Appendix
Appendix E: Common Comment Responses

Durham-Orange Light Rail Transit Project

January 2016
# Purpose and Need

1. Why does the D-O LRT Project not serve RDU International Airport, Research Triangle Park, Raleigh, or Wake County?
2. Why weren’t other technologies such as Bus Rapid Transit studied?
3. Why were autonomous vehicles not considered as an alternative?
4. Why is expanding roadway capacity not an alternative?
5. How does bus service fit into the D-O LRT Project?
6. How was ridership forecasted for the D-O LRT Project?

# NEPA Preferred Alternative

1. Why was the Farrington Road ROMF included in the NEPA Preferred Alternative?
2. Why was Cornwallis Road ROMF not included in the NEPA Preferred Alternative?
3. Why is a light rail station at the Durham Performing Arts Center not included in the NEPA Preferred Alternative?
4. Are there other station platform options for the Buchanan Boulevard station?
5. Would a ROMF on either end of the alignment be more efficient for deadheading?

# Light Rail System

1. What will the fares of the light rail system be?
2. Will parking be included at light rail stations?

# ROMF

1. What are the anticipated impacts associated with the Farrington Road ROMF?
2. What mitigation would be provided for lighting impacts from the ROMF?
3. How would the ROMF impact water wells and stormwater?
4. Would the Farrington Road ROMF contribute to cumulative stormwater runoff?
5. Would there be traffic impacts as a result of the Farrington Road ROMF?
6. What mitigation will be provided for the land use/zoning impacts associated with the Farrington Road ROMF?
7. What mitigation will be provided for visual impacts associated with the ROMF?
8. What are the impacts to groundwater due to chemicals?
9. What specific chemicals would be used at the ROMF?
10. What would be the emergency response in case of a chemical spill?
11. Would the ROMF include a paint and body shop?

# Public Outreach and Environmental Justice

12. What public outreach has been conducted for the D-O LRT Project?
Appendix E: Common Comment Responses

Isn’t the travel time for the transit dependent population between Alston Avenue and UNC Hospital too long? .........................................................12
Will the D-O LRT Project serve low income populations? .................................................................................................................................12
What percentage of forecasted total daily ridership is from zero car households? ...........................................................................................................12

Safety ...........................................................................................................................................................................................................................................13
What safety measures will be implemented for at-grade crossings? ........................................................................................................................................13
Is light rail safe? ...........................................................................................................................................................................................................13
What will be the impacts to emergency services from the D-O LRT Project? ..........................................................................................................................13
What would be the emergency response in case of an incident? ...........................................................................................................................................14

Traffic ...........................................................................................................................................................................................................................................14
What will impacts be to the existing roadways as a result of the D-O LRT Project? ..........................................................................................................................14
Why were Littlejohn Road and Downing Creek Parkway absent from the traffic analysis and impact assessment? ...........................................................................................................14
Why will the three at-grade rail crossings closest to Downing Creek not be timed with lights despite approximately 140 crossings per day? .........................................................................................................................15
How will at-grade roadway crossings by the D-O LRT Project affect traffic? .................................................................................................................................15
Will the D-O LRT Project affect traffic and travel time? ...........................................................................................................................................15
How will the traffic signals be prioritized for trains and cars? ...........................................................................................................................................16

Natural Resources ..................................................................................................................................................................................................................16
What are the impacts to water resources? .............................................................................................................................................................................16
What are the indirect and cumulative effects of the D-O LRT Project? ...........................................................................................................................................16

Funding ...........................................................................................................................................................................................................................................16
What is the impact of changes in state funding on the D-O LRT Project? ...........................................................................................................................................17
What is the funding share between local, state, and federal sources for the D-O LRT Project? ...............................................................................................................17
Purpose and Need

Why does the D-O LRT Project not serve RDU International Airport, Research Triangle Park, Raleigh, or Wake County?

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

Why weren’t other technologies such as Bus Rapid Transit studied?

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, while details of the technologies analysis can be found in Chapter 5 of the Alternatives Analysis. The Alternatives Analysis is available on http://www.ourtransitfuture.com

Why were autonomous vehicles not considered as an alternative?

Autonomous automobiles would not satisfy the project’s Purpose and Need since they would rely on the limited capacity of the existing roadway system and do not conform with or contribute to more compact development identified in local and regional plans (see Chapter 1 of the DEIS for a full discussion of the Purpose and Need for the project).
Appendix E: Common Comment Responses

Why is expanding roadway capacity not an alternative?

Even under current demands, the region’s transportation system is beginning to strain. Levels of congestion are increasing and are anticipated to worsen, which will lead to increased travel times and the continuation of automobile-oriented development patterns. The region’s explosive growth is also outpacing the ability to repair, replace and expand the existing roadway network. Considering financial and environmental issues, simply increasing highway capacity to meet these demands is no longer a viable option (see ES-5 of the DEIS). Additional information regarding the expansion of roadway capacity can be found in DEIS section 1.4.1.1 and further in section 3.2 of the DEIS.

