encourages green building design, low-impact development (LID) design for managing stormwater runoff into the §303(d)-listed Jordan Lake watershed, and other sustainable design and building practices to be used in planning, design, and construction. Further, the USEPA requests that all potential natural and human environment impacts from rail stations, including the park and ride lots, be discussed in the FEIS. Five (5) alternatives for the ROMF were studied in detail: Leigh Village, Farrington Road, Patterson Place, Cornwallis Road, and Alston Avenue. Farrington Road was identified as the NEPA Preferred Alternative. USEPA Recommendations: USEPA notes that the brief paragraphs on each ROMF alternative did not provide sufficient detail to support or eliminate any particular alternative. The FEIS should provide the necessary impact detail in order for decision-makers to have the necessary comparative information between the alternatives. Section 2.3.2.1 discusses light rail technology and proposed vehicle capacity. Vehicles are slated to carry 40 - 60 seated and up to 125 (including standing) passengers. USEPA Recommendations: The vehicle specifications did not include bicycle capacity or how bicycles would be accommodated on board each rail vehicle. While some bicyclists and bicycle commuters may park their vehicle at a particular station, the USEPA anticipates that many would wish to take their bicycle on board for use in reaching their final destination(s) from a station. The USEPA supports vehicle configurations that maximize the ability for passengers bringing bicycles along to be accommodated on board as this would support the Purpose and Need of the project. Transportation Chapter 3 presents existing conditions along with the potential consequences/impacts to transportation resources including transit service, parking, bicycle and pedestrian facilities, and roadways. Table 3.2-1 lists the traffic impact criteria (Level of Service). Section 3.2.2 describes the improvements that would be necessary due to the D-O LRT project, while Table 3.2-5 lists the roadway modifications that would be proposed as part of the NEPA Preferred and Project Element Alternatives. USEPA Recommendations: The USEPA notes that natural resource and human environment impacts resulting from these roadway modifications-in some cases, new two-lane connector roadways-have not been analyzed or included in the lists of

impacts. Consequently, it is not possible to know the potential impacts to aquatic resources, residences, businesses, historic properties, environmental justice communities, costs, etc. This issue should be addressed in the FEIS or subsequent environmental documentation prior to the issuance of a ROD. In addition, safety features that avoid or minimize conflicts between large mammals (e.g., deer strikes) as well as bicycles and pedestrians adjacent to the D-O Light Rail should also be considered during final planning and design.

Affected Environment and Environmental Consequences
Socioeconomic and Demographic Conditions
According to Table 4.2-2 Demographic Conditions, approximately 18% of the population in the study area are of Limited English Proficiency (LEP), with a high of 19% LEP concentrated in the Duke West Campus & Medical Center portion of the study area. East Durham has 50% of households with no car compared to 22% of the study area. The percentage of people under 18 and 65 years old and older is approximately 21% in the study area and exceeds that percentage in five of the eight sections of the study area. Population projects in the U.S. indicate a rapidly-growing population of those ages 65 and older, with many living below or near the poverty line, particularly in minority populations (DHHS/AOA, 2010; DHHS/AOA(b), 2010). The health and social impacts due to changes in transportation systems and local roadway connectivity may be more severe in older populations who rely more heavily on pedestrian infrastructure and/or transit (Balfour and Kaplan, 2002). Section 4.2 describes the age of the population, but does not assess potential impacts to this population in Section 4.2.3 Environmental Consequences.

USEPA Recommendations: The assessment of how vulnerable populations, such as the elderly, may or may not be impacted by the proposed light rail project should be addressed in the FEIS and the FTA should determine if this population is being adversely and disproportionately impacted from the proposed project.

Neighborhoods and Community Resources
Section 4.3 describes neighborhoods and community resources within the D-O Co1Tidor and examines the impact of the project on community cohesion and community resources. The NEPA Preferred Alternative would be located directly behind the Glenwood Elementary School and would form a barrier between the school and the neighborhood. Additionally, protective fencing would also restrict the use of the adjacent wooded area as an outdoor classroom. The DEIS proposes mitigation measures for this community resource impact by constructing a pedestrian underpass to connect the trails and enhance safety. Within the Old West Durham/Duke East Campus neighborhood, the historic Smith Warehouse will not receive a direct impact; however, warehouses that are currently used by the Duke University transportation services department would be demolished to accommodate the NEPA Preferred Alternative and the proposed Buchanan Boulevard Station. It is unclear from the DEIS whether or not these warehouses are also historic tobacco warehouses or whether they are of newer construction. The Alston Avenue ROMF, studied as a "project element alternative" notes that construction of the facility would necessitate the relocation of several businesses including Brenntag and Eastern Organics, resulting in the loss of 150 - 250 jobs. However, in its present location, Brenntag is grandfathered as a non-conforming use and currently unable to expand their operations; consequently, this business has been exploring other sites to meet their needs and grow. The loss of employment opportunities may not be entirely accurate.

