

DCHC-MPO Policy Board

May 13, 2015

*Durham-Orange
Light Rail Transit
Project*



Today's Presentation



- General Project Update
- Updated Cost Information
- Quick Review: Five Key Decisions & Differentiators
- Recent Changes: Downtown Durham Alignment
 - Line now elevated over Swift Avenue
 - Alston Station moved 1290 feet to the west
- Brief Traffic Analysis Summary

Five Key Decisions



- Duke/VA Station Location Choice
- Little Creek Crossing
- New Hope Creek Crossing
- Rail Operations and Maintenance Facility (ROMF) Site
- Build or No Build

The map illustrates the proposed Durham-Orange Light Rail Project. The route is shown as a blue line with green circles representing stations. Key locations and streets labeled include Chapel Hill, Durham, South Square, Gateway, Leigh Village, Woodmont, Friday Center Drive (3 alternatives), Hamilton Road, Mason Farm Road, UNC Hospitals, Meadowmont Lane, Patterson Place (2 alternatives), Martin Luther King Jr Parkway (2 alternatives), Alston Avenue, Dillard Street, Durham Station, and Ninth Street. The map also shows major highways (I-40, I-77, I-85, I-95, I-177, I-485, I-495, I-585, I-685, I-77, I-85, I-95, I-177, I-485, I-495, I-585, I-685) and local roads (86, 54, 55, 147, 70). The map includes a scale bar (0 to 2 miles) and a north arrow. The logo for 'OurTransit FUTURE.' is also present.

Duke/VA Medical Centers
Trent / Flowers Drive alternative

LaSalle Street

Ninth Street

Buchanan
Boulevard

Durham Station

Dillard Street



Alston Avenue

147

55

South Square

Martin Luther King Jr Parkway
(2 alternatives)

Patterson Place
(2 alternatives)

Gateway

Chapel Hill

Meadowmont Lane

Leigh Village

UNC Hospitals

54

Mason Farm Road

Hamilton Road

Woodmont

Friday Center Drive
(3 alternatives)



