# Greater Triangle Commuter Rail Feasibility Study Results

GOTRIANGLE

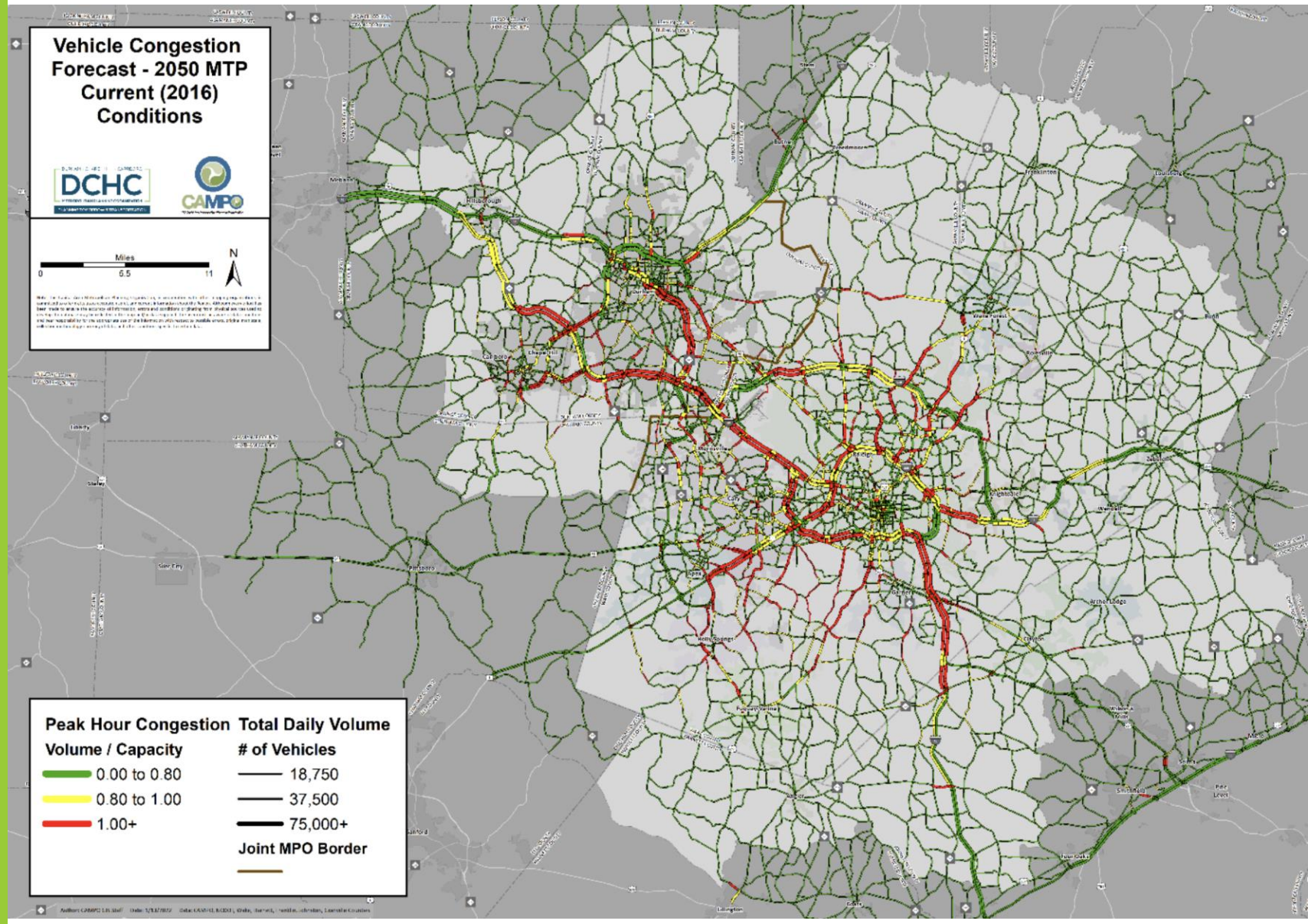
# Study Partners

# Current Population, Vehicle Ownership, and Congestion

As of 2020, the Triangle region had a population of around 2 million people.

The region's current population owns around 1.3 million vehicles.

Source: Triangle Regional Model (ITRE)