USEPA Recommendations: The USEPA encourages further collaboration with Glenwood Elementary School to design an appropriate access point to the wooded area for continued use by students and faculty. The Patterson Place and Alston Avenue ROMF sites may have community cohesion issues. However, it is unclear from the DEIS whether the Alston Avenue site is actually not viable or if the Brenntag site can be redeveloped under the NC Brownfields Program.

Visual and Aesthetic Conditions
USEPA Recommendations: The USEPA supports the use of vegetative buffers to ameliorate visual, noise, and air quality impacts from the proposed light rail transit system.

Historic and Archaeological Resources
Section 4.5 addresses Historic and Archaeological Resources. In the analysis, 13 of the 25 architecturally historic properties would have No Effect from the NEPA Preferred Alternative, while the remaining 12 properties would have No Adverse Effect. A landscaped buffer is proposed for the Rocky Ridge Historic District, the Highland Woods Historic District, the Walter Curtis Hudson Farm, and the Ruth-Sizemore Store. However, no mitigation has been proposed for the remaining properties.

USEPA Recommendations: The FEIS should address what measures will be proposed to alleviate the No Adverse Effect on the historic properties. If no measures are proposed, documentation should include why mitigation is not possible since the majority of these building and historic districts are in active, daily use by the citizens (including children) of Durham and Durham County, and represent vital community resources.

Parklands and Recreational Areas/Section 6(f)
The NEPA Preferred Alternative has the highest impacts to Section 6(f) resources with a total acreage of 13.4 acres. **USEPA Recommendations:** The USEPA encourages GoTriangle to work with the staffs of University of North Carolina-Chapel Hill, the N.C. Botanical Garden, U.S. Army Corps of

Engineers, and Duke Forest during final design to develop further avoidance and minimization of impacts and to locate suitable mitigation for these impacts.

Water ResourcesThe study area included 400-foot wide rail corridors for each alternative, the proposed rail stations and park-and-ride lots, and the proposed ROMFs. The study area did not include any desk or field investigation of potential impacts to water resources from roadway improvements necessitated by the D-O Light Rail Transit project. The NC Division of Water Resources (NCDWR) classifications for waters within the project study area are either Water Supply (WS)- IV, WS-V, or Nutrient Sensitive Waters (NSW); thus, stormwater runoff drains to water supply watersheds and/or waters that are sensitive to additional pollutants. One stream is listed on DWR's 2012 §303(d) list of impaired streams. All aquatic resources drain to Jordan Lake and are subject to Cape Fear or Neuse River riparian buffer rules. The D-O Light Rail Transit Project falls within the Federal Emergency Management Agency (FEMA) 100-year floodplain in multiple locations as well as the FEMA 500-year floodplain. The NEPA Preferred Alternative would impact: 3,413 linear feet of streams; 0.558 acres of jurisdictional wetlands; 4.97 acres of riparian buffer zone 1 and 4.10 acres of zone 2; 6.42 acres of the 100-year floodplain; and 0.378 acres of the 500-year floodplain. With the exception of the Alston Avenue ROMF site, all other corridor and ROMF alternatives would incur greater impacts to aquatic resources.

USEPA Recommendations: Further avoidance and minimization during final design will be necessary to reduce impacts to aquatic resources and riparian buffers, particularly those streams and wetlands that have a higher quality rating using the NC Stream Assessment Methodology (SAM) and the NC Wetland Assessment Methodology (WAM) respectively. The USEPA encourages engineering design that incorporates resiliency strategies into the rail corridor to mitigate the likelihood of flooding in low-lying, flood-prone areas in addition to the identified FEMA 100- and 500-year floodplains. Such design will ensure that the project Purpose and Need is met with regard to a robust, reliable transit system as well as mitigate for extreme weather events that are anticipated to increase as a result of climate change.