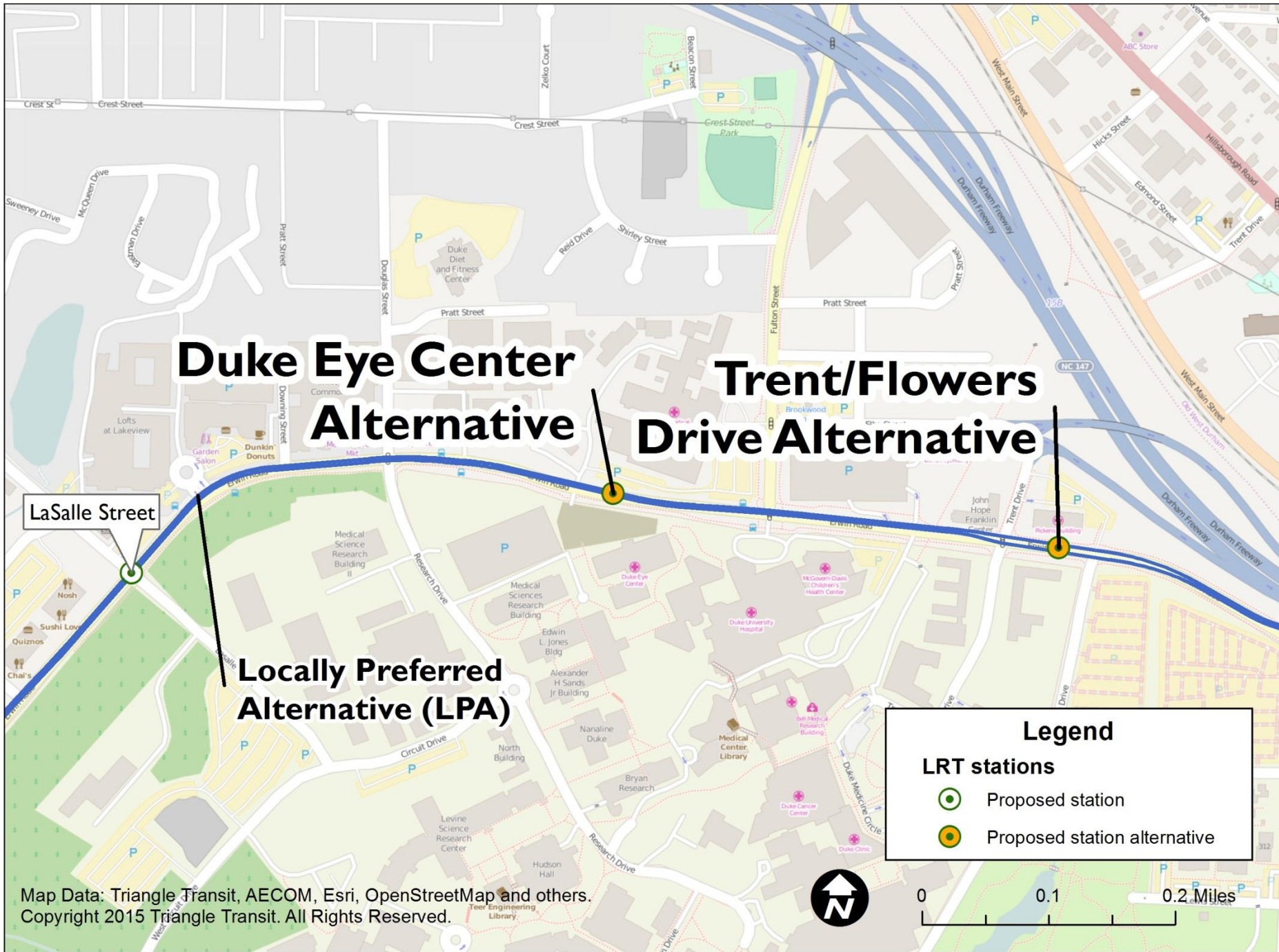
Durham-Orange

Light Rail Project

0 1 2 Miles



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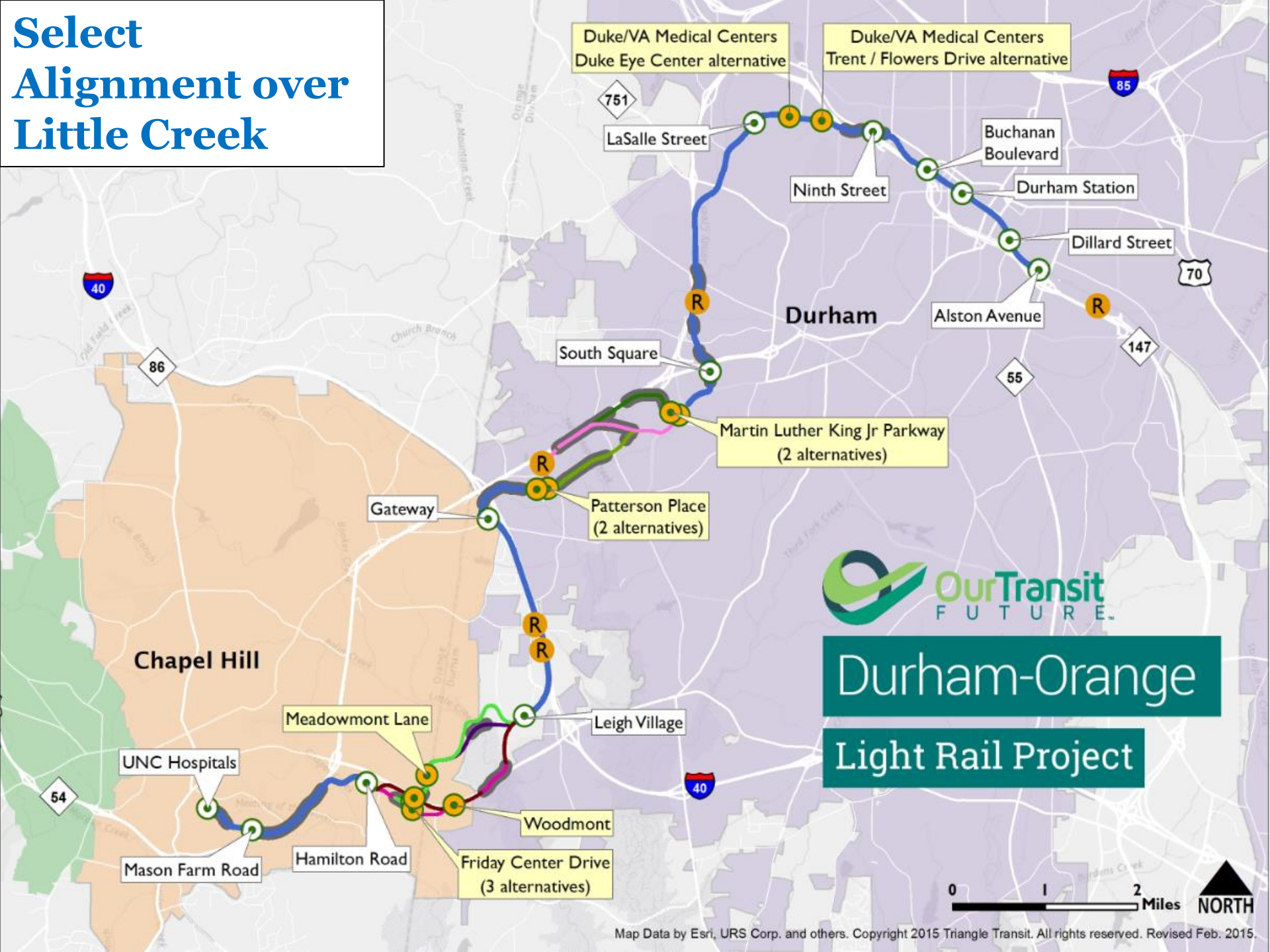
Duke/VA Medical Centers: Differentiators

