



**Overview Presentation**  
Draft Environmental Impact Statement for  
the Durham-Orange Light Rail Transit Project  
August 2015



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## National Environmental Policy Act



- Environmental review required for federally funded projects
- Project Sponsor: GoTriangle
- Lead Agency: Federal Transit Administration
- Cooperating Agencies
  - FHWA
  - USACE
  - EPA



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# What is the Draft Environmental Impact Statement (DEIS)?

Durham-Orange  
Light Rail Transit Project

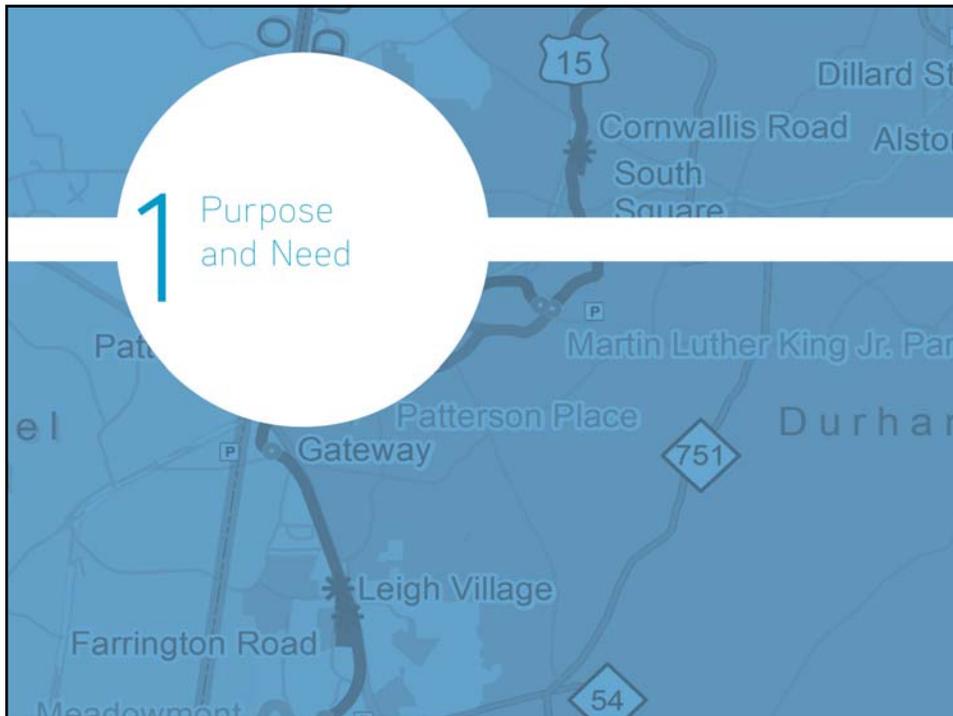
## Draft Environmental Impact Statement

Chapters 1 – 9



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# 1 Purpose and Need

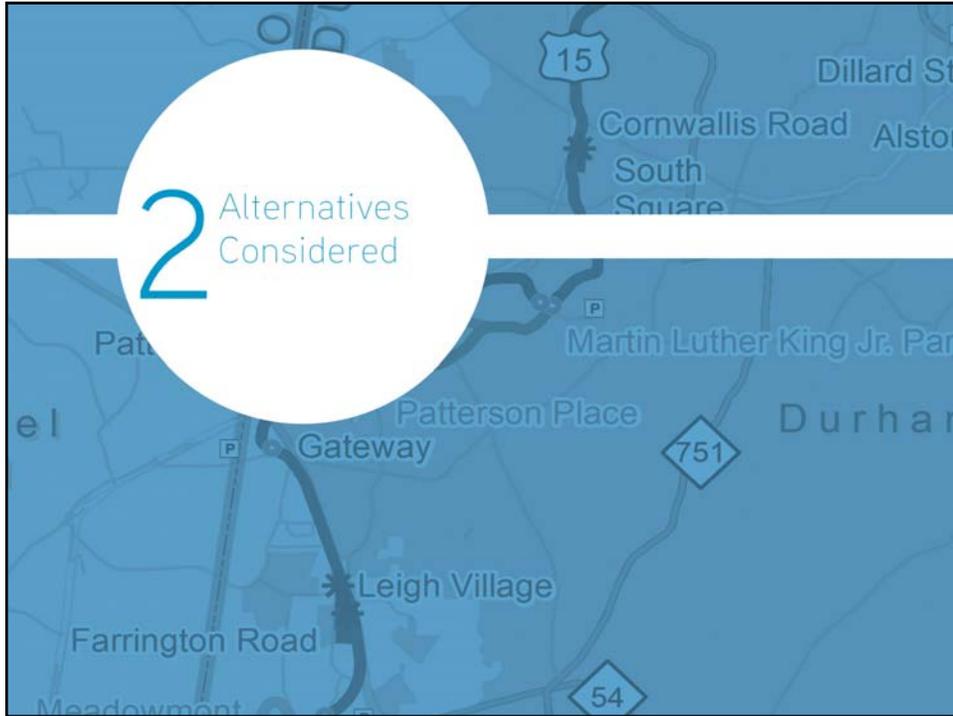




### Project Purpose and Need

- The purpose and need of the project is to provide a high-capacity transit service within the D-O Corridor that
  - Improves mobility
  - Increases connectivity through expanding transit options
  - Supports future development plans

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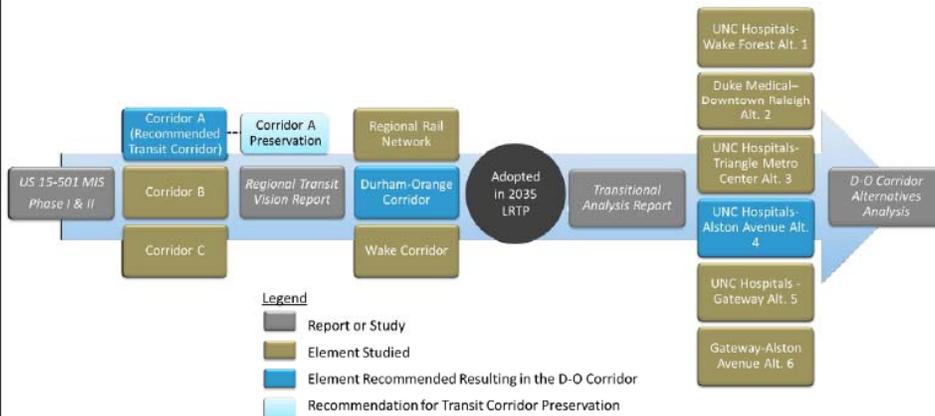
# Why choose the D-O Corridor?