Air Quality: Greenhouse Gas and ClimateExecutive Order (EO) 13653 (November 2013) was intended to prepare the U.S. for the impacts of climate change by taking actions to enhance climate preparedness and resilience. In December 2014, the Council on Environmental Quality (CEQ) released an updated draft guidance' to replace the 2010 draft. This guides how federal agencies should consider the effects of greenhouse gas emissions and climate change in their NEPA reviews. Agencies should consider the potential effects of a proposed action on climate change as indicated by its greenhouse gas (GHG) emissions and the implications of climate change for the environmental effects of a proposed action. While the USEPA understands that it may be "analytically problematic to conduct a project-level cumulative effects analysis", the DEIS did not sufficiently follow the 2014 draft guidance as detailed on page 4 and further described in IV. Considering the Effects of Climate Change on the Environmental Consequences of a Proposed Action (pages 21-25) in terms of addressing climate change in terms of resiliency was not addressed in the DEIS. See: https://ceq.doe.gov/current_developments/docs/nepa_revised_draft_ghg_guidance_searchable.pdf

USEPA Recommendation: The FEIS should qualitatively address the effects of climate change on the environment and the proposed rail. Additionally, during the final design of the rail, climate change mitigation and resiliency strategies should also be incorporated to reduce vulnerability and ensure a reliable transportation system. The USEPA encourages an assessment of the vulnerability of the rail corridor to extreme weather and the development of cost-effective methods to enhance the resilience of the transit system.

Environmental Justice**EJ Demographics:** The project is located in the vicinity of communities with EJ concerns. As described in the DEIS, the minority population is 51% of the population in the project area with the highest concentrations located in northeastern portion of the D-O Corridor and the low-income population is 43% of the population in the area which is meaningfully greater than the average for Orange County at 25% and Durham County at 26%. Table 5.2-1 provides a summary of EJ populations within the D-O Corridor and includes the evaluation areas, total population and percent minority and low income population. The table does not include an ethnic breakdown of the minority populations to better identify groups that may be served or impacted by the project and to develop effective public involvement and outreach strategies.

USEPA Recommendations: The USEPA recommends that the FEIS include a table that breaks down the minority populations by ethnicity. It would also be helpful to include the demographic information related to percent minority populations and low-income populations for the State of North Carolina for Reference. Figure 5.2-1 is a map of EJ populations within the D-O Corridor that depicts the alignment, alternatives, stations and rail operation and maintenance facilities (proposed) in the study area. The map depicts areas with high concentrations of minority and low-income populations based on the criteria described on page 5-6. The maps also provides a good summary of the minority and low income populations.

USEPA Recommendation: We request

that the FEIS include a separate chart with minority and low-income information by numbered block group and overlay a map such as Figure 5.2-1 with the affected block groups in the area. The USEPA recognizes the importance of language access to Federal programs and projects and acknowledges the FTA and GoTriangle efforts for engaging and linking communities with limited English proficiency to information and tools. The DEIS highlights varied outreach activities to EJ communities including providing Spanish and Chinese translation at public open houses, public meetings, or in community newspapers, staffing project information at community health fairs and festivals to engage diverse stakeholders. The USEPA further acknowledges the inclusion of information related to the historical impacts experienced by EJ communities within the evaluation area. USEPA Recommendations: The USEPA recommends that the FEIS continue to include public comments related to EJ as part of an ongoing responsiveness summary and indicate issues that remain unresolved. Secondly, the USEPA recommends that every effort should be made to continue to work with residents to ensure that appropriate replacement housing is available. We further recommend that the FEIS summarize or reference efforts made to avoid and minimize acquisitions and displacement impacts to EJ communities along US-15-50 I and east Durham area within Section 5.6.10, and identify the numbers or percentage of proposed relocations or acquisitions that are located in areas with high concentrations of EJ populations. Based on the information included in Table 5.4.1, it appears to the USEPA as though the displacements will not result in "fragmented" or isolated pockets of homes that are separated from the remaining portion of the community in these areas.

