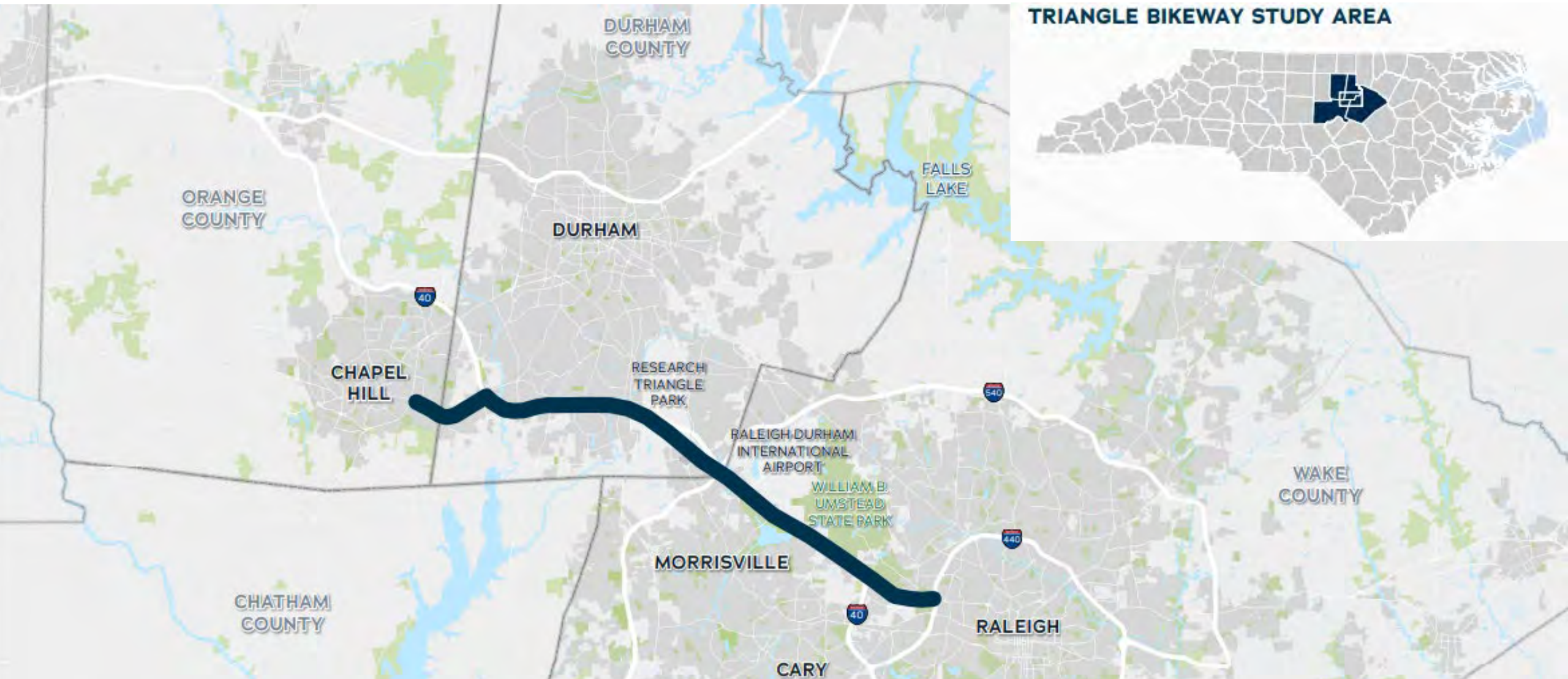


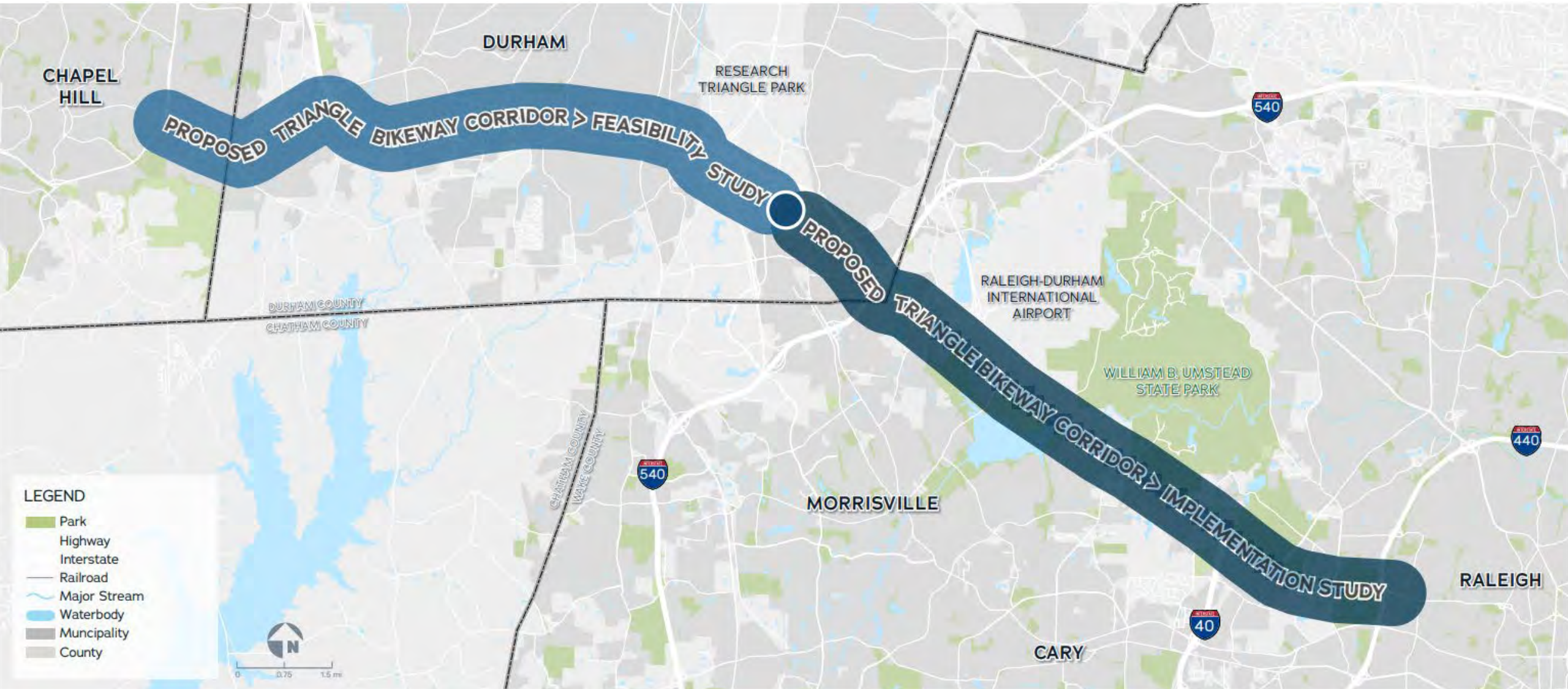


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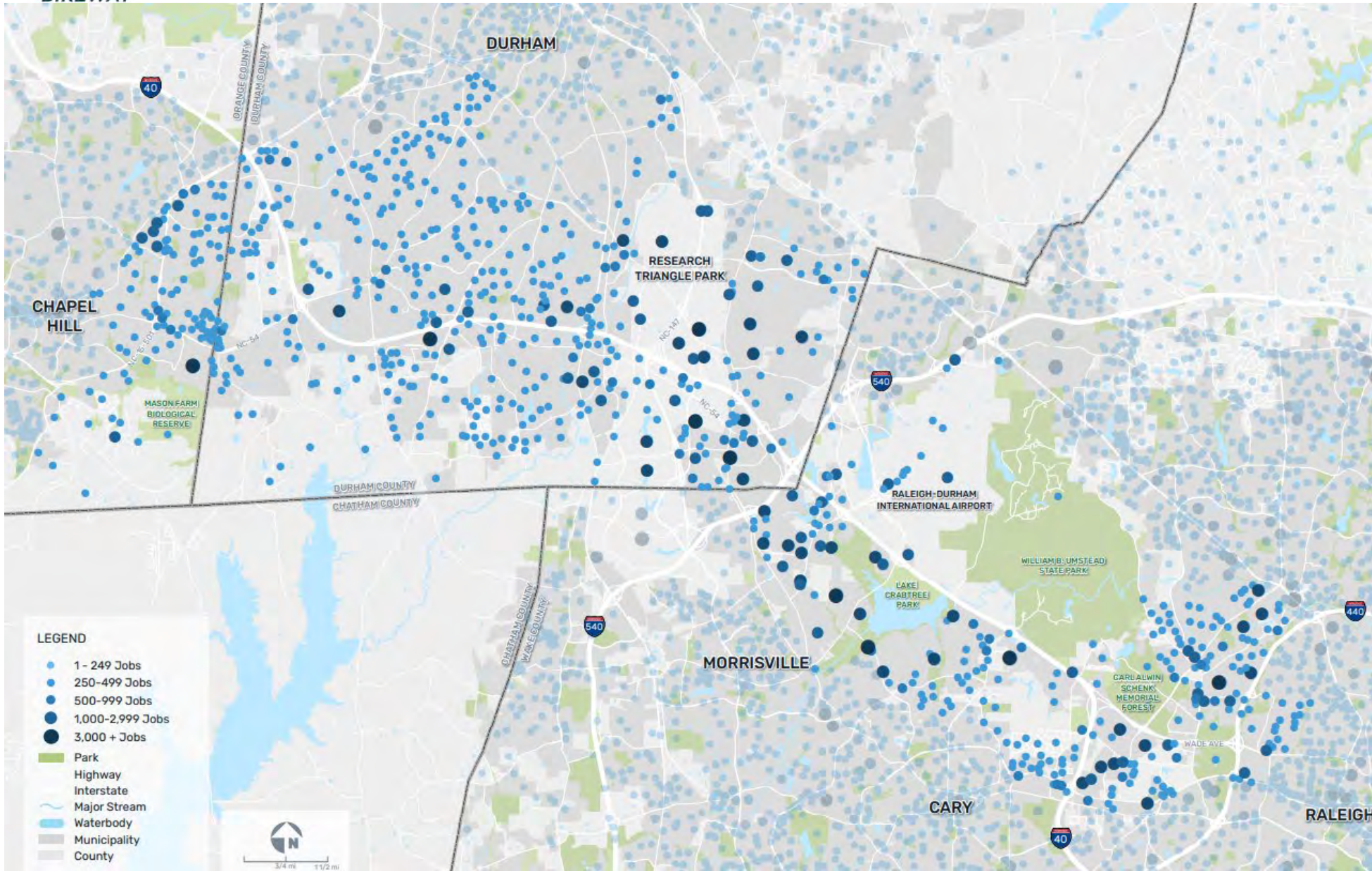