*Conceptual only, subject to change without notice*

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## Studies that Identified the D-O Corridor



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# Why Light Rail?

*Conceptual only, subject to change without notice*

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## Light Rail Transit

			
<b>Conventional Bus</b>	<b>Bus Rapid Transit</b>	<b>Streetcar</b>	<b>Commuter Rail</b>
Does not meet the purpose and need	Lower ridership and lower potential to shape new development	Typically less than 3 miles in length and serves trips that are less than 1 mile	Typically between 20 and 80 miles in length and serves trips that are 15 miles or more

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# Light Rail Transit

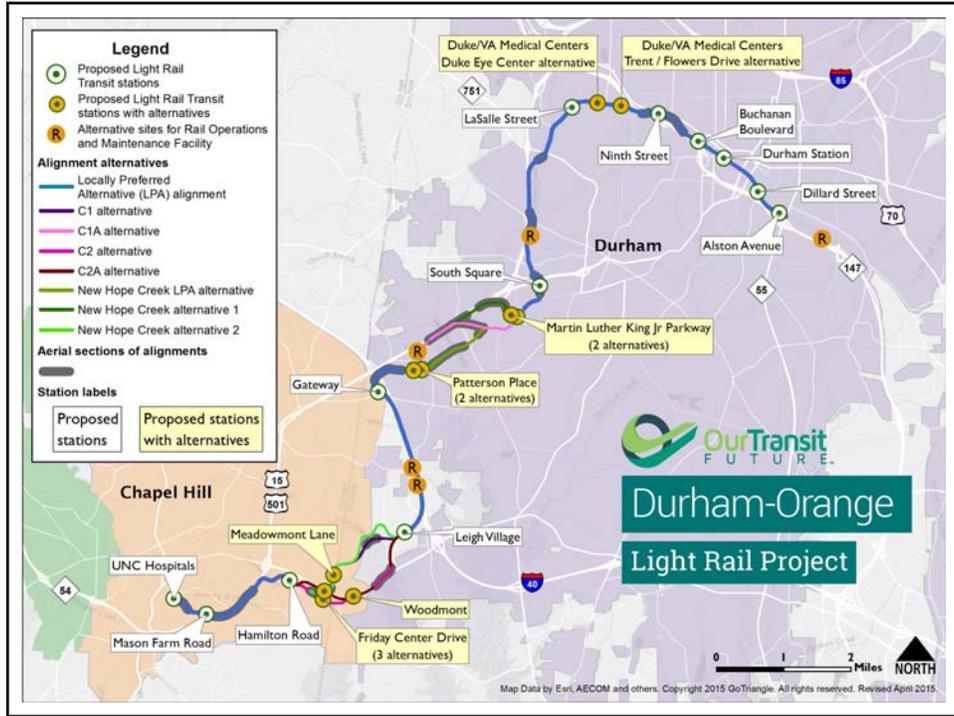


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# What is the D-O LRT Project?



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## System Features



- **Guideway**

- Electrically powered system that runs on exclusive tracks (one set of tracks for each travel direction)
- Primarily runs at street-level with elevated sections at key locations to avoid or minimize impacts to the surroundings



Conceptual only, subject to change without notice.

## System Features



- **Service**

- Approximately 18 hours/day; 7 days/week
  - ✦ 10-min peak frequency
  - ✦ 20-min off-peak and weekends
- End-to-end travel in approx. 42 min



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## What alternatives are studied in the DEIS?