1st Comment Category

Alternatives Considered - NEPA Preferred

1st Comment Response

Fixing America's Surface Transportation (FAST) Act codifies in 23 USC 139(n)(2)(A) and 49 USC 304a(b) language for using errata sheets and developing a single document that contains an Final Environmental Impact Statement (FEIS) and Record of Decision (ROD) for the Durham-Orange Light Rail Transit (D-O LRT) Project . As such, Triangle Transit and FTA have issued a combined FEIS/ROD. Project Purpose and Need: Comment noted. Detailed Study Alternatives: Wildlife Over- and Under-passes: Throughout the project development and preliminary engineering design process, efforts have been made to avoid and minimize impacts to wildlife habitat, including streams and wetlands as described in DEIS section 4.8.4.2. Adverse effects to aquatic wildlife would be minimized by bridging wetland and stream areas, and employing sediment and erosion control Best Management Practices (BMPs). Operations for the NEPA Preferred Alternative would utilize existing roadway corridors in the portions of the study area that pass through large areas of wildlife habitat (see DEIS section 4.7.3.2). Because of this, impacts to wildlife are expected to be limited after construction is completed. Mitigation in the form of wildlife over- and under-passes is not included as part of the NEPA Preferred Alternative, nor has it been requested from the US Fish & Wildlife Service or the North Carolina Wildlife Resources Commission (NCWRC). Efforts to avoid, minimize, or mitigate impacts to wildlife and their habitats will continue during Engineering and Construction. The NCWRC and the North Carolina Department of Agriculture and Consumer Services (NCDACS) are currently reviewing appendix K.21. Triangle Transit will continue to coordinate with the NCWRC and NCDACS throughout future phases (e.g., Engineering and Construction) of the D-O LRT Project. Stations: Triangle Transit will comply with stormwater management permitting requirements and include the North Carolina Department of Environmental Quality (NCDEQ) Division of Water Resources (DWR) stormwater management BMPs. Specific design measures can be found in the Basis for Engineering Design (DEIS appendix L) and the Design Criteria documents prepared for the D-O LRT Project. Triangle Transit is reviewing approaches to sustainable design, and will continue this effort during the Engineering Phase. Potential impacts of all project-related infrastructure were included in the DEIS and were maintained in the combined FEIS/ROD. Section 1.4 of the combined FEIS/ROD, DEIS Errata 95 and 100 clarify that opportunities for green building design and low-impact development design will be reviewed during Engineering. ROMF Alternatives: DEIS Chapter 8 discusses the differentiating impacts of the five rail operations and maintenance facility (ROMF) alternatives considered. Table 8.2-3 provides a detailed breakdown of the benefits and environmental consequences of each ROMF alternative studied in detail in the DEIS. Impacts associated with the ROMF alternatives are more fully explained in Chapters 3 and 4 and in the technical reports in Appendix K. Vehicles: 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. Section 1.4 of the combined FEIS/ROD, DEIS Errata 24 clarifies 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.

Transportation: Roadway modifications were included in the D-O LRT Project's footprint and accommodated in the environmental analysis and mitigation. Technical reports provided in the appendices to the DEIS provide more detailed information and figures illustrating the D-O LRT Project footprint for which environmental impacts were evaluated. Section 1.4 of the combined FEIS/ROD, DEIS Errata 23 clarifies roadway modifications as part of the D-O LRT Project were included in the project footprint and discussed in the environmental analysis and mitigation. The safety and security of pedestrians and bicyclists is described in DEIS sections 3.6.4, 4.12.2.5, 4.12.3.5, and 4.12.4.5. During the Engineering phase, Triangle Transit will work with the City of Durham, Town of Chapel Hill, NCDOT, the Durham Bicycle and Pedestrian Advisory Commission, the Chapel Hill Transportation and Connectivity Board, and representatives from station area neighborhoods to identify ways to improve pedestrian and bicycle connections to stations. Further, Triangle Transit will continue to coordinate with the City of Durham's Station Area Strategic Infrastructure Program (SASI) as the D-O LRT Project moves forward. In certain areas, these improvements may be incorporated into the design of the D-O LRT Project. In particular, Triangle Transit will 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.

Operations for the D-O LRT Project would utilize existing roadway corridors in the portions of the study area that pass through large areas of wildlife habitat (see DEIS section 4.7.3.2). Because of this, impacts to wildlife, including conflicts with large mammals (e.g., deer strikes) are expected to be limited.

Affected Environment and Environmental Consequences: Socioeconomic and Demographic Conditions: The DEIS discusses benefits to transit dependent populations, including the elderly. DEIS chapter 5 discusses vulnerable populations (environmental justice populations) and assesses whether these populations would be adversely affected.