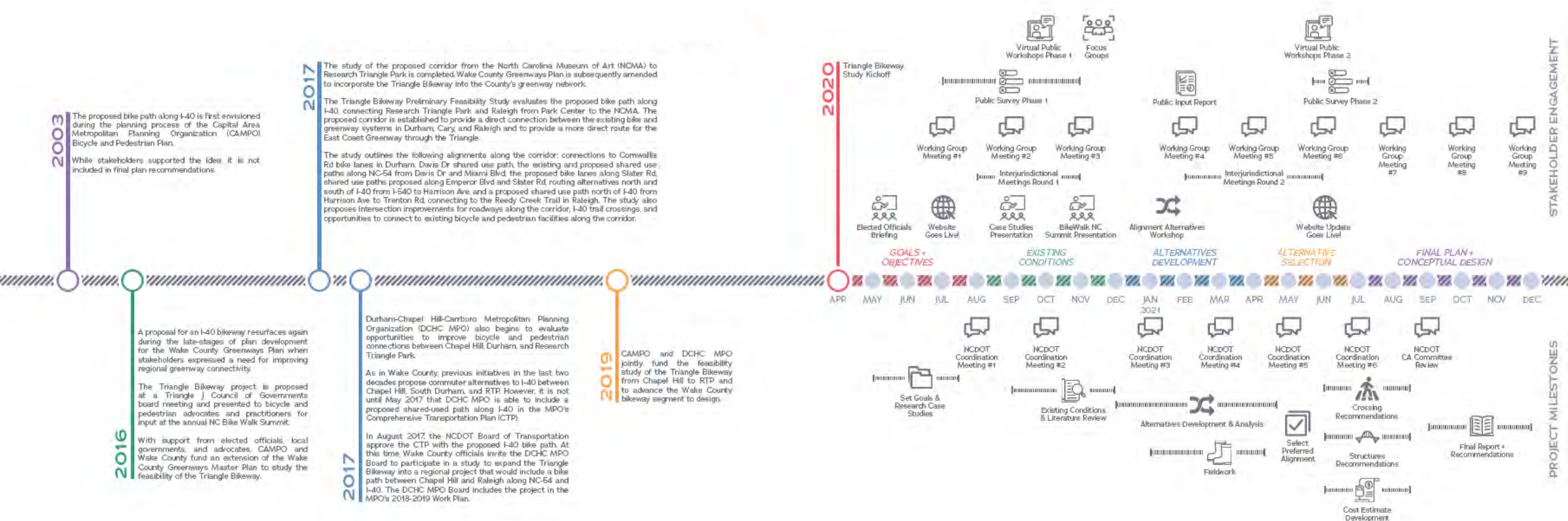
# A Jobs Corridor



"I am excited about this plan for a protected bike and pedestrian path that will tie together our region and create another transit and recreation option for Triangle residents. Many people want to get out of their vehicles and enjoy bike and pedestrian options for work or play. The vision of this Triangle Bikeway is to make this a reality,"

~Wendy Jacobs  
Durham County Commissioner





# CASE STUDIES



# Case Studies

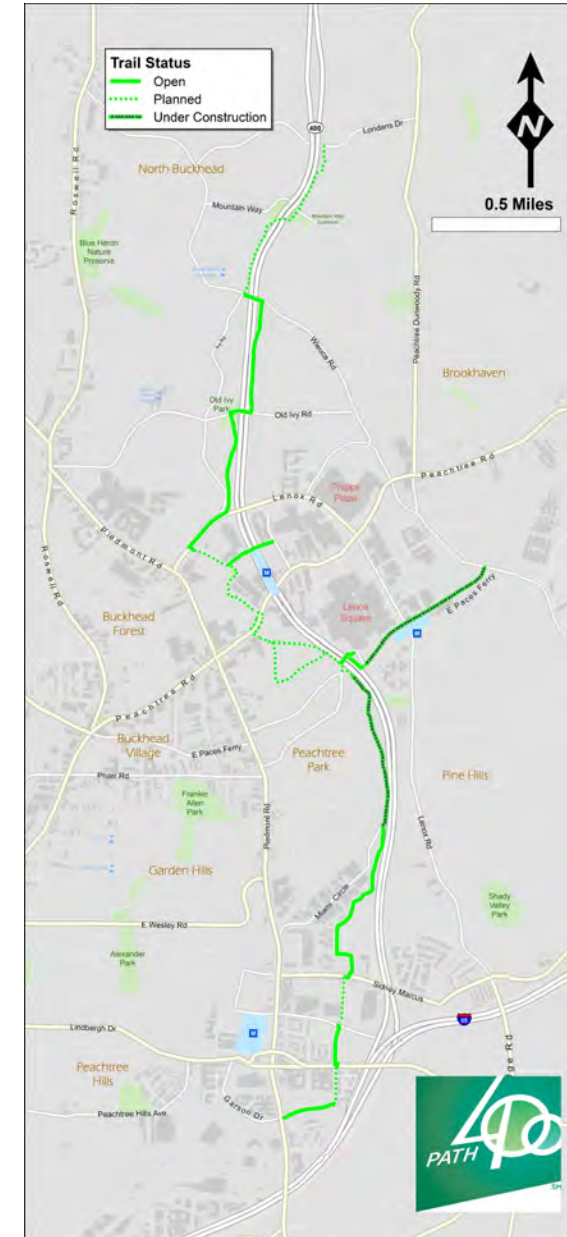




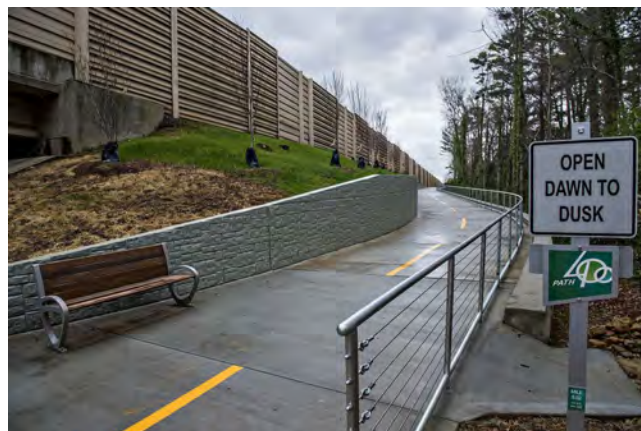
# Path 400 - Atlanta

In 2011, public engagement, land acquisition, and data collection began. Key stakeholders include: Livable Buckhead, City of Atlanta, GDOT, Marta, and the PATH Foundation. Trail funding sources have included a local sales tax (TSPLOST), state funding and federal grants. The trail will soon extend north into Sandy Springs, connect to the Atlanta Beltline to the south and the Peachtree Creek Greenway to the southwest.

- › Atlanta, Ga
- › Trail length: 5.2 miles
- › Construction timeline: 2014-2020
- › Right of way: 66% in GDOT ROW
- › Total cost: \$28 million



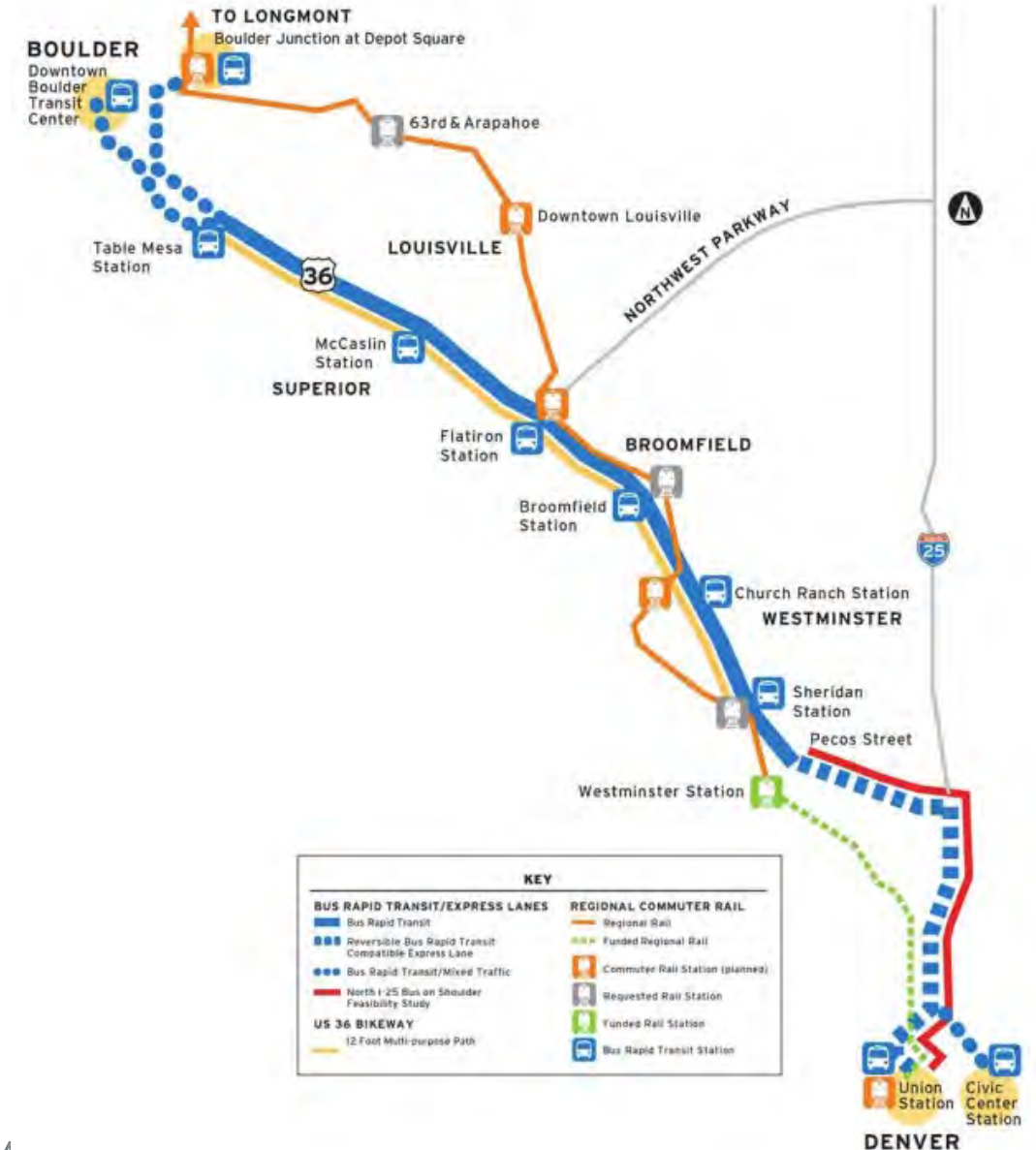






US 36 Bikeway was part of a larger CDOT project to create bus rapid transit (BRT) service and tolled express lanes along the busy US 36 corridor. These investments were part of FasTracks, a multibillion-dollar public transportation expansion throughout metropolitan Denver. Additional funding sources included CDOT, FHWA, and Regional Transportation District (RTD). US 36 Bikeway is well used (an estimated 500 daily users) for commuting to work, accessing activity centers, local businesses, transit stations, and to the greater bike network in Denver metro region.

- › Metro Denver, CO
- › Trail length: 18 miles
- › Construction timeline: 2015-2016
- › Right of way: 100% in CDOT ROW
- › Total cost: \$16.6 million









Added on to the Business 40 Improvement Project, this side path will connect several neighborhoods and key destinations (e.g. baseball stadium, hospital, and commercial areas) in Downtown Winston-Salem. Key partners include the City of Winston-Salem, NCDOT, Downtown Winston-Salem Partnership, and Creative Corridors Coalition. Funding sources include several federal (CMAQ and STBG Programs), state (NCDOT's STI Prioritization), and local (bond referendums) sources. Once complete, the side path will connect to a growing network of bike facilities and 25 miles of greenways throughout the region.