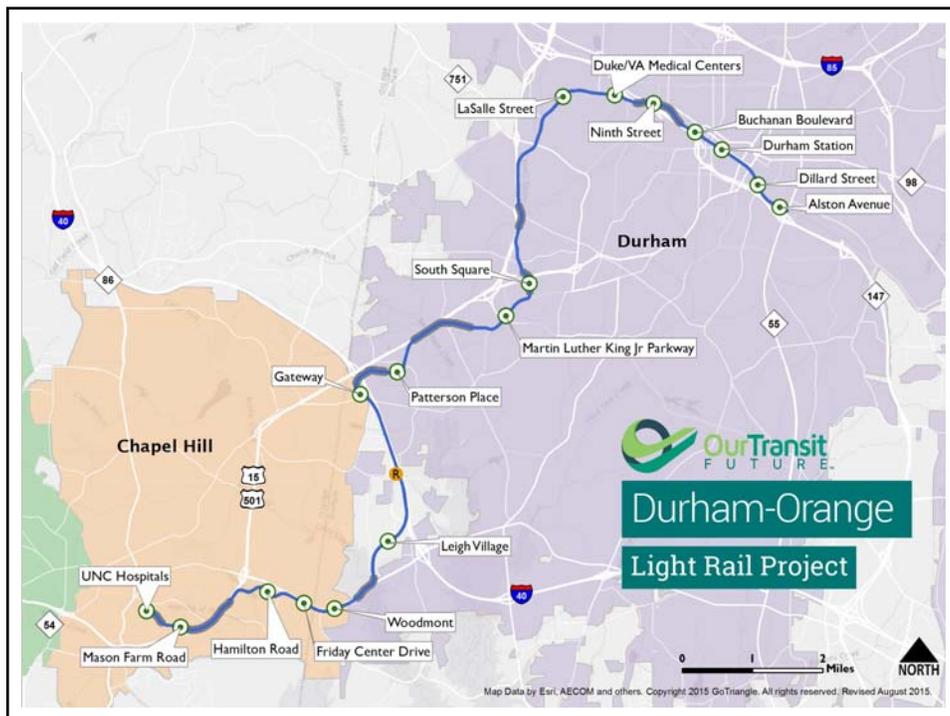


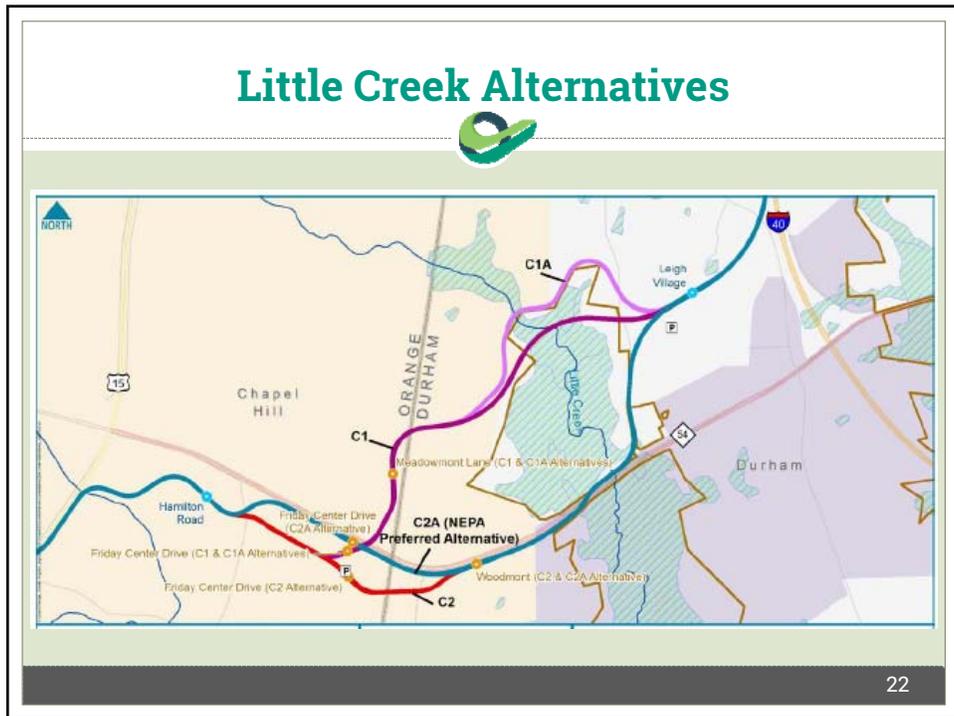
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## No Build Alternative

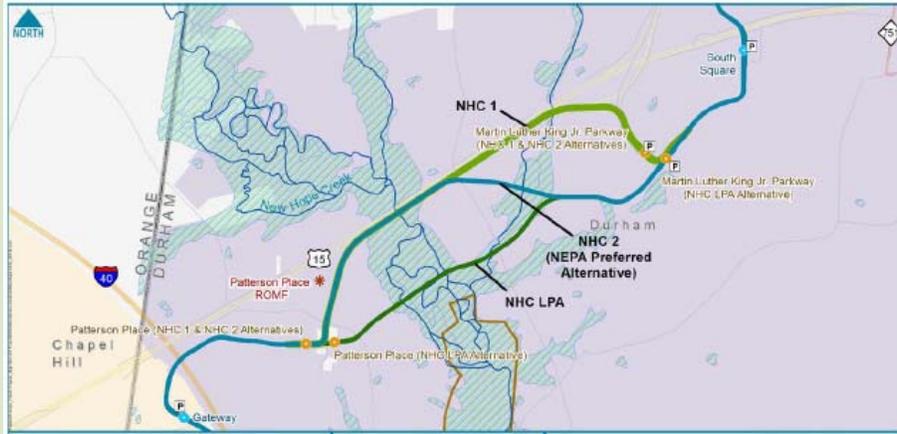


- Federal regulations require that a No Build Alternative be evaluated in an Environmental Impact Statement (40 C.F.R § 1502.14 [2014])
- Includes existing and planned transportation programs and projects in the 2040 Metropolitan Transportation Plan (2040 MTP)
- Excludes only the proposed rail transit improvements and related bus transit modifications in the 2040 MTP