Neighborhoods and Community Resources: Triangle Transit will continue to coordinate with Glenwood Elementary School to identify strategies to minimize the effects of the D-O LRT Project on the school as clarified in section 1.4 of the combined FEIS/ROD, Table FEIS-2, DEIS errata 73. Section 8.2 of the DEIS presents the evaluation of the five ROMF alternatives and explains why the NEPA Preferred Alternative (Farrington Road ROMF) was selected. Although the Alston Avenue ROMF alternative would not require rezoning, it would introduce several risks to both the project schedule and budget associated with the potential remediation of regulated materials and the relocation of existing businesses. It also has the potential to result in net loss of employment within the D-O Corridor and East Durham in particular if the existing businesses that would be displaced could not be relocated within the D-O Corridor. The Alston Avenue ROMF location would result in impacts to existing and future freight rail infrastructure including the elimination or relocation of one existing rail spur and customer (Brenntag) and the use of the existing North Carolina Railroad freight corridor for 0.5 mile of light rail track. Further, this alternative has the highest capital cost of all of the alternatives considered in this DEIS (DEIS section 8.2.2.2).

Visual and Aesthetics: Comment noted.

Historical and Archaeological Resources: As indicated in DEIS section 4.5 and pointed out by the EPA, 12 historic properties would have a No Adverse Effect determination. A landscape buffer was included for 4 of these 12 properties in order to reduce potential effects to the level where a determination of No Adverse Effect could be made. For the other eight properties, mitigation was not necessary in order to make a determination of No Adverse Effect; therefore, no mitigation was recommended. Section 1.4 of the combined FEIS/ROD, DEIS Errata 50 corrects DEIS 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".

Parklands and Recreational Areas/Section 6(f): The DEIS includes the following statement in a call out box on page 4-119, "Section 6(f): The NEPA Preferred and Project Element Alternatives would not have an effect on Section 6(f) resources." This statement was not included in the body text of the document, section 1.4 of the combined FEIS/ROD, DEIS Errata 83 clarifies no parks that would qualify as Section 6(f) resources will be effected affected. Similarly, the following statements are included on page 4-118 of the DEIS, "No parks funded by the LWCF were identified within the Orange County portion of the study

area. However, there are 10 parks within the Durham City-County portion of the study area that were developed with grants from the LWCF. These 10 parks are noted in Table 4.6-1." Table 4.6-1, however, does not identify which parks qualify as Section 6(f) resources. Section 1.4 of the combined FEIS/ROD, DEIS Errata 82 and 87 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."Water Resources: Because of the identified impacts, it is anticipated that a Section 404/401 permit application will be required and that a permit will need to be issued by the U.S. Army Corps of Engineers (USACE) and NCDEQ DWR before construction activities may begin. Table 4.8-8 displays all of the potentially jurisdictional waters of the United States and wetlands within the NEPA Preferred Alternative and Project Element Alternatives, including roadway improvements, and the anticipated Section 404 permitting. During the preliminary design phase, Triangle Transit made efforts to minimize the potential impacts to water resources and will continue to design the project in ways to avoid and minimize impacts to water resources. In addition, the Section 404 permit application will include the D-O LRT Project's measures taken to avoid and minimize impacts to waters of the United States and a compensatory mitigation proposal to offset the unavoidable impacts. During the Engineering Phase of the D-O LRT Project, Triangle Transit will coordinate with the USACE to incorporate resiliency strategies to mitigate the potential for flooding in flood-prone areas. After a permit application has been submitted, it will undergo a review at which time the USACE may decide to alter the permit type, make additional data requests, or determine whether mitigation is needed. Ongoing coordination with the USACE will assist with minimizing the time frame for the permit application review. Due to the nature of the D-O LRT Project, the USACE will issue either a Nationwide Permit or an Individual Permit. Activities that do not qualify for authorization under the Nationwide Permit Program may qualify for authorization under an Individual Permit. Individual Permits are issued for activities that have more than minimal adverse impacts to waters of the United States (DEIS section 4.8.4). Air Quality: Triangle Transit is reviewing approaches to sustainable design for the proposed stations and ROMF, and will continue this effort during the Engineering Phase. Section 1.4 of the combined FEIS/ROD, DEIS Errata 95 and 100 clarified opportunities for green building design and low impact development design will be reviewed during the Engineering phase. In addition, section 1.4 of the combined FEIS/ROD, DEIS Errata 111 adds a green house gas emissions row to DEIS Table 4.13-2. This calculation was based on the change in Vehicle Miles Traveled by mode (e.g. automobile, diesel bus, light rail vehicle) using the methodology and values included in the Final Interim Policy Guidance Federal Transit Administration Capital Investment Grant Program, Aug. 2015, http://www.fta.dot.gov/documents/Final_CIG_interim_policy_guidance_August_2015.docx. Environmental Justice: The breakdown of minority populations by ethnicity by block group and low income data by block group is provided in DEIS appendix I. County level data on minority and low-income populations are also included in DEIS appendix I. Section 1.4 of the combined FEIS/ROD, DEIS Errata 138 clarifies 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. Triangle Transit will mitigate adverse impacts throughout both environmental justice (EJ) and non-EJ communities. Environmental commitments and mitigation measures identified throughout DEIS chapters 3 and 4 would address impacts from D-O LRT Project operations and construction activities that may affect EJ populations. Table 5.3-1 in DEIS section 5.3 provides a summary of the concerns expressed by EJ communities on the Project to date and lists Triangle Transit's responses to their concerns. Combined FEIS/ROD section 1.3 provides an update on public outreach since the DEIS, and FEIS/ROD section 1.2.2.2 states that public comments did not indicate any Environmental Justice concerns that remain unresolved. Triangle Transit will continue to coordinate with all EJ communities, including those that are limited English proficient, throughout the duration of the D-O LRT Project to ensure that they are not disproportionately burdened by any impact (or prevented from obtaining any benefit) from this project. Mitigation for land acquisitions of privately-owned properties and businesses will be addressed in compliance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Act) and relevant North Carolina laws and regulations. Any businesses or persons displaced from property by the D-O LRT Project will be compensated in accordance with provisions of the Act. See DEIS section 4.14 and appendix I for more information on acquisitions and displacements. Section 1.4 of the combined FEIS/ROD, DEIS Errata 125 describes the efforts Triangle Transit has made to avoid EJ acquisitions and displacements as follows, "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.”