- › Winston-Salem, NC
- › Trail length: 1.2 miles
- › Construction timeline: 2018-2020
- › Right of way: 100% in NCDOT ROW
- › Total cost: \$8-10 million



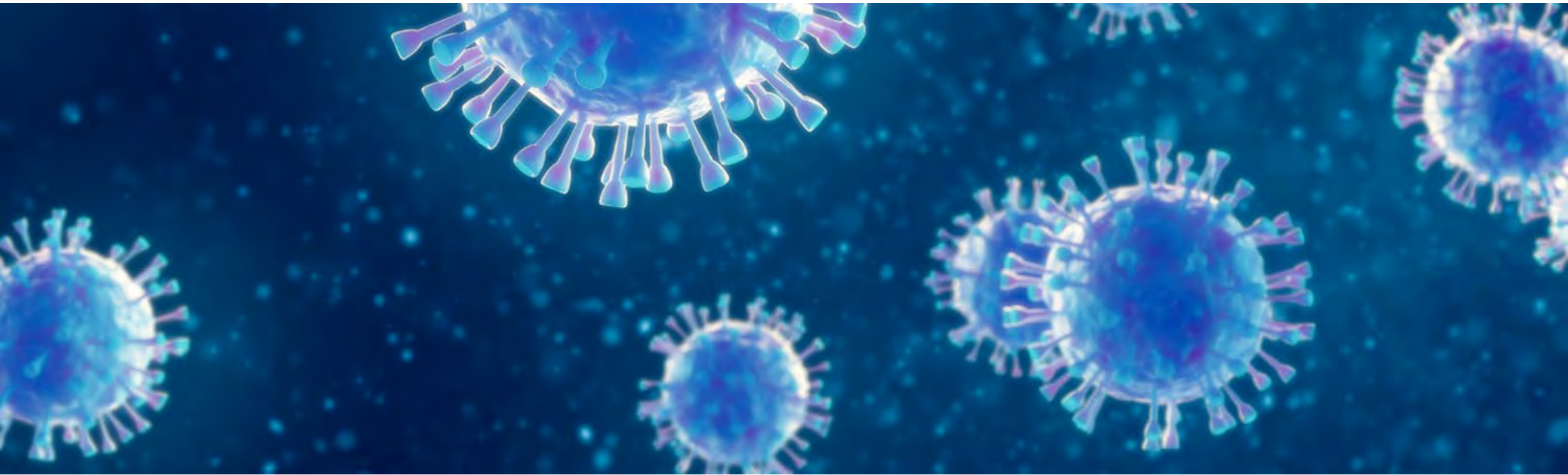




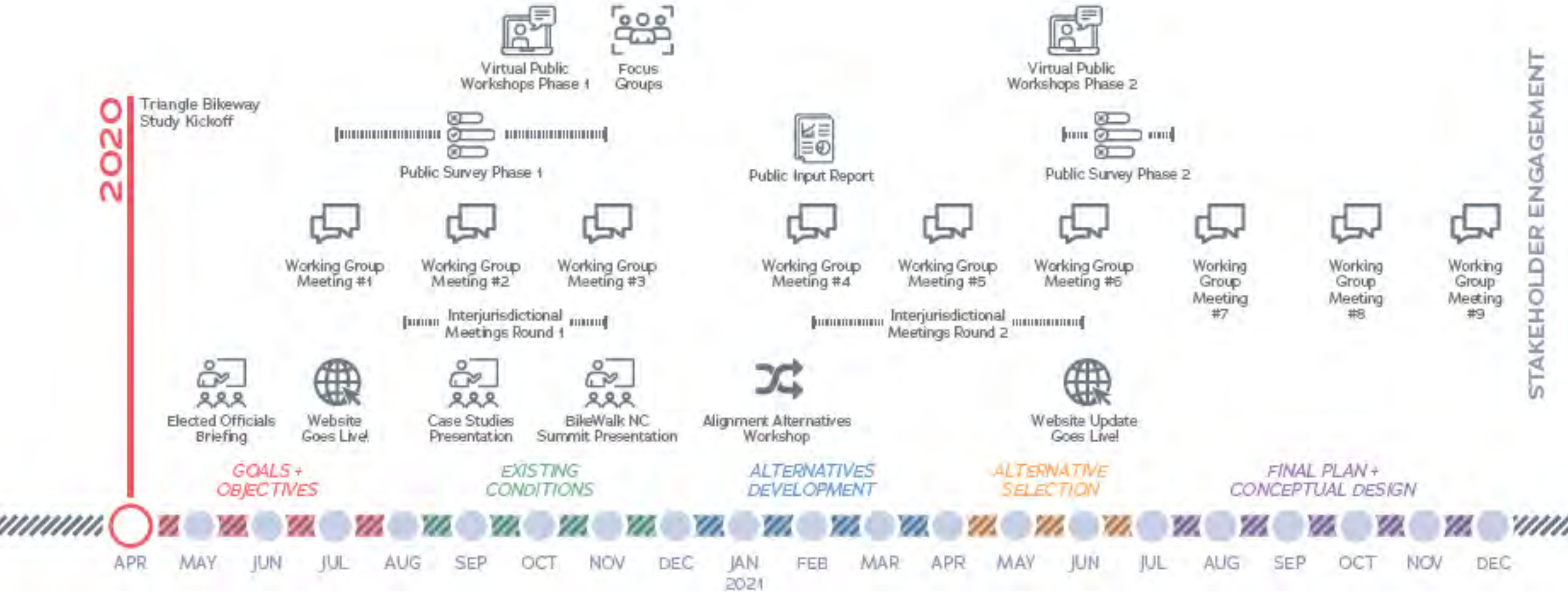


# COMMUNITY VOICES











## Effective Multi- Jurisdictional Coordination

Include  
decision  
makers early.



## Broad Stakeholder Involvement

Ensure all  
necessary  
parties are  
involved.



## Meaningful Engagement with Under- Engaged Groups

Engage groups  
historically  
excluded from  
planning.



## Adaptive Engagement During Covid-19

Combine  
virtual and  
socially  
distanced  
in-person  
engagement.

40+ Bi-weekly Project Meetings

9 Working Group Meetings

7 MPO Meetings

3 Focus Group Meetings

10 Elected Officials Meetings

20+ Key Stakeholder Meetings

4 Virtual Public Meetings

8 Pop-Up Events

11 Jurisdictional Meetings

4,025 User Surveys Completed



**2,116**  
PEOPLE  
RESPONDED

- to the -

**PHASE I  
SURVEY**



**5,508**  
POINTS

- added to the -

**DESTINATION  
SURVEY MAPS**



**2,009**  
PEOPLE  
RESPONDED

- to the -

**PHASE II  
SURVEY**



**15**  
MEETINGS,  
WORKSHOPS  
- and -  
EVENTS



**133**  
COMMENTS  
- on the -  
CROWDSOURCE  
WEB MAP





## TRIANGLE BIKEWAY STUDY

NC CAMPO



DCH&MPO



The Triangle Bikeway project will study the idea of a 17-mile bicycle path. The bikeway will link Raleigh, Research Triangle Park (RTP), Durham and Chapel Hill along I-40 and NC 54. The current planning effort includes design and construction recommendations between Raleigh and RTP, and a corridor assessment for the connection west to Durham and Chapel Hill. The bikeway will connect Triangle communities making both short and long bike trips for work, play and daily errands possible. Ideas from residents will shape the plan. Agencies across the region are working together in the planning process, which will take approximately 18 months.

*“Excited to see this project happening. I will be able to safely switch to 100% bike commuting when the bikeway is complete.”*

*- Comment on project website*

### EVENTS & RESOURCES

VIRTUAL PUBLIC  
WORKSHOPS & FOCUS  
GROUPS



### HELP SHAPE THE PLAN

TAKE THE METROQUEST  
SURVEY!



For more information about our surveys, please call 919-490-4403.

### SHARE YOUR KNOWLEDGE OF THE CORRIDOR

PUBLIC COMMENT MAP



### EXPLORE OTHER BIKEWAYS IN THE U.S.

CASE STUDIES





We are pleased to present the Triangle Bikeway Study. Through the diligent and committed leadership of the Capital Area and Durham Chapel Hill Carrboro MPOs, this study has taken a back of the napkin idea and developed it into a viable, community-supported project that will change our region for the better in the following ways:

**Model for Regional Transportation Projects** – The Triangle has sometimes struggled to act as one region when advancing transportation projects. The evolution of the Triangle Bikeway is deeply rooted in each community that it touches. This deliberate, distributed model of planning yielded energetic consensus and clear next steps.

**Bold Step to Future Proof our Region** – With the advent of electric assist bikes, bicycling for transportation is no longer limited to experienced cyclists. People of all ages and abilities are finding the freedom and satisfaction that comes with making trips under our own power. The study also maximizes locations where the Triangle Bikeway route connects to existing and future transit to further expand commuting options.

**Low Cost / No Emissions Connections to Job-Rich Corridor** – The I-40 corridor is the gateway for thousands of jobs in both professional and service industries. The Triangle Bikeway will provide low-cost access to employment opportunities without increasing traffic congestion on our highways.

**Powerful Partnership Model with NCDOT** – NCDOT has been engaged and supportive throughout the entire study process. The agency's growing commitment to multi-modal transportation is an essential element to the success of this and other projects seeking to leverage state resources to create safe and vibrant transportation corridors.

The Triangle Bikeway vision is the result of the collective work of citizens, elected officials, staff and advocates across two counties and five municipalities. Over roughly 18 months, nine working group meetings, two extensive public engagement campaigns, over 30 meetings with individual stakeholders and countless work hours have resulted in a vibrant common vision.

As County Commissioners, our charge is to position our communities to thrive, adapt and evolve to maintain our position as one of the best places in the country to live and work. Our challenge to you is to join us in the hard work ahead to make the Bikeway part of our everyday lives in the Triangle. Funding design and construction will require creativity, perseverance, and teamwork across jurisdictions. We look forward to standing with you on Triangle Bikeway ribbon cutting day!