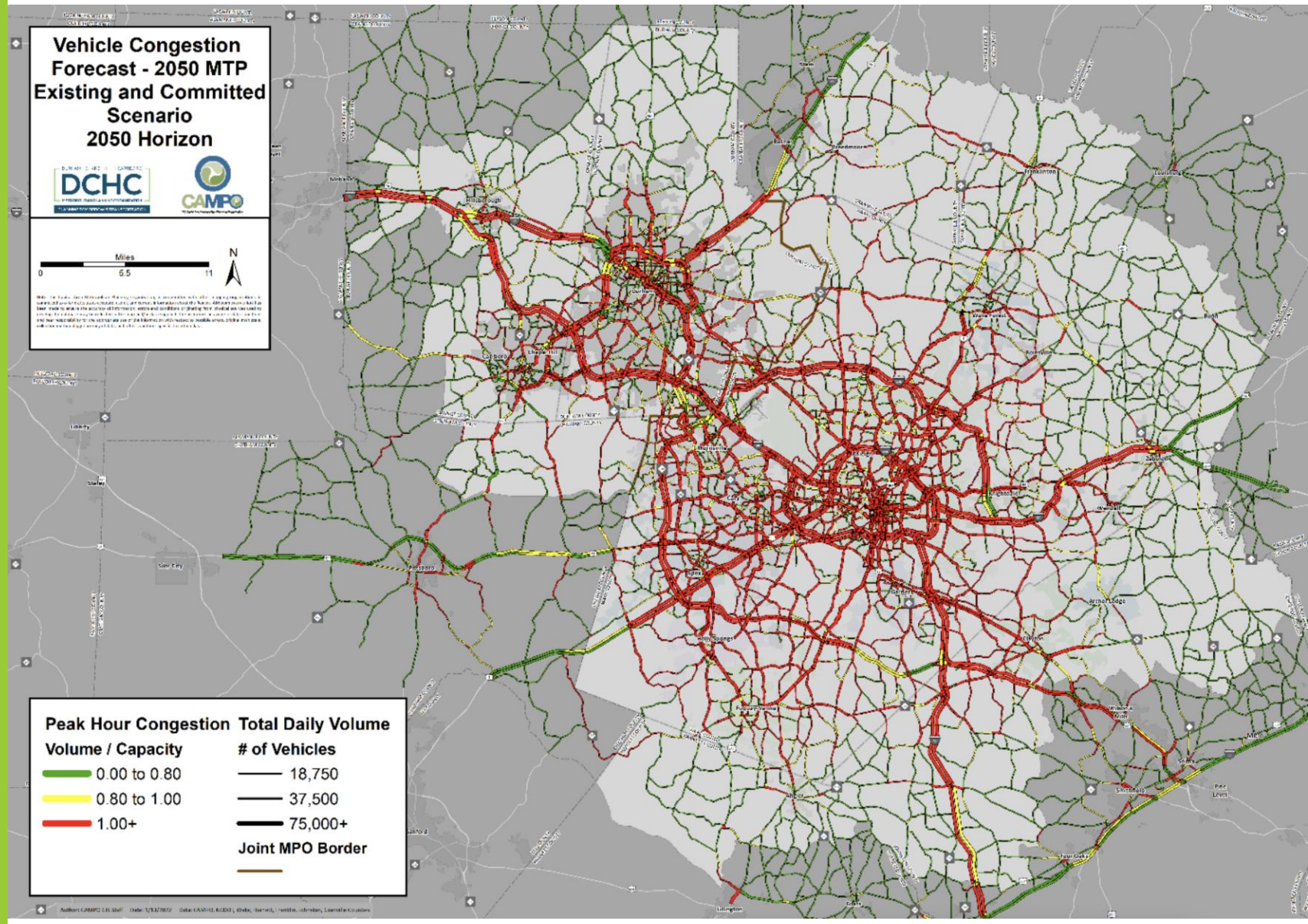


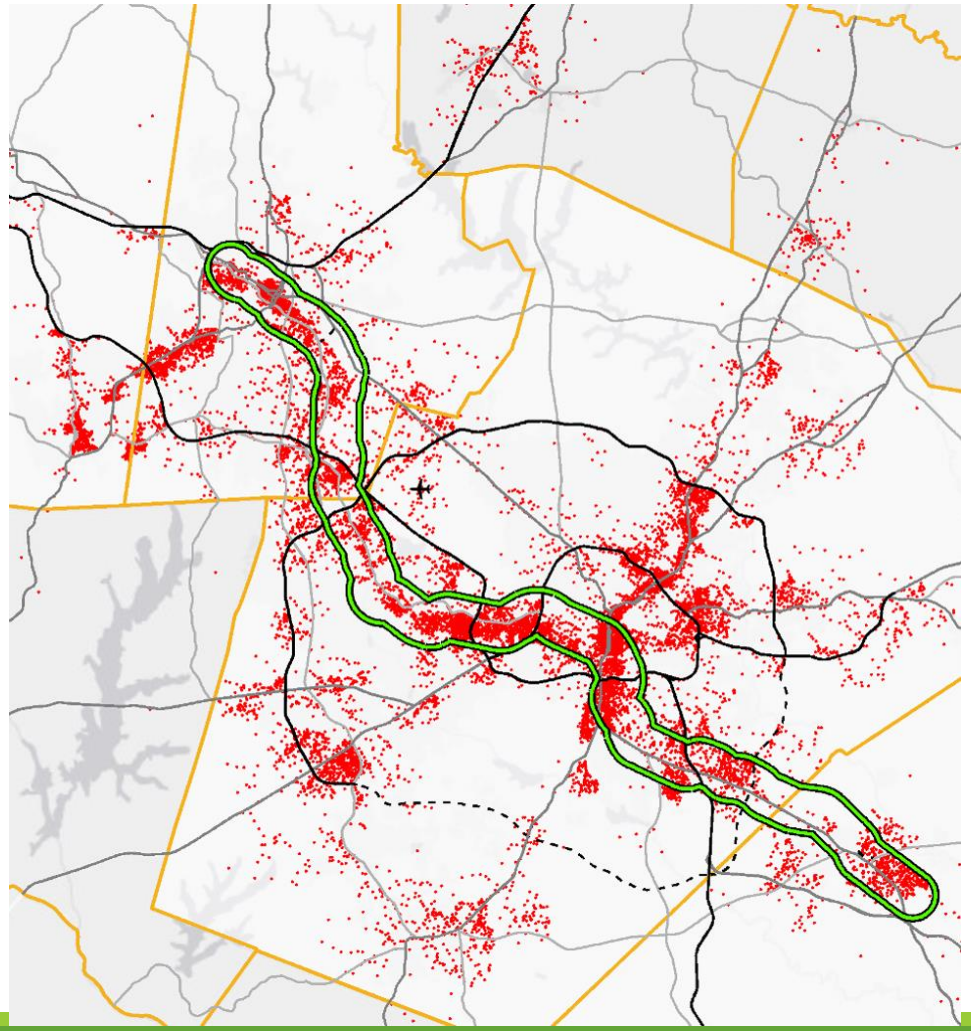
# 2050 Population, Vehicle Ownership, and Congestion

The region’s population is projected to grow to over 3 million people by 2050.