2nd Comment Category

2nd Comment Response

3rd Comment Category

3rd Comment Response

4th Comment Category

4th Comment Response

Affiliation	General Public
Sub-Group	Citizen
First Name	Elisabeth
Last Name	Schweins
Comment	<i>I live in the Highland Woods Road Historic District. I have been looking forward to light rail as a public transportation system of the future that would benefit the entire region. Unfortunately, I do not think the current plan will serve the community's needs sufficiently. Thus I hope that if it is implemented as envisioned, the scope and reach will soon be expanded to connect other vital areas and destinations in the Triangle, such as the Raleigh-Durham airport, areas in the Research Triangle Park, Raleigh, etc. to truly make a difference. However, as a neighboring resident to the first stage of the project, I appreciate the commitment to plant a visual landscape buffer to help protect our wooded neighborhood from the full impact of the system in such close vicinity, should it proceed as planned. Best regards, [removed name]</i>
1st Comment Category	Purpose and Need - Other Alternatives
1st Comment Response	The D-O LRT Project is one element of the overall transit vision for the Triangle region. Planning for high-capacity transit in the 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 extensive coordination with stakeholders and members of the public to develop, evaluate, and refine the range of alternatives (Figure 2.1-1). The key studies, white papers, and reports that identified the need for high-capacity transit in the region and defined the D-O Corridor are summarized in Section 2.1. These past studies indicate that the estimated demand for a continuously connected rail line to RDU and RTP is not warranted or cost effective for the Project. The proposed D-O LRT Project is in the Durham-Orange Corridor. The Wake County Transit Plan is currently evaluating future potential transit corridors, which could be studied if a funding source is secured for transit in Wake County. The Wake County Transit Plan is currently under development. For more information, please see WakeTransit.com
2nd Comment Category	Human Environment - Visual and Aesthetic
2nd Comment Response	Section 4.4.3.1 states that for visual impacts Triangle Transit will use interdisciplinary design teams to create aesthetics guidelines and standards in the design of project elements and provide landscaping and aesthetic treatments within close proximity to residences.
3rd Comment Category	
3rd Comment Response	
4th Comment Category	
4th Comment Response	