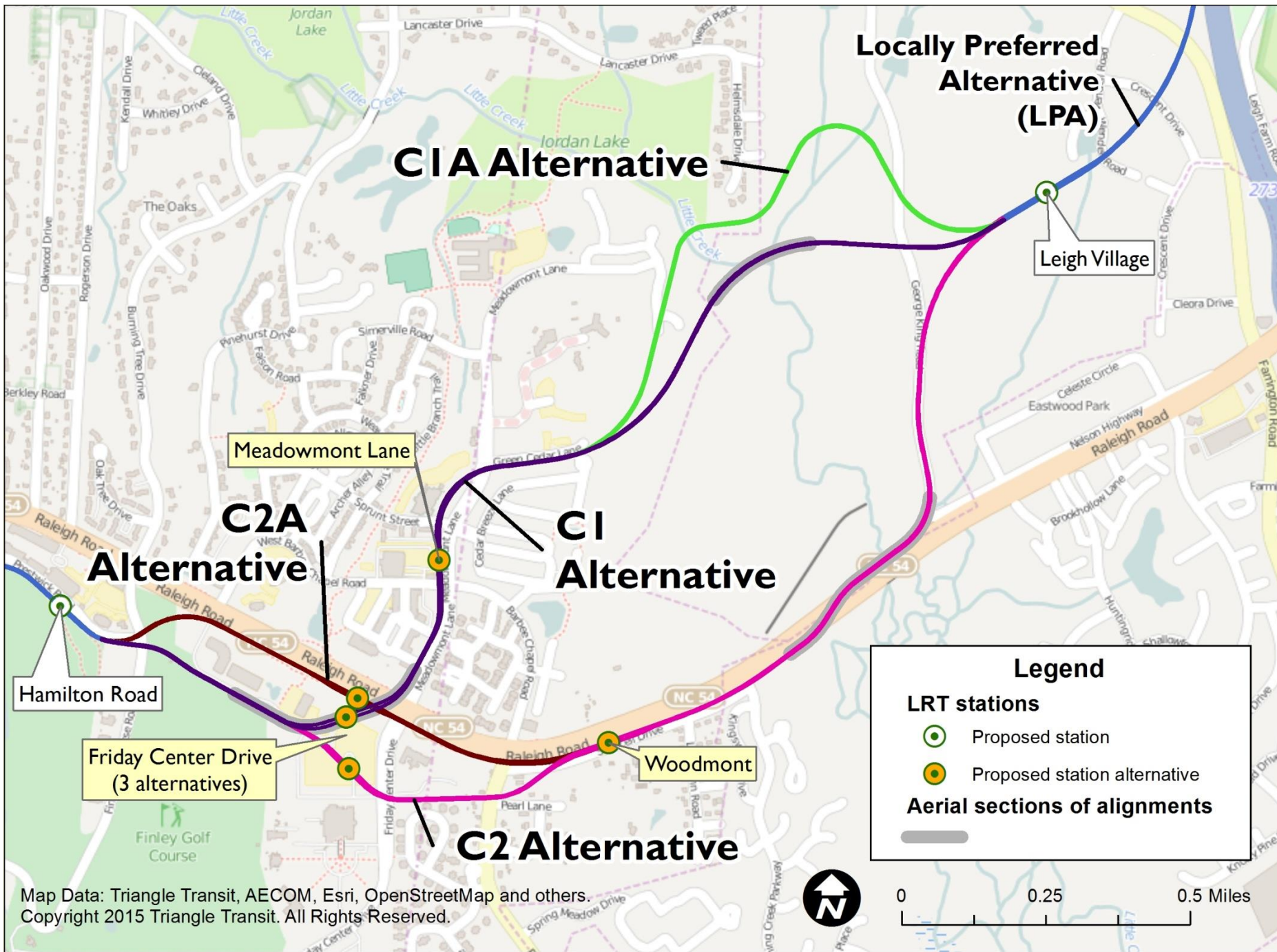


- Duke and VA have expressed preference for Trent/Flowers station location due to:
 - Less traffic and pedestrian congestion compared to Eye Care Center Drive area
 - Future Duke University plans for West Campus
- Eye Care Center and Trent/Flowers station locations largely perform exactly the same across virtually all metrics
- Differences in ridership and population served in 2040 are very minor