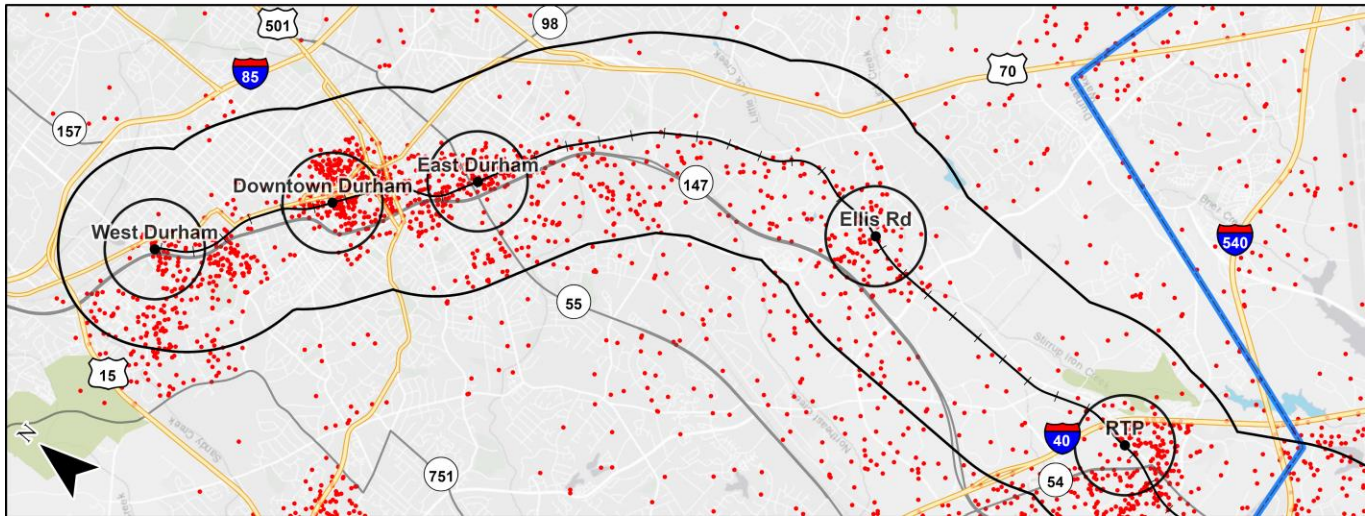
The region's population is projected to own around 2.3 million vehicles by 2050.

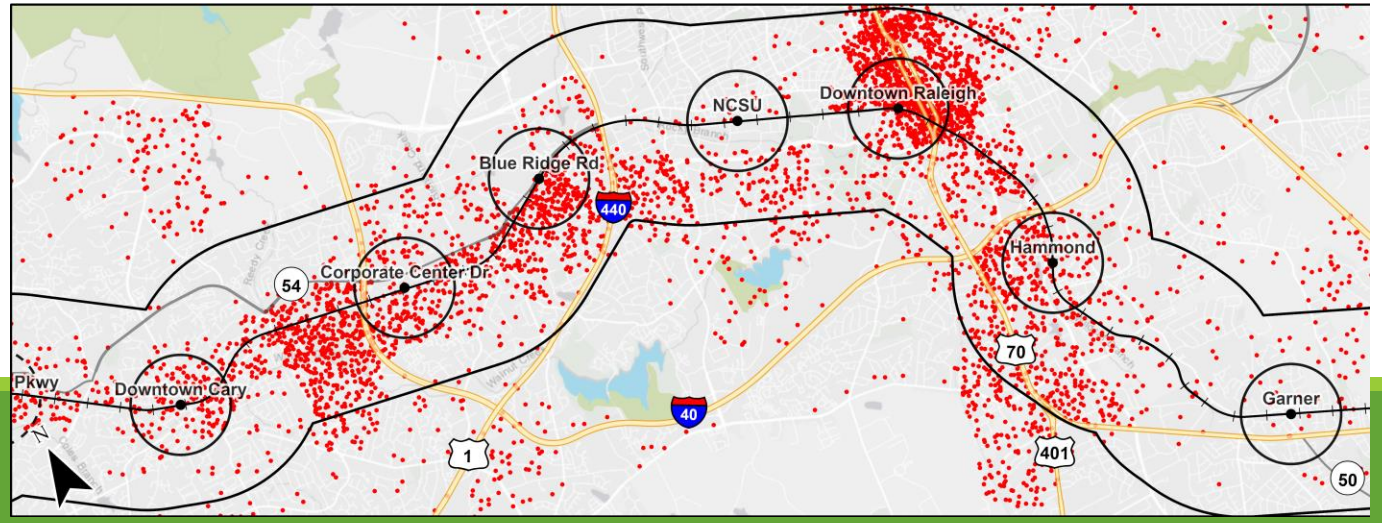
Source: Triangle Regional Model (ITRE)