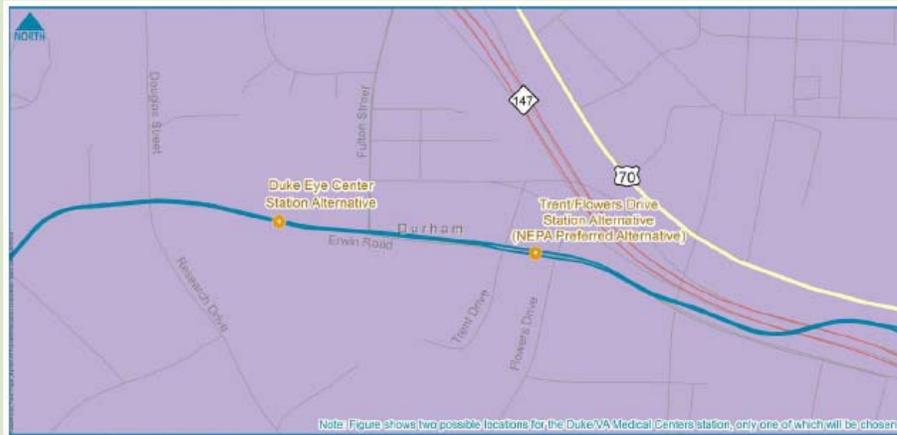




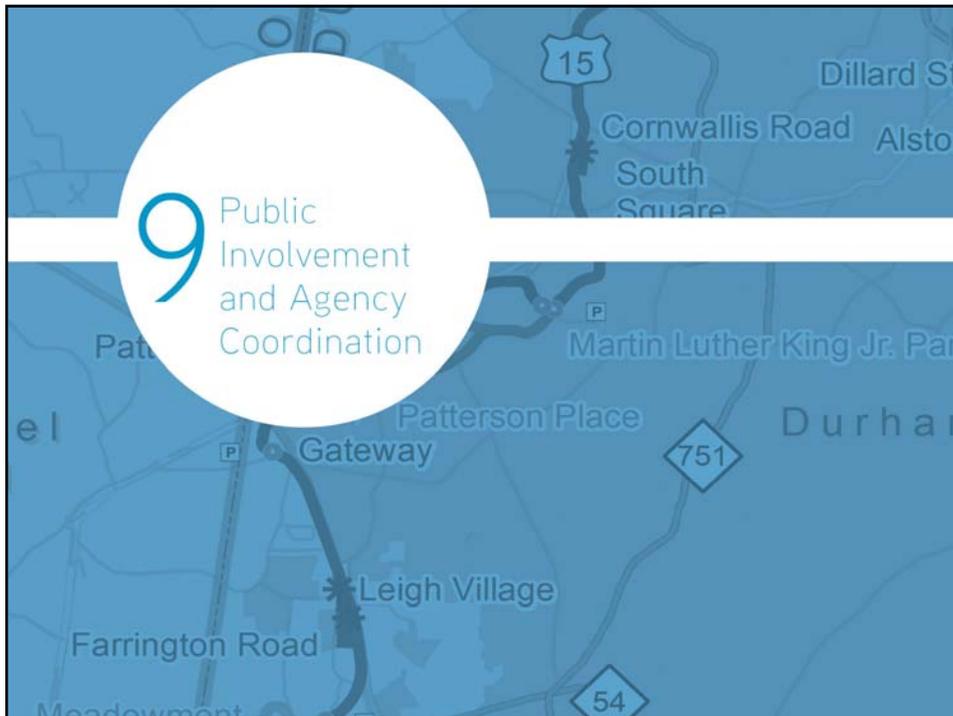
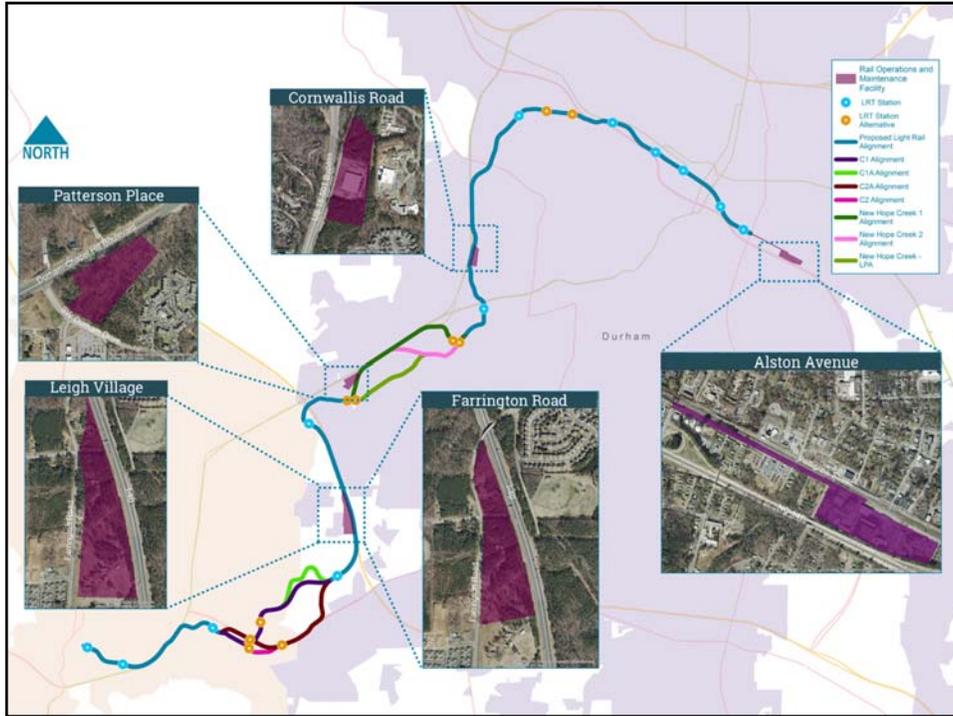
## New Hope Creek Alternatives



## Duke / VA Medical Centers Station Alts.



Note: Figure shows two possible locations for the Duke/VA Medical Centers station; only one of which will be chosen.



## How has the public been involved?



- Since Scoping (2012) and the start of the NEPA Environmental Phase, GoTriangle has:
  - Conducted over 300 meetings reaching 5,000 people
  - Received almost 1,000 comments
  - Experienced over 50,000 website visits