**Commissioner Wendy Jacobs**  
Vice Chair  
Durham County  
Board of Commissioners  
Chair, DCHC MPO Board




**Commissioner Sig Hutchinson**  
Chair  
Wake County  
Board of Commissioners  
Chair, CAMPO Executive Board










# Stakeholders



**US Army Corps  
of Engineers®**

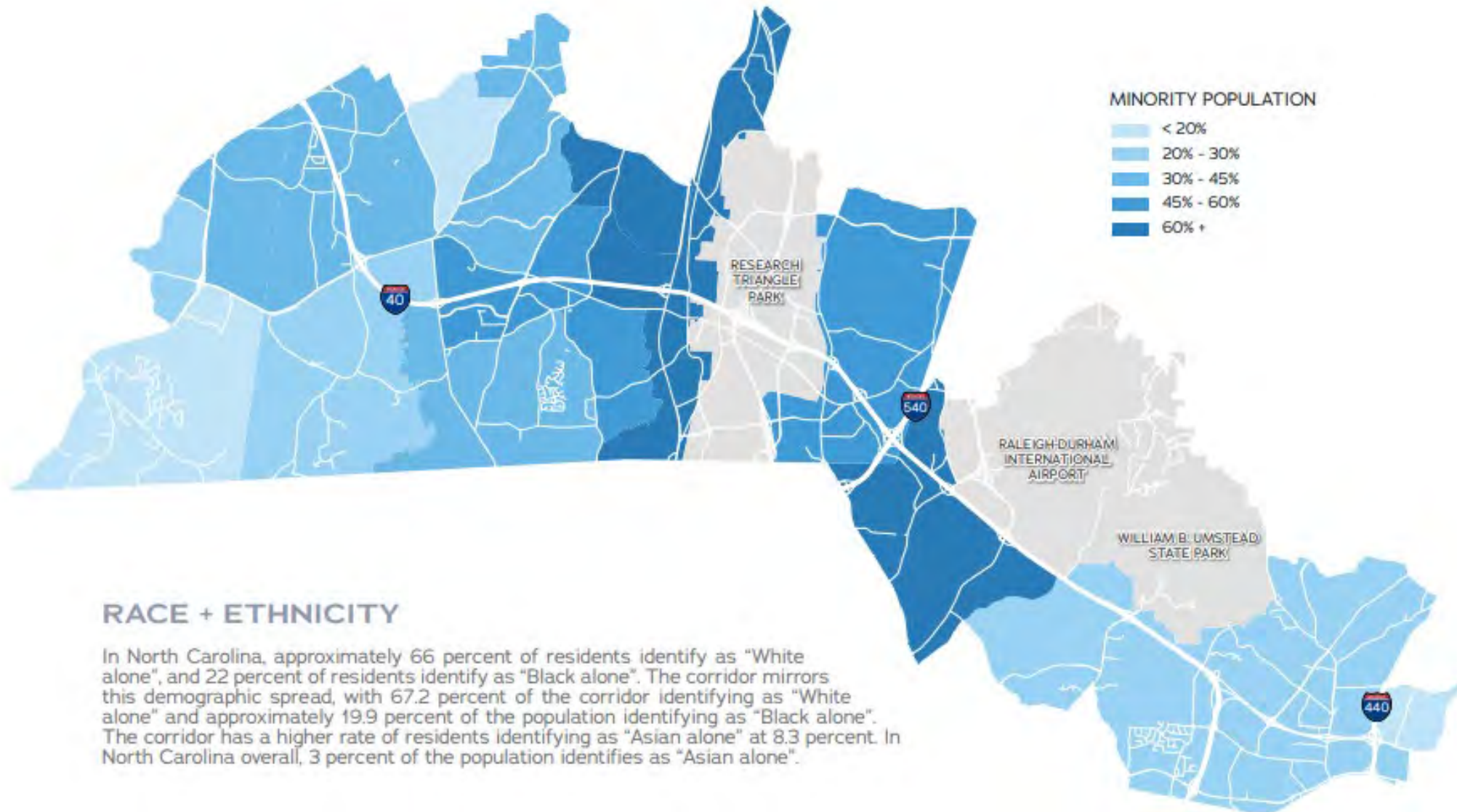


 **MCADAMS**

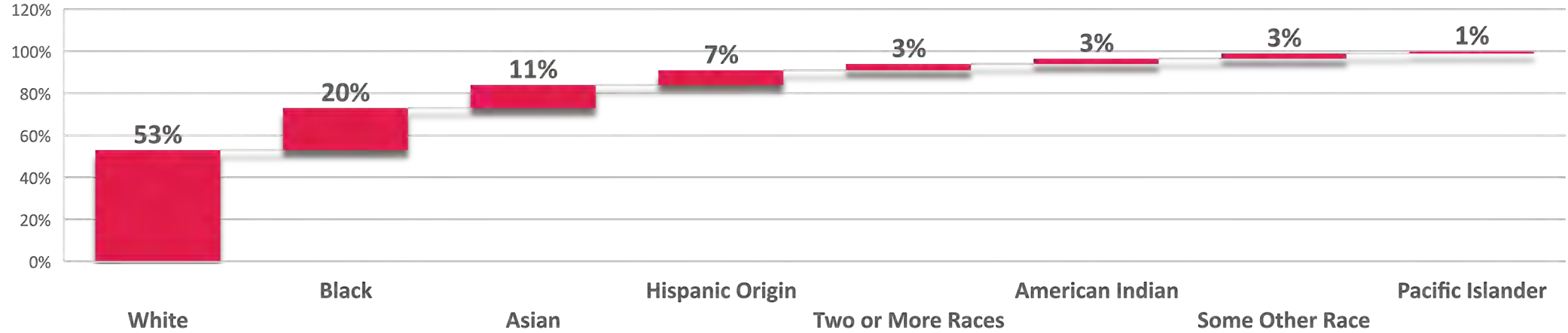


**North Carolina Museum of Art**

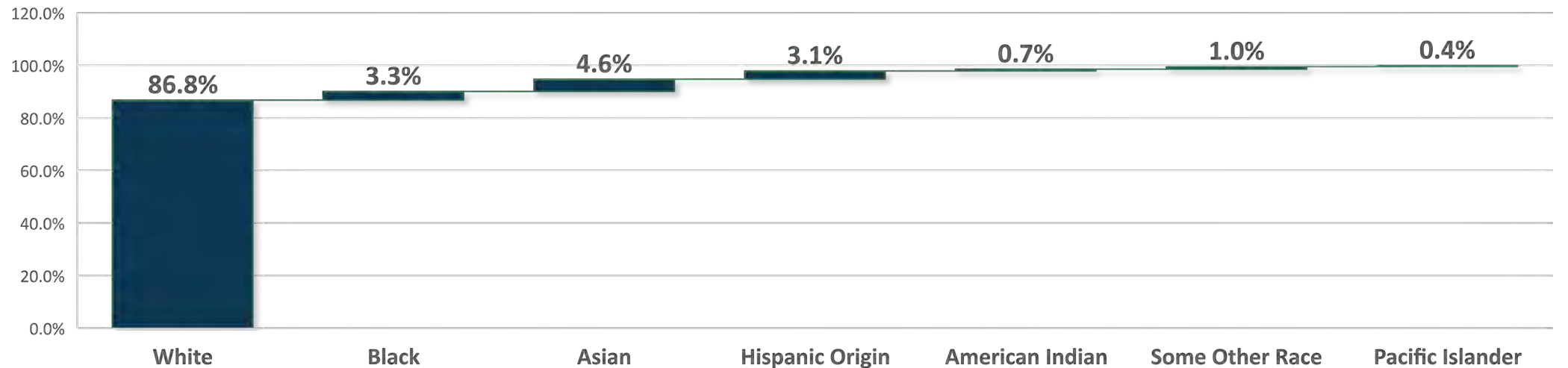




## Corridor Demographics



## Survey Demographics

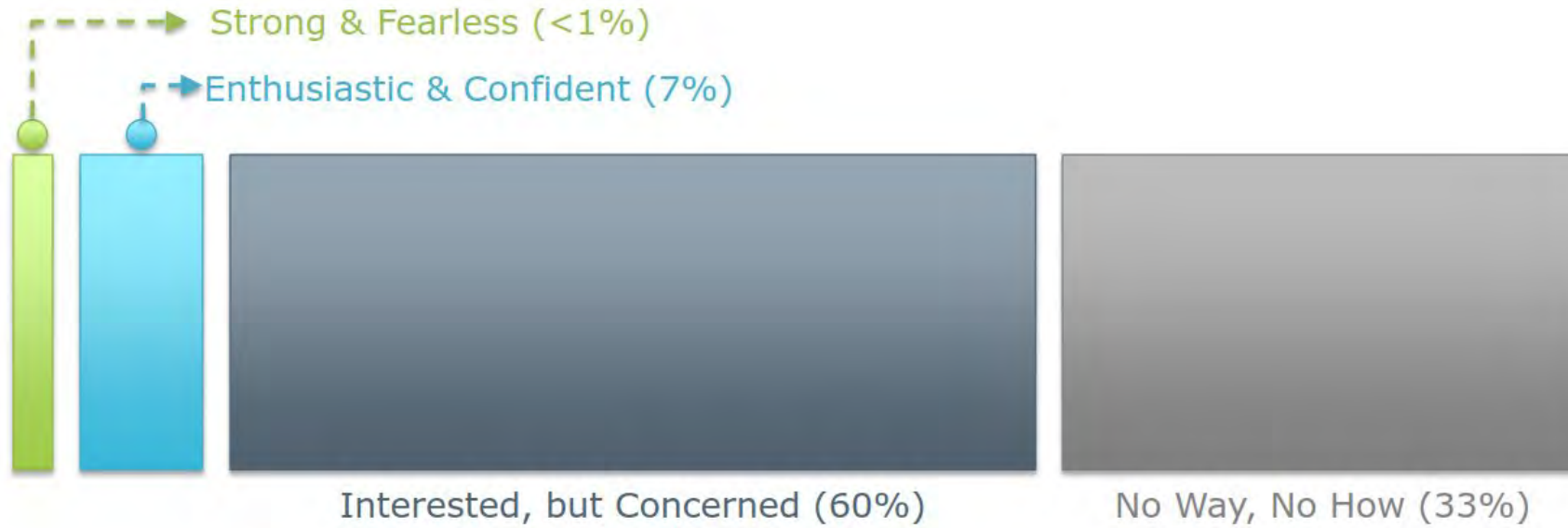




- › Under-represented groups
  - › Black
  - › Hispanic
  - › Asian
  - › Transit Users
  - › Modest and Low Income
- › Strong Support for Project
- › Desired Equitable Access
- › Should Integrate with Transit
- › Designed for Users of all Ages and Abilities