Select Alignment over Little Creek



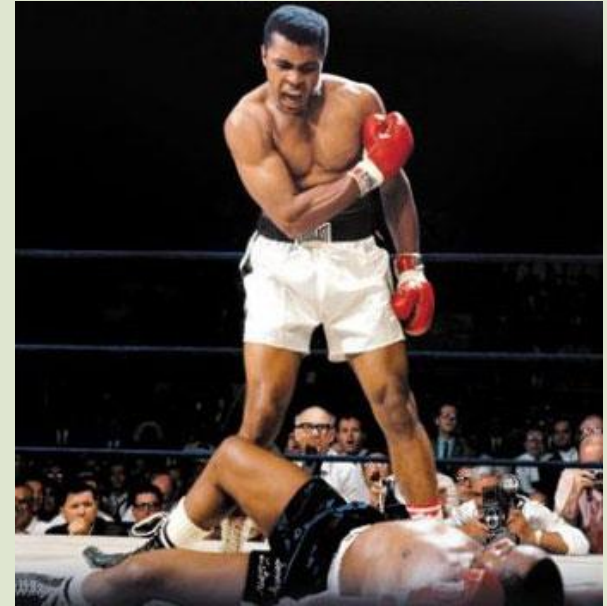


Map Data: Triangle Transit, AECOM, Esri, OpenStreetMap and others.
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Little Creek: C1 Eliminated



- US Army Corps of Engineers provided a letter stating that C1A, C2, and C2A were viable alternatives but that C1 was not.
- USACOE would not authorize use of federal government property (game lands and a waterfowl impoundment) for C1 “given the availability of less damaging alternatives.”



Little Creek: Capital Cost Update



Alternative	C1A	C2	C2A
Major *Additional* Cost Items(\$2015 millions)	\$36 - \$54 million	\$19 – 29 million	\$14 – 22 million

- Continuous cost evaluation on project
- Numbers above include:
 - Friday Center Station and Parking Configuration
 - Aerial Structures vs On-Ground Track
 - Finley Golf Course reconfiguration
 - New Utility Information
- All costs include significant contingency