Affiliation	General Public
Sub-Group	Citizen
First Name	Elisabeth
Last Name	Schweins
Comment	<i>I live in the Highland Woods Historic District, close to the future planned corridor for the light rail system. I am highly supportive of an expanded public transportation system in this areas, and of light rail in particular. However, I am not sure that the currently planned Durham-Chapel Hill connection will adequately address the local needs, as vital destinations in the Triangle are not included, such as the Raleigh-Durham International airport, Research Triangle business locations, and Raleigh business, government and entertainment venues.As a resident of a neighborhood directly adjoining the proposed rail corridor and one of the proposed stops, i greatly appreciate the inclusion of a landscape visual buffer that will protect us from the light and noise impact should the light rail be implemented as planned.</i>
1st Comment Category	Purpose and Need - Other Alternatives
1st Comment Response	The D-O LRT Project is part of an overall transit vision for the Triangle region. Planning for high-capacity transit in the 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 extensive coordination with stakeholders and members of the public to develop, evaluate, and refine the range of alternatives (Figure 2.1-1). The key studies, white papers, and reports that identified the need for high-capacity transit in the region and defined the D-O Corridor are summarized in Section 2.1. These past studies indicate that the estimated demand for a continuously connected rail line to RDU is not warranted or cost effective for the Project.With the exception of a small percentage of regular business travelers, most Triangle residents use RDU between 1 and 10 times per year, but travel to their workplace 250+ days per year. As a region builds its transit system, a consistent model for success has been to link neighborhoods to those “250+ day destinations” with the highest capacity service, while ensuring quality bus links to other important trip generators like the primary regional airport.Hundreds of commuters to UNC from RTP, Morrisville, Cary, and Raleigh already park and ride today at parking lots at Southpoint Mall, Exit 282 off of I-40 at the Regional Transit Center, and at District Drive in Raleigh. They choose to use these bus services even though they are subjected to traffic on NC 54. The light rail, with a major park-and-ride facility at Leigh Village, will offer a higher level of frequency than these routes and will not be subject to traffic congestion in the future when traffic is worse.Furthermore, RTP has a significant number of jobs, but they are widely distributed and dispersed compared to Chapel Hill and Durham. This dispersed development pattern is not as conducive to rail.The proposed D-O LRT Project is in the Durham-Orange Corridor. The Wake County Transit Plan is currently evaluating future potential transit corridors, which could be studied if a funding source is secured for transit in Wake County. The Wake County Transit Plan is currently under development. For more information, please see WakeTransit.com
2nd Comment Category	Human Environment - Visual and Aesthetic
2nd Comment Response	Section 4.4.3.1 states that for visual impacts Triangle Transit will use interdisciplinary design teams to create aesthetics guidelines and stands in the design of project element s and provide landscaping and aesthetic treatments with in close proximity to residences.
3rd Comment Category	
3rd Comment Response	
4th Comment Category	

Affiliation	<i>General Public</i>
Sub-Group	<i>Citizen</i>
First Name	<i>Tim</i>
Last Name	<i>Shearer</i>
Comment	<i>Hi there, I live in the Highland Woods historic neighborhood in Chapel Hill. I just want to offer my thanks for recommending the visual buffer between the neighborhood and the proposed rail line, and I hope it makes it into the final plan.</i>
1st Comment Category	Human Environment - Visual and Aesthetic
1st Comment Response	Comment noted
2nd Comment Category	
2nd Comment Response	
3rd Comment Category	
3rd Comment Response	
4th Comment Category	
4th Comment Response	