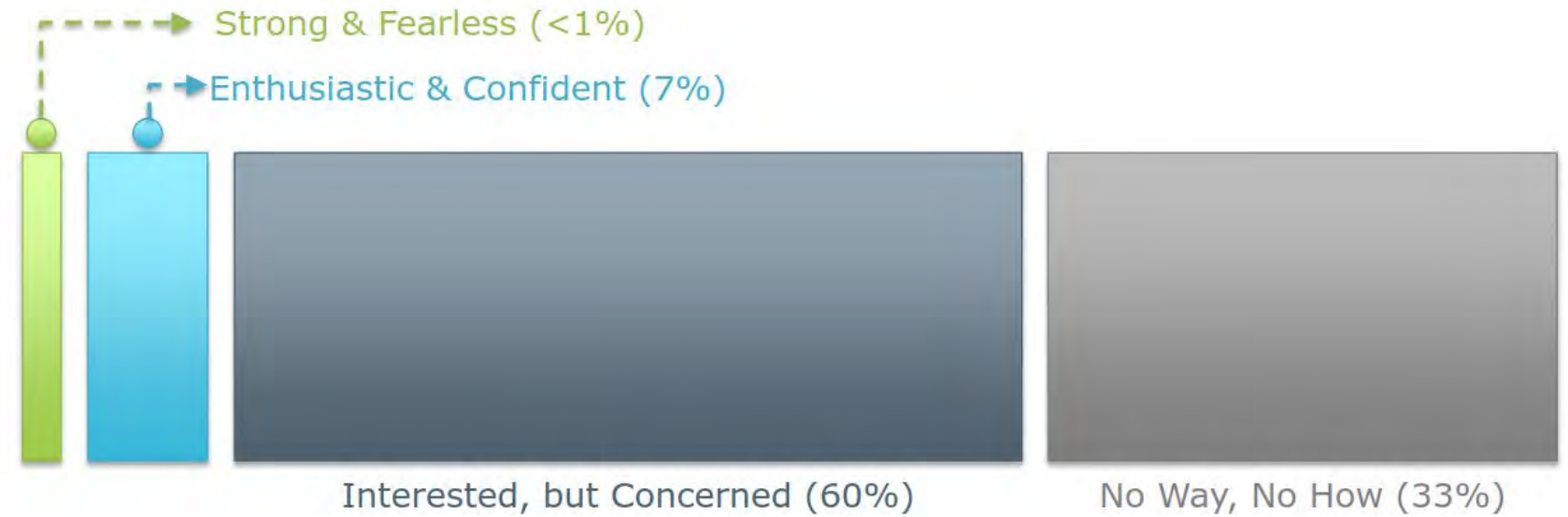


# Calibrating Respondents

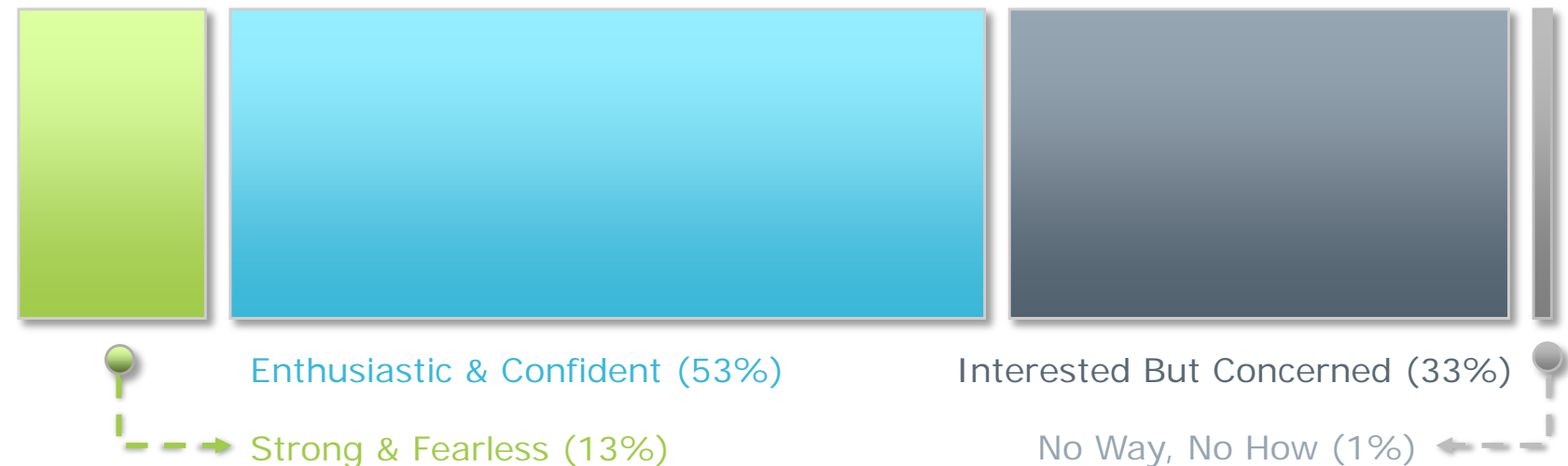




## Portland Study

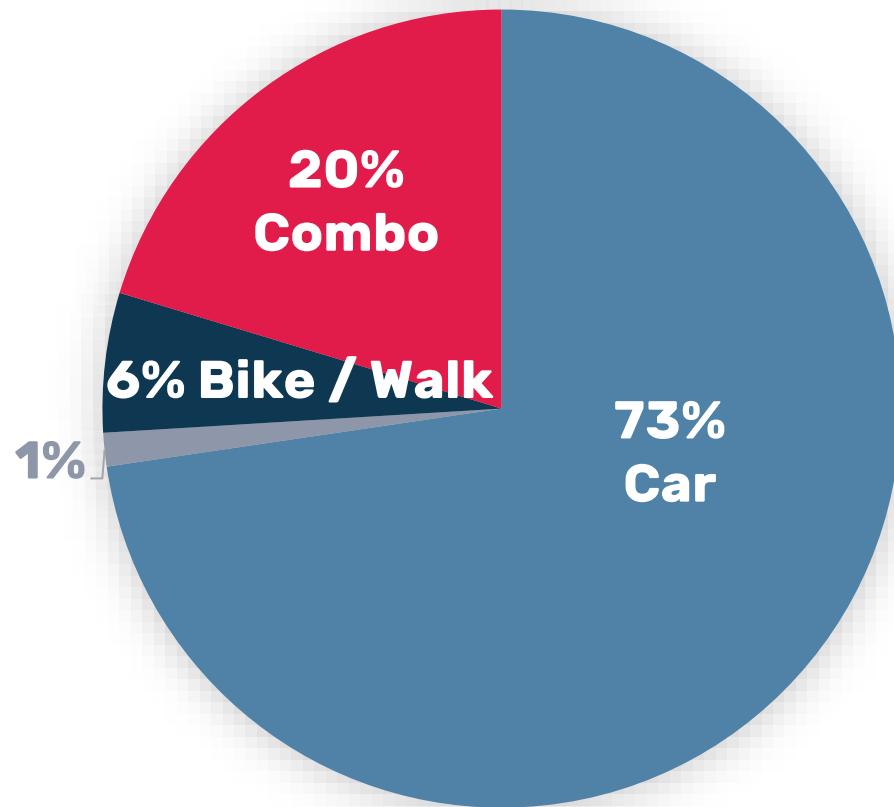


## Triangle Bikeway Survey

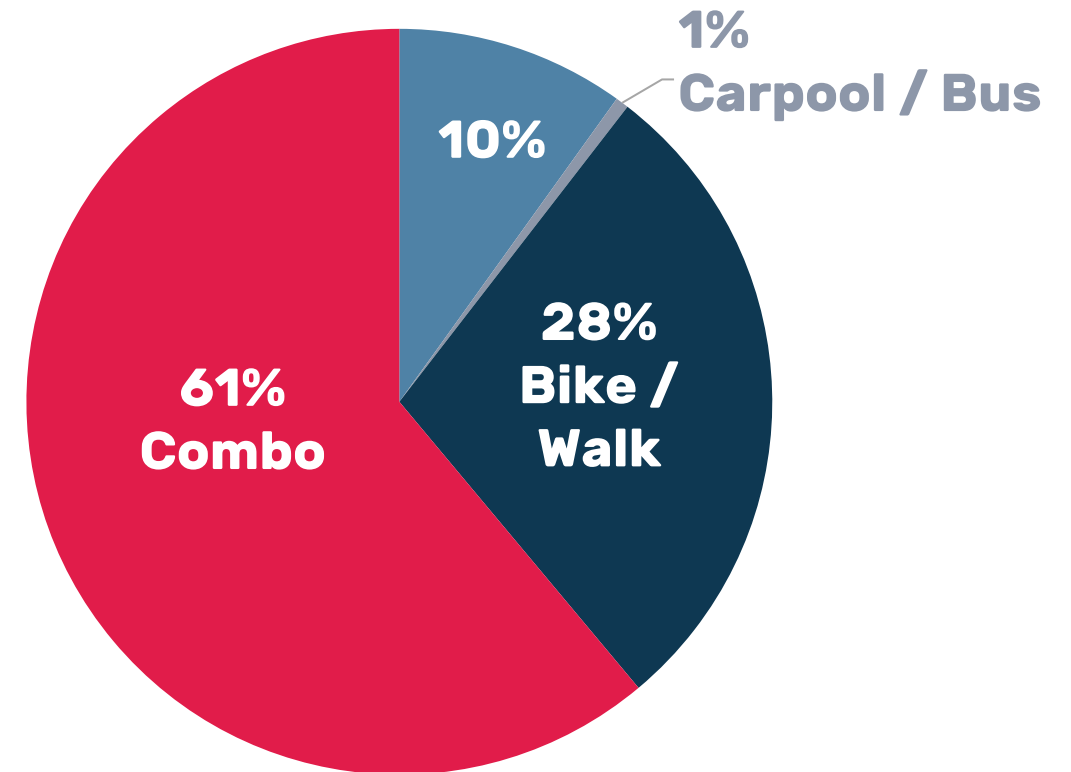


# Current vs. Desired Commute Pattern

## Current Commute

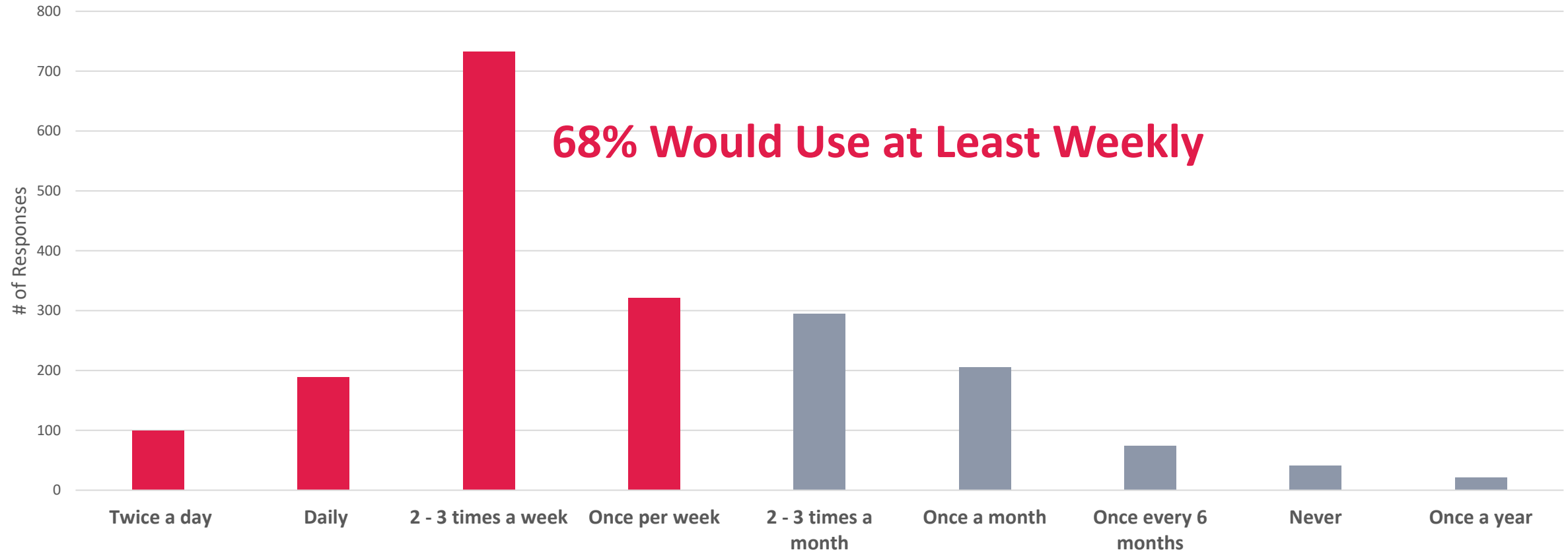


## Desired Commute





# Frequency of Use by Cyclist Type





## EQUITY

Prioritize equal access to the Triangle Bikeway for all, through public engagement, project delivery and investment.



## CONNECT TO JOBS

Provide seamless connections between the Triangle Bikeway, the regional transportation network, employment centers and local neighborhoods.



## SAFETY

Address the safety needs of users of all ages and abilities in the design and development of the Triangle Bikeway.



## REGIONAL COLLABORATION

Collaborate with government entities and other regional stakeholders to understand priorities and concerns. Build support of jurisdictional partners for future funding, design, construction and maintenance.



## TRANSPORTATION CHOICE

Provide a direct and accessible route separated from traffic as a bicycling and walking option for commuters and recreational users. Make meaningful connections to transit and active transportation networks.



## PUBLIC BENEFIT + SUPPORT

Listen to the community to help identify opportunities and challenges. Recommend an alignment that will generate public support and build momentum for future funding efforts.



## FEASIBILITY

Utilize locations for the bikeway alignment that are permittable and reduce the time required for implementation. Minimize the impact of the bikeway on environmental features and the natural habitat.



## IDENTITY

Create a unique identity for the bikeway that will be instantly recognizable and highlight the regional commitment to both recreational and commuter bicycling to residents and visitors alike.



## RESILIENCY

Support mode shift goals and reduce emissions / other transportation-related environmental impacts while expanding access to active living and positively impacting community health.