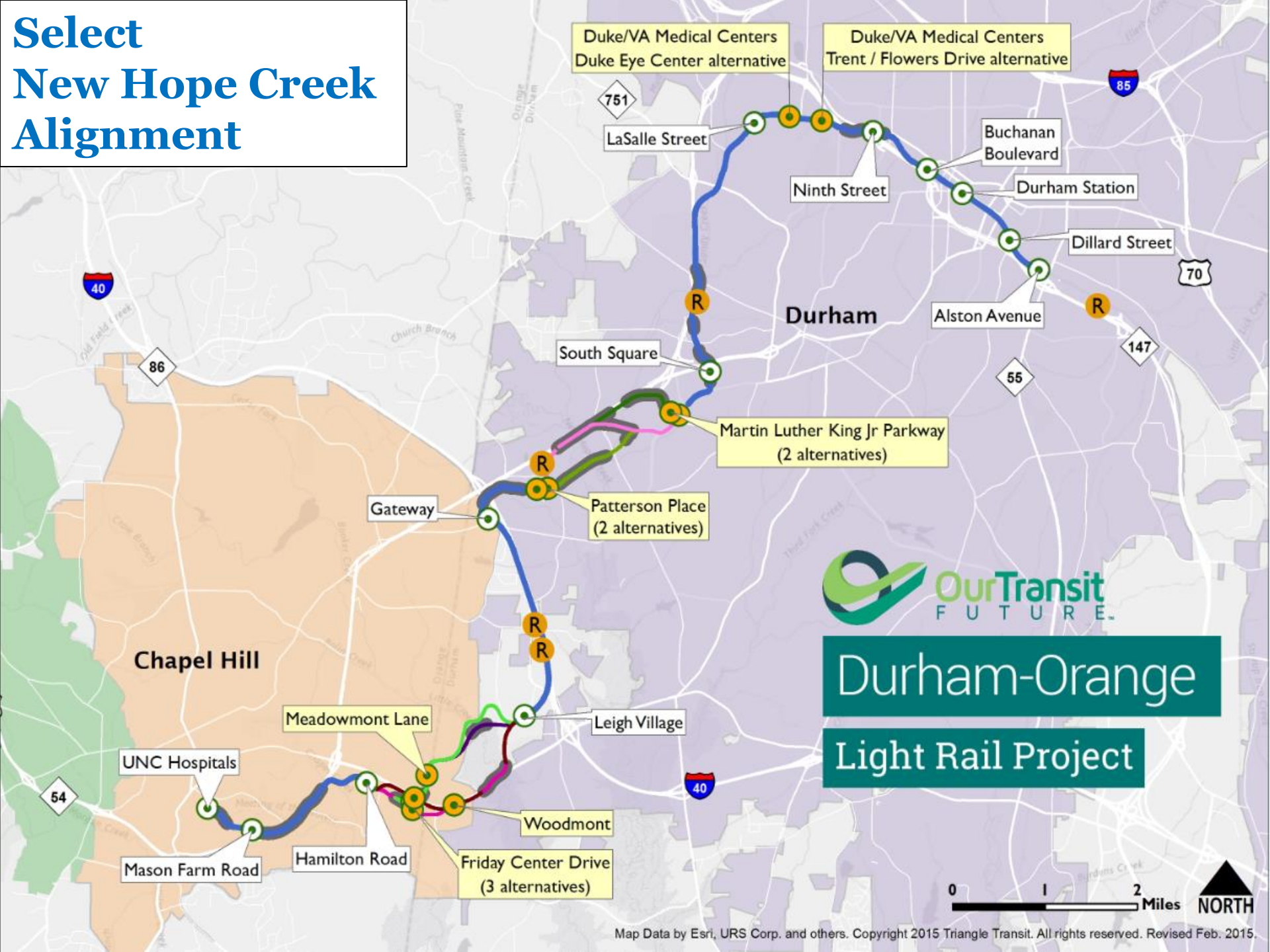


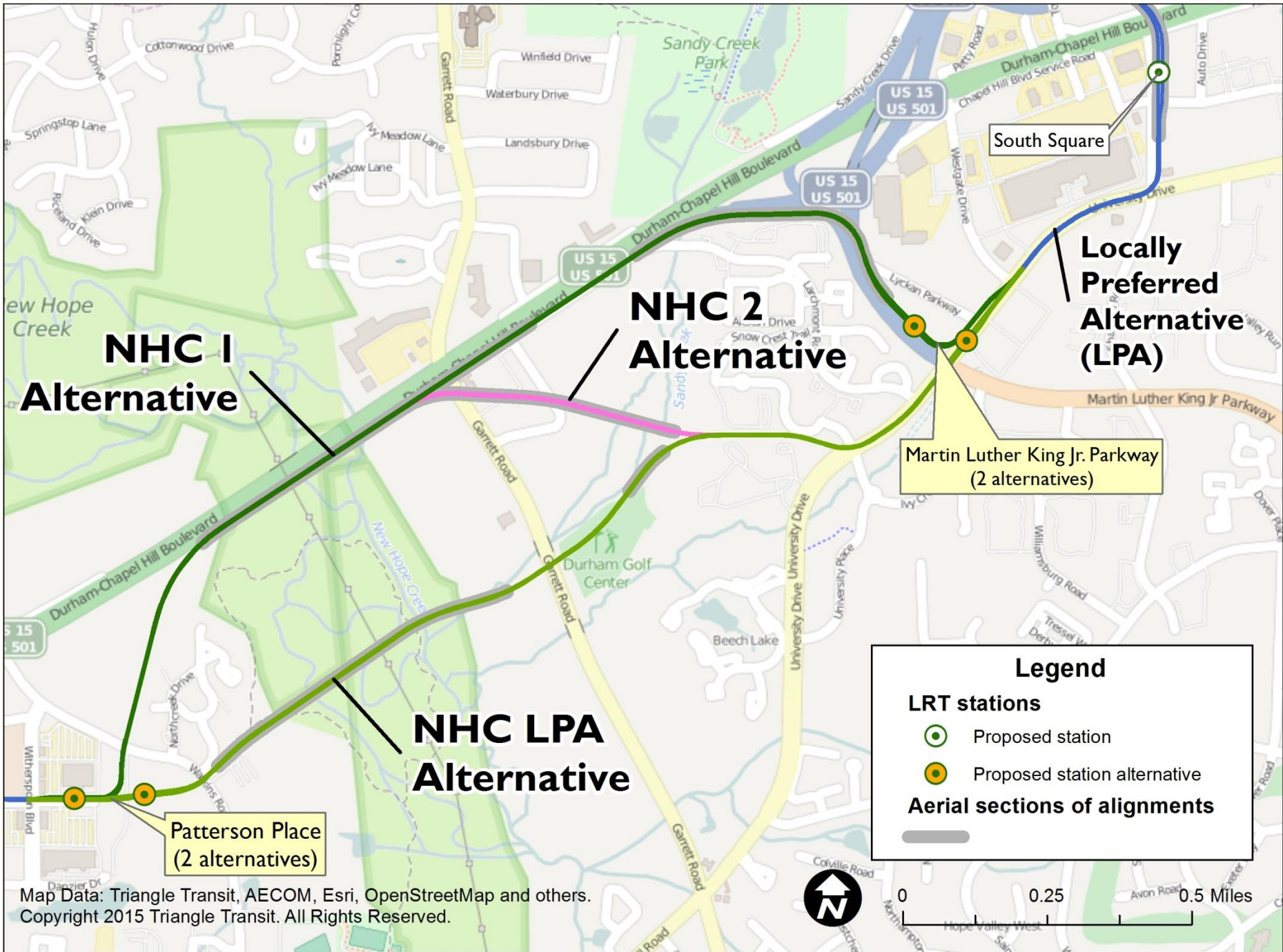
Little Creek: Differentiators



- C2 carries 700 more daily riders than C1A
- C2A carries 1,000 more daily riders than C1A
- C2 and C2A costs are very similar; C1A costs significantly more than both to build
- C2A has lowest impact on public parklands
- C2 has more full residential displacements than C1A & C2A
- C2A has fewer partial acquisitions than C2

Select New Hope Creek Alignment





New Hope Creek: Capital Cost Update



Alternative	NHC-LPA	NHC1	NHC2
Major *Additional* Cost Items(\$2015 millions)	\$45 - \$68 million	\$58 - \$87 million	\$47 - \$70 million

- Numbers above include:
 - MLK area guideway (aerial vs on-ground)
 - Utility Work and Relocation
 - Ped bridge to access NHC1 MLK station
 - Updated Right-of-Way costs
- All costs include significant contingency