2020-2050 Job Growth; 1 Dot = 50 Jobs




# Job Growth 2020 - 2050

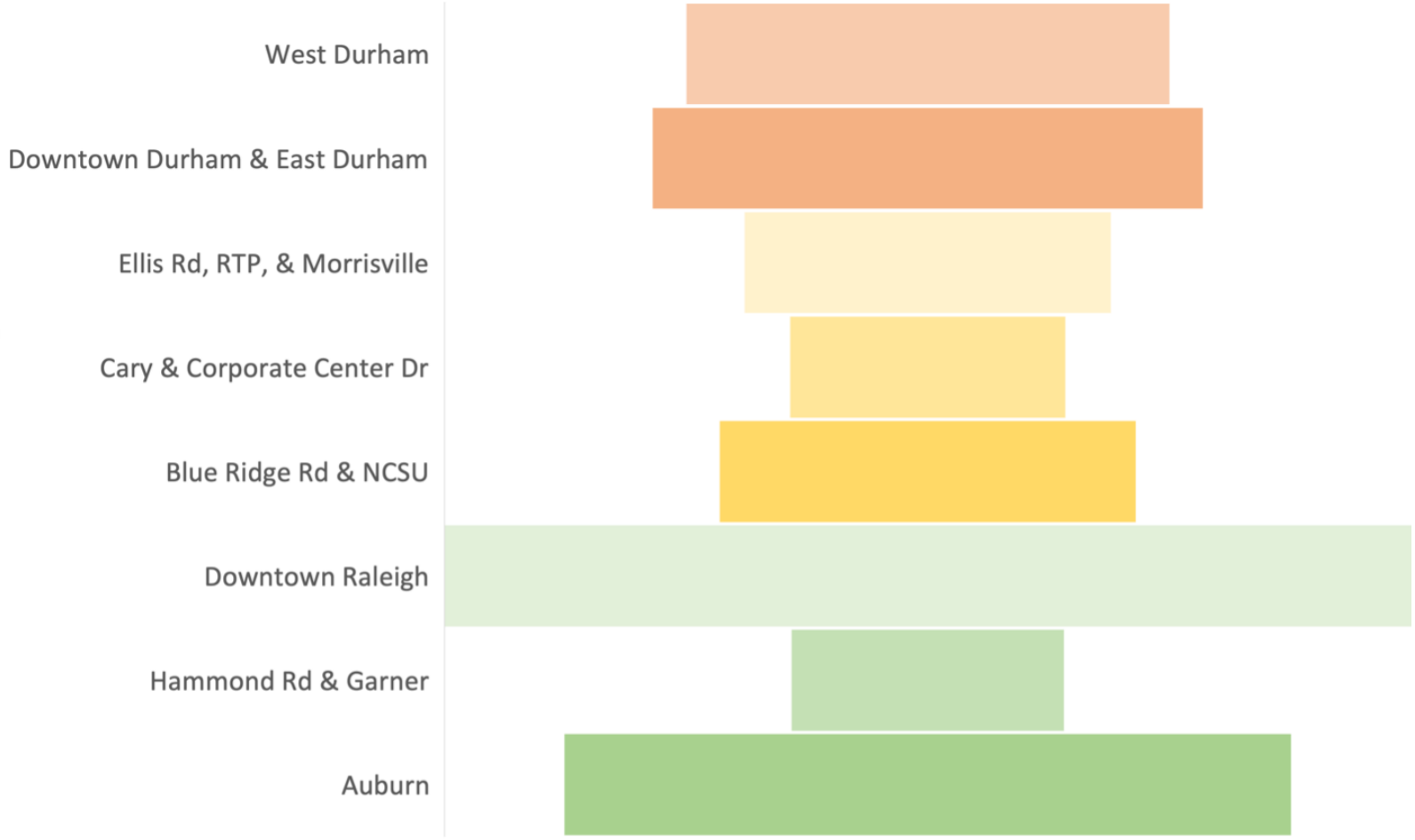
The region will grow by more than 800,000 new jobs by 2050.

350,000 of those jobs will be near the commuter rail corridor.

The largest cluster of growth will occur in downtown Raleigh.