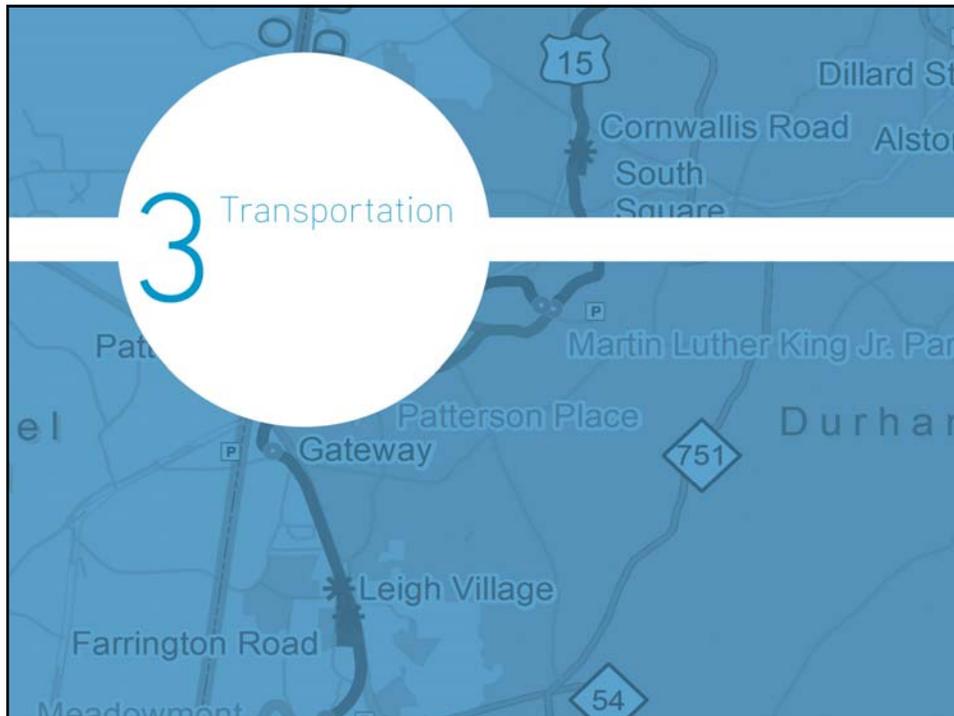
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## Data Collection and Analysis



- Transportation
- Land Use & Zoning
- Socio-Economic & Demographic Conditions
- Neighborhood & Community Resources
- Public Parks & Recreational Areas
- Air Quality
- Visual & Aesthetics
- Cultural, Historic, & Archeological Resources
- Natural Resources
- Water Resources
- Noise and Vibration
- Hazardous, Contaminated & Regulated Materials
- Energy
- Acquisitions, Relocations, & Displacements
- Construction Impacts
- Equity and Environmental Justice
- Operations & Maintenance Costs
- Capital Costs



## Transportation Resources Areas



- Public Transportation
- Roadways
- Parking
- Freight and Passenger Railroads
- Airports
- Pedestrian and Bicycle Facilities

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## Public Transportation



	No Build Alternative	NEPA Preferred Alternative
<b>Weekday light rail boardings on D-O LRT</b> 2040 forecast	-	23,020
<b>Weekday bus boardings in D-O Corridor</b> 2040 forecast	20,240	16,990
<b>Total weekday transit trips in D-O Corridor</b> 2040 forecast	20,240	40,010

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## Roadways



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## Parking



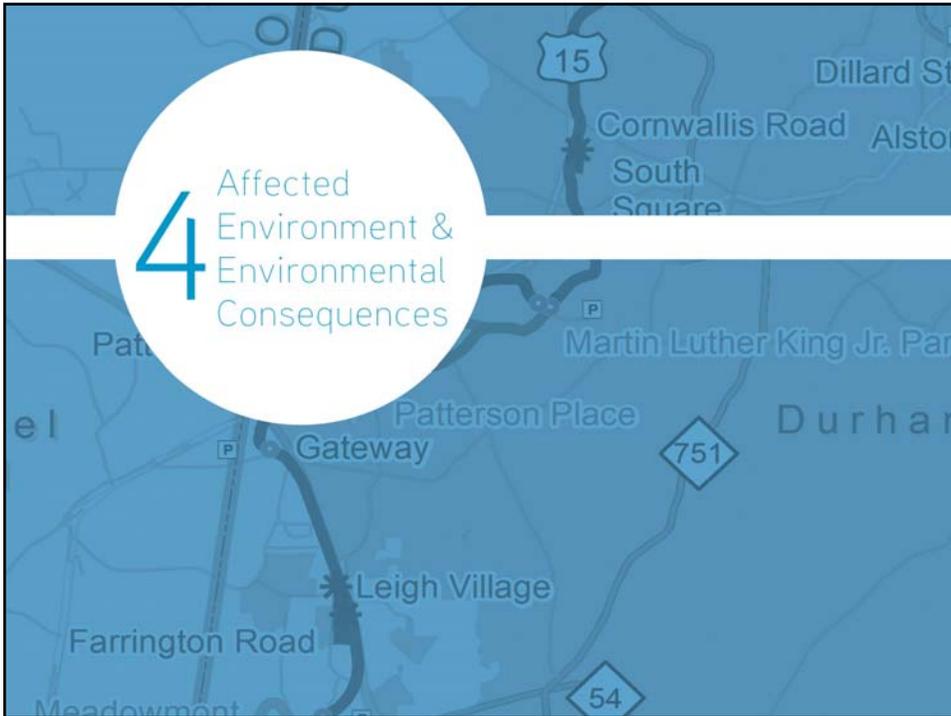
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## Bicycle and Pedestrian Facilities



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### 4 Affected Environment & Environmental Consequences



## Land Use and Zoning



## Neighborhoods and Community Resources



## Visual and Aesthetic Conditions



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## Cultural, Historic, and Archaeological Resources



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## Parklands and Recreational Areas



NEPA Preferred Alternative	Project Element Alternatives
<ul style="list-style-type: none"> <li>• <b>Parks</b> – 5 locations, 13.3 acres of parklands</li> <li>• <b>Trails and Open Space</b>– elevated crossings of trails and open space are proposed</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Little Creek Alternatives</b> – more impacts to parklands</li> <li>• <b>The Little Creek Alternatives and New Hope Creek LPA</b> – additional elevated crossings of trails</li> </ul>
Mitigation	
<p>Site-specific mitigation measures and design commitments were developed and/or will be developed or refined in consultation with the resource owners</p>	