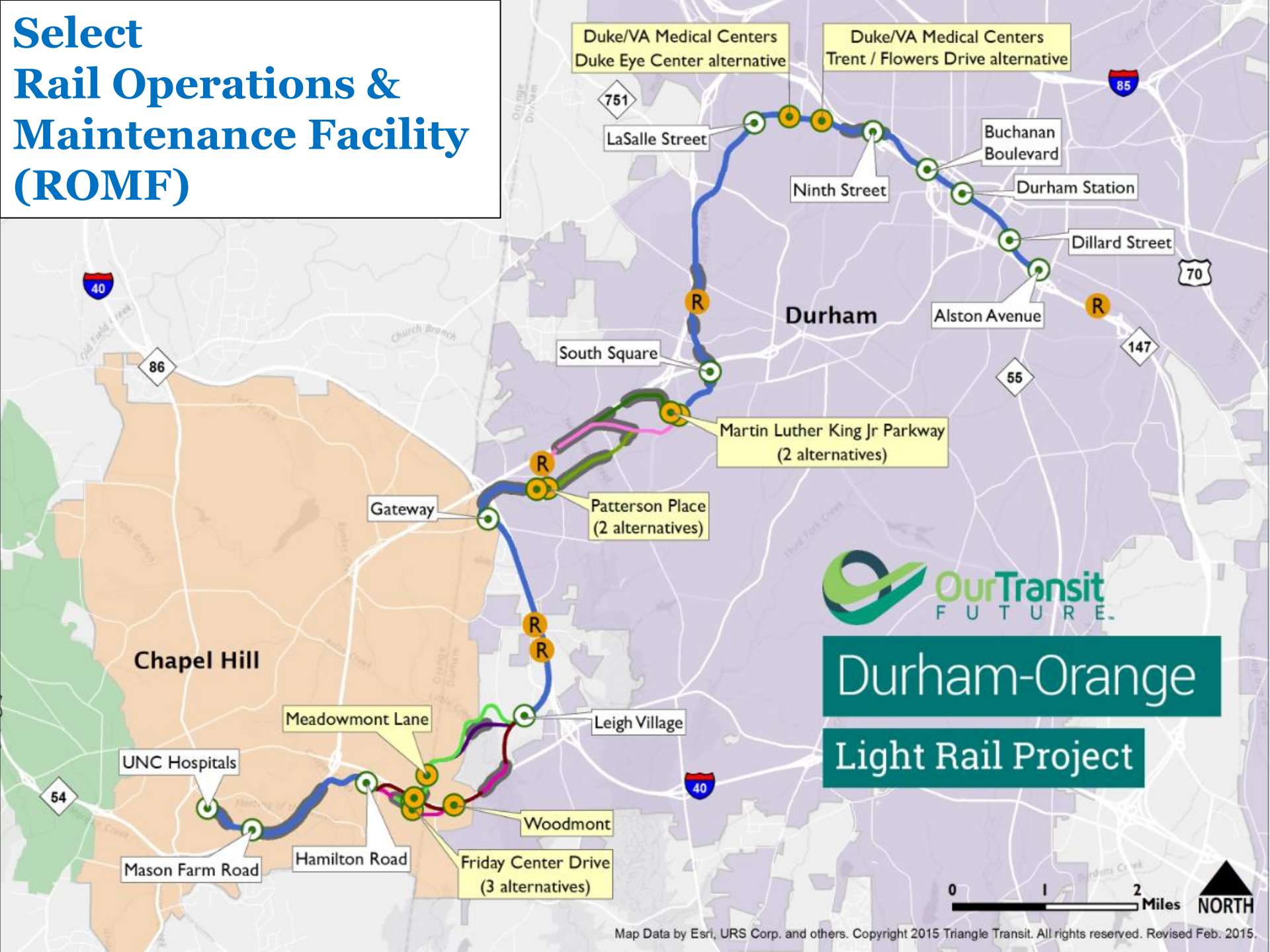


New Hope Creek: Differentiators



- NHC1 costs significantly more than NHC-LPA, NHC2
- NHC-LPA introduces a new transportation corridor through wetlands
- NHC1 has greatest impacts to businesses
- NHC1 and NHC2 have fewer public parkland impacts than NHC-LPA
- NHC2 has fewer bottomland and water resource impacts than NHC-LPA

Select Rail Operations & Maintenance Facility (ROMF)



ROMF: Capital Cost Update



Alternatives	Leigh Village	Farrington Rd	Patterson Place	Cornwallis Rd	Alston Ave
Capital Cost (millions of \$2015)	\$63 - \$94 million	\$62 - \$93 million	\$79 - 118 million	\$74 - \$111 million	\$96 - \$145 million

- Numbers above include:
 - Lead track to facilities off light rail mainline (Patterson, Cornwallis, Alston)
 - Right-Of-Way and Relocation Costs
 - Environmental impacts and hazmat cleanup
- All costs include significant contingency

ROMF Sites: Differentiators



- Patterson Place ROMF only works with NHC-LPA. Choosing NHC1 or NHC2 alignment eliminates Patterson Place ROMF site
- Leigh Village and Farrington ROMF sites overlap; FTA to determine eligibility of historic resource on Leigh Village ROMF site
- Cornwallis Road ROMF site may have implementation challenges including access, topography, constructability and connection to the LRT alignment
- Alston Avenue ROMF most expensive site, selection may result in project delays due to hazmat cleanup, and the requirements of business relocations (including one business with a freight rail spur). Building on Alston site may create net loss of local jobs if Brenntag cannot be relocated within the neighborhood