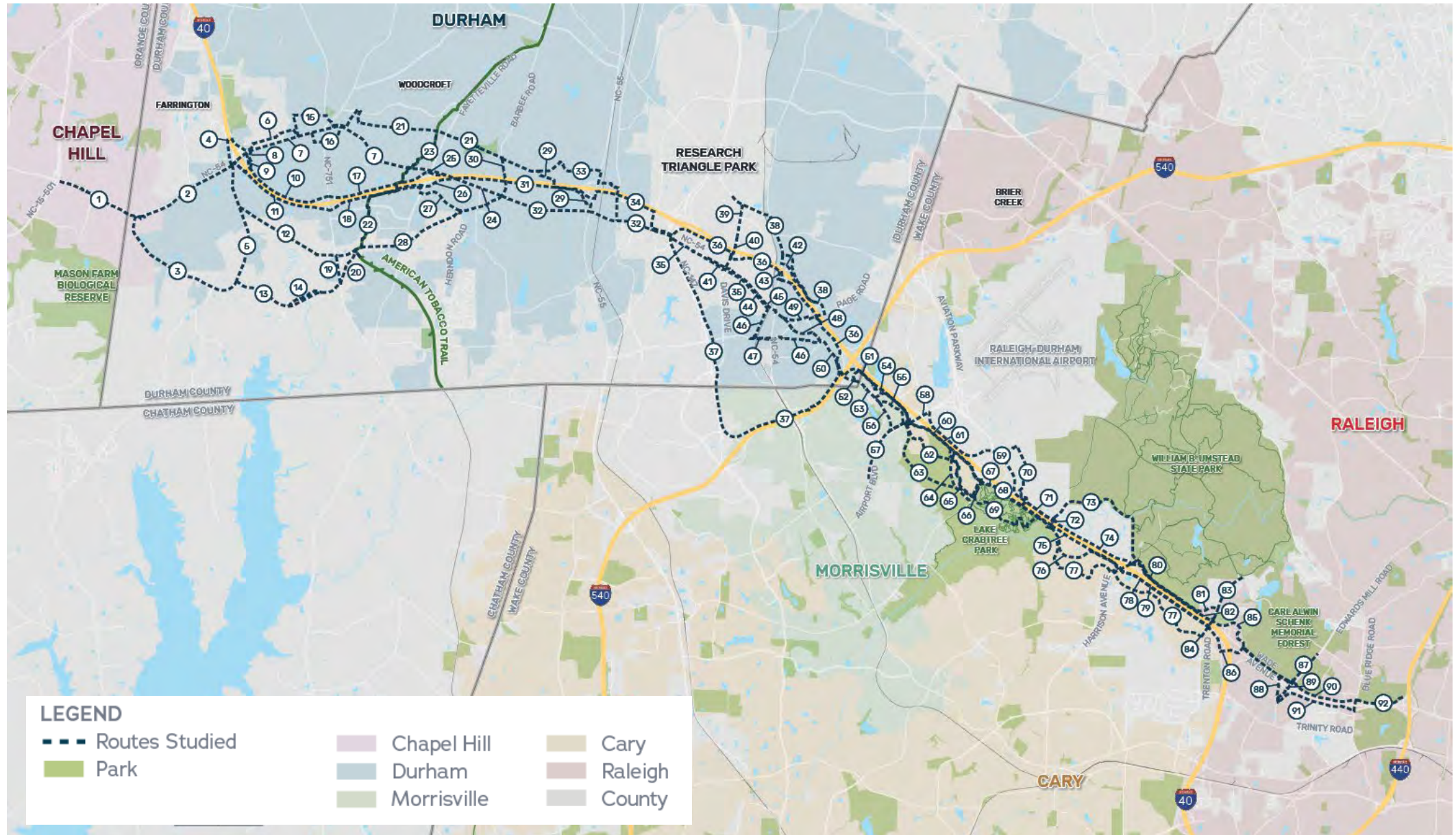


- › Avoid outreach during Presidential Election and/or pandemic surge
- › Partner with Paid Community Rooted Outreach Professionals
- › Create events that draw people, then ask questions
- › Hybrid In-Person and Virtual is a breakthrough in outreach
  - › Much higher participation
  - › All meetings were more highly attended
  - › Public meetings during lunch hours were a big hit
  - › Dynamic website is essential
- › Trust must be built and earned – it will take time