Source: 2050 MTP / TJCOG Opportunity Analysis

# Relative 2040 Boardings by Corridor Geography (West Durham – Auburn 8-2-8-2)



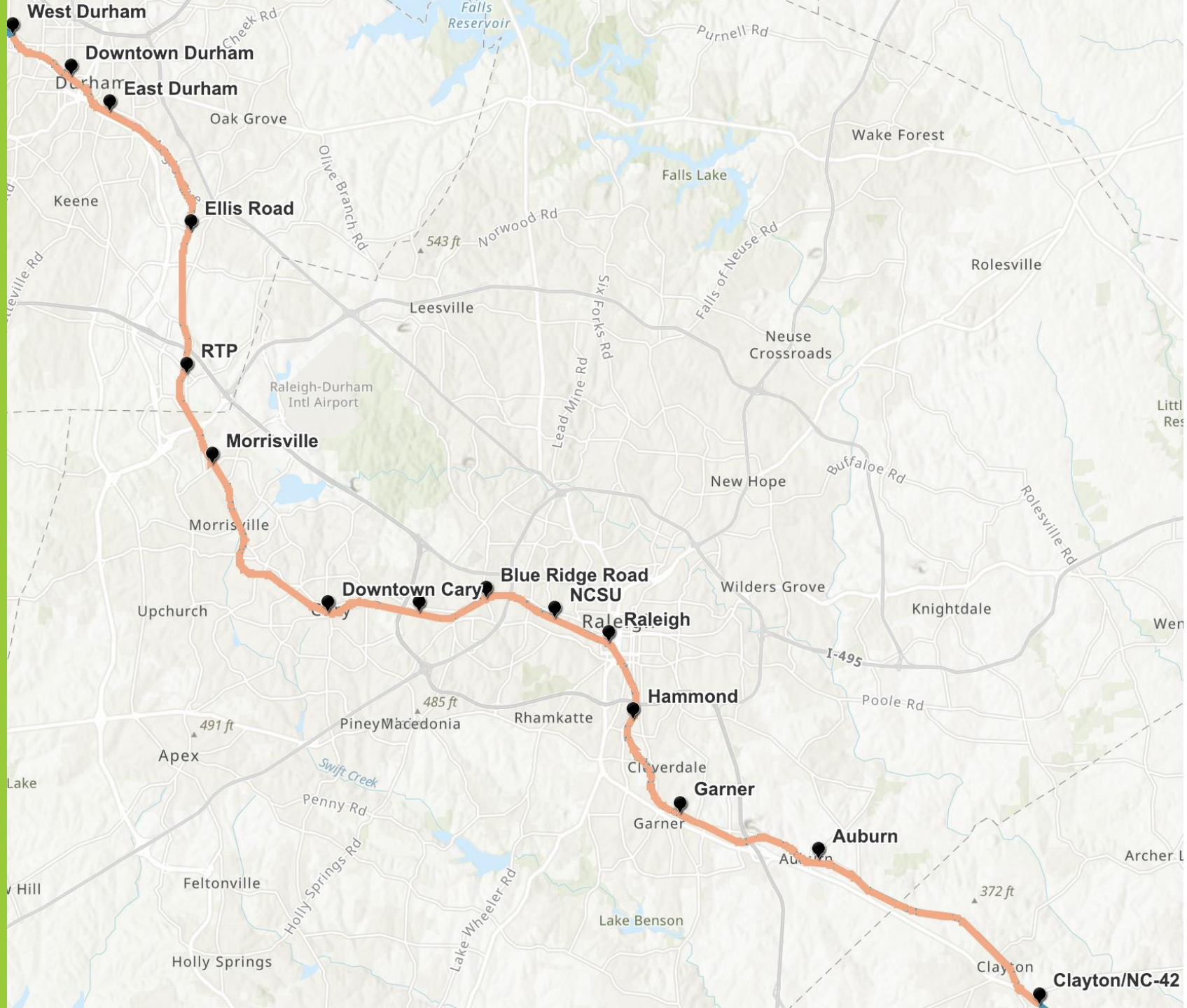
# Current Estimates

$2.8 - $3.2 billion in year of expenditure.

$42 million / year to operate & maintain.

12,000 - 18,000 daily boardings by 2040.

Start of service between 2033 and 2035.

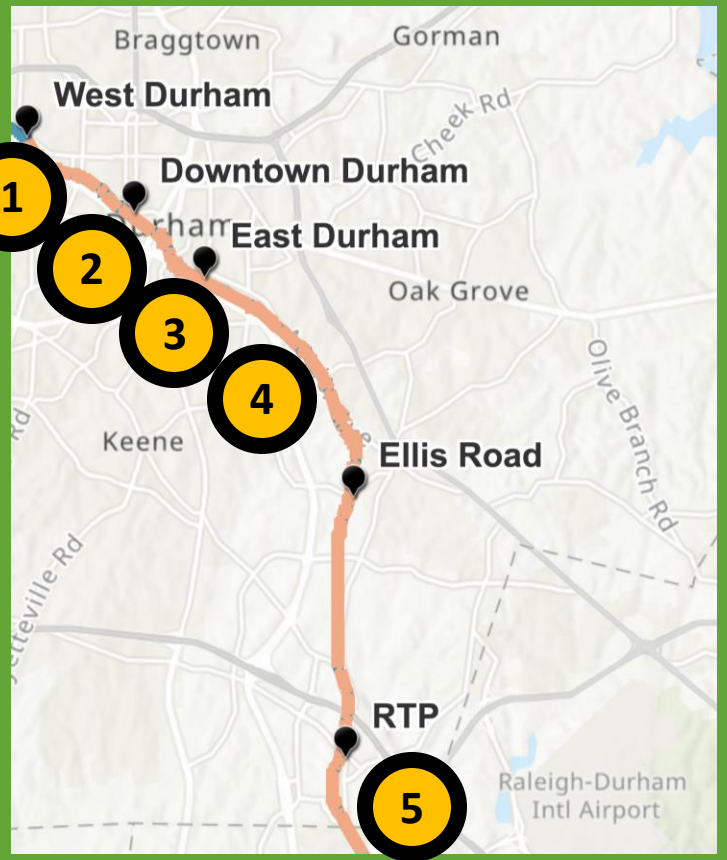


# Considerations for phased implementation

- Cost
- Ridership
- Complexity
- Time frame

| Initial Service | Capital Cost | Daily Riders (2040) | Complexity | Likely Time Frame |
|---|---|---|---|---|
| **Western** | ~$1.6B (50% of total) | ~3,000 (25% of total) | Highest Risk | ~12 years |
| **Central** | $800M - $1.0B (25-30% of total) | ~4,000 (33% of total) | Medium Risk | ~10 years |
| **Eastern** | $600M - $700M (20% of total) | ~4,000 (33% of total) | Lowest Risk | ~8 years |