To Build or Not to Build



Build



No Build



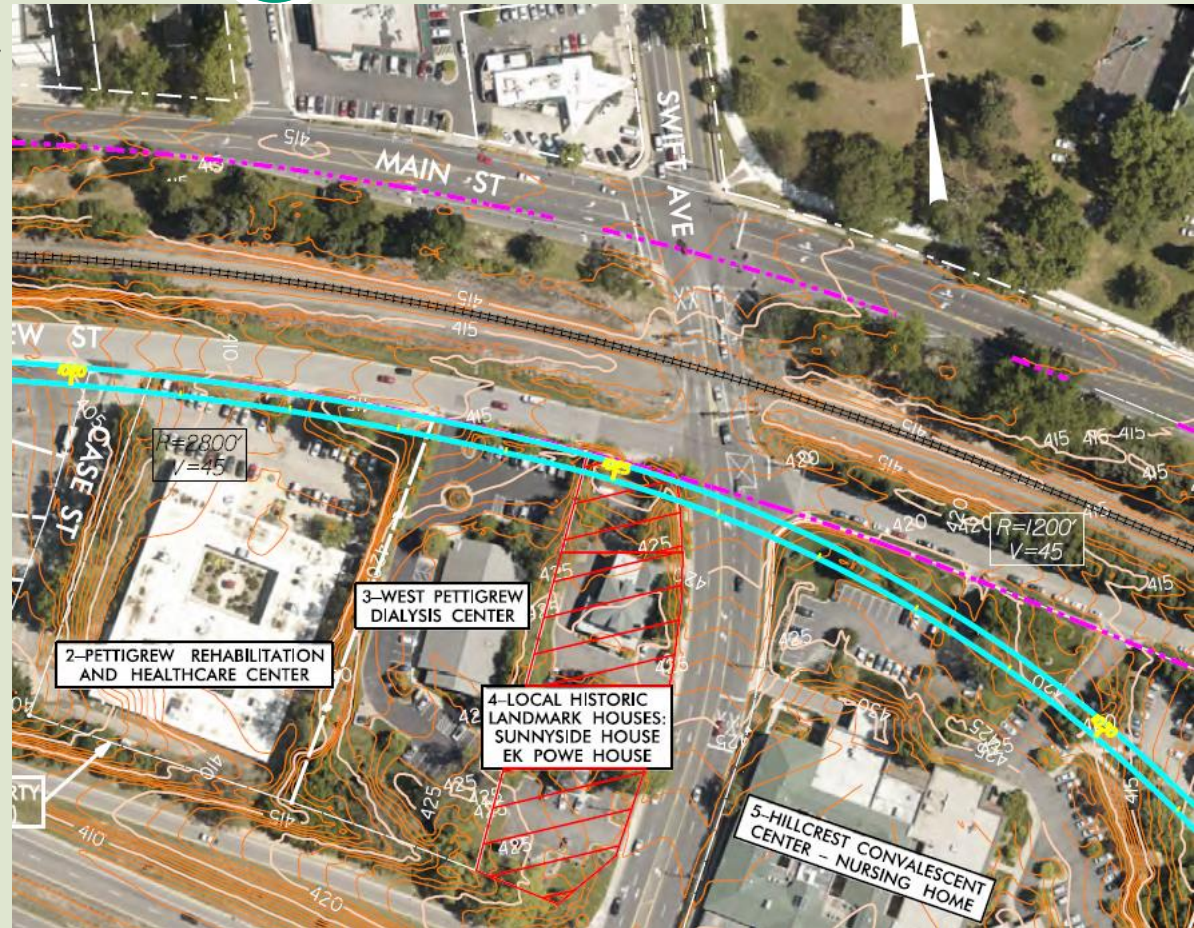
Downtown Durham Update



Swift Ave Grade Separation



- Elevated track now proposed over Swift Ave
- Significant traffic benefits to Swift & Main
- Better access to dialysis/rehab centers



Site Constraints East of Alston



Site Constraints East of Alston



- Railroad Tracks – Requirements for current and future
- GoTriangle evaluated options to keep station east of Alston
- Option 1 – Between Railroad and Pettigrew Street
 - Pettigrew Street Bridge – NCDOT constructing a new bridge
 - City Water Tower – Tower, pump house, and new line
 - Operational constraints with single track
- Option 2 – Between Pettigrew Street and NC 147
 - NC 147 Interchange – Close proximity to Pettigrew Street limits ability to shift the LRT line south
 - Parking Deck – Space/layout requirements






Distance between station locations

1,290 feet (0.24 miles)

Legend

Durham-Orange Light Rail Transit

-  D-O LRT alignment
-  Alston Ave Station (transitway)
-  Alston Ave Station (LPA)



0 0.05 0.1 Miles

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Benefits of Alston Ave. Station (West)



- Easier access to the station
 - For low-income and minority neighborhoods north of the railroad tracks at Grant Street
 - For low-income and minority neighborhoods south of NC 147
- Better options for bus service and transfers
- Good access to future development at Fayette Place site, which has requirements for affordable housing
- Greater flexibility for study of future extensions to be evaluated in a separate study

Limitations of Alston Ave. Station (West)



- This station is a quarter-mile farther for people walking from east of Alston Avenue

Station Access



- **Walking and Biking**
 - Durham Station Area Strategic Infrastructure program will identify and prioritize improvements for people accessing the station on foot and with bikes
- **Driving**
 - Majority of users of the Alston station will arrive by car
 - Parking deck planned to have approximately 900 spaces
- **Bus**
 - GoTriangle and GoDurham will work to create feeder bus network to connect neighborhoods to the light rail line
 - Durham Transit Emphasis Corridors will improve transit access infrastructure along priority routes including Holloway Street

Traffic Analysis Summary



- University Drive
 - Adding turn lanes & through lanes to address car queuing and intersection vehicle throughput
 - Longer distances for people to walk to cross intersections
- Erwin Rd
 - Widening Erwin, not removing lanes
 - Adding turn lanes from Erwin onto side streets
- Downtown Durham
 - With transitway and downtown grid, other streets can handle light rail traffic impacts
 - Some minor issues to refine with City/NCDOT in Engineering phase

Discussion



For more information, please
check OurTransitFuture.org