## Natural Resources



NEPA Preferred Alternative	Project Element Alternatives
<ul style="list-style-type: none"> <li>• <b>Farmland</b> – No impacts</li> <li>• <b>Habitat</b> – 316 acres affected</li> <li>• <b>Wildlife</b> – No significant impacts anticipated</li> <li>• <b>Federal and state-listed threatened or endangered species</b> – No significant impacts anticipated</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Little Creek Alternatives</b> – Would affect more acres of habitat</li> <li>• <b>New Hope Creek Creek Alts</b> – Would affect more acres of habitat</li> </ul>

## Water Resources

NEPA Preferred Alternative	Project Element Alternative
<b>Streams</b> – 3,400 linear feet (0.4 acres)	• No substantial variation
<b>Wetlands</b> – 0.6 acres	• Fewer impacts with C1, C1A, C2, and NHC 1
<b>Riparian Buffer Zone 1</b> – 5 acres	• No substantial variation
<b>Riparian Buffer Zone 2</b> – 4.1 acres	• Fewer impacts with C1, C2 and NHC 1 • More impacts with C1A and NHC LPA
<b>Open Water/Ponds</b> – 0.005 acres	• More impacts with C1, C1A and C2
<b>100-Year Floodplain</b> – 6.4 acres	• Fewer impacts with C1A • More impacts with C1, NHC LPA, and NHC 1
<b>500-Year Floodplain</b> – 0.4 acres	• More impacts with NHC LPA and NHC 1
<b>Floodway</b> – 0.9 acres	• Fewer impacts with NHC 1 • More impacts with NHC LPA

## Noise & Vibration Impacts



NEPA Preferred Alternative	Project Element Alternatives
<ul style="list-style-type: none"> <li>• <b>Severe Noise Impact</b> – 1 site</li> <li>• <b>Moderate Noise Impact</b> – 4 sites</li> <li>• <b>Vibration Impact</b> – 8 sites</li> <li>• <b>Ground-Borne Noise</b> – 13 sites</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Little Creek Alternatives</b> – would have more noise, vibration, and ground-borne noise impacts</li> <li>• <b>NHC LPA</b> – would have more noise impacts and fewer ground-borne noise impacts</li> <li>• <b>NHC 1</b> – would have fewer ground-borne noise impacts</li> </ul>

### Mitigation

- More detailed vibration analysis will be conducted during Engineering
- Noise mitigation measures include property acquisition and elevated track barriers
- Vibration mitigation measures consist of special track support systems

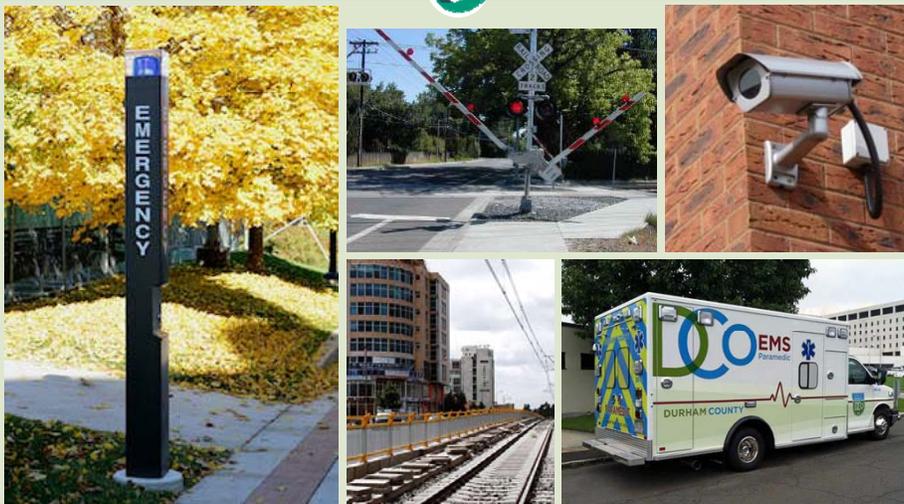
## Hazardous, Contaminated and Regulated Materials



The presence of potentially contaminated properties is considered in the development of transit projects for the following reasons:

- Potential liabilities associated with ownership of such properties
- Migration of contaminated materials off the properties
- Potential cleanup costs
- Potential impact on public health
- Safety concerns associated with construction personnel encountering unsuspected wastes or contaminated soil or groundwater

## Safety and Security



## Acquisitions, Relocations, and Displacements



NEPA Preferred Alternative	Project Element Alternative
92 potential full acquisitions, 145 potential partial acquisitions, 65 displacements	No substantial variation
Mitigation	
Acquisition and relocation process would be conducted following the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 and implementing regulations.	