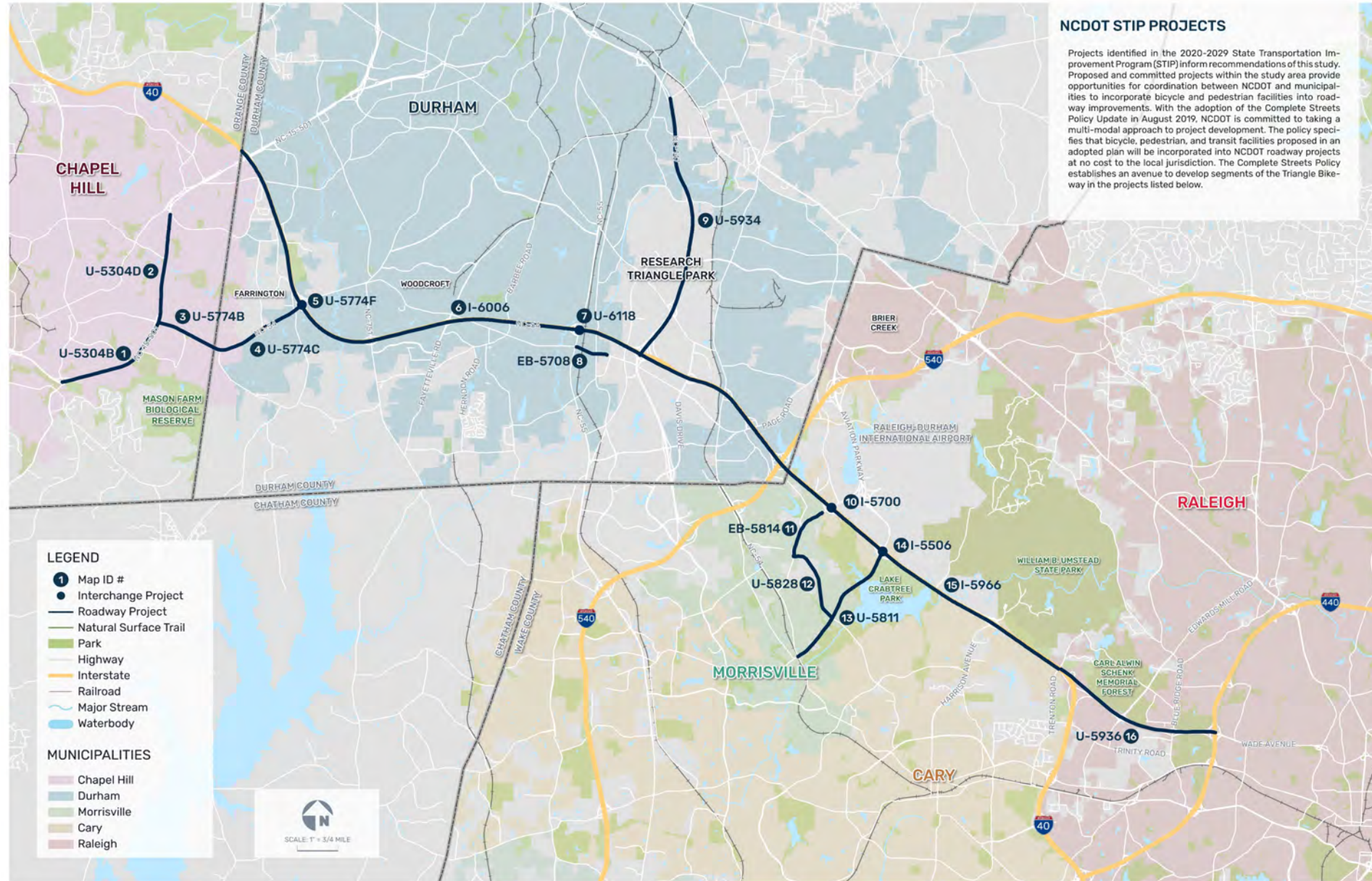
# ALTERNATIVES ANALYSIS



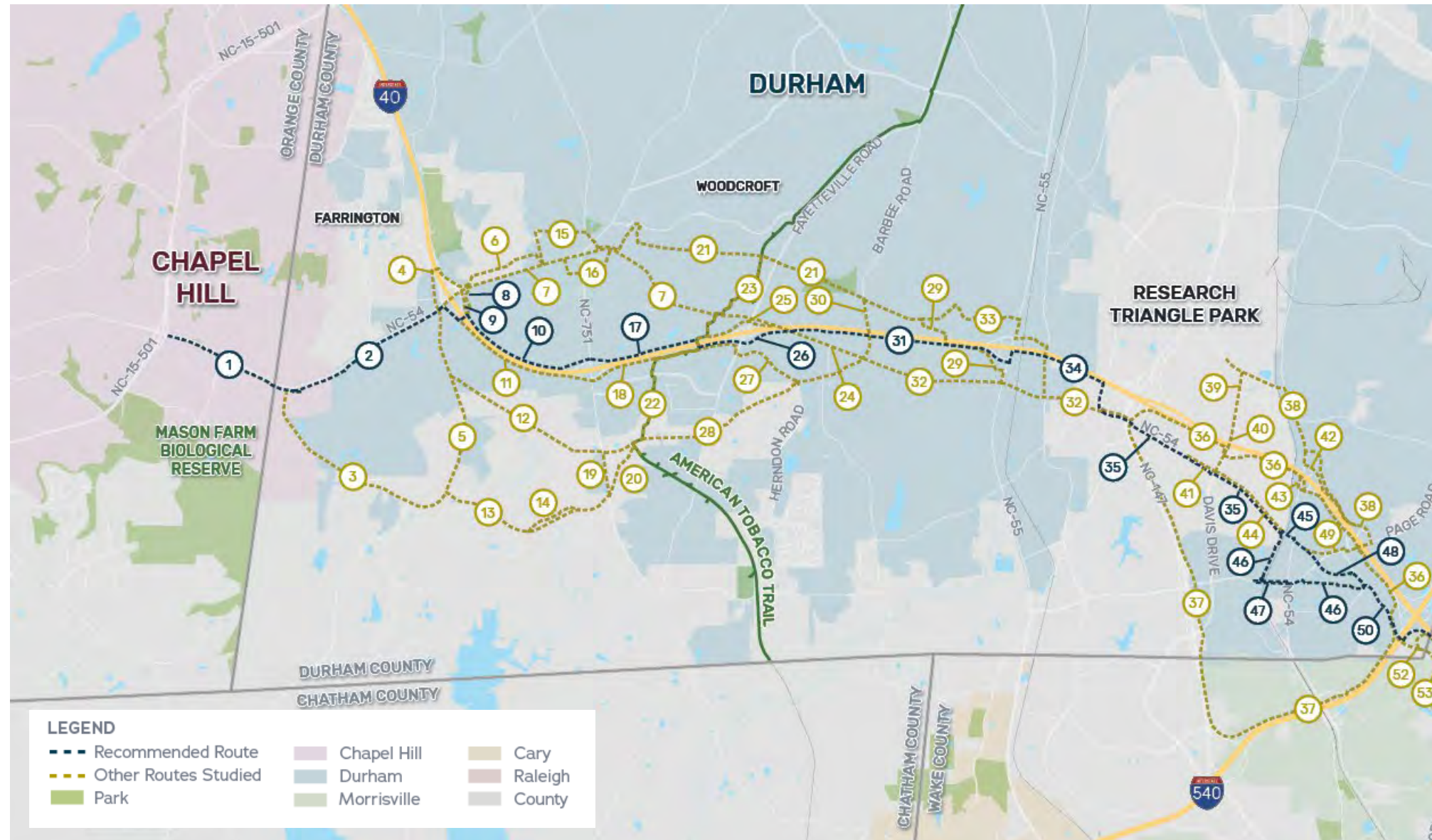






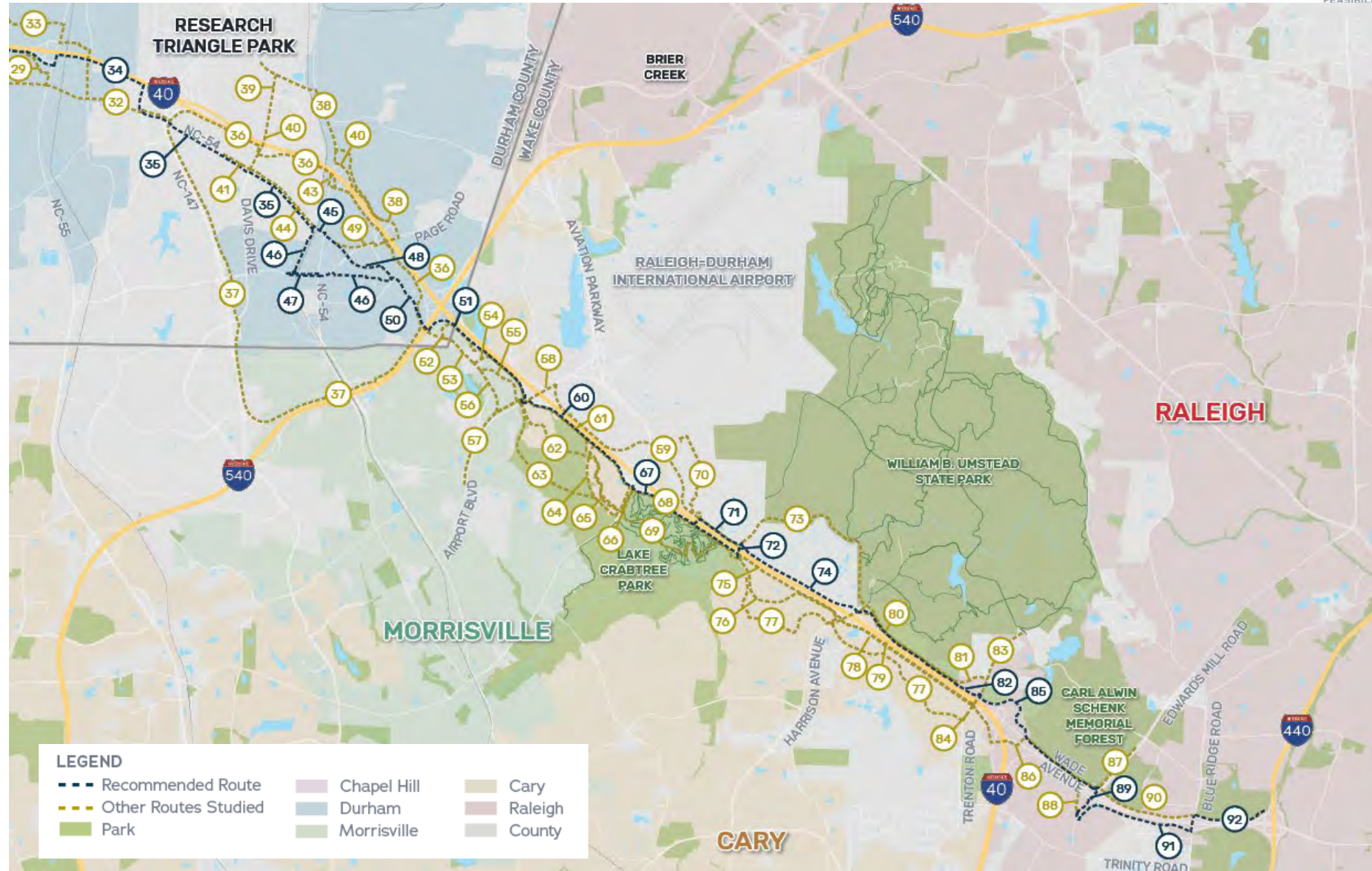








# Alternative Evaluation - East



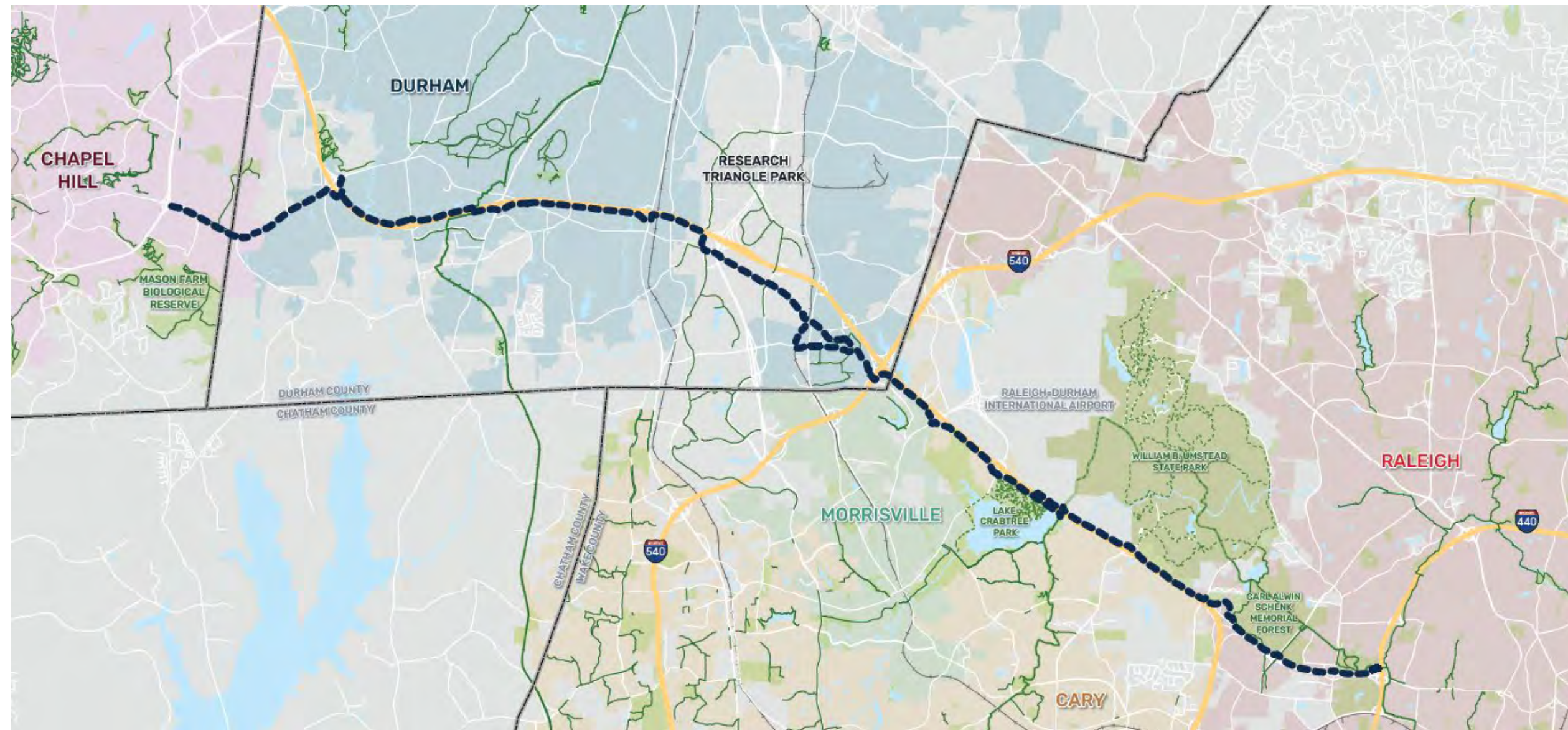


## Segments Removed from Further Consideration

ID	Jurisdiction	Category	Notes	Key Stakeholders
3	Chapel Hill/Durham	Dependent Upon Infeasible Alignment	Barbee Chapel Road in this area includes a large tract preserve under the NC Agricultural Development and Farmland Preservation Trust, which creates a narrow right-of-way.	USACE; Chapel Hill; Durham; NCDOT
4	Durham	Safety Concerns	Pedestrian bridge over I-40 west of the exit would require several high ADT crossings with free flow turning movements of I-40/NC54 interchange.	USACE; Durham; NCDOT
5	Durham	Dependent Upon Infeasible Alignment	Segment #13 has been removed from consideration and therefore makes this segment void.	USACE; Durham; NCDOT
6	Durham	Environmental Constraints	Under the conditions for the creation of Jordan Lake the Army Corps of Engineers is obligated to keep these lands open to hunting and deem trails an incompatible use. Any trails need to be located in existing NCDOT right-of-way. In addition to USACE mitigation commitments all options through Waterfowl Impoundment would require extensive boardwalk and would likely be prohibitively expensive.	USACE; Durham
7	Durham	Included in Another Project	Shared use paths are recommended on both sides of NC54 as part of the U-5774 project.	USACE; Durham; NCDOT
11	Durham	Environmental Constraints	Under the conditions for the creation of Jordan Lake the Army Corps of Engineers is obligated to keep these lands open to hunting and deem trails an incompatible use. Any trails need to be located in existing NCDOT right-of-way. This south side of I-40 through USACE property would also require building structure over a spillway.	USACE; Durham; NCDOT
12	Durham	Environmental Constraints	Under the conditions for the creation of Jordan Lake the Army Corps of Engineers is obligated to keep these lands open to hunting and deem trails an incompatible use. Any trails need to be located in existing NCDOT right-of-way. In addition to USACE mitigation commitments all options through Waterfowl Impoundment would require extensive boardwalk and would likely be prohibitively expensive.	USACE; Durham; Dominion Energy
13	Durham	Environmental Constraints	Under the conditions for the creation of Jordan Lake the Army Corps of Engineers is obligated to keep these lands open to hunting and deem trails an incompatible use. Any trails need to be located in existing NCDOT right-of-way, which not wide enough on Stagecoach Rd to accommodate the facility.	USACE; Durham; NCDOT
14	Durham	Environmental Constraints	Under the conditions for the creation of Jordan Lake the Army Corps of Engineers is obligated to keep these lands open to hunting and deem trails an incompatible use. Any trails need to be located in existing NCDOT right-of-way. This segment through USACE property would also require building structure over a spillway.	USACE; Durham; NCDOT
15	Durham	Dependent Upon Infeasible Alignment	Segment #8 has been removed from consideration and therefore makes this segment void.	USACE; Durham Schools; NCDOT
16	Durham	Indirect/Lacks Connections	Route conflicts with development plans and would be redundant to shared use paths planned for NC54 in U-5774	USACE; Durham
18	Durham	Dependent Upon Infeasible Alignment	Segment #11 has been removed from consideration and therefore makes this segment void. Alignment north of I-40 is recommended due to fewer environmental conflicts and better crossing geometry with NC751.	USACE; Durham
19	Durham	Dependent Upon Infeasible Alignment	Segments #12-14 have been removed from consideration and therefore make this segment void.	USACE; Durham; NCDOT
20	Durham	Dependent Upon Infeasible Alignment	Segments #12-14 have been removed from consideration and therefore make this segment void.	USACE; Durham