Affiliation	Federal
Sub-Group	US Department of Interior (US DOI)
First Name	Joyce
Last Name	Stanley
Comment	<p><i>Re:Comments on the Draft Environmental Impact Statement and Section 4(f) Evaluation Durham-Orange Light Rail Transit Project, Cities of Chapel Hill and Durham, NC</i>Dear Mr. Mitchell: The U.S. Department of the Interior (Department) has reviewed the Draft Environmental Impact Statement (DEIS) and Section 4(f) Evaluation Durham-Orange Light Rail Transit Project located in the cities of Chapel Hill and Durham, NC. The Department offers the following comments for your consideration.The Federal Transit Administration (FTA) and the Triangle Transit plan to develop approximately 17 miles of light rail transit service from University of North Carolina Hospitals in Chapel Hill, Orange County to the Alston Avenue Station in Durham, Durham County. The alignment will consist of at-grade alignment, fill and cut sections, and elevated structures. A total of 17 stations are planned, and up to 5,100 parking spaces would be provided. A Rail Operations and Maintenance Facility would also be constructed.The Draft Environmental Impact Statement evaluates a No Build, NEPA Preferred Alternative which includes preferred alignment options, and Project Element Alternative, include station alternatives associates with the alignment alternatives. The NEPA Preferred Alternative includes C2A, NHC2, Trent/Flowers Drive Station, and the Farrington Road ROMF Alternatives.The draft Section 4(f) Evaluation describes a range of avoidance alternatives, the affected Section 4(f) resources, and discloses potential project impacts to those resources with the exception of Archaeological resources.The Draft Section 4(f) Evaluation includes FTA's intent to pursue a de minimis impact determination for six park and recreation properties: USACE Jordan Game Lands, UNC Central Park South (Planned), Coker Pinetum, UNC Finley Golf Course and Athletic Fields, UNC Open Space, and New Hope Creek Trail (Planned). Coordination is ongoing among the FTA and agencies that own and/or administer the affected portion of the 4(f) properties, to avoid and minimize and mitigate adverse impacts. According to the Draft Section 4(f) Evaluation, the FTA will make a final determination of effects regarding archaeological resources once the alignment has been further defined and the final determination will be included in the Final Environmental Impact Statement and Record of Decision. It will also be included in a Section 106 Memorandum of Agreement document between the North Carolina state Archaeological office, Triangle Transit, and FTA that will contain the terms that will be executed prior to ground disturbing activities.The Draft and the Final Environmental Impact Statements should clearly outline the environmental commitments for landscaping and other means proposed to reduce the effects of the undertaking on historic properties. The commitments should include the groups, organizations and/or agencies that will be involved in developing plans for any landscaping or other treatments that will be implemented to ensure that no adverse effects will occur. Because an MOA has not yet been developed and land owners with jurisdiction have not yet concurred to the avoidance, minimization and mitigation to the 4(f) properties, the Department cannot concur that all possible planning to minimize potential harm to these resource has been employed.The Department has a continuing interest in working with the FTA to ensure impacts to resources of concern to the Department are adequately addressed. For continued consultation and coordination with the issues concerning Section 4(f) resources, please contact Anita Barnett on (404)507-5706 or via email at Anita_Barnett@nps.gov. I can be reached via email at joyce_stanley@ios.doi.gov or on (404) 331-4524.</p>
1st Comment Category	Process - Agency Coordination
1st Comment Response	<p>Agency Coordination: As stated in Chapter 6 of the DEIS, Triangle Transit and the FTA will continue to consult with affected agencies regarding the impacts of the proposed D-O LRT Project on the features and attributes of Section 4(f) properties, and provide opportunity for public comment. A final Section 4(f) evaluation and the FTA's Section 4(f) determination is included as appendix A of the combined FEIS/ROD.</p>

Section 4(F):

Mitigation measures for potential impacts to parklands protected under Section 4(f) are outlined in section 4.6 of the DEIS and appendix A of the combined FEIS/ROD. Triangle Transit will coordinate with agencies with jurisdiction with lands used by the NEPA Preferred Alternative (i.e., UNC, USACE, and City-County of Durham) to minimize potential impacts to parklands and recreational resources.

The combined FEIS/ROD reflects that Triangle Transit will continue to coordinate with UNC during the Engineering phase to minimize impacts to trails and other resources, including Finley Golf Course and Coker Pinetum, and will coordinate closings of the trails with UNC during Construction.

The presence and significance of archaeological resources is not yet determined. One previously recorded archaeological site potentially eligible for the National Register, two potential sites, and five areas were identified for further study. Since the eligibility of the one previously recorded archaeological site is not known at this time, and data recovery is recommended to make the eligibility determination on that site, no use of a known archaeological resource would occur. The remaining two sites and five areas are recommended for further study and are subject to a Memorandum of Agreement with the SHPO (combined FEIS/ROD appendix B) that outlines the measures for the identification of archaeological resources, avoidance measures, and continued consultation. Procedures for an expedited 4(f) determination will be utilized if any resource warrants preservation in place. See DEIS Chapter 6 and combined FEIS/ROD appendix A for more information.

Cultural Resources:

The Preliminary Determination of Effects resulted in No Potential to Cause Effects for the No Build Alternative and No Adverse Effects for the NEPA Preferred Alternative. For this reason, no mitigation measures are recommended. If ordered to mitigate any indirect impacts on historic properties, the FTA will consult with the SHPO and other consulting parties about the design, landscaping, and other features of the NEPA Preferred Alternative at these historic properties. These efforts, as determined, are included in the combined FEIS/ROD.

2nd Comment Category

2nd Comment Response

3rd Comment Category

3rd Comment Response

4th Comment Category

4th Comment Response