## Utility Impacts

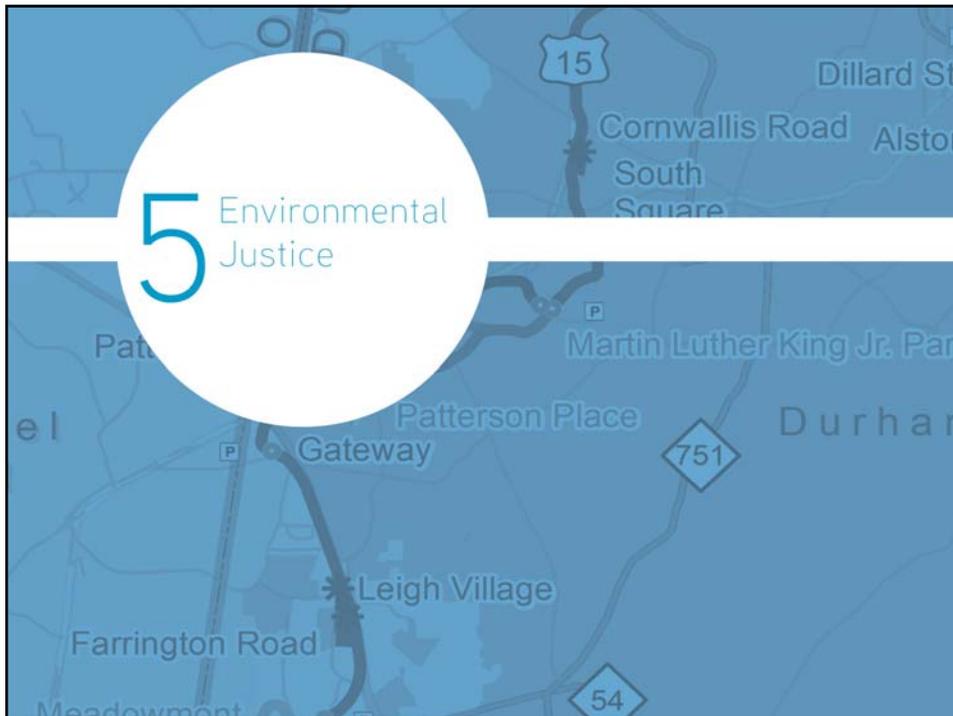


## Construction

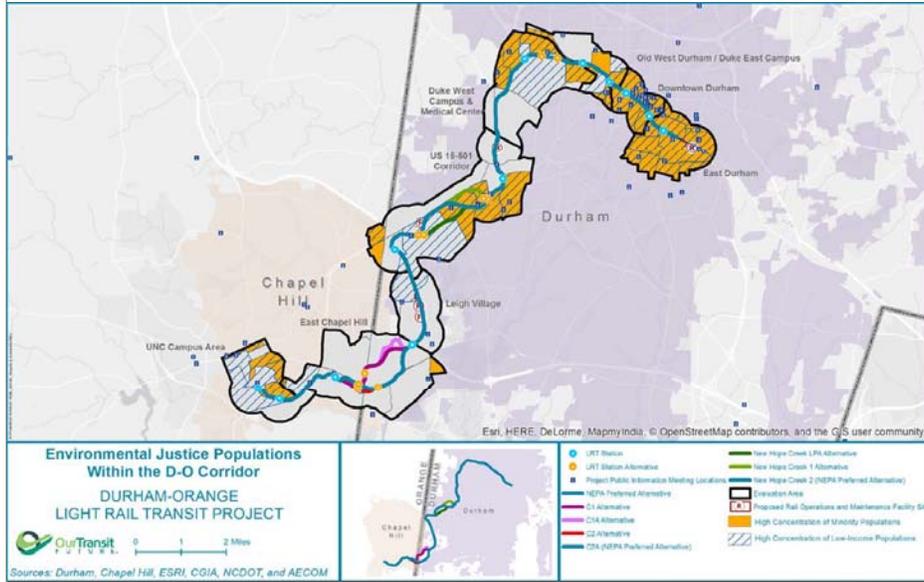


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## 5 Environmental Justice

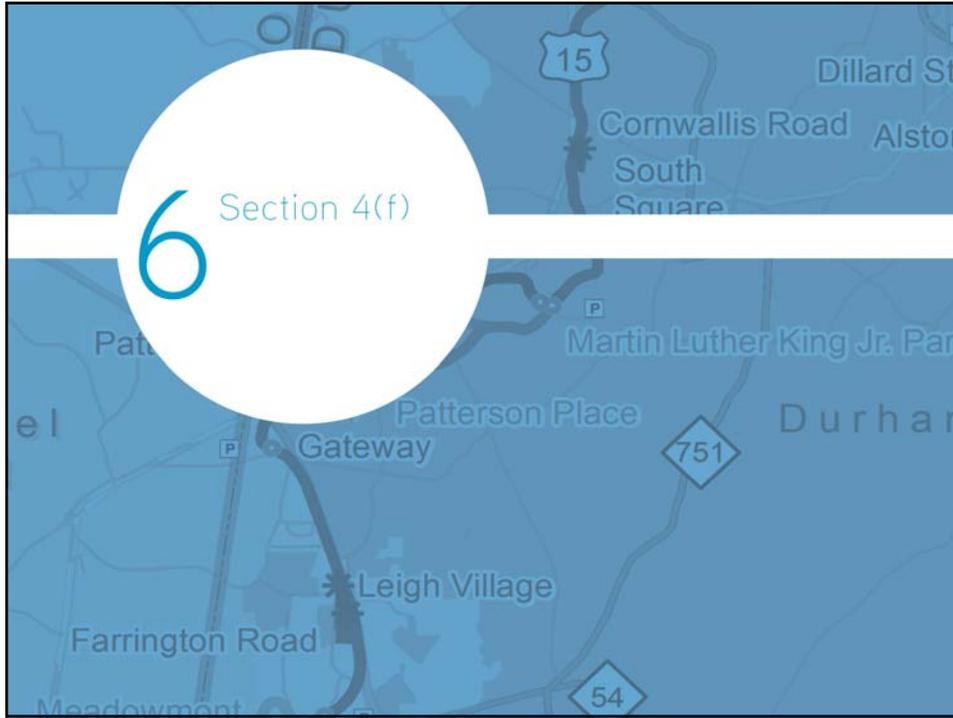


## Environmental Justice



## Environmental Justice





## Section 4(f)



- **Section 4(f) Public Parklands**

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





## Project Costs



### Funding Sources for Construction = \$1.47-\$1.62 Billion in 2015

<b>25% Local</b> Half-Cent Sales Taxes in Durham and Orange Counties	<b>25% State</b> NCDOT Strategic Transportation Investments	<b>50% Federal</b> New Starts Program
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### Funding Sources for Operations and Maintenance = \$17.9 Million in 2015

- Local
- Half-Cent Sales Tax
  - Fares
  - Other funding mechanisms currently in place for transit service in the Triangle