21	Durham	Indirect/Lacks Connections	While this alignment does connect to existing bicycle facilities in South Durham, it deviates away from employment and commercial centers. Would also require extensive property/easement acquisition.	Durham; Duke Energy
21	Durham	Indirect/Lacks Connections	While this alignment does connect to existing bicycle facilities in South Durham, it deviates away from employment and commercial centers. Would also require extensive property/easement acquisition.	Durham; Duke Energy
22	Durham	Dependent Upon Infeasible Alignment	Segments #12-14; #19-20; and #28 have been removed from consideration and therefore make this segment void.	Durham
23	Durham	Indirect/Lacks Connections	While this alignment utilizes the existing American Tobacco Trail in South Durham, it deviates away from employment and commercial centers. In addition, segment #21 has been removed from consideration, which would also make this segment void.	Durham
24	Durham	Included in Another Project	Shared use paths are recommended on both sides of NC54 as part of the U-5774 project.	Durham
25	Durham	Safety Concerns	NC54 west under I-40 bridge does not have adequate space for a protected bike facility. Recommended alignment uses American Tobacco Trail Bridge over I-40 to cross to southern alignment to avoid pinch point.	Durham; NCDOT
27	Durham	Dependent Upon Infeasible Alignment	Segment #28 has been removed from consideration and therefore makes this segment void.	Durham; NCDOT
28	Durham	Dependent Upon Infeasible Alignment	All alternatives connecting to this route from the west have been removed from further consideration and therefore make this segment void.	Durham; NCDOT
29	Durham	Dependent Upon Infeasible Alignment	Segment #21 has been removed from consideration and therefore makes this segment void. In addition, this route would require an underpass under I-40 and traversing across a power line easement.	Durham; NCDOT
30	Durham	Dependent Upon Infeasible Alignment	All alternatives connecting to this route from the south and north have been removed from further consideration and therefore make this segment void.	Durham
32	Durham	Included in Another Project	Shared use paths are recommended on both sides of NC54 as part of the U-5774 project.	Durham; RTP; NCDOT
33	Durham	Dependent Upon Infeasible Alignment	Segment #21 has been removed from consideration and therefore makes this segment void. This route would also require an at-grade crossing on the railroad.	Durham
36	RTP	Indirect/Lacks Connections	Preferred alternative utilizes NC54 to provide greater connections to jobs. This route also conflicts with NCDOT future plans for I-40.	Durham; RTP; NCDOT
37	RTP/Morrisville	Indirect/Lacks Connections	Routing the bikeway south along NC147 to continue north on I-540 would require extensive pedestrian bridges and tunnels. There is no feasible option for crossing of railroad and Church Street.	NCDOT
38	RTP/Durham	Conflicts with NCDOT Project	Preferred alternative utilizes NC54 to provide greater connections to jobs. This route also conflicts with NCDOT future plans for I-40.	Durham; RTP; NCDOT
38	Durham	Conflicts with NCDOT Project	Preferred alternative utilizes NC54 to provide greater connections to jobs. This route also conflicts with NCDOT future plans for I-40.	Durham; NCDOT
39	RTP	Conflicts with NCDOT Project	Preferred alternative utilizes NC54 to provide greater connections to jobs. This route also conflicts with NCDOT future plans for I-40.	RTP
40	RTP	Conflicts with NCDOT Project	Preferred alternative utilizes NC54 to provide greater connections to jobs. This route also conflicts with NCDOT future plans for I-40.	RTP; NCDOT

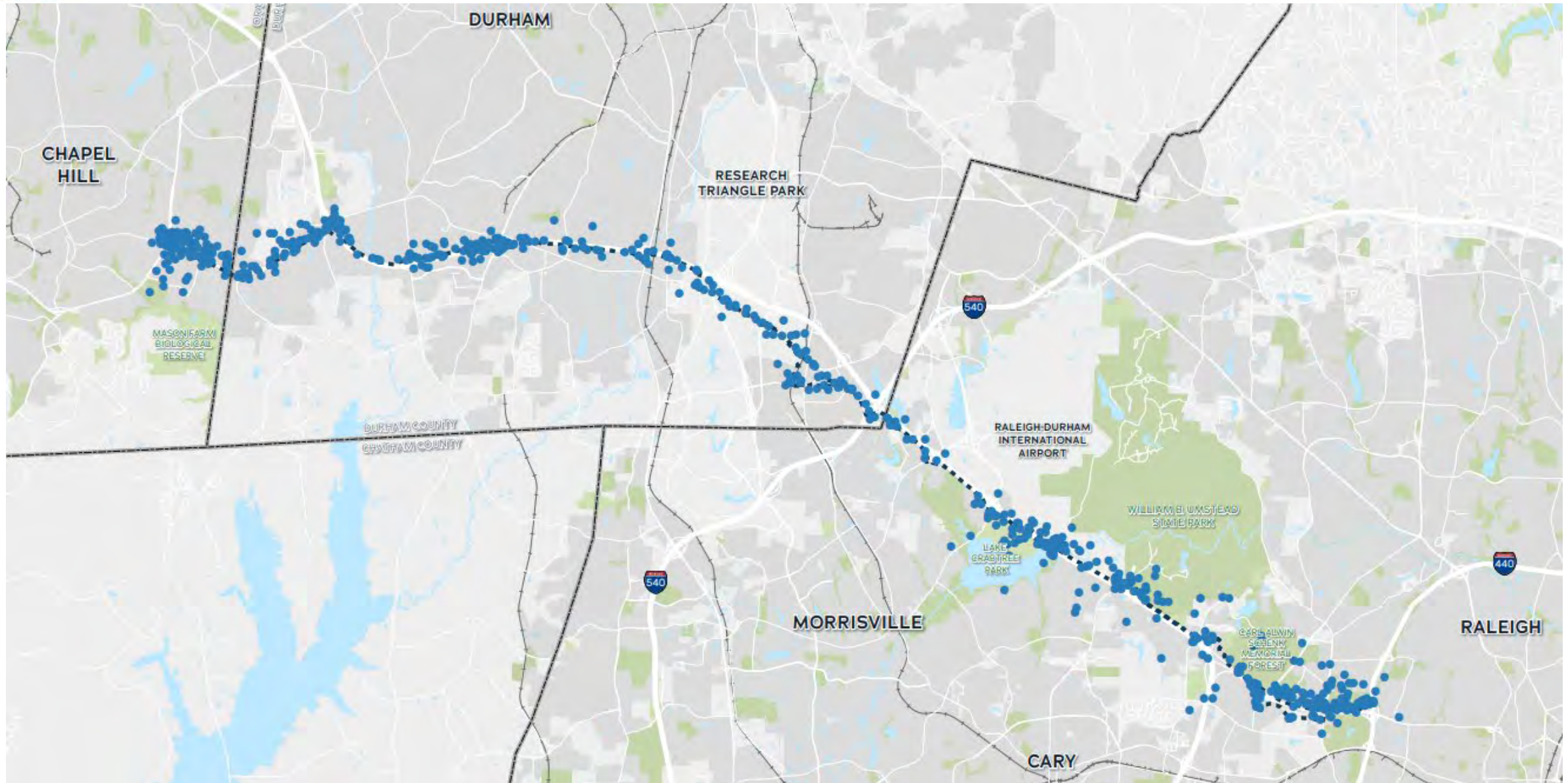


# Recommended Alignment





# Desired Walk Locations

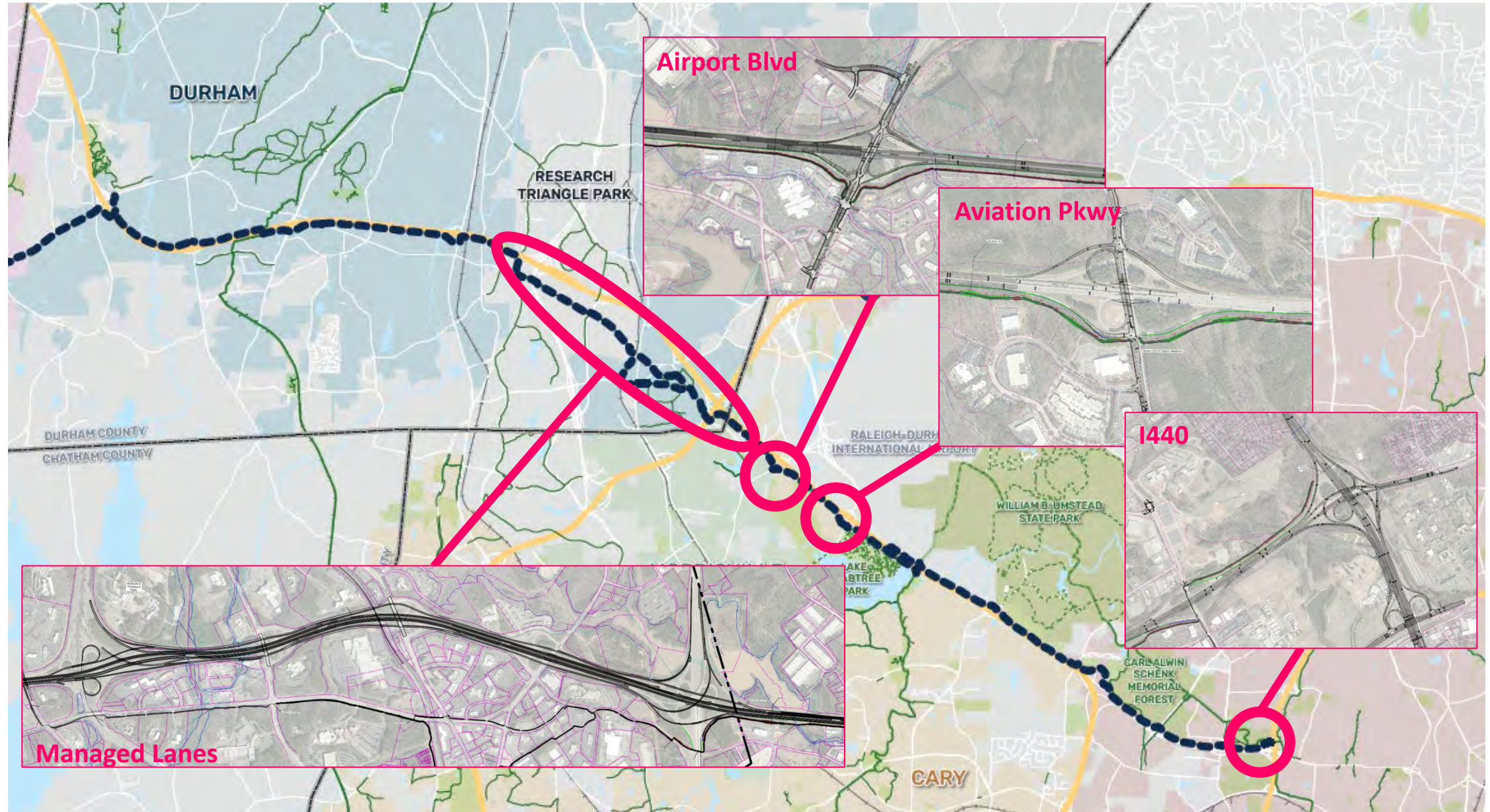




# TYPICAL SECTION







# IMPLEMENTATION







Scenario 1  
**Accelerated**



Scenario 2  
**Incremental**



Scenario 3.1  
**Gradual**



Scenario 3.2  
**Gradual**



<https://vimeo.com/635394973/e16e8e9365>