How does bus service fit into the D-O LRT Project?

Triangle Transit forecasts an average of 23,000 weekday light rail trips by the year 2035. 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. For more information about ridership please see DEIS section 3.1: Public Transportation and DEIS appendix K.2: Travel Demand Methodology and Results Report.

- Why bus service alone cannot meet the transportation needs of the D-O Corridor?

As noted in the DEIS Executive Summary (ES-5), the region’s existing transit network is currently operating at close to maximum capacity including 84 buses per hour servicing UNC Hospitals and 46 buses per hour servicing Duke University and Durham Veterans Affairs (VA) Medical Centers. As further detailed in DEIS section 1.5.1.2 of the Purpose and Need, this combination of bus routes that currently serve the D-O Corridor and provide a high level of transit service (see DEIS Figure 1.5-2). However, there are portions of the corridor within Chapel Hill and between Duke and downtown Durham where, due to congestion, adding additional buses will not improve service, as discussed further in DEIS section 3.2.

In order to maintain the high quality of life and attract new residents and businesses, the region needs a multi-modal transportation system, including improved high-quality transit service. The D-O Corridor needs a long term solution that provides accessible transit service, and a competitive and reliable alternative to congested roadways; that seamlessly serves many popular destinations in Durham and Chapel Hill, and that fosters growth, compact development, and economic development along a high-capacity transportation network (see ES-5 of the DEIS).

- What is being done right now to improve bus service with sales tax funds?

Enhancements to bus service are part of the Durham County and Orange County Bus and Rail Investment Plans (BRIPs). Both BRIPs were developed and approved by County Commissioners before the successful sales tax referenda in 2011 and 2012, and both have guided the provision of new...
Appendix E: Common Comment Responses

bus service in the two counties over the past few years. For more information about provisions for improved bus service under the BRIPs, please see http://ourtransitfuture.com/durham-county-bus-and-rail-investment-plan/

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 GoDurham 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 GoDurham routes 3 and 16 run through the city, including east Durham.

- How will bus service change once light rail is open?

Where to find in the DEIS or FEIS/ROD:
- DEIS section 2.4.3 and section 5.3
- DEIS appendix K.1
- DEIS Errata 124

As stated in section 2.4.3 of the DEIS and as added to in section 1.4 of the combined FEIS/ROD, DEIS Errata 124, along with the introduction of the proposed D-O LRT Project, Triangle Transit would implement several changes for DATA, and CHT routes in the D-O corridor. (Duke Transit routes also operate in the transit corridor; however, no changes are proposed to Duke Transit routes.) Changes can be categorized as: the introduction of new feeder bus routes; modifications to the background bus network; and the elimination of duplicative bus service. Further information on the proposed changes is provided in the DEIS may be found in Appendix K.1.

Proposed changes to the bus network for the NEPA Preferred and Project Element Alternatives are listed and described in more detail in appendix K.1 of the DEIS. Many existing bus routes would connect to light rail stations with little or no change to route alignments. 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.

As noted in section 5.3 of the DEIS, based on feedback received from Environmental Justice (EJ) communities in the D-O Corridor, a primary point of interest is providing improved access to proposed stations. In particular in east Durham, Triangle Transit is working with communities to plan improved bus infrastructure in advance of the proposed D-O LRT Project as well as bus connections to the proposed stations.

How was ridership forecasted for the D-O LRT Project?

Where to find in the DEIS or FEIS/ROD:
- DEIS section 1.4 and section 3.1.1
- DEIS appendix K.1 and K.2
- DEIS Errata 30, 32, and 33

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 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
Appendix E: Common Comment Responses

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 (DCHCMPO), 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).

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. 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.

Section 1.4 of the combined FEIS/ROD, Table FEIS-2, DEIS Errata #30, 32, and 33 contain clarifications on ridership.

**NEPA Preferred Alternative**

**Why was the Farrington Road ROMF included in the NEPA Preferred Alternative?**

*Where to find in the DEIS or FEIS/ROD:*
- DEIS section 8.2.2 and section 8.2.2.1
- FEIS/ROD section 1.2.2
- DEIS Errata 21, 22, 52, 70, 76, 78, 93, 94, 95, 103, 104, 110, 119, 121 and 137

Section 8.2.2 of the DEIS presents the evaluation of ROMF alternatives and explains why the NEPA Preferred Alternative was selected and why the other alternatives were eliminated from consideration. Further clarification on the alternatives is provided in section 1.4 of the combined FEIS/ROD, Table FEIS-2, DEIS Errata #22. The Farrington Road ROMF Alternative is included in the NEPA Preferred Alternative.