### No Build Alternative

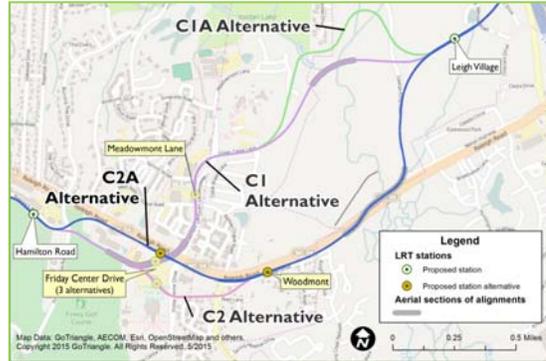


# Recommendation for NEPA Preferred Alternative



LITTLE CREEK CROSSING

C2A Alternative



# Recommendation for NEPA Preferred Alternative



NEW HOPE CREEK CROSSING

NHC 2 Alternative



# Recommendation for NEPA Preferred Alternative

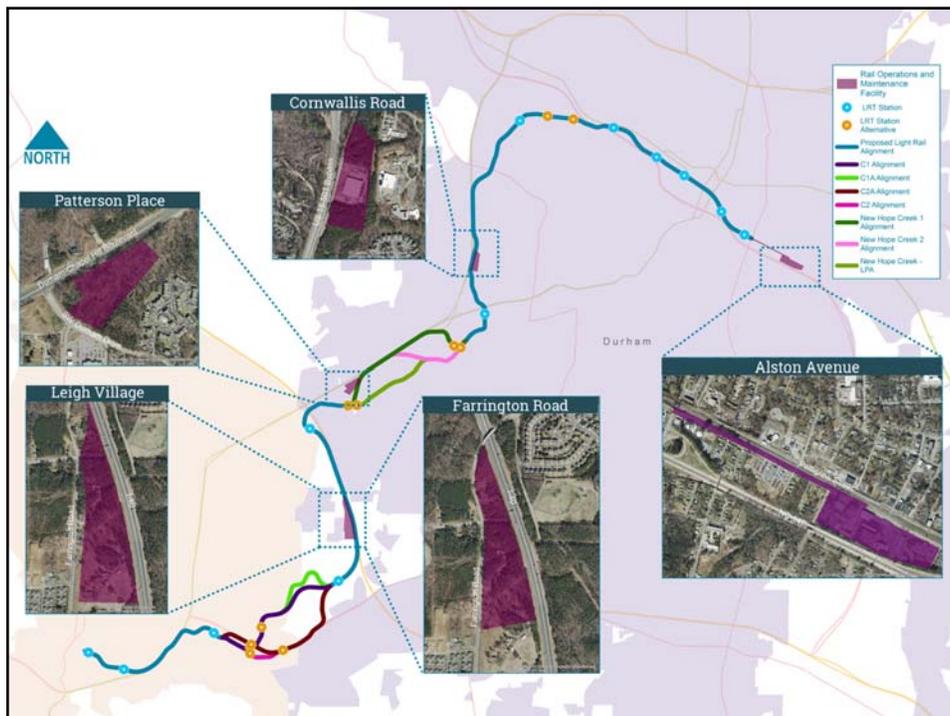


DUKE/VA  
MEDICAL  
CENTERS  
STATION

Trent/  
Flowers  
Drive  
Alternative



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## Leigh Village



- One eligible historic resource



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## Patterson Place



- Only works with NHC LPA



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## Alston Avenue



- Not supported by NCRR, NCDOT Rail Division, Brenntag, Eastern Carolina Organics, PAC 1
- Acquisitions/Displacements
  - 6 commercial/industrial businesses
  - Likely to displace existing jobs from low-income minority neighborhood
- 2 high + 8 medium risk HAZMAT sites



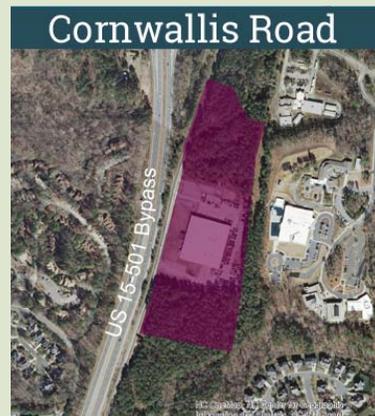
Cost: \$96 - \$145 million

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## Cornwallis Road



- Precludes planned Jewish Community Center expansion
- Ongoing operations and maintenance issues w/ tight layout and aerial switches
- Coordination with NCDOT/City on relocation of Western Bypass
- Acquisitions/Displacements
  - 1 business
- 1 medium risk HAZMAT site
- Mitigation of water resources impacts may be required



Cost: \$74 - \$111 million

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## Farrington Road ROMF



- Would require amendment to Durham's Future Land Use Map and Rezoning
- Acquisitions/Displacements
  - 6 single-family residences
  - 1 cell tower – *coordination with utility may avoid displacement*
- Mitigation of stream impacts required
- Coordination with NCDOT on I-40 Control of Access



\$62 - \$93 million

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## Recommendation NEPA Preferred Alternative



ROMF  
SITE  
LOCATION

FARRINGTON  
ROAD



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## Environmental Process Next Steps



- DEIS Public Information Sessions
  - September 15 and 19, 2015
- DEIS Public Hearings
  - September 29, 2015 and October 1, 2015
- DEIS Public Comment Period
  - Ends October 13, 2015
- Combined FEIS/Record of Decision
  - February 2016

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## How to Comment



- **Verbally:** Speak at one of the two public hearings
- **Comment card:** Complete at public workshops or public hearings
- **Online:** [www.ourtransitfuture.com](http://www.ourtransitfuture.com)
- **By email:** [info@ourtransitfuture.com](mailto:info@ourtransitfuture.com)
- **By postal mail:** PO Box 530, Morrisville, NC 27560

***Comment period ends  
October 13, 2015***

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## How can I comment at the hearing?



- Speakers must fill out a speaker card at the public hearing
- Each speaker will have only 2 minutes to comment
- Written comments will also be accepted at the public hearings

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**Thanks for your interest  
in the D-O LRT Project**



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