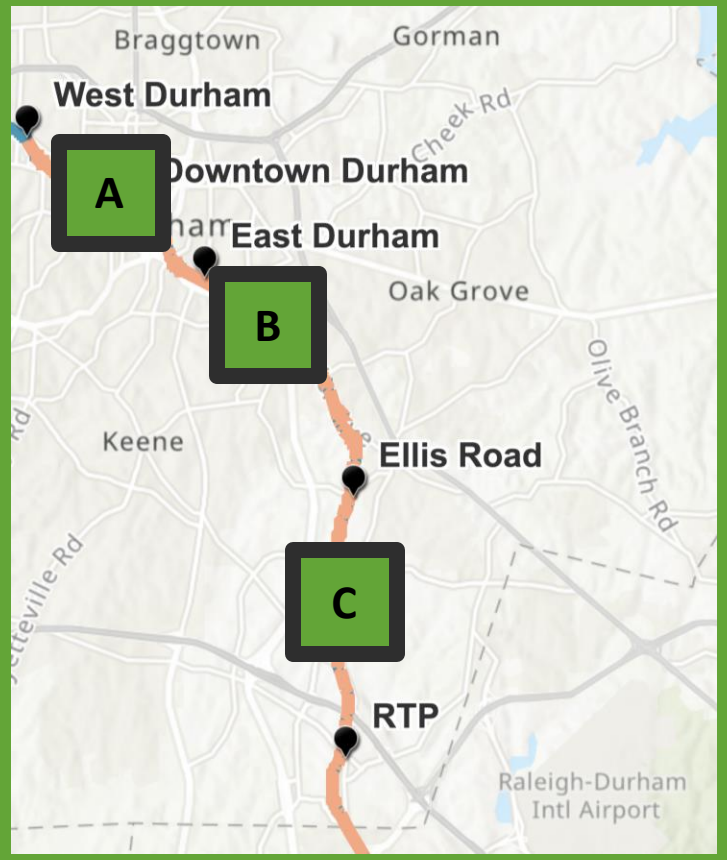
*Cost and ridership estimates are for each portion as a standalone initial service. Cost and ridership estimates in this table are not cumulative. The estimated cost of the western option cannot be afforded at this time within the financial capacity of the Durham Transit Plan.*




**The study found that implementation challenges were the most significant in Durham. The estimated cost of the western option cannot be afforded due to the financial capacity of the Durham Transit Plan.**

1. Railroad capacity modeling identified a need for about 3 miles of additional double track west of the West Durham station to alleviate conflicts between freight and passenger trains through central Durham.
2. Feasible solutions for adding a second track at grade through central Durham were identified, but it will take more time to obtain consensus on what design is preferred.
3. The east Durham station would require closing Plum Street. To move forward, the City must decide whether to close Plum Street to implement the station, or to eliminate this station from the plan.
4. Railroad capacity modeling identified the need for a third track through the east Durham freight yard area. Adding this track would require closing Driver Street. To avoid the closure, railroad partners could accept an alternative design.
5. To move forward, the location of the RTP station either north or south of NC 54 must be confirmed.

**The increased cost of the project exceeds the available funding identified for commuter rail implementation in the Wake Transit Plan and draft Durham Transit Plan. Availability of federal funding is uncertain. To implement the full project, additional funding must be identified.**



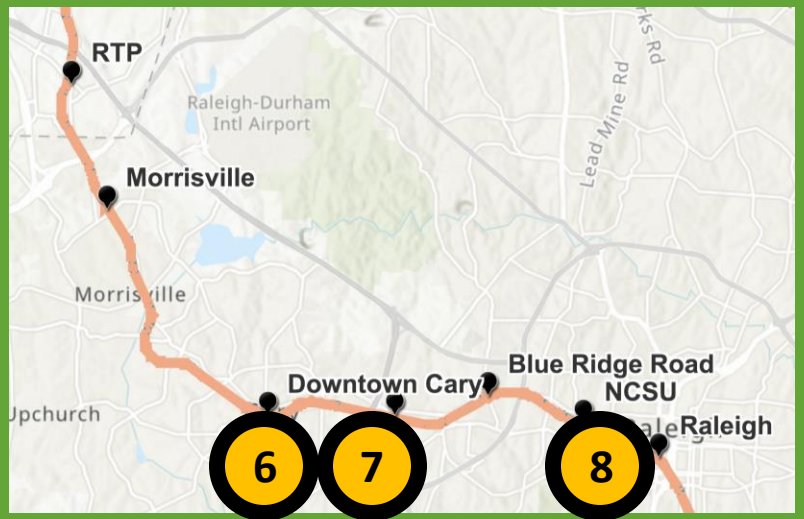

**With estimated cost of around $1.6B, the western portion has the greatest potential to see reduced transit project costs and more non-local funding by utilizing a phased approach**

**A** A longer-term approach would increase likelihood of availability of state and federal funds for improvements

**B** State funding could be identified for standalone grade crossing improvements to address Plum Street and Driver Street challenges

**C** State funding committed for grade separations could be leveraged to obtain federal funding for double-tracking projects

**Durham County is already moving forward with an incremental approach, working with us to identify and pursue short-term opportunities to position for future state and federal grants.**




**The central portion of the corridor requires significant coordination to align requirements of multiple host railroads and align schedules of several planned projects.**

6

To implement the project, the Cary Amtrak station must be relocated west of Harrison Avenue as planned in the Town of Cary's Downtown Cary Multi-modal Center project. There is not currently a schedule for the rail station relocation component of that project, and it will require approval of Amtrak, Norfolk Southern, NCRR, and other parties.

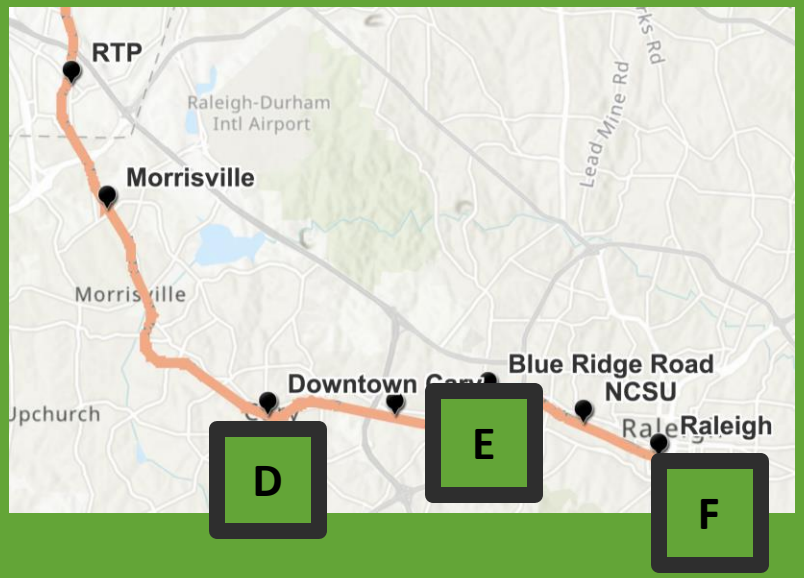
7

There are multiple planned grade separations in this area, including E Maynard Road, Trinity Road, and McCrimmon Parkway. The estimated cost of these projects is around $200M, and it may be necessary to build them prior to commuter rail implementation. The timing of these projects creates a significant coordination challenge that may result in the cost accruing to the commuter rail project if it moves forward prior to the state building the grade separations as standalone improvements.

8

West of Raleigh Union Station, there are known railroad capacity and coordination challenges between Norfolk Southern and CSX freight trains, Piedmont passenger trains, and long-distance Amtrak trains. Complex agreements will be required to implement service in this area.

**The increased cost of the project exceeds the available funding identified for commuter rail implementation in the Wake Transit Plan and draft Durham Transit Plan. Availability of federal funding is uncertain. To implement the full project, additional funding must be identified.**

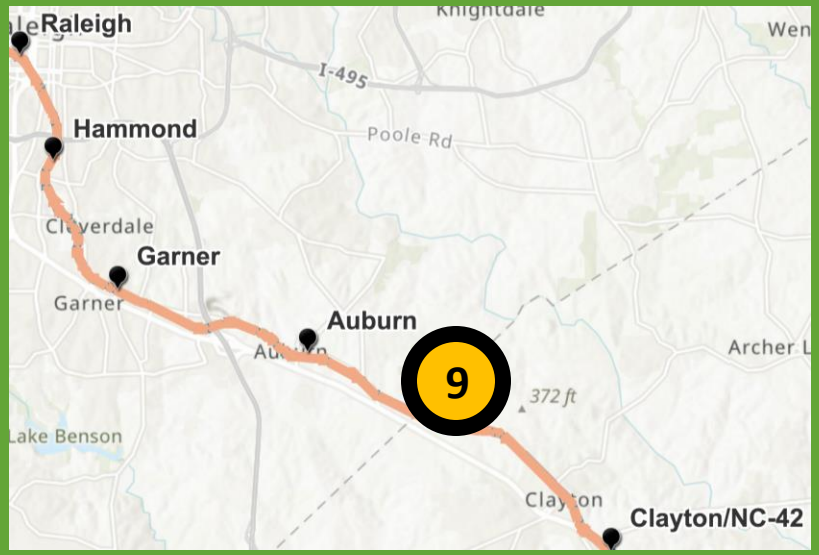



**With estimated cost at $800M to $1.0B, implementation of the central portion as an initial phase could be afforded in the next 10 years with local funding and federal loans. However, uncertainties may increase cost and/or delay.**

**D** Complex agreements involving Norfolk Southern, CSX, Amtrak, NCRR, and NCDOT add schedule and implementation risk to this phase; MOUs or term sheets should be obtained early. Agreements would also be needed with City of Durham, Town of Morrisville, Town of Cary, and City of Raleigh.

**E** Certainty on timing of NCDOT grade separations would need to be obtained, or cost may need to be added to the project.