In summary, the Farrington Road ROMF Alternative site is the most desirable from a construction and operations standpoint. It is a 25-acre site, the largest site of the alternatives considered. The Farrington Road ROMF site is located on a long straight section of track which accommodates cross-overs for access to the yard. The site is reasonably flat, making preparation of the site for construction easier. Effective screening buffers can be provided around the site. The largest land owner on the site has expressed support for the Farrington Road ROMF Alternative. The site would have no effects to historic resources. The Farrington Road ROMF Alternative also has the lowest cost of all ROMF alternatives considered (see section 8.2.2.1 of the DEIS for additional information). See also section 1.2.2 of the combined FEIS/ROD and DEIS Errata numbers 21, 22, 52, 70, 76, 78, 93, 94, 95, 103, 104, 110, 119, 121 and 137 for changes made regarding documentation of outreach efforts, potential impacts, and mitigation at the Farrington Road ROMF.

**Why was Cornwallis Road ROMF not included in the NEPA Preferred Alternative?**

*Where to find in the DEIS or FEIS/ROD:*
- DEIS section 8.2.2 and section 8.2.2.2
- DEIS Errata 22

Section 8.2.2 of the DEIS presents the evaluation of ROMF alternatives and explains why the NEPA Preferred Alternative was selected and why the other alternatives were eliminated from consideration. Further clarification on the alternatives is provided in section 1.4 of the
Appendix E: Common Comment Responses

combined FEIS/ROD, Table FEIS-2, DEIS Errata 22. The Farrington Road ROMF Alternative is included in the NEPA Preferred Alternative.

While the Cornwallis Road ROMF alternative would result in fewer overall impacts to water resources as compared to the NEPA Preferred Alternative site (Farrington Road), the Cornwallis Road ROMF Alternative may result in adverse impacts to community resources (The Levin Jewish Community Center, Lerner Community Day School, Carter Community Charter School, and Judea Reform Congregation) and a higher constructability cost. In addition, the NEPA Preferred Alternative would allow for a superior yard layout from an operational perspective, whereas the Cornwallis Road ROMF site would require operational compromises, which would result in higher operational and maintenance costs (section 8.2.2.2 of the DEIS).

Why is a light rail station at the Durham Performing Arts Center not included in the NEPA Preferred Alternative?

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 section 1.4 of the combined FEIS/ROD, DEIS Errata 45 clarifies; the NEPA Preferred Alternative would impact the proposed project of grade-separating the existing NCRR corridor at Blackwell and Mangum Streets. However, this proposed project, which is separate from the D-O LRT Project, has not been funded and is unlikely to be implemented according to the NCDOT Rail Division and the DCHC MPO. Triangle Transit will continue coordination with the NCDOT Rail Division and the DCHC MPO during Engineering. As a result of this 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 and removing the grade separations at Blackwell and Mangum Streets (the Great Wall of Durham). 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 sections, 2.3.2.2, section 5.3 (Table 5.3-1), and 9.3.5 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 (DEIS section 3.4.2.2). In addition, section 1.4 of the combined FEIS/ROD, DEIS Errata 48 indicates that the existing pedestrian connection between the Durham Station and Amtrak Station will be maintained. As described in DEIS section 3.1.3.1, 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.
Appendix E: Common Comment Responses

in the morning peak period (see DEIS Table 3.1-4 for additional detail on 2040 daily ridership forecasts by station).

During the development of the DEIS, in response to comments received, Triangle Transit evaluated the feasibility of an additional station 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 and Mangum Streets would also require the negotiation and approval of an additional property operating and maintenance agreement with NCRR beyond what is expected to be required for current alignment and may have an impact on the Old Bull Building which is a National Historic Landmark. 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 costs that are not offset by increases in ridership could result in a reduction in the project’s FTA Cost Effectiveness rating, which is how the project is evaluated for Federal funding. Operational concerns of adding a station between Blackwell and 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.

Are there other station platform options for the Buchanan Boulevard station?

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.

Would a ROMF on either end of the alignment be more efficient for deadheading?

Deadheading (running trains without passengers to storage and maintenance areas) is common practice on all transit systems and would occur regardless of where the ROMF is located. Locating the ROMF near the middle of the line provides maximum operational flexibility.

Light Rail System

What will the fares of the light rail system be?

As noted in section 1.4 of the combined FEIS/ROD, DEIS Errata 34, the proposed D-O LRT Project’s fares will likely be comparable to the bus fares that are in effect at that time. Both parking fees and bus fares will be set by the Triangle Transit Board of Trustees in conjunction with local jurisdictions and/or property owners. As noted in DEIS
Appendix E: Common Comment Responses

section 2.3.2.1., transit patrons would purchase rides prior to boarding from ticket vending machines located at each station.

The existing cost to park at transit park and rides as well as the cost to ride the existing transit services are noted in DEIS chapter 3.1.2.1 Transit Providers.

Will parking be included at light rail stations?

Parking is proposed at several stations as described in DEIS section 3.3. As described in DEIS Table 2.3-2 and further detailed in DEIS 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 (DEIS section 2.3.2.1). Typical images can be found in DEIS section 2.3.2.1 and conceptual designs in DEIS Appendix L. Section 1.4 of the combined FEIS/ROD, DEIS Errata 75 further adds clarification that Triangle Transit will coordinate with municipalities and neighborhoods on the aesthetic treatments for stations. Parking fees, if any, will be set by the Triangle Transit Board of Trustees in conjunction with local jurisdictions and/or property owners.

ROMF

What are the anticipated impacts associated with the Farrington Road ROMF?

As stated in DEIS sections 4.1.4.1 and 8.2.2.1, construction of the ROMF at the Farrington Road site will require land use entitlements including a comprehensive plan amendment and rezoning. It is expected that the City and/or County of Durham will place conditions on the approvals that
Appendix E: Common Comment Responses

Appropriate mitigation measures are included in the design, including strategies to complement the surrounding context such as use of architectural styles and/or landscape design.

During Engineering, Triangle Transit will continue to coordinate with property owners and residents near the site to develop and refine these strategies. The public will also have the opportunity to comment on the design through a public hearing as part of the City and/or County approval process.

As described in DEIS section 4.10.4 and clarified in the combined FEIS/ROD, DEIS Errata 52, no noise and vibration impacts are identified at the NEPA Preferred (Farrington Road) ROMF site or at other Project Element ROMF sites. As such, section 1.4 of the combined FEIS/ROD, DEIS Errata 104 clarifies that a noise wall for the Farrington Road ROMF would not be required due to the anticipated levels of noise at the site. DEIS section 4.4.3.1 states lighting would be aimed towards the ROMF to reduce spillage onto neighboring properties and adjacent roadways. In addition, source-shielding would be used in exterior lighting at the ROMF. For additional detail on the differing impacts and benefits of the NEPA Preferred Alternative for the ROMF, see DEIS section 8.2.2.1 under the “Farrington Road ROMF Alternative” subsection or DEIS section 1.2.2 under the “Farrington ROMF Alternative” subsection.

What mitigation would be provided for lighting impacts from the ROMF?

Where to find in the DEIS or FEIS/ROD:
Section 4.4.3.1 and section 1.4 of the combined FEIS/ROD, DEIS Errata 76, notes that lighting would be aimed towards the ROMF to minimize the impacts of light on surrounding neighbors and wildlife. In addition, source-shielding would be used in exterior lighting at the ROMF. This and all other mitigation requirements are outlined in the Record of Decision (ROD), Table ROD-1.

How would the ROMF impact water wells and stormwater?

Where to find in the DEIS or FEIS/ROD:
DEIS section 4.8.3.1 discusses groundwater quality and states that the 116 privately-owned wells that are within 1,500 feet of the D-O Corridor would not be affected by the operation of the light rail vehicles because the vehicles do not have gasoline or oils that could spill and contaminate the groundwater. Furthermore, as noted in section 1.4 of the combined FEIS/ROD, DEIS Errata 119 explains that because of the mitigation through BMPs, including on-site storage and detention of stormwater, no indirect effect to wells from regulated materials generated at the ROMF are anticipated to occur.

DEIS section 4.8.3.1 mentions the use of concrete ties to avoid the environmental issue of leaching creosote from wood ties. The addition of impervious surfaces, particularly at the park-and-rides lots, ROMF, and stations, would require the implementation of best management practices for the collection and treatment of stormwater runoff.

The proposed D-O LRT Project would include a ROMF where light rail vehicles would be stored and maintained. This facility would have the indirect effect of generating regulated materials associated because of maintenance activities. These materials would include oils, greases, solvents, and other waste materials. Section 1.4 of the combined FEIS/ROD, Table FEIS-2 Errata Sheet, DEIS Errata 21 clarifies DEIS section 2.2.3 to note that the ROMF will not include a LRT body repair and paint shop. These functions would be performed off site as needed. Section 1.4 of the combined FEIS/ROD, DEIS
Appendix E: Common Comment Responses

Errata 95 clarifies that maintenance operations at the ROMF would not contaminate private wells as any chemicals used at the ROMF would be collected and disposed in the manner required by law; and opportunities for green building design and low-impact development design will be reviewed during Engineering.

While the light rail vehicles, as noted in DEIS section 4.8.3.1, do not operate on gasoline or oils that could spill and contaminate the groundwater through the operation of the light rail, as noted above, regulated materials would be generated from maintenance activities at the ROMF. As further noted in section 1.4 of the combined FEIS/ROD, DEIS Errata 94 adds clarification to explain that all fluids (e.g., oils, greases, solvents and other waste materials) used at the ROMF will be captured and stored in tanks, where they will be periodically collected by an outside vendor for off-site recycling or disposal. As noted in DEIS section 4.11.3, all regulated materials will be disposed of in accordance with state and local guidelines and no substantial indirect impacts are anticipated.

Would the Farrington Road ROMF contribute to cumulative stormwater runoff?

**Where to find in the DEIS or FEIS/ROD:**
- DEIS section 4.17.2.3
- FEIS/ROD Table ROD-2
- DEIS Errata 103

DEIS section 4.17.2.3 discusses the anticipated cumulative impacts to water quality from the NEPA Preferred Alternative, including the ROMF. These impacts would be additional impervious surface and modification of stream channels as a direct result of the project. These would combine with other new impervious surface area and modification of stream channels resulting from other urban development in the watersheds. The project will comply with stormwater management permitting requirements and include DWR stormwater management BMPs. All required permits are also outlined in the Record of Decision (ROD), Table ROD-2.

Section 1.4 of the combined FEIS/ROD, DEIS Errata 103 clarifies that the ROMF site plan will manage stormwater runoff in a manner consistent with local and state regulations to avoid and minimize impacts to neighborhoods and community resources in the vicinity such as Leigh Farm Park and the Piedmont Wildlife Center.

Would there be traffic impacts as a result of the Farrington Road ROMF?

**Where to find in the DEIS or FEIS/ROD:**
- DEIS section 3.2.3.2
- DEIS Table 3.2-3

No traffic impacts are anticipated as a result of the implementation of the Farrington Road ROMF. DEIS section 3.2.3.2 states with the NEPA Preferred Alternative, traffic operations at the intersections along Farrington Road would be similar to operations under the No Build Alternative, as listed in DEIS Table 3.2-3.

What mitigation will be provided for the land use/zoning impacts associated with the Farrington Road ROMF?

**Where to find in the DEIS or FEIS/ROD:**
- DEIS section 4.1.4.1 and section 8.2.2.1
- FEIS/ROD Table ROD-1

As stated in DEIS sections 4.1.4.1 and 8.2.2.1, construction of the ROMF at the Farrington Road site will require land use entitlements including a comprehensive plan amendment and rezoning. This and all other mitigation requirements are outlined in the Record of Decision (ROD), Table ROD-1.

It is expected that the City and/or County of Durham will place conditions on the approvals that appropriate mitigation measures are included in the design, including
Appendix E: Common Comment Responses

strategies to complement the surrounding context such as use of architectural styles and/or landscape design.

During Engineering, Triangle Transit will continue to coordinate with property owners and residents near the site to develop and refine these strategies. The public will also have the opportunity to participate in the design as part of the City and/or County approval process.

What mitigation will be provided for visual impacts associated with the ROMF?

Where to find in the DEIS or FEIS/ROD:
- DEIS section 4.4.4.1
- FEIS/ROD Table ROD-1
- DEIS Errata 78

Section 4.4.4.1 states that for visual impacts Triangle Transit will use interdisciplinary design teams to create aesthetics guidelines and stands in the design of project elements and provide landscaping and aesthetic treatments within close proximity to residences.

As clarified in section 1.4 of the combined FEIS/ROD, DEIS Errata 78, visual and aesthetic impacts associated with the Farrington Road ROMF will be mitigated through coordination with the surrounding landowners and the City of Durham during Engineering. Potential treatments include landscaping, architectural treatments, visual barriers, and building height maximums. This and all other mitigation requirements are outlined in the Record of Decision (ROD), Table ROD-1.

What are the impacts to groundwater due to chemicals?

Where to find in the DEIS or FEIS/ROD:
- DEIS section 4.8.3.1 and section 4.11.3
- DEIS Errata 21, 107, and 121

As noted in DEIS section 4.11.3 and section 1.4 of the combined FEIS/ROD, DEIS Errata 121, the proposed D-O LRT Project would include a ROMF where light rail vehicles would be stored and maintained. This facility would have the indirect effect of generating regulated materials because of associated maintenance activities. These materials would include oils, greases, solvents, and other waste materials.

While light rail vehicles, as noted in section 4.8.3.1, do not operate on gasoline or oils that could spill and contaminate the groundwater through the operation of the light rail, as noted above, regulated materials would be generated from maintenance activities at the ROMF. As such, all regulated materials, including fluids (e.g., oils, greases, solvents, and other waste materials), used at the ROMF will be captured and stored in tanks (inside buildings), where they will be periodically collected by an outside vendor for off-site recycling or disposal. All regulated materials will be disposed of in accordance with state and local guidelines and no substantial indirect impacts are anticipated.

Section 1.4 of the combined FEIS/ROD, Errata 107 indicates that if recycled, used oil generated from operations or maintenance will be managed in accordance with the standards for the management of used oil described in 40 CFR Part 279. If the used oil is disposed, then a hazardous waste determination will be made on the used oil.

Section 1.4 of the combined FEIS/ROD, Table FEIS-2 Errata Sheet, DEIS Errata 21, clarifies DEIS section 2.2.3 to note that the ROMF will not include a LRT body repair and paint shop. These functions would be performed off site as needed.
What specific chemicals would be used at the ROMF?

The materials to be used at the ROMF will be determined as the project is developed during the Engineering phase.

As noted in DEIS section 4.11.3, the proposed D-O LRT Project would include a Rail Operations and Maintenance Facility where light rail vehicles would be stored and maintained. This facility would have the indirect effect of generating regulated materials associated because of maintenance activities. These materials would include oils, greases, solvents, and other waste materials. As mentioned in DEIS section 4.8.4.3, all regulated materials generated as part of maintenance would be disposed of in accordance with state and local guidelines and no substantial indirect impacts are anticipated.

Section 1.4 of the combined FEIS/ROD, DEIS Errata 107 indicates that if recycled, used oil generated from operations or maintenance will be managed in accordance with the standards for the management of used oil described in 40 CFR Part 279. If the used oil is disposed, then a hazardous waste determination will be made on the used oil.

Section 1.4 of the combined FEIS/ROD, Table FEIS-2 Errata Sheet, DEIS Errata 21, clarifies DEIS section 2.2.3 to note that the ROMF will not include a LRT body repair and paint shop. These functions would be performed off site as needed.

What would be the emergency response in case of a chemical spill?

As noted in DEIS section 4.12.4, before revenue service begins, the D-O LRT Project Team will develop transit system safety management procedures in close coordination with law enforcement, emergency and medical personnel, and other public agencies.

This safety program will be documented in the System Safety Program Plan (SSPP), a plan to guide system risk management and a core aspect of the State Safety Oversight program. System security management during revenue service will be guided by the Safety and Emergency Preparedness Plan (SEPP), which will be developed prior to the opening of revenue service.

The SEPP is a plan to guide system security risk management and will include the Farrington ROMF. Section 1.4 of the combined FEIS/ROD, DEIS Errata 110 adds language to clarify that the SEPP will include an evacuation plan for the ROMF. The SEPP likely will not include an area-wide evacuation plan, since there will not be on-site storage of fuel or storage of large quantities of hazardous materials.

Would the ROMF include a paint and body shop?

Section 1.4 of the combined FEIS/ROD, Table FEIS-2 Errata Sheet, DEIS Errata 21, clarifies DEIS section 2.2.3 to note that the ROMF will not include a car body repair or paint shop. These functions will be performed off site as needed. Triangle Transit will contract with a private entity to complete any necessary body repair and paint work. The private entity would be responsible for compliance with all federal, state, and local regulations related to the work completed and the products used.
Appendix E: Common Comment Responses

Public Outreach and Environmental Justice

**Where to find in the DEIS or FEIS/ROD:**
DEIS chapter 9
DEIS appendix J
FEIS/ROD section 1.4 and section 2.6

**What public outreach has been conducted for the D-O LRT Project?**
Triangle Transit has a robust public outreach approach for the D-O LRT Project, the details of which are included in DEIS Chapter 9, DEIS Appendix J, and combined FEIS/ROD section 1.4. Additional information regarding Public Outreach is also detailed in the combined FEIS/ROD in section 2.6.

**Where to find in the DEIS or FEIS/ROD:**
DEIS chapter 1
DEIS section 3.1.3.1

**Isn’t the travel time for the transit dependent population between Alston Avenue and UNC Hospital too long?**
While there has been criticism of the time it will take for transit dependent persons to get from Alston Avenue to UNC Hospital, travel time would be much more reliable on the LRT than on buses with connections, traffic, and wait times.

**Will the D-O LRT Project serve low income populations?**

**Where to find in the DEIS or FEIS/ROD:**
DEIS chapter 5
DEIS Table 4.2-4
DEIS Errata 58 and 64

The D-O LRT Project would benefit transit-dependent populations by providing increased mobility and improved access and connectivity. The Light Rail Alternative would serve as a spine to link the residential growth with new employment opportunities in the D-O Corridor. A discussion of potential impacts to minority and low-income populations is provided in detail in DEIS chapter 5.

As listed in Table 4.2-4, the proposed station areas of the NEPA Preferred Alternative would serve approximately 53,000 residents, 25,800 households, and employment of 119,100, in 2040. The NEPA Preferred Alternative would also serve over 13,000 transit dependent persons living within ½-mile of the stations, as well as a LEP population of over 2,600.

In addition, section 1.4 of the combined FEIS/ROD, DEIS Errata 58 indicates that the City and County adopted a resolution in 2014 supporting affordable housing within a half-mile of transit stations. The resolution establishes a goal of at least 15 percent of housing units be affordable to families with income less than sixty percent of the area median income.

Furthermore, section 1.4 of the combined FEIS/ROD, DEIS Errata 64 indicates that Triangle Transit is committed to working with the municipalities to keep existing residents in their homes through tax abatement and affordable housing programs.

**What percentage of forecasted total daily ridership is from zero car households?**

**Where to find in the DEIS or FEIS/ROD:**
DEIS appendix K.2

As stated in DEIS Appendix K.2, section 5, “Zero-vehicle households were estimated to take 40 percent of the total daily ridership, while low-income households with any vehicle will share a quarter of the total daily ridership.” The 40 percent pertains to the percentage of individuals riding the light rail that would come from zero car households.
Appendix E: Common Comment Responses

households; to clarify, the 40 percent does not represent the makeup of all households within the D-O Corridor.

Safety

What safety measures will be implemented for at-grade crossings?

Where to find in the DEIS or FEIS/ROD:

- DEIS section 3.2, section 3.2.3, and section 3.6
- DEIS appendix L
- DEIS Errata 36 and 108

Triangle Transit seeks to reduce or eliminate pedestrian and motorist conflicts with transit vehicles.

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 (roadways), DEIS section 3.6 (bicycle/pedestrian), and the Basis for Engineering Design (appendix L).

As noted in section 3.2.3 of the DEIS and in section 1.4 of the combined FEIS/ROD, DEIS Errata 36, 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, in close coordination with NCDOT (and NCRR and Norfolk Southern, as appropriate). Triangle Transit will also coordinate with surrounding neighborhoods on safety at at-grade crossings.

Section 1.4 of the combined FEIS/ROD, Table FEIS-2 Errata Sheet, DEIS Errata 108 provides the following clarification for section 4.12.3.5 of the DEIS: during the Engineering phase, Triangle Transit will continue to coordinate with NCDOT to evaluate additional engineering safety measures, including vehicle detection technology at certain crossings, where appropriate.

Is light rail safe?

In general, light rail transit is a very safe mode of transportation. Per FTA’s 2009 Rail Safety Statistics Report, crash rates for rail transit in the US ranged from 2.16 accidents per 100 million Passenger Miles to 5.35 accidents per 100 million Passenger Miles for the six-year study period in that report. For comparison, statistics on motor vehicle crash rates are available from NCDOT at the following link: https://connect.ncdot.gov/resources/safety/pages/crash-data.aspx

What will the impacts be to emergency services from the D-O LRT Project?

Where to find in the DEIS or FEIS/ROD:

- DEIS section 4.12.4.6
- FEIS/ROD Table ROD-1

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. Coordination with departments would also be conducted during the Engineering Phase to get input on the development of a SSMP, and to develop plans and materials useful for training of police, security, and emergency service personnel. The training would include methods by which these personnel can assist in informing and educating the public about system safety. This and all other mitigation requirements are outlined in the Record of Decision (ROD), Table ROD-1.
Appendix E: Common Comment Responses

What would be the emergency response in case of an incident?

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.

Traffic

What will impacts be to the existing roadways as a result of the D-O LRT Project?

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).

Why were Littlejohn Road and Downing Creek Parkway absent from the traffic analysis and impact assessment?

Littlejohn Road and Downing Creek Parkway were not included in the original microsimulation traffic analysis (as detailed in DEIS Table 3.2-2) as they are three-legged unsignalized intersections with turning volumes below 115 vehicles per hour for all movements from or to these roadways during the weekday AM and PM peak hours. The majority of volumes turning onto or exiting these roadways are below 60 vehicles per hour. The highest turning volumes at these locations are right turns that are stop controlled. These intersections do not meet the minimum volume conditions for a signal warrant, which would be required to install signals. The intersections will operate with the gates up or open Littlejohn Road and Downing Creek for 90% of the peak hours and this percentage will increase to 95% during off-peak hours when there are fewer trains.
Appendix E: Common Comment Responses

Why will the three at-grade rail crossings closest to Downing Creek not be timed with lights despite approximately 140 crossings per day?

DEIS Errata 36

NC 54 will continue to be coordinated in the east/west direction. Under a separate planned NCDOT project, the nearest signal that would impact westbound NC 54 is located over 3,800 feet to the west of Littlejohn Road. The nearest signal that would impact eastbound NC 54 is located approximately 4,500 feet to the east at Falconbridge Road and should not impact vehicles exiting from Downing Creek Parkway or Littlejohn Road. The northbound Littlejohn Road left turn to westbound NC 54 currently has very limited usage with less than 10 vehicles per hour performing this maneuver in both the AM and PM peak hours. Downing Creek Parkway is configured today as an eastbound NC 54 right turn to southbound Downing Creek Parkway and a northbound Downing Creek Parkway right turn to eastbound NC 54. This configuration will be maintained in the LRT build condition. The stop/yield controlled right turns do not operate on a fixed pattern and therefore the 12 or fewer train crossings in a peak hour should not significantly affect these low volume turning movements.

The project aims to improve transportation for the entire region by offering fixed light rail transit, which will result in improved travel time reliability compared to bus transit services. The project is also expected to shift thousands of daily users from private vehicles to the LRT. The project team has performed vehicle turning movement counts at the intersections of Littlejohn Road/NC 54 and Downing Creek Parkway/NC 54 to confirm the magnitude of volumes using these roadways. During the next phase of design, a more detailed study may be performed if required and mitigation measures such as an eastbound acceleration lane for the northbound Downing Creek Parkway right turn to eastbound NC 54 could be added.

How will at-grade roadway crossings by the D-O LRT Project affect traffic?

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/block 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.

Will the D-O LRT Project affect traffic and travel time?

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.
Appendix E: Common Comment Responses

How will the traffic signals be prioritized for trains and cars?

In accordance with federal regulations governing control of public streets and the interface of light rail transit systems with those public streets, for light rail crossings in close proximity to traffic signals on NC 54, light rail crossing gate controls will be interconnected with the traffic signal controls. This means that the traffic signal will be synchronized with the light rail train control such that when a light rail train is approaching, the traffic signal will change if necessary to clear vehicles from the crossing. Traffic signal phases that do not conflict with the light rail tracks will be able to run while the train is passing. For example, traffic traveling on NC 54 would have a green light while the light rail train crosses Friday Center Drive and East Barbee Chapel Road under the C2A Alternative.

Natural Resources

What are the impacts to water resources?

Water resources are discussed in DEIS section 4.8. DEIS section 4.8.3.1 summarizes the potential impacts the NEPA Preferred Alternative (which includes the Farrington ROMF). Indirect Effects to Water Resources are described in DEIS section 4.17. As stated in DEIS section 4.17.1.3 under the Water Resources sub-heading, existing federal and state regulations (as described previously) would protect water resources from future indirect or development related impacts. These regulations include Section 404, with its avoidance, minimization, and mitigation hierarchy, FEMA regulations, Section 401 and the Jordan Lake buffer rules, as well as state approvals of sediment and erosion control plans. All required permits are also outlined in the Record of Decision (ROD), Table ROD-2.

Section 1.4 of the combined FEIS/ROD, DEIS Errata 92 clarifies that as the design progresses, construction related impacts, including temporary impacts or otherwise, will be identified and will be included as part of the 401 Water Quality Certification application.

Section 1.4 of the combine FEIS/ROD, DEIS Errata 102 provides language that if hydraulic studies during Engineering determine that the NEPA Preferred Alternative would cause an increase in flood levels during the base flood discharge, then a No-Rise Certification would be obtained from the NC Department of Public Safety Division of Emergency Management. If studies indicate that there would be an increase in flood levels, then a Conditional Letter of Map Revision would be requested.

Section 1.4 of the combined FEIS/ROD, DEIS Errata 97 further indicates that a floodplain development permit will be obtained from the local jurisdiction for all construction, grading, development, or the storage of equipment or materials within the Special Flood Hazard Area (SFHA).

What are the indirect and cumulative effects of the D-O LRT Project?

Section 4.17 discusses the indirect effects of the project.

Funding
Appendix E: Common Comment Responses

What is the impact of changes in state funding on the D-O LRT Project?

Where to find in the DEIS or FEIS/ROD:
DEIS section 7.1

A provision was added to the final version of the 2015 state budget that limits the use of state funds for light rail projects to $500,000, in direct contravention to the Strategic Transportation Investments legislation. Triangle Transit remains confident that the funding cap can be addressed in the future and will continue to seek state funding for the D-O LRT Project. Potential impacts of the funding cap are still being assessed.

As noted in DEIS section 7.1 the construction of the D-O LRT Project will be funded through a variety of local, state, and federal sources. The local funding will be paid from a portion of the half-cent sales tax dedicated for transit in Durham and Orange counties, $10 annual vehicle registration fee dedicated for transit, and 5% tax surcharge on car rentals dedicated for transit. Additional information can be found in the Bus and Rail Investment Plan; [http://ourtransitfuture.com/durham-county-bus-and-rail-investment-plan/](http://ourtransitfuture.com/durham-county-bus-and-rail-investment-plan/). Other local funding sources such as value capture strategies may also be pursued. State funding is allocated to the project through the State Transportation Improvement Program. Federal funding is anticipated through the Federal Transit Administration “New Starts” Capital Investment Grant program.

What is the funding share between local, state, and federal sources for the D-O LRT Project?

Where to find in the DEIS or FEIS/ROD:
DEIS section 7.1

As stated in DEIS section 7.1, when the proposed D-O LRT Project is fully advanced through the New Starts process, it is anticipated that the New Starts program will provide approximately 50 percent of the D-O LRT Project’s capital cost. The non-New Starts costs will be covered by a combination of funding sources, including sales tax revenue generated in Durham and Orange counties, funding from North Carolina Department of Transportation (NCDOT), and other local fees and taxes. Triangle Transit will also pursue Transportation Infrastructure Finance and Innovation Act (TIFIA) credit assistance and possible alternative financing and value capture options.

The non-federal share of the D-O LRT Project is currently being analyzed. The next stage of the New Starts process is Engineering. During review for entry into Engineering only a portion of the non-federal share funds are required to be committed. Triangle Transit will continue to work with the local jurisdictions and state on the D-O LRT Project.