



FAST

Freeway And Street-based Transit network

Presented By:
VHB Team

RTA Breakfast, August 4, 2020

Preliminary Findings Update





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VHB | Principal-in-Charge



Chris Brasier, EI
VHB | Transit Planner



Roberta MK Fox, AIA, ASLA
Catalyst Design | Stakeholder Engagement
and Implementation



Sasha Pejicic, PMP
Stantec | Innovative Solutions



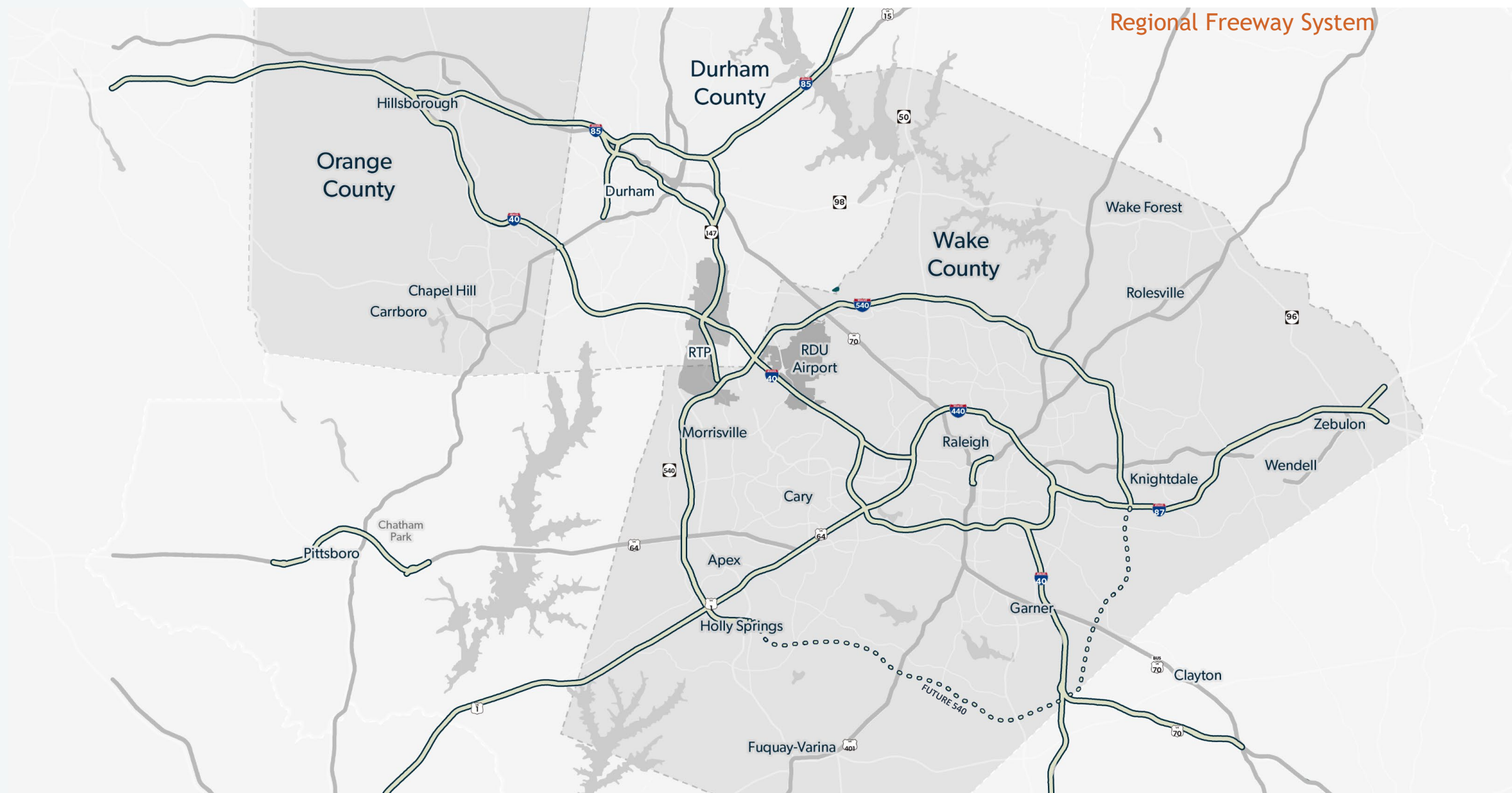
- **Advance ideas for improving and accelerating regional connectivity**
- Accelerate effective, all-day mobility along our freeway and street-system that can expand and improve over time
- Complement existing and emerging travel options
- Serve as a valuable template for other regions of the state

The background features a dark teal color with a large, diagonal white stripe running from the top-left to the bottom-right. This stripe is bordered by two diagonal bands of a bright lime green color. A series of small yellow dots are connected by thin white lines, forming a path that starts near the 'FAST' logo and extends towards the right side of the slide.

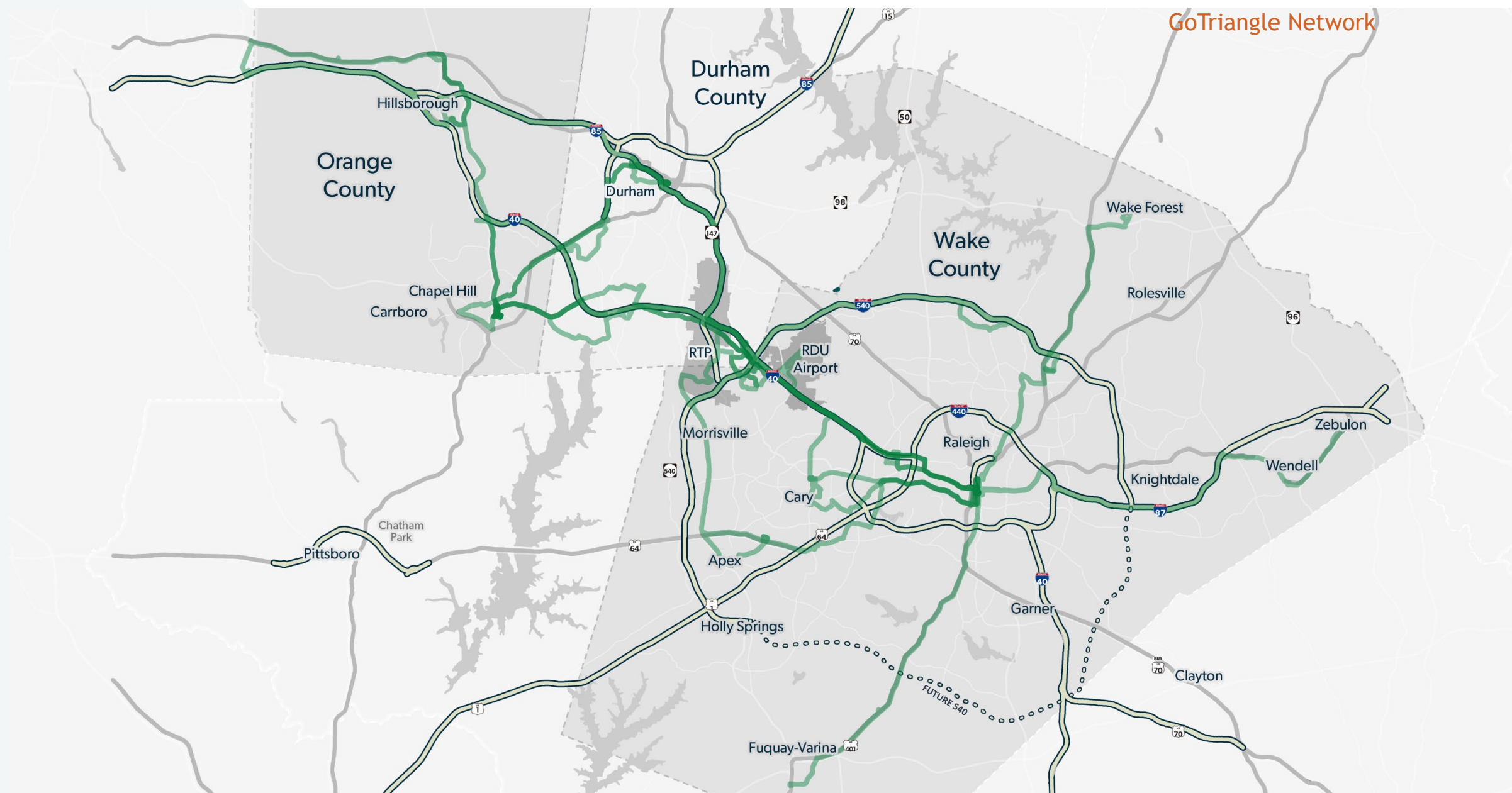
FAST

Freeway And Street-based Transit network

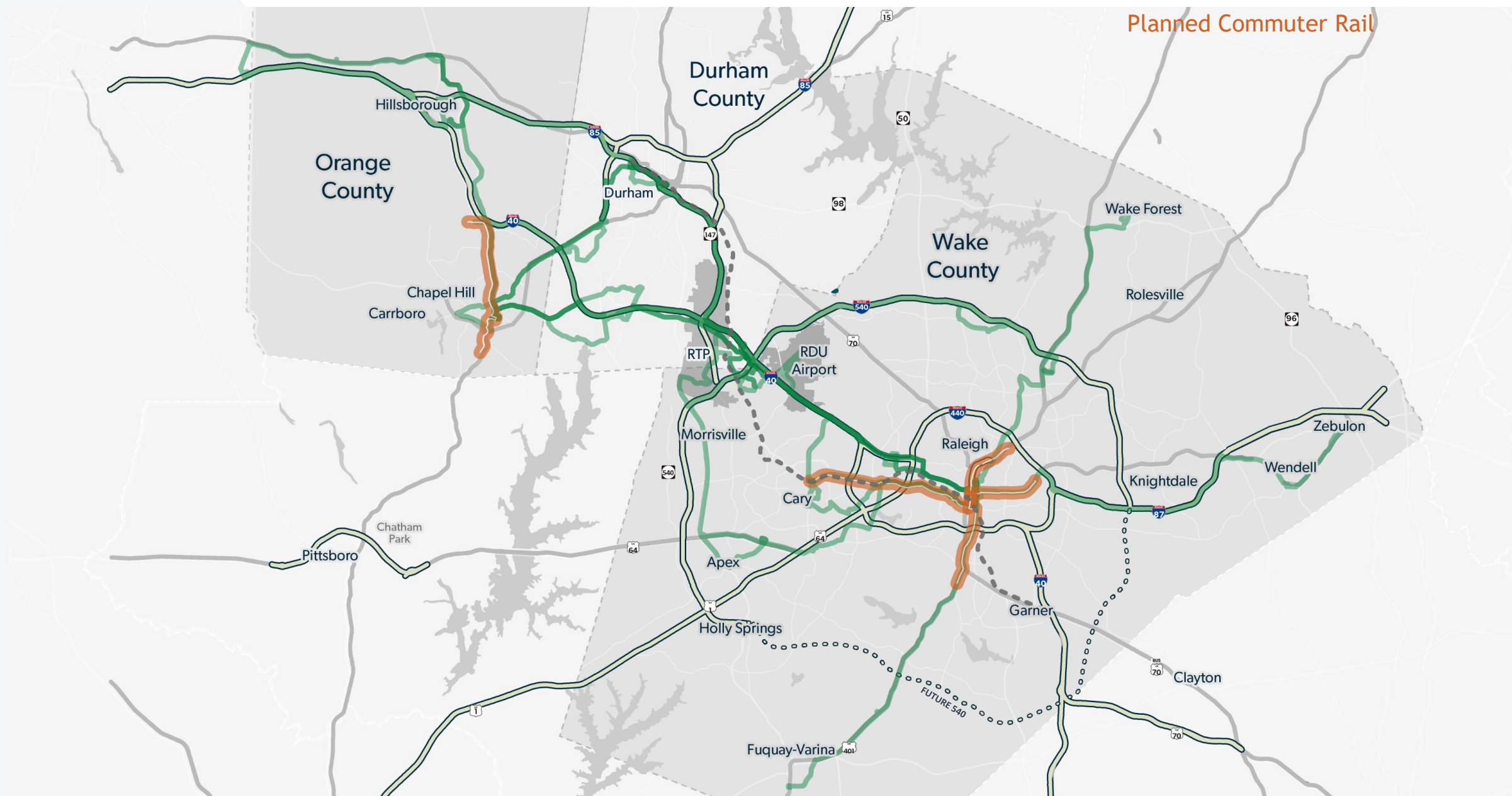
FAST study approach

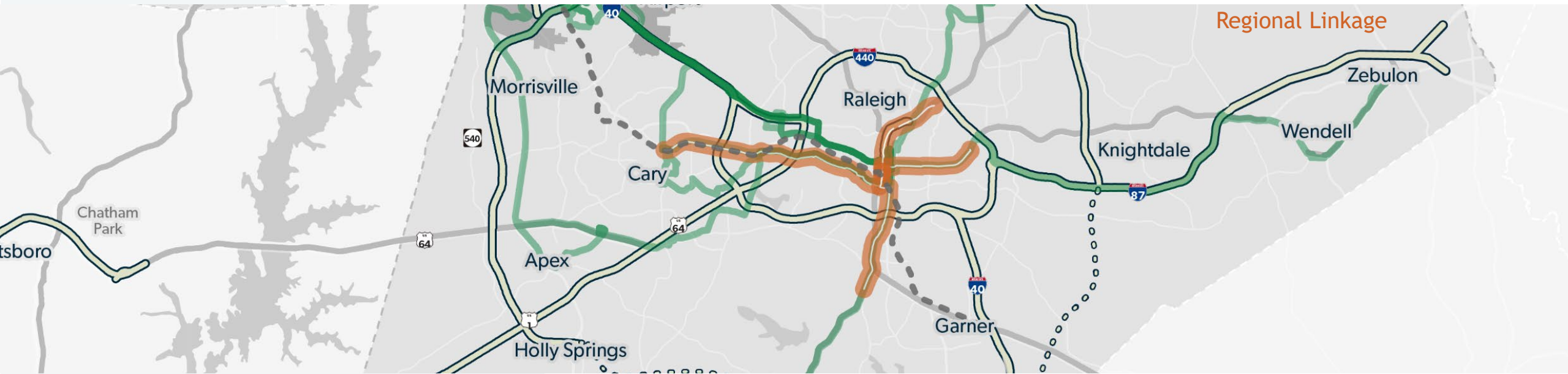


GoTriangle Network









- **BRT corridors:** High-frequency, high quality, subregional connections
- **Commuter rail:** Express, regional, low/moderate frequency connection
- **FAST:**
 - Assumes completion of BRT, multiple linkages to commuter rail
 - Provides complementary, effective, regional connections
 - **Accelerates creation of true regional transit network**

Creating a regional FAST network

- **Bigger** network – more routes
- **Better** network – more frequency, new service patterns
- **Faster** network – more “transit advantages”

*FAST **mindset**:*

Add improvements quickly, then scale them over time

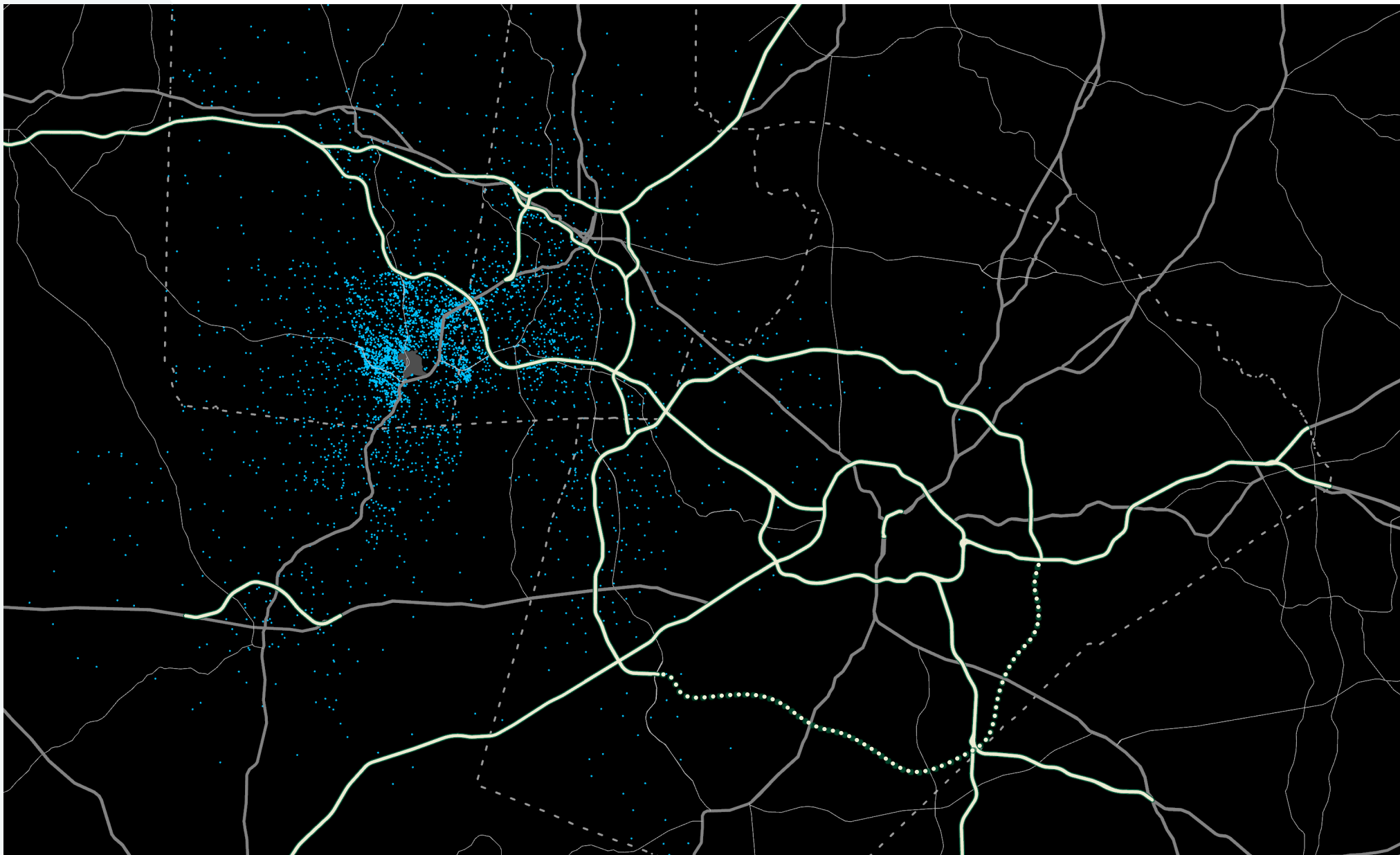
Mobility criteria

- Travel Demand
- Transit Performance
- Traffic Performance
- Context

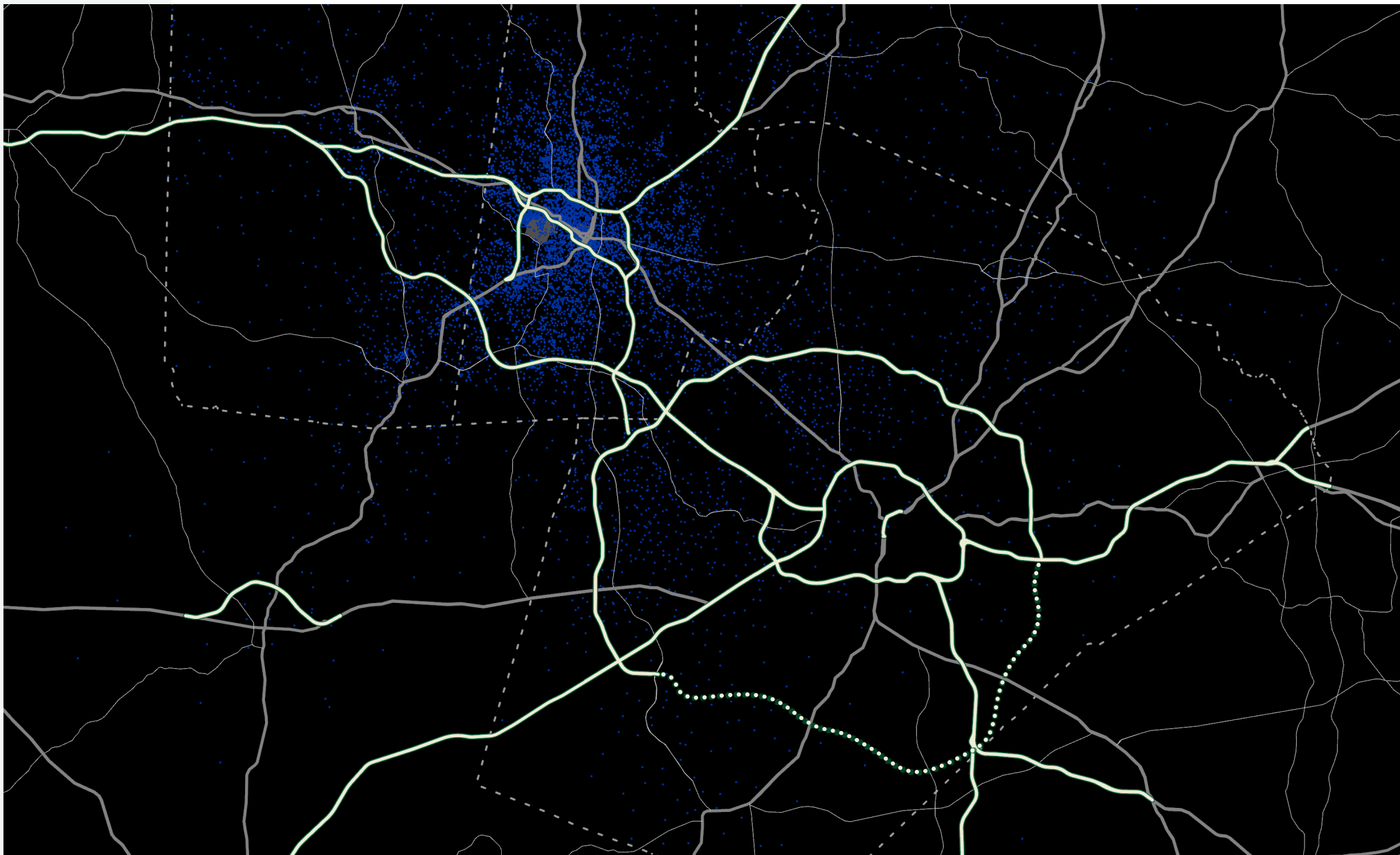
Accessibility criteria

- Access Equity
- Planned Projects
- Missing Links

2030 Trip Origins to Chapel Hill



2030 Trip Origins to Durham and Duke



2030 Trip Origins to South Durham





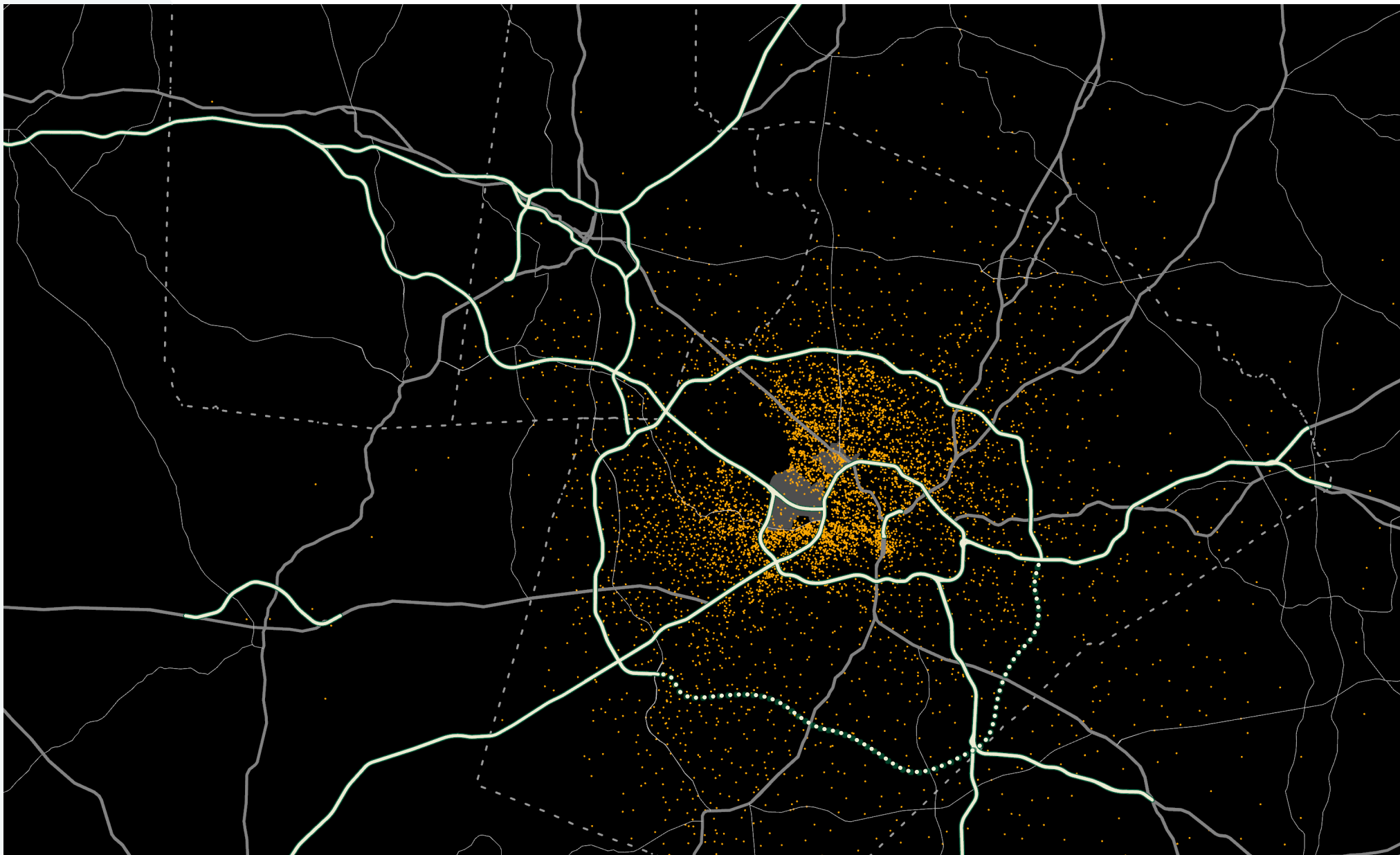
2030 Trip Origins to RDU



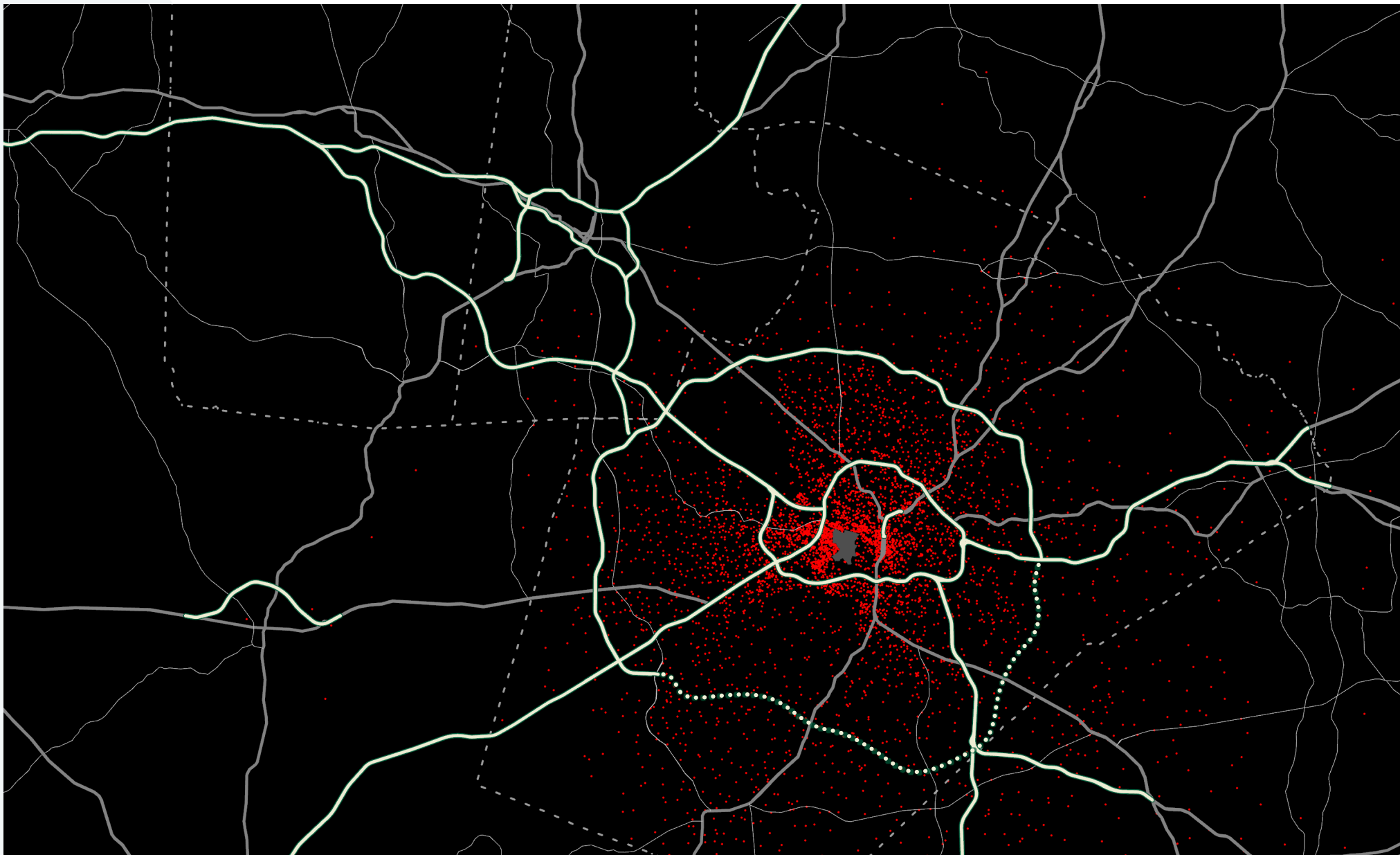
2030 Trip Origins to North Cary



2030 Trip Origins to Blue Ridge/Crabtree



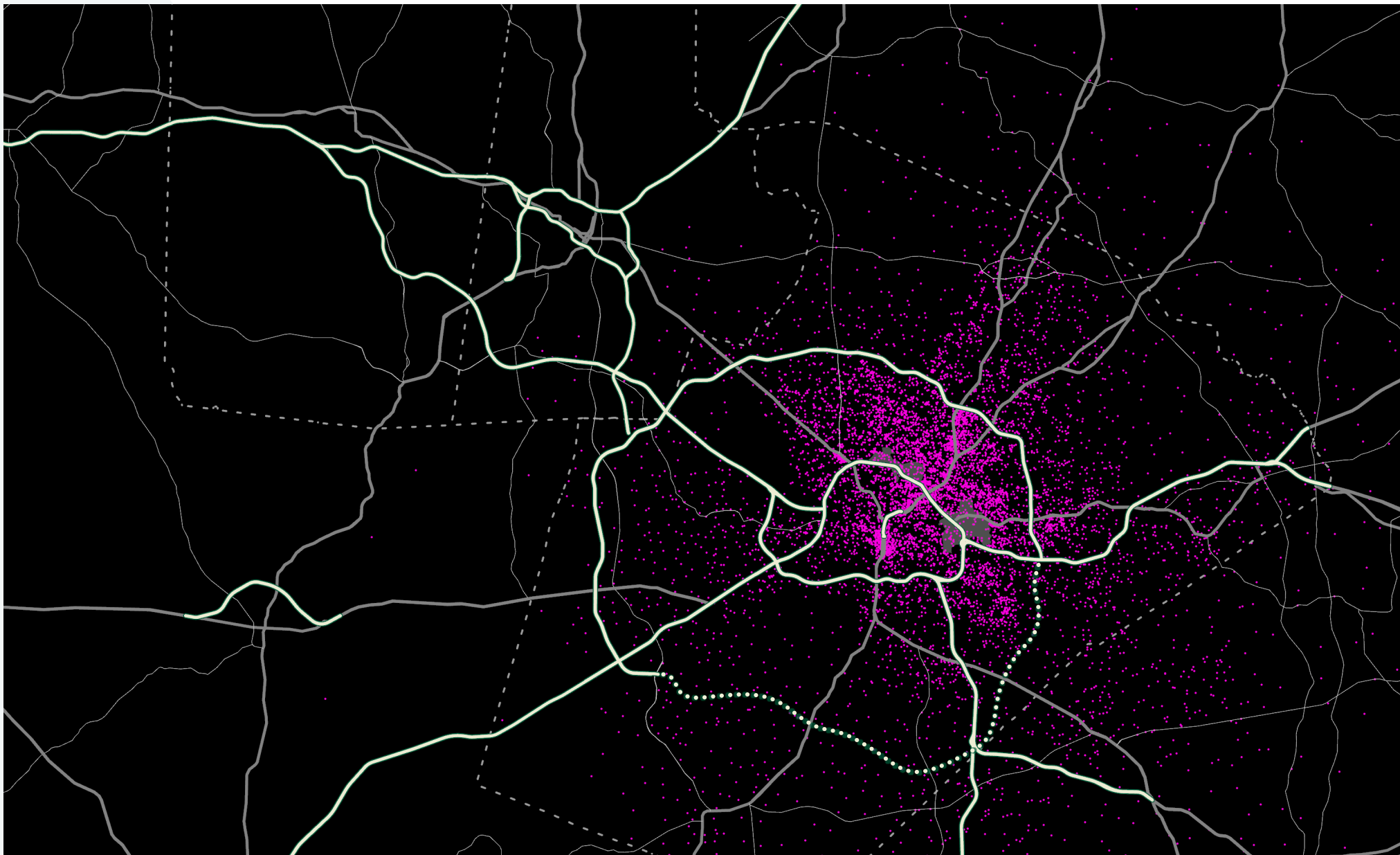
2030 Trip Origins to NCSU



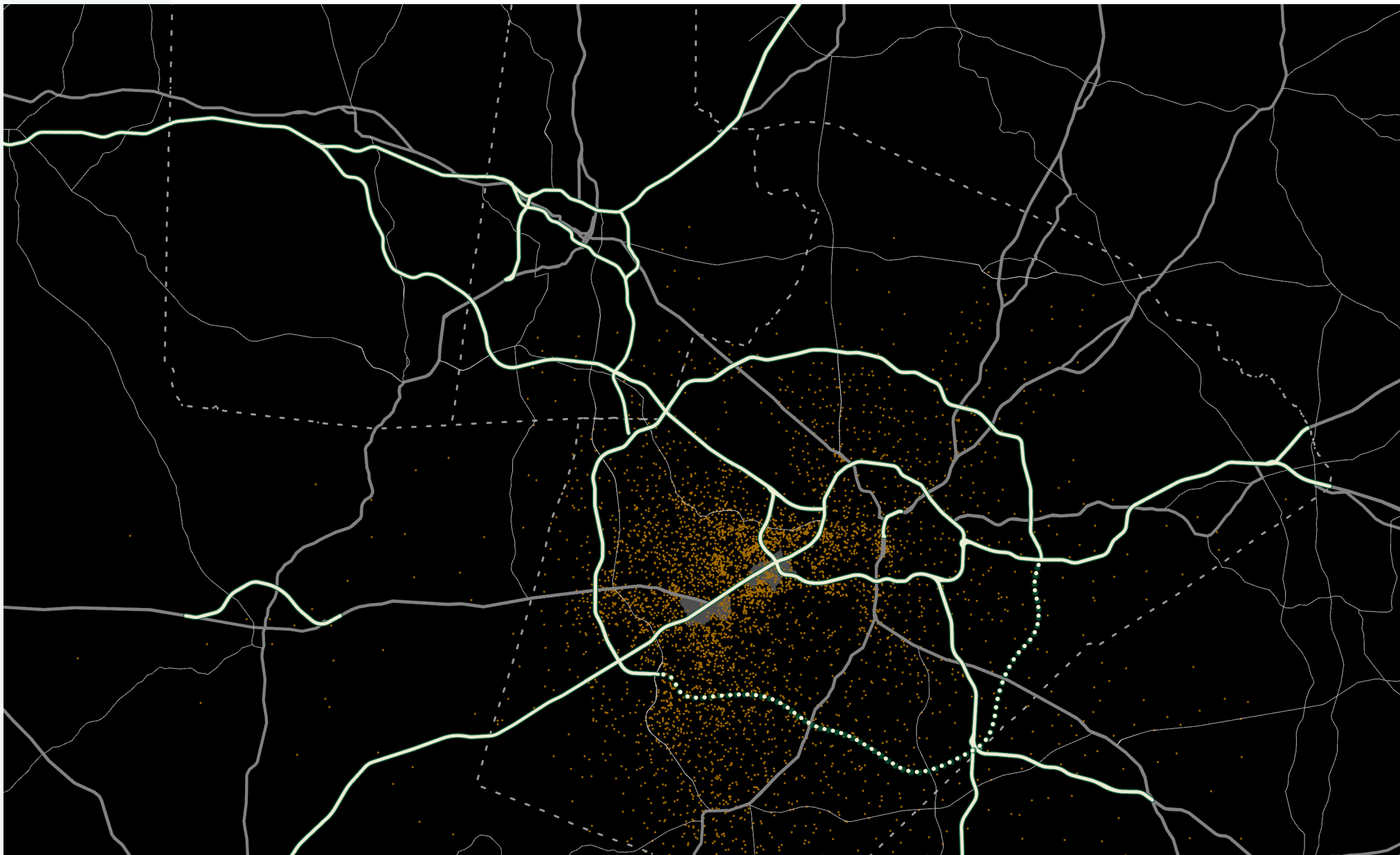
2030 Trip Origins to Downtown Raleigh



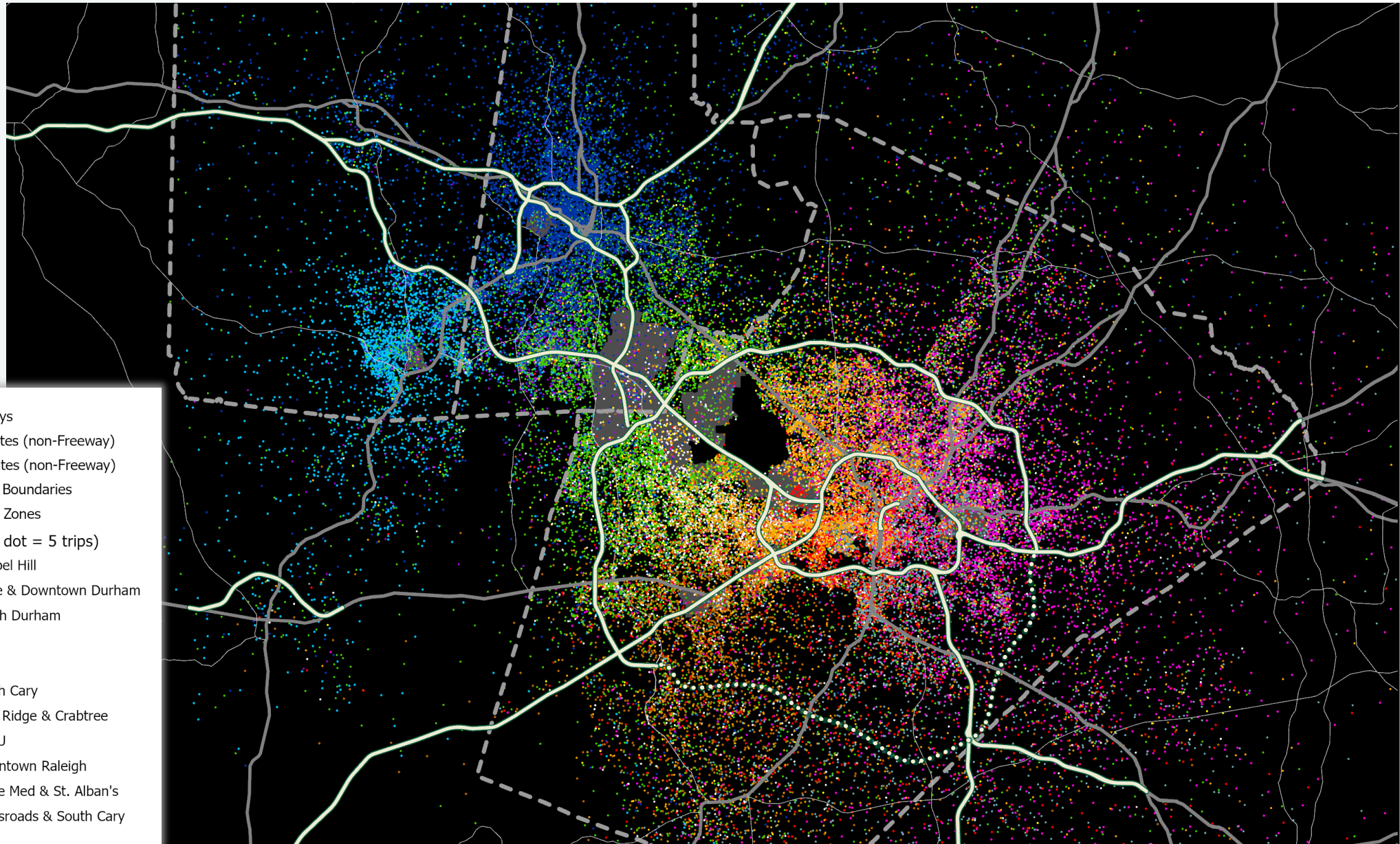
2030 Trip Origins to WakeMed/St. Albans



2030 Trip Origins to Crossroads/S Cary

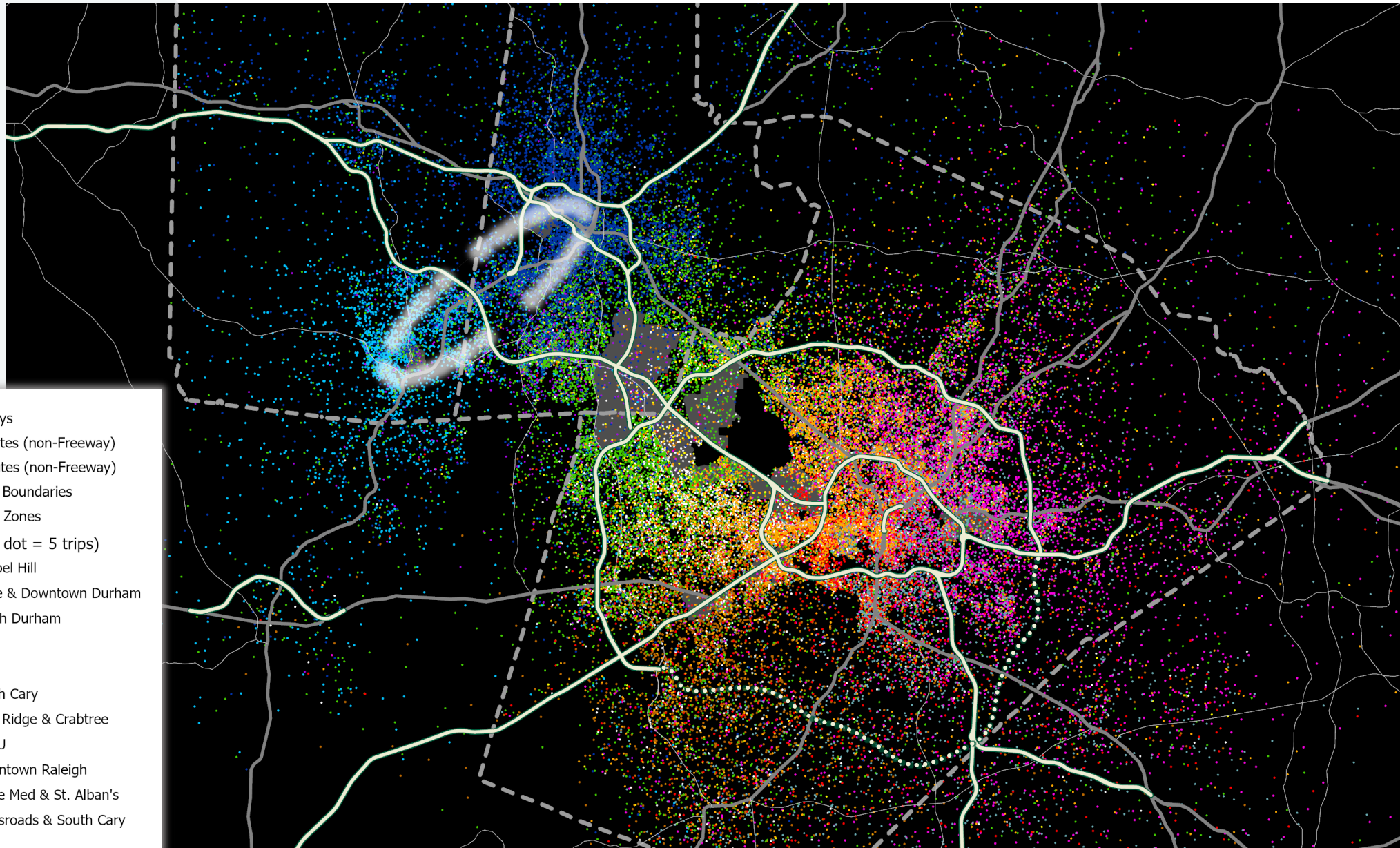


2030 Trip Origins to All Zones



- Freeways
 - US Routes (non-Freeway)
 - NC Routes (non-Freeway)
 - - - County Boundaries
 - Activity Zones
- Trip Origins (1 dot = 5 trips)
- to Chapel Hill
 - to Duke & Downtown Durham
 - to South Durham
 - to RTP
 - to RDU
 - to North Cary
 - to Blue Ridge & Crabtree
 - to NCSU
 - to Downtown Raleigh
 - to Wake Med & St. Alban's
 - to Crossroads & South Cary

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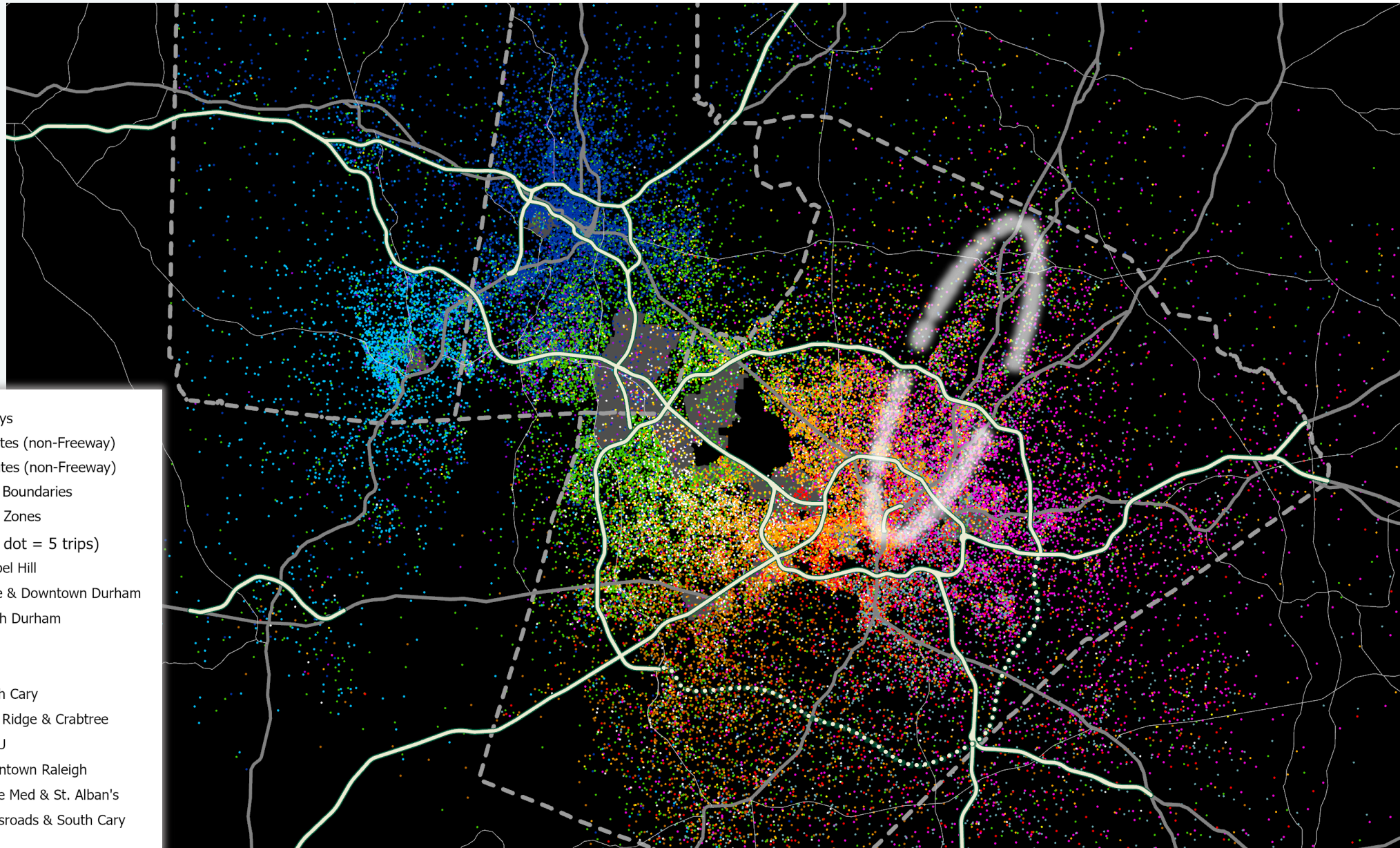
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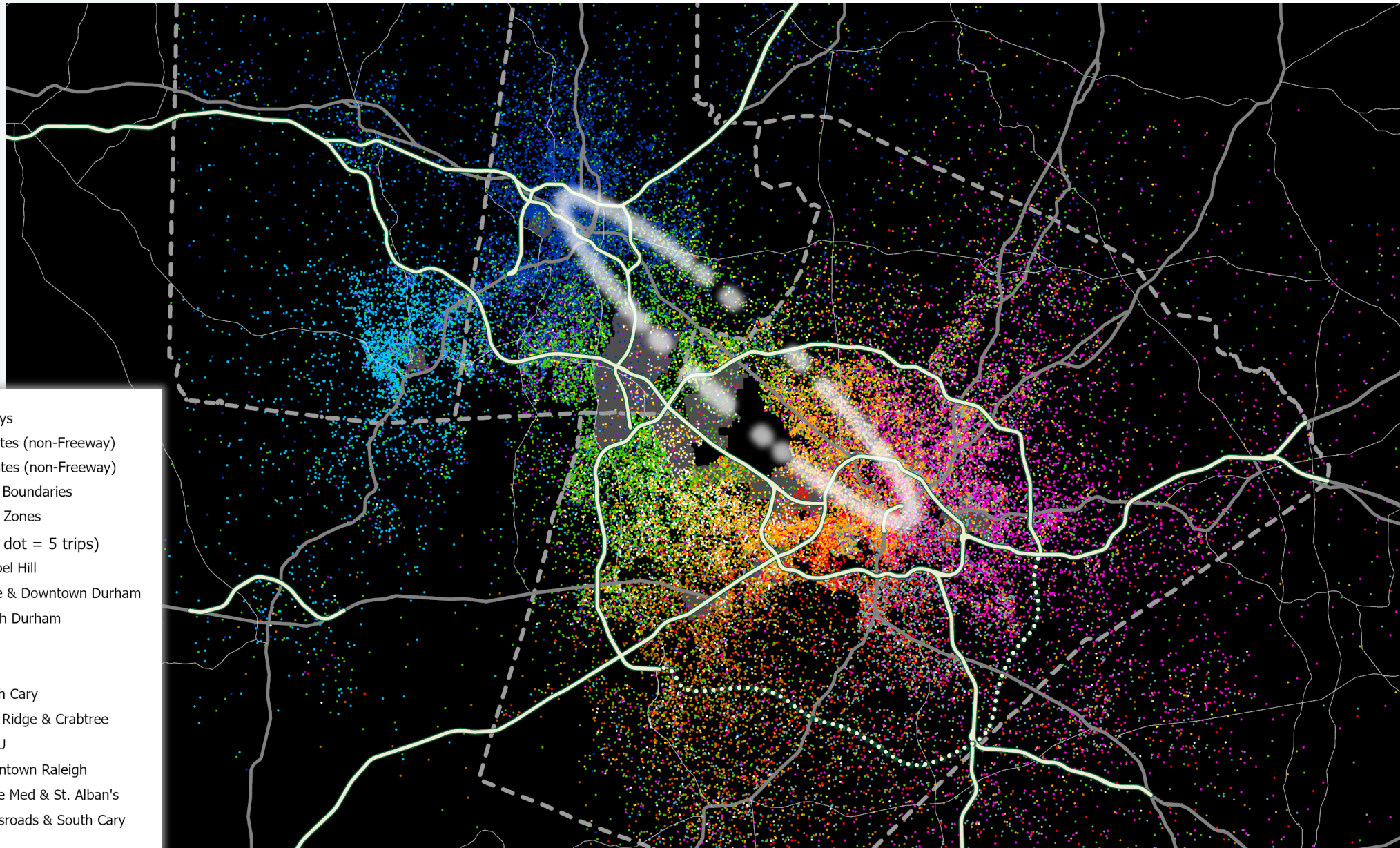
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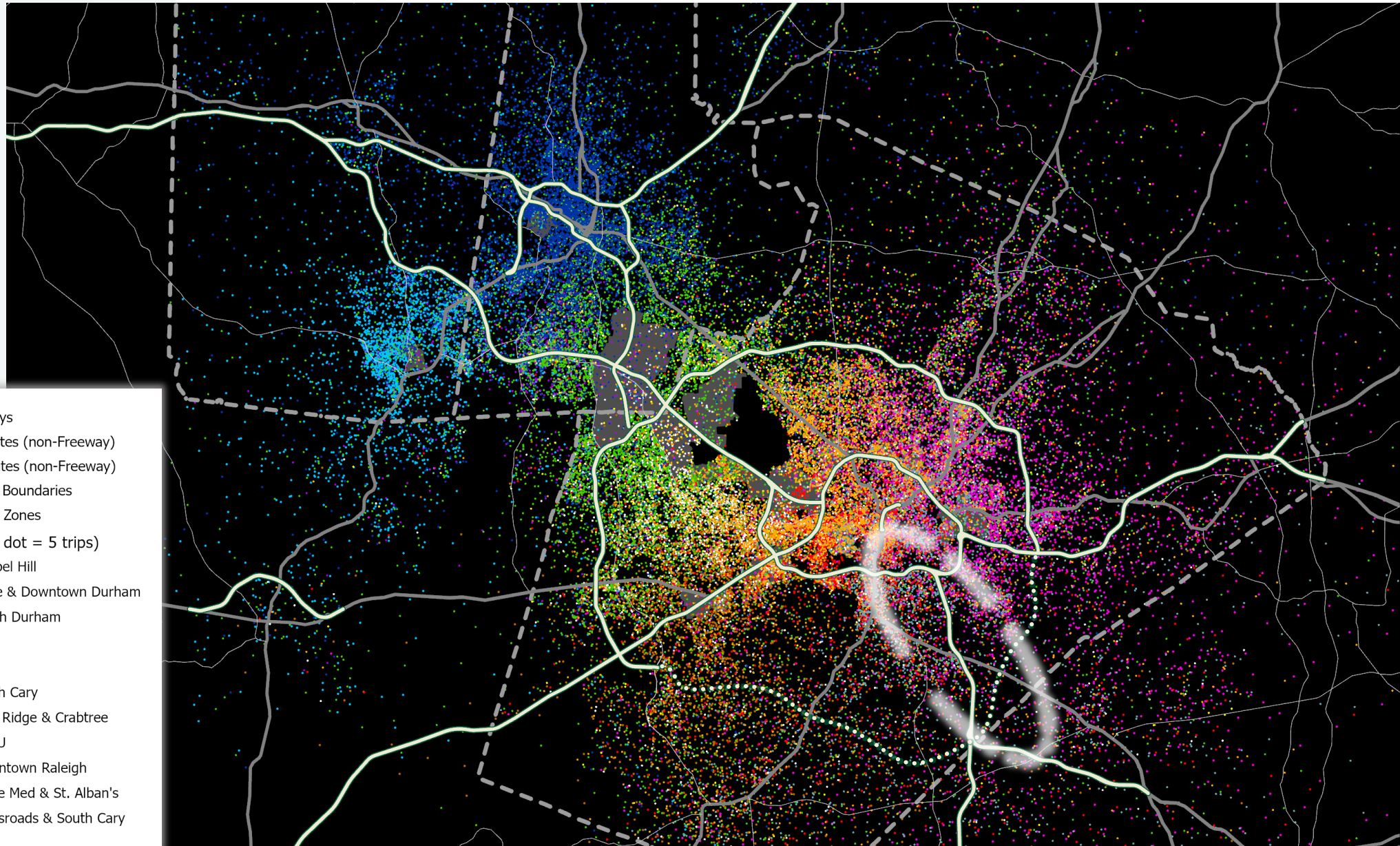
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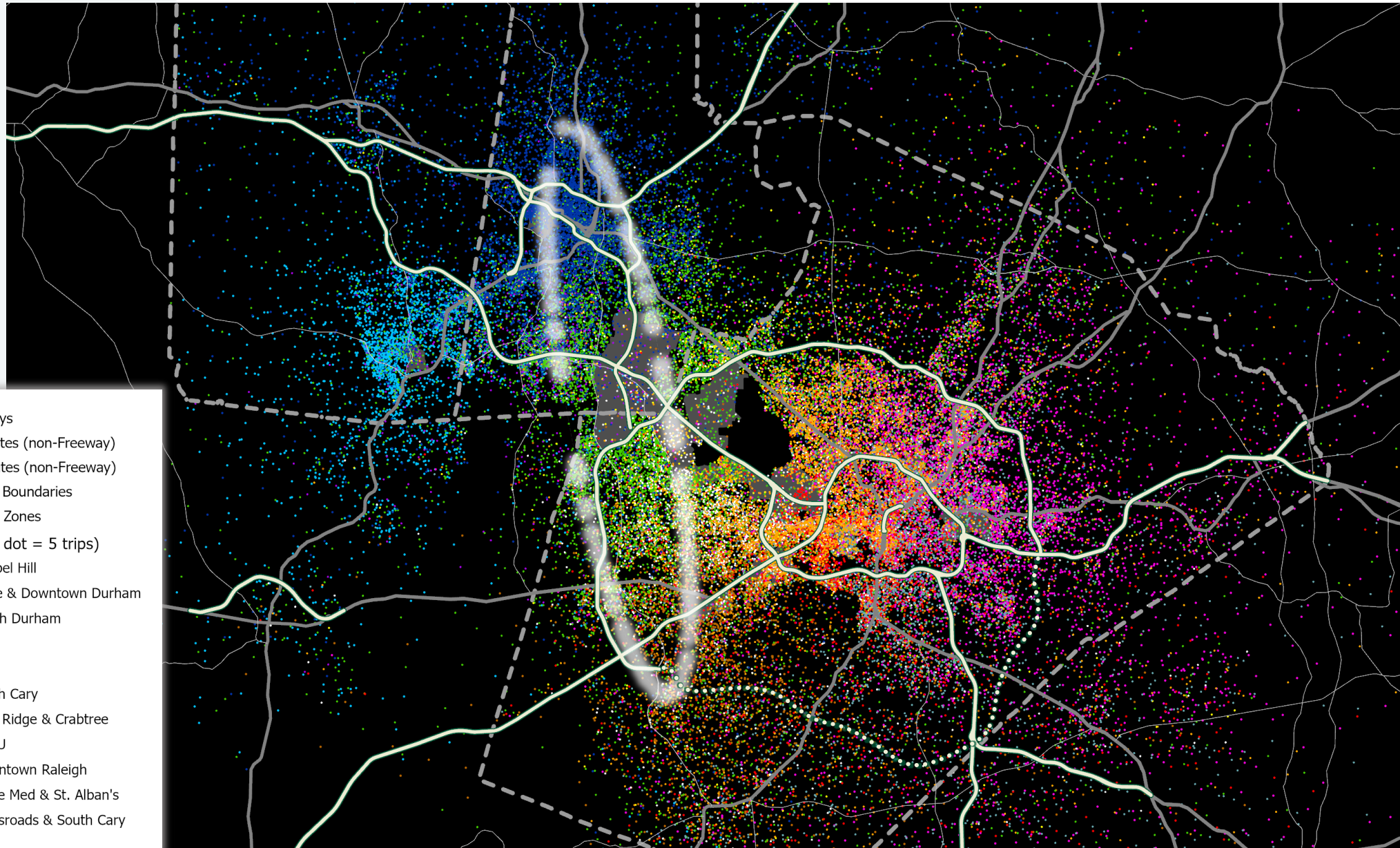


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The background features a dark teal color with large, diagonal, overlapping geometric shapes in a lighter teal and a bright yellow-green. A white line with small yellow circular nodes runs diagonally across the center. On the left, the word "FAST" is written in a large, bold, white sans-serif font. Below it, the text "Freeway And Street-based Transit network" is written in a smaller, italicized, yellow-green font. On the right, the text "Potential transit advantages" is written in a white sans-serif font.

FAST

Freeway And Street-based Transit network

Potential transit advantages

Low-cost transit advantages -- Freeways



Source: SounderBruce

- On-ramp signal bypass



Source: u/dm919

- Bus On Shoulder System (BOSS)



- Yield-to-Bus

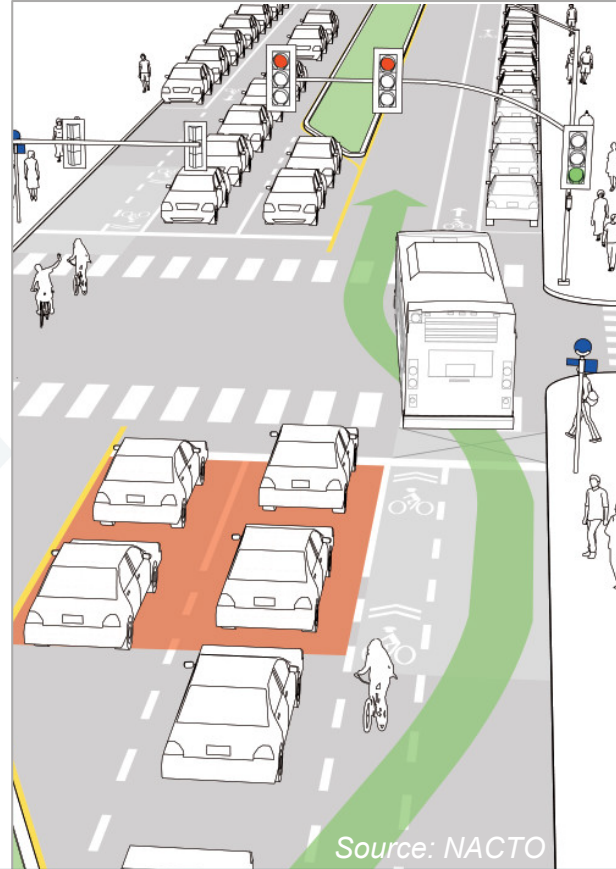
Prioritize corridor features where they are anticipated to have the greatest impact.

Low-cost transit advantages - Streets



Source: Michael Bell

Transit Signal Priority



Source: NACTO

Queue Jump Lanes



Source: NACTO

RED Lanes

Prioritize corridor features where they are anticipated to have the greatest impact.

Stop Features



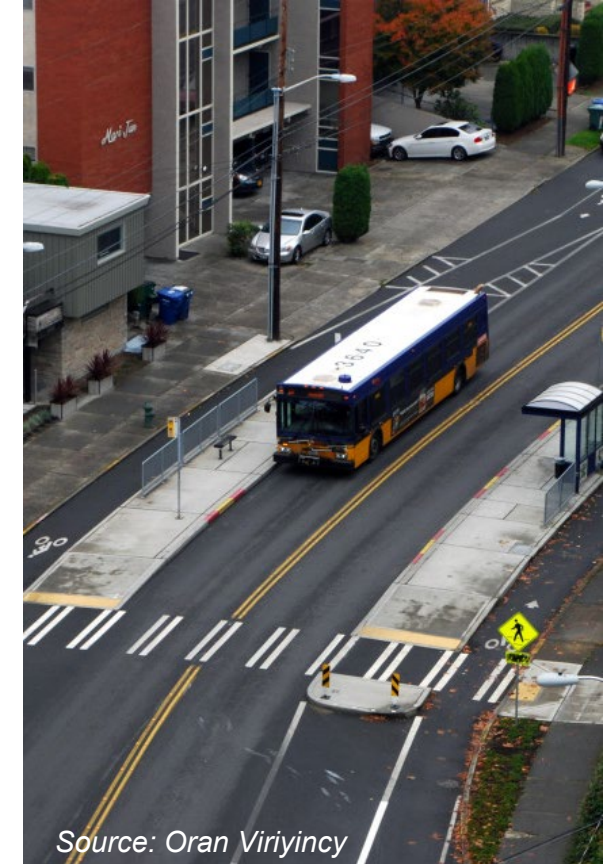
Source: Metropolitan Council

● Level Boarding



Source: KCATA

● Enhanced Bus Stop



Source: Oran Viriyincy

● "Floating" Bus Stop

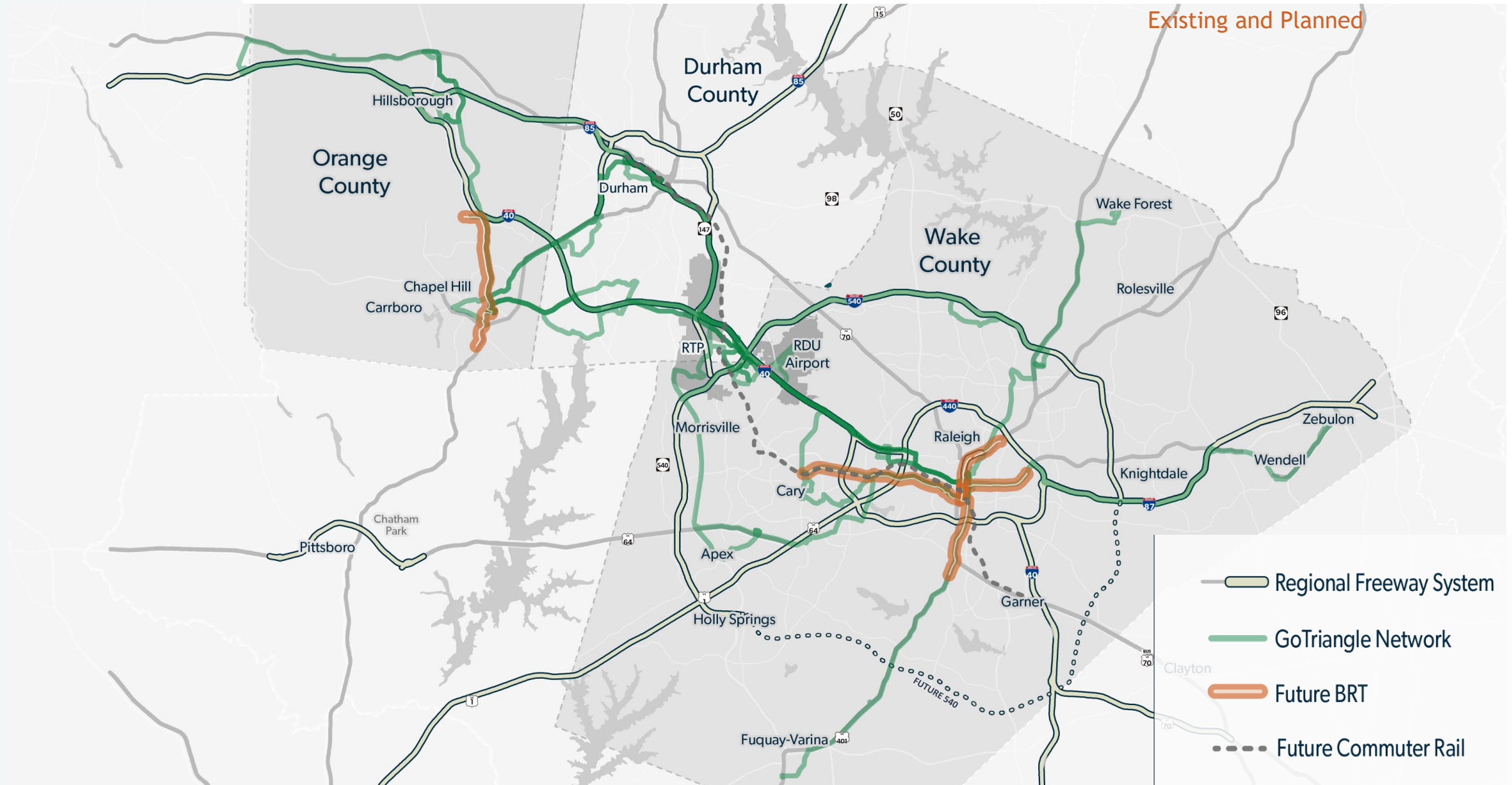
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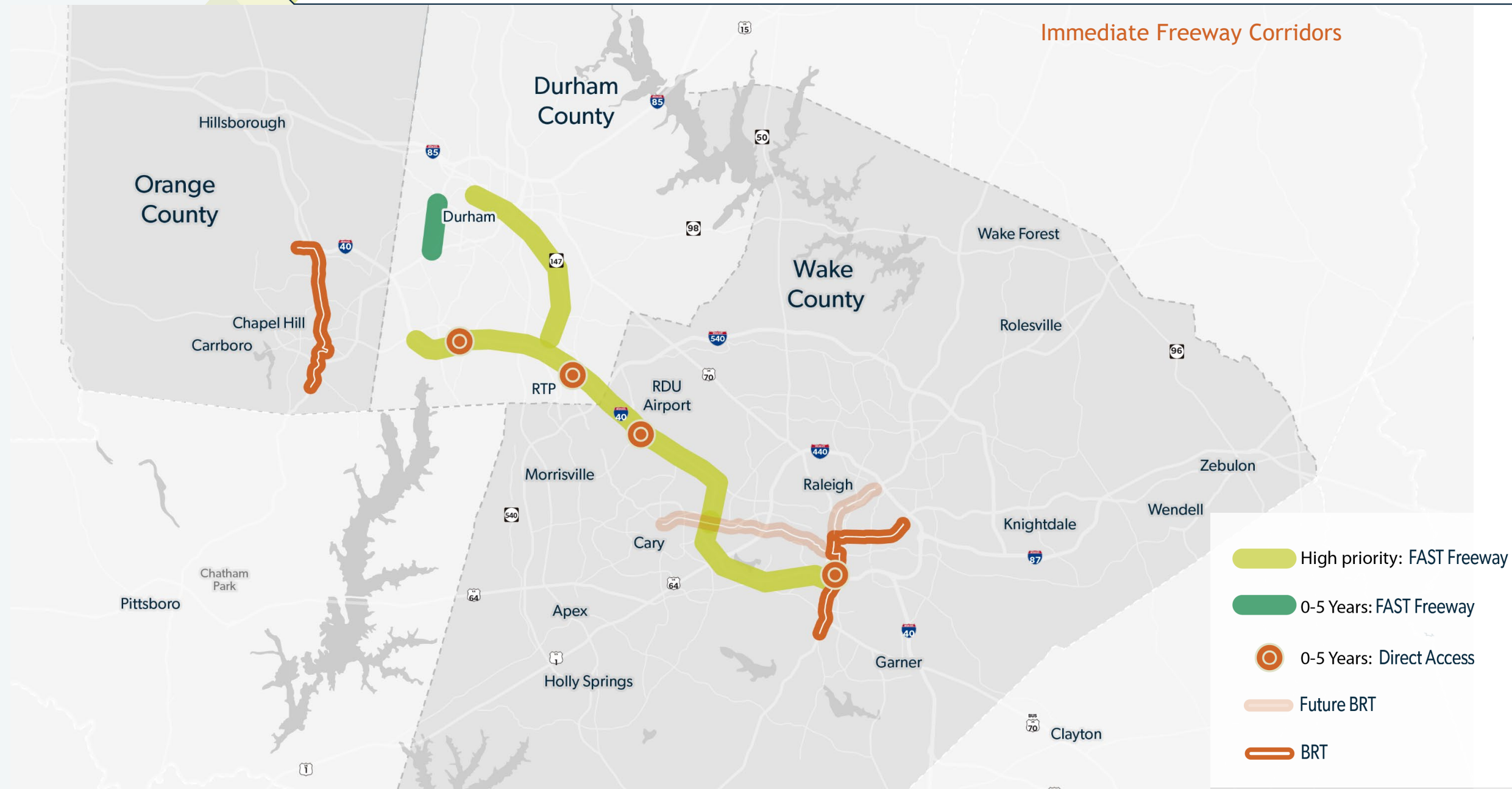
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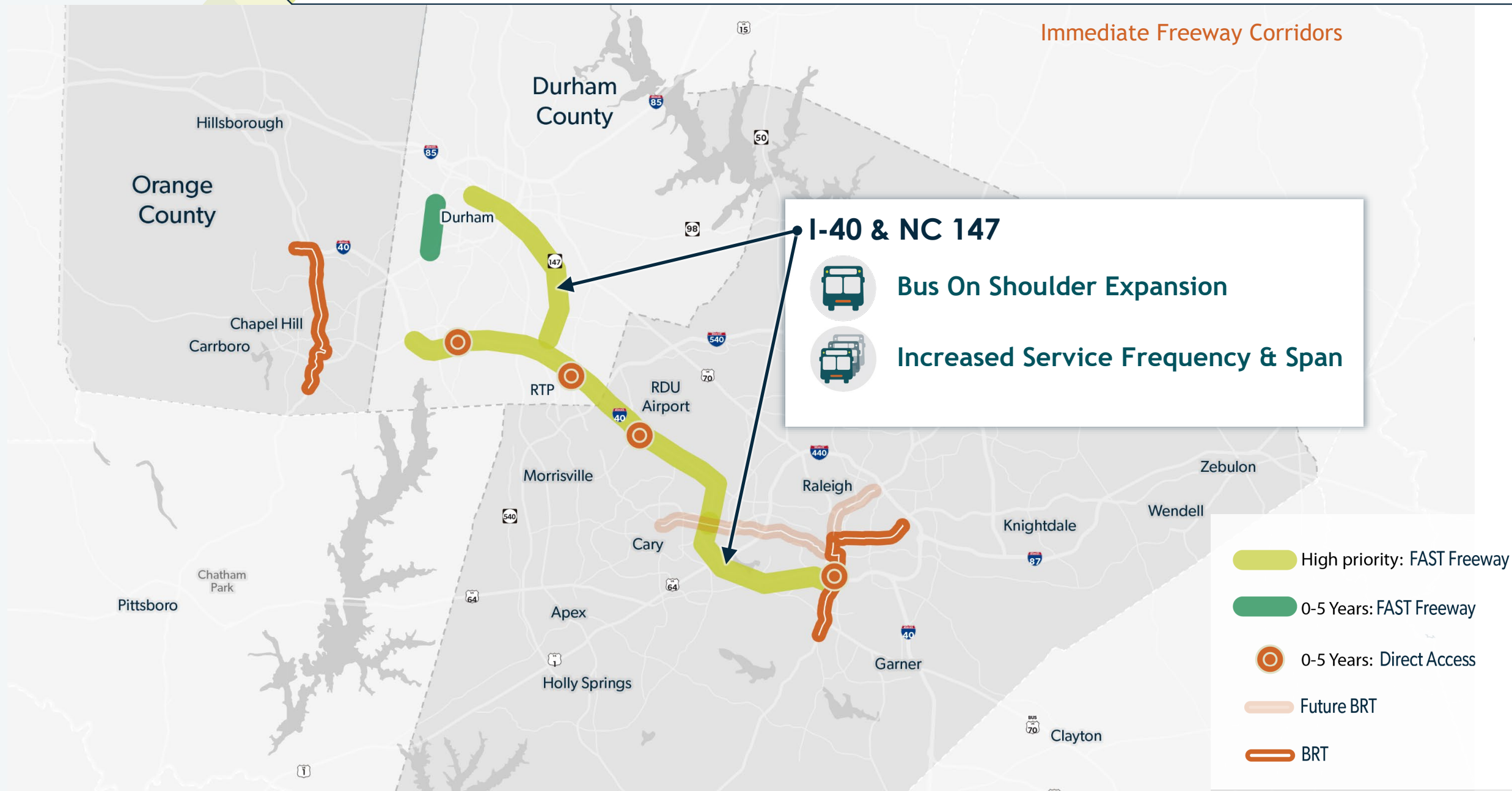
Proposed 2025 FAST network

Existing and Planned





Immediate Freeway Corridors



I-40 & NC 147



Bus On Shoulder Expansion



Increased Service Frequency & Span

High priority: FAST Freeway

0-5 Years: FAST Freeway


0-5 Years: Direct Access

Future BRT

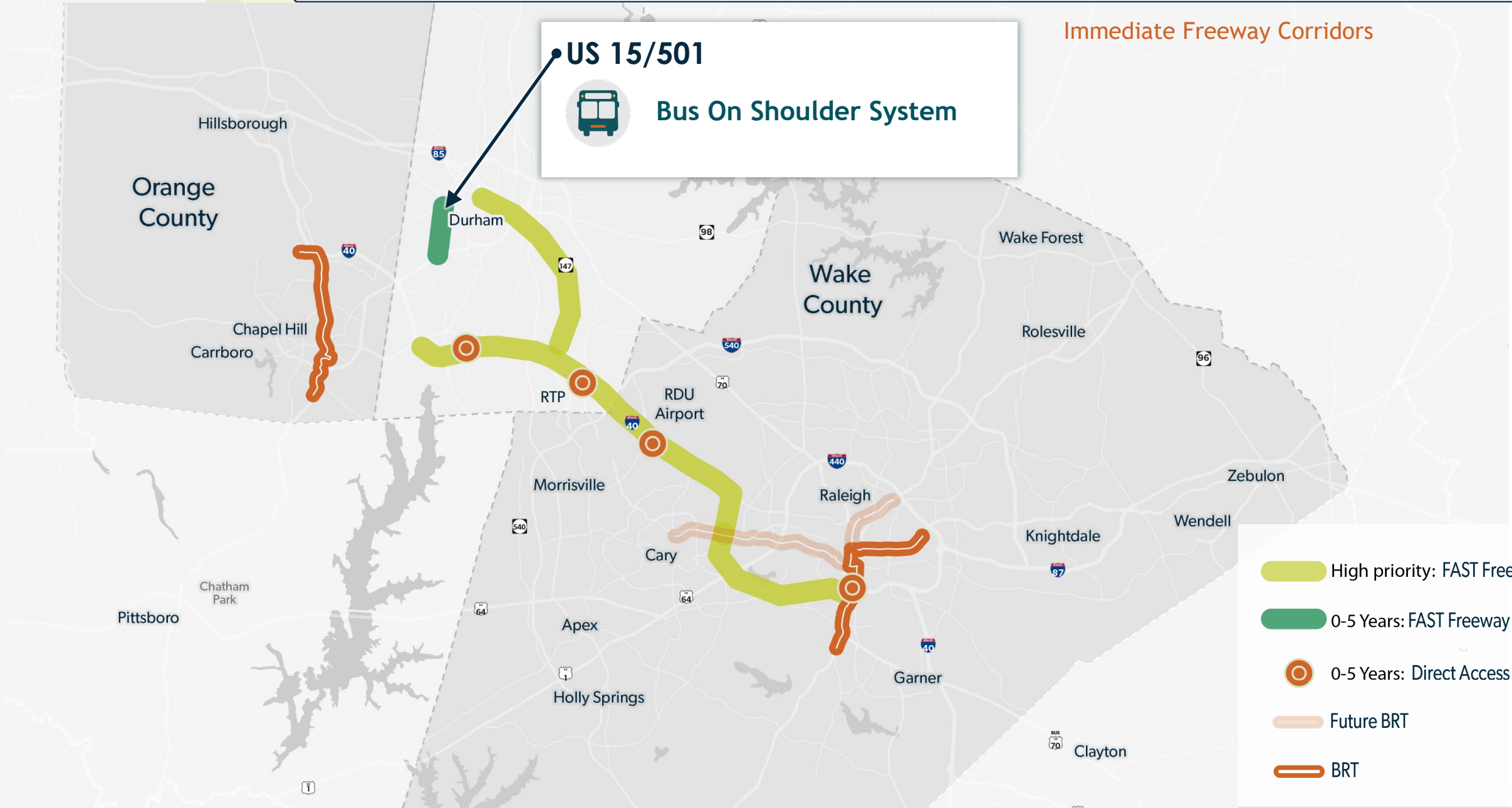
BRT

Immediate Freeway Corridors

US 15/501

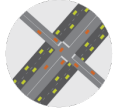


Bus On Shoulder System



- High priority: FAST Freeway
- 0-5 Years: FAST Freeway
- 0-5 Years: Direct Access
- Future BRT
- BRT

South Durham



Direct Pedestrian Access

Orange County

Chapel Hill
Carrboro

Durham County

Durham

Wake County

Wake Forest

Rolesville

Zebulon

Wendell

Knightdale

Raleigh

Cary

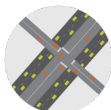
Morrisville

RDU Airport

Chatham Park

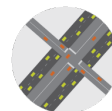
Pittsboro

RDU



Direct Access Ramps

Wilmington St



Direct Access Ramps

Clayton

Immediate Freeway Corridors

High priority: FAST Freeway

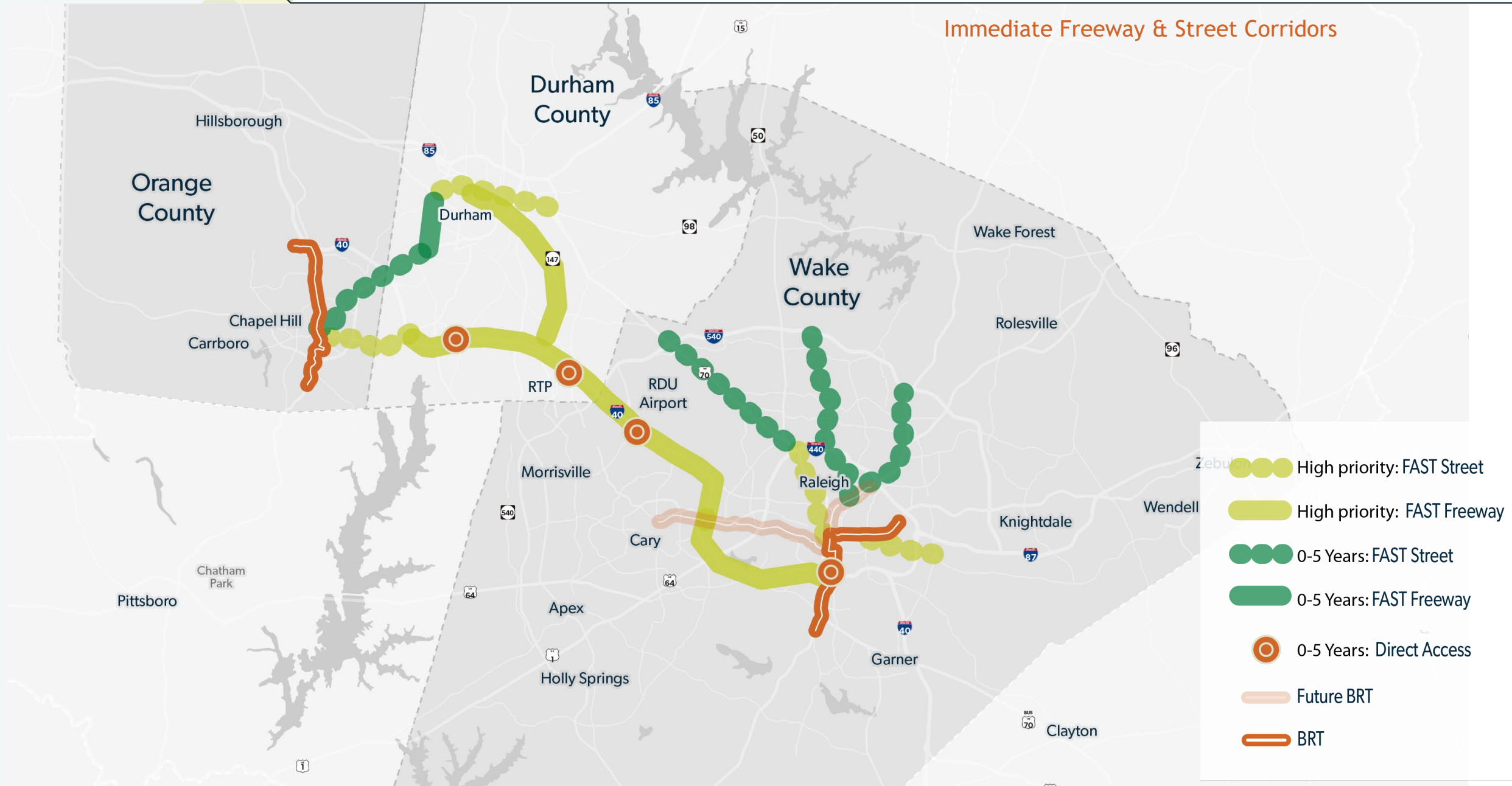
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Future BRT

BRT

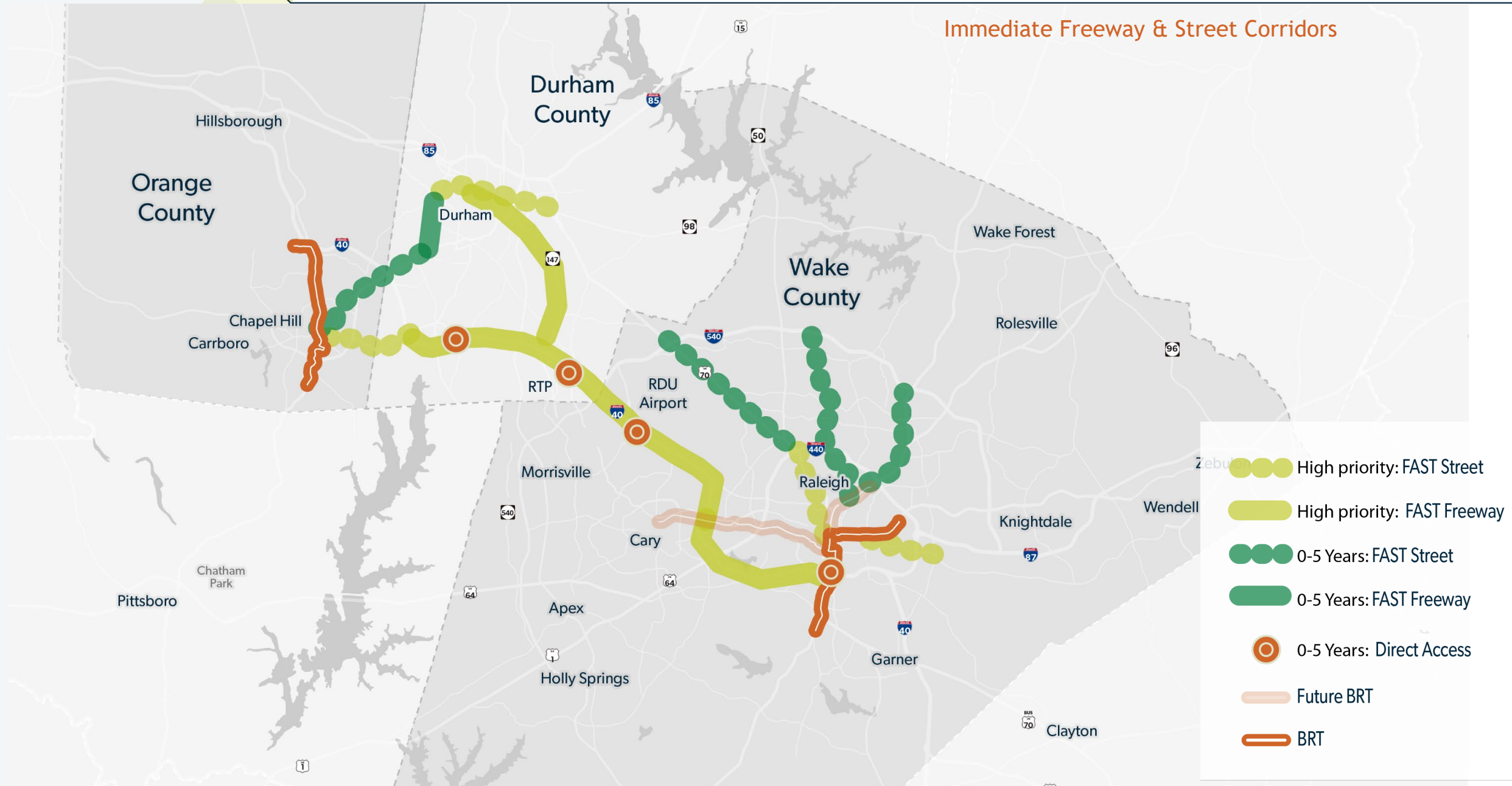
Immediate Freeway & Street Corridors



- High priority: FAST Street
- High priority: FAST Freeway
- 0-5 Years: FAST Street
- 0-5 Years: FAST Freeway
- 0-5 Years: Direct Access
- Future BRT
- BRT

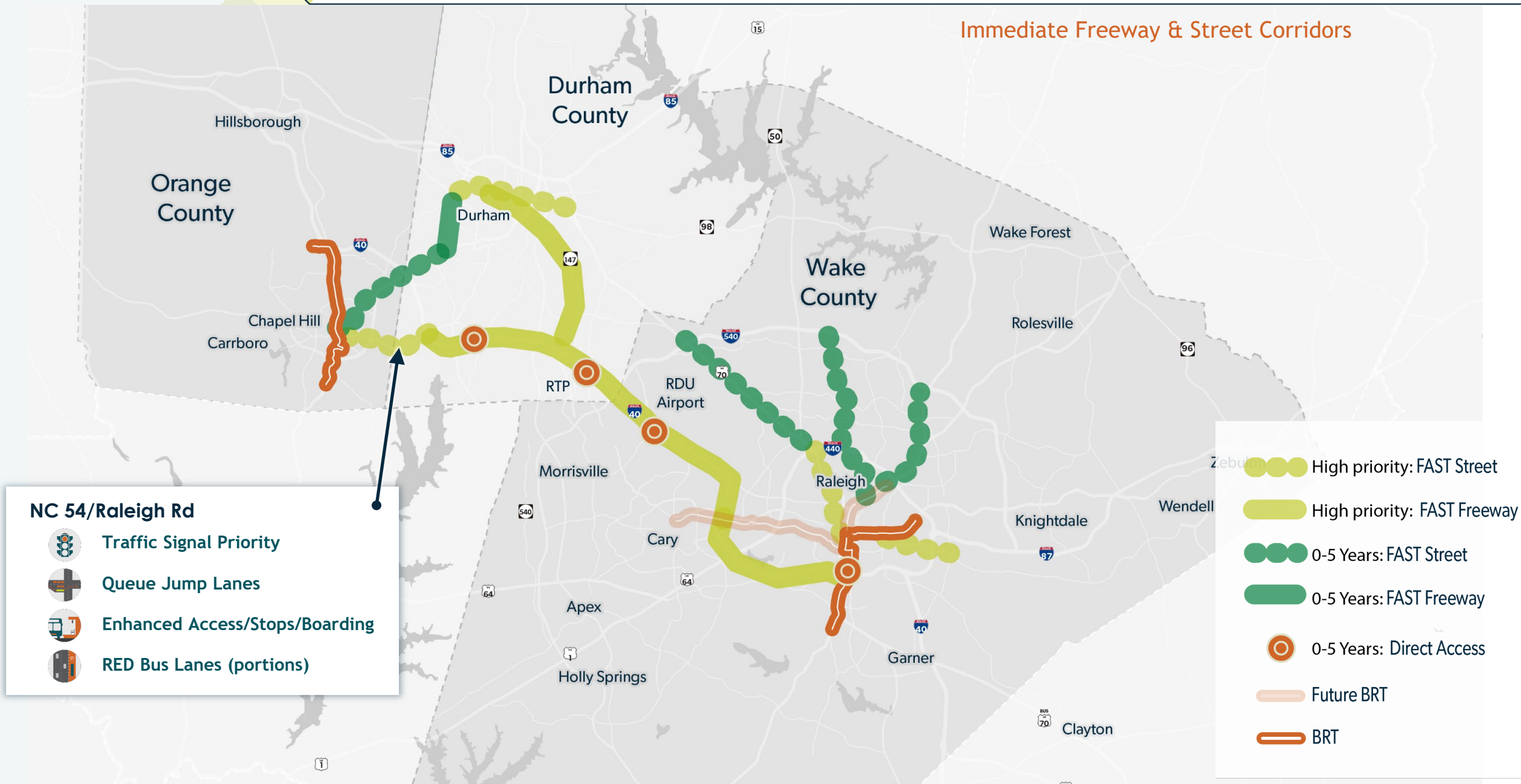


Immediate Freeway & Street Corridors



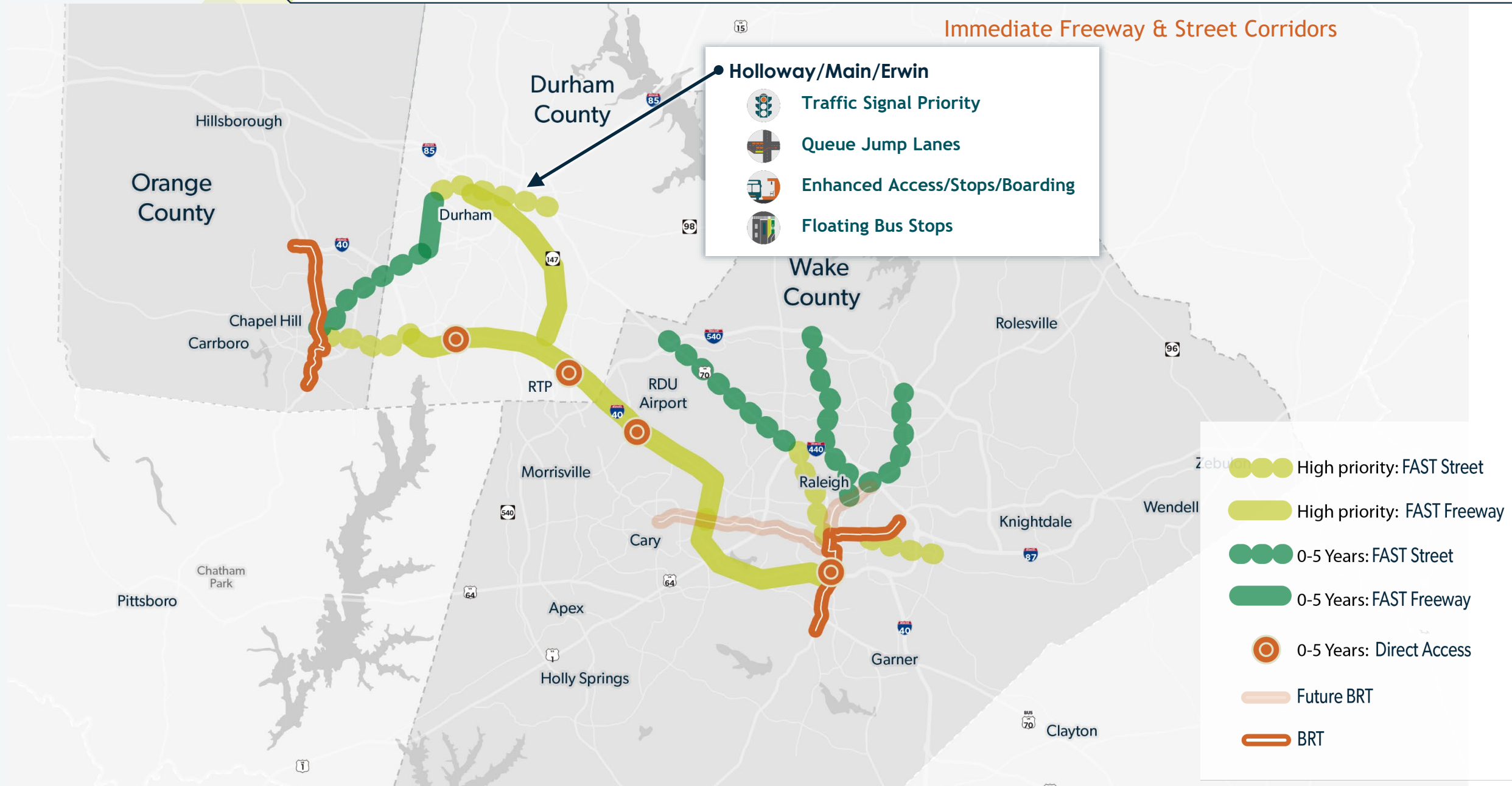


Immediate Freeway & Street Corridors



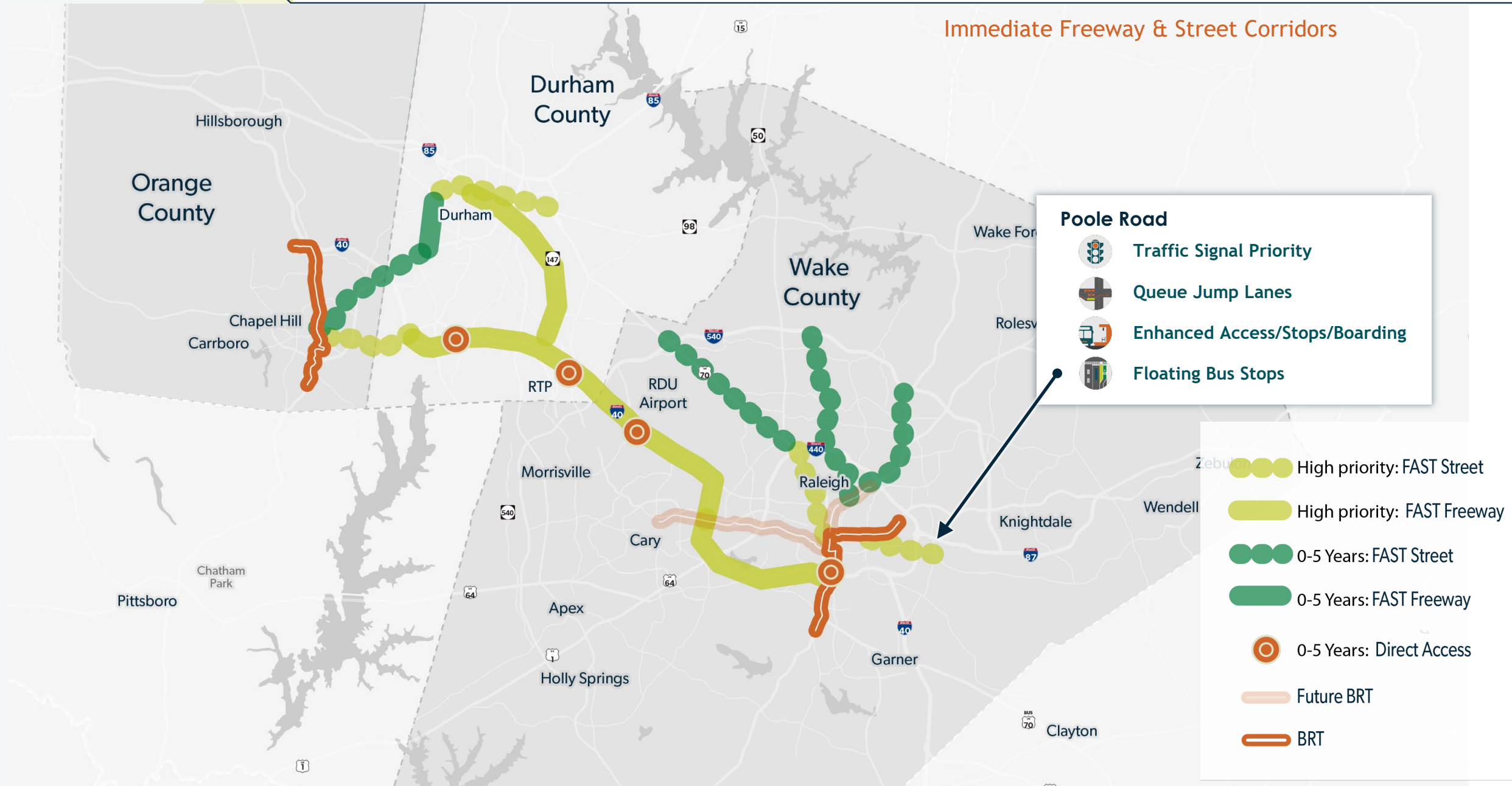


Immediate Freeway & Street Corridors



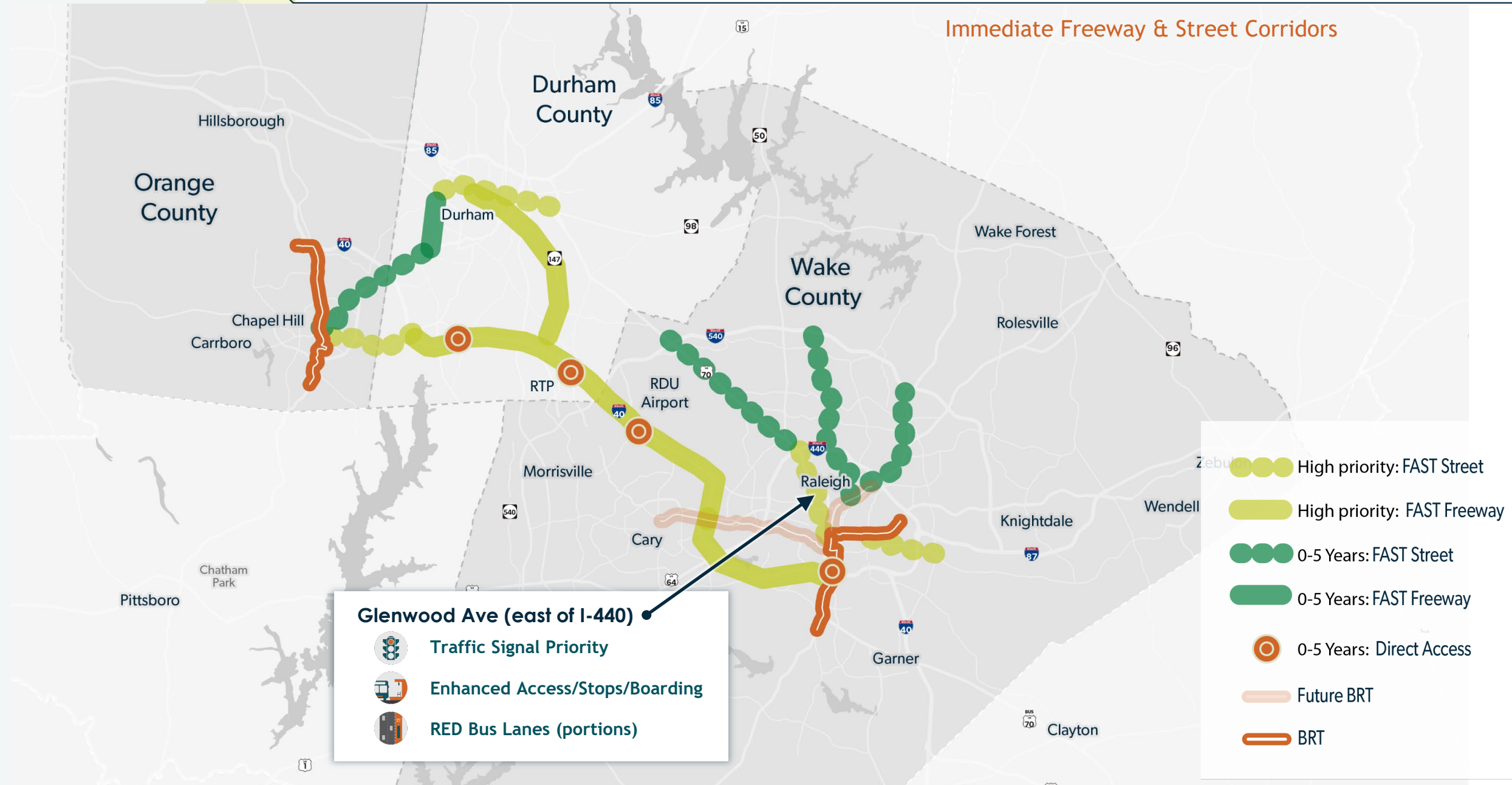


Immediate Freeway & Street Corridors





Immediate Freeway & Street Corridors





Immediate Freeway & Street Corridors

Orange County

Hillsborough

Durham County

Durham

Chapel Hill
Carrboro

RTP

RDU Airport

Wake County

Wake Forest

Rolesville

Glenwood Ave (west of I-440)



Traffic Signal Priority



Queue Jump Lanes



Enhanced Access/Stops/Boarding

High priority: FAST Street

High priority: FAST Freeway

0-5 Years: FAST Street

0-5 Years: FAST Freeway

0-5 Years: Direct Access

Future BRT

BRT

Pittsboro

Holly Springs

Garner

Knightdale

Wendell

Clayton

Zebulon



US 15/501



Traffic Signal Priority