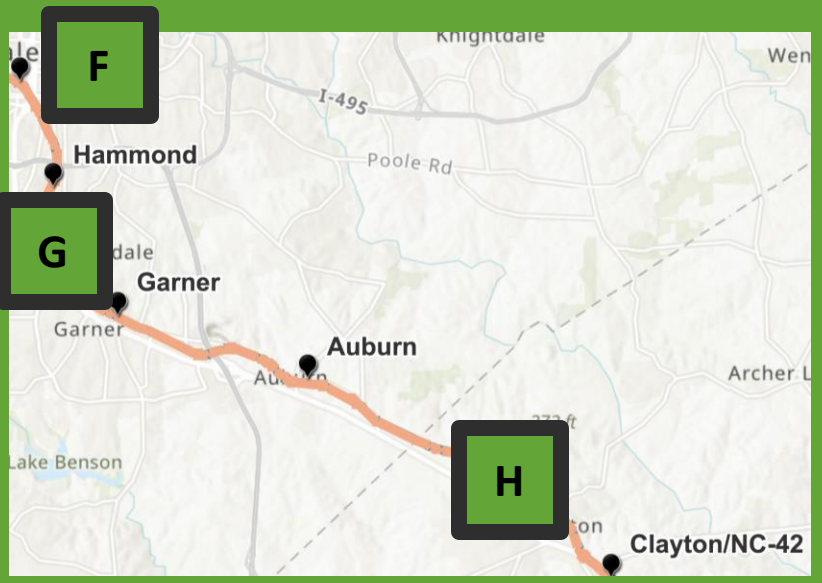
**F** Impact of S-Line project on operations and design at Raleigh Union Station must be determined.




**The feasibility study identified fewer challenges east of Raleigh Union Station, particularly in the southeast Wake portion of the corridor.**

9 Minimal additional infrastructure was identified as being necessary to extend limited service to Clayton. However, to move forward with the project in Johnston County, funding would need to be identified.

**The increased cost of the project exceeds the available funding identified for commuter rail implementation in the Wake Transit Plan and draft Durham Transit Plan. Availability of federal funding is uncertain. To implement the full project, additional funding must be identified.**




**With estimated cost at $600M - $700M, implementation of the southeast Wake portion as an initial phase could be afforded in the next 10 years with local funding and federal loans, and there would be excess financial capacity for other efforts.**

**F** Impact of S-Line project on operations and design at Raleigh Union Station must be determined.

**G** Agreements involving Norfolk Southern, Amtrak, NCRR, NCDOT, City of Raleigh, and Town of Garner would be required; MOUs or term sheets should be obtained early.

**H** To include Johnston County, funding would need to be identified.

# Building the Full Regional Vision

## Phased Implementation

- There are multiple potential paths forward
- Federal and state funding availability and timeline are uncertain

## Upside

- Phase 1 – 50% federal grant
- Extensions – 50% federal grant
- Standalone projects – up to 100% state and federal funding with possible local contribution for O&M

## Downside

- Phase 1 – locally funded
- Extensions – locally funded
- Standalone Projects – limited state & federal funding

# New Starts

Challenges with current ratings:

Medium-Low

Possibilities with future ratings:

Weak Medium

Medium

- Population density and ridership data are holding back the ratings.
- With continued growth in the region and increased commitment to adopting transit-supportive land use plans and ordinances, a Phase 1 project and/or extension could be competitive by the time it would need to be submitted for formal rating under current criteria.
- Shifting to an all-day service plan that aligns with post-pandemic travel patterns may improve outlook.
- Impact of new criteria could be positive or negative.

# Other State and Federal Opportunities

Rail infrastructure programs could offset some project costs

**Safety Projects** – Grade crossing elimination projects are eligible for multiple programs for up to 80% federal funding. State funding is also available, and committed state funding for grade separations can be used as local match for federal grants.

**Capacity Projects** – Double-tracking projects are eligible for multiple programs up to 80% federal funding if they have benefits for intercity passenger rail and freight. One or more sections of double-track could be submitted as a standalone project.

**Amtrak Station Improvements** – Durham, Cary, and Raleigh Amtrak station improvements could be submitted as standalone projects, to the extent they would benefit intercity passenger rail.

# Next Steps

**Public Engagement**

- First Quarter of 2023

**Cost-Sharing Proposal**

- Funding partners to finalize a proposal.
- Second Quarter of 2023

**Decision-Making Process**

- Transit plans will be updated.
- Cost-sharing proposal will be considered.
- Second Quarter of 2023

# Cost-Sharing Proposal

Cost-sharing negotiations will include GoTriangle Board members and County Commissioners who serve on MPO Boards.

GoTriangle will facilitate these negotiations upon completion of the 45-day public engagement period.

Negotiations will result in a cost-sharing proposal and implementation recommendation.

# Decision-Making Process

GoTriangle's Board of Trustees will consider the negotiated cost-sharing proposal and implementation recommendation.

If adopted, GoTriangle will present the negotiated cost-sharing proposal and implementation recommendation for adoption by funding partners.

GoTriangle will also facilitate any needed updates to the transit plans.

If the implementation recommendation is adopted by the Counties and the MPOs, GoTriangle will facilitate the adoption of resolutions of support from all affected municipalities, NCRR, and NCDOT.

# Discussion

FOR MORE INFORMATION ON THE GREATER TRIANGLE COMMUTER RAIL PROJECT, VISIT WWW.READYFORRAILNC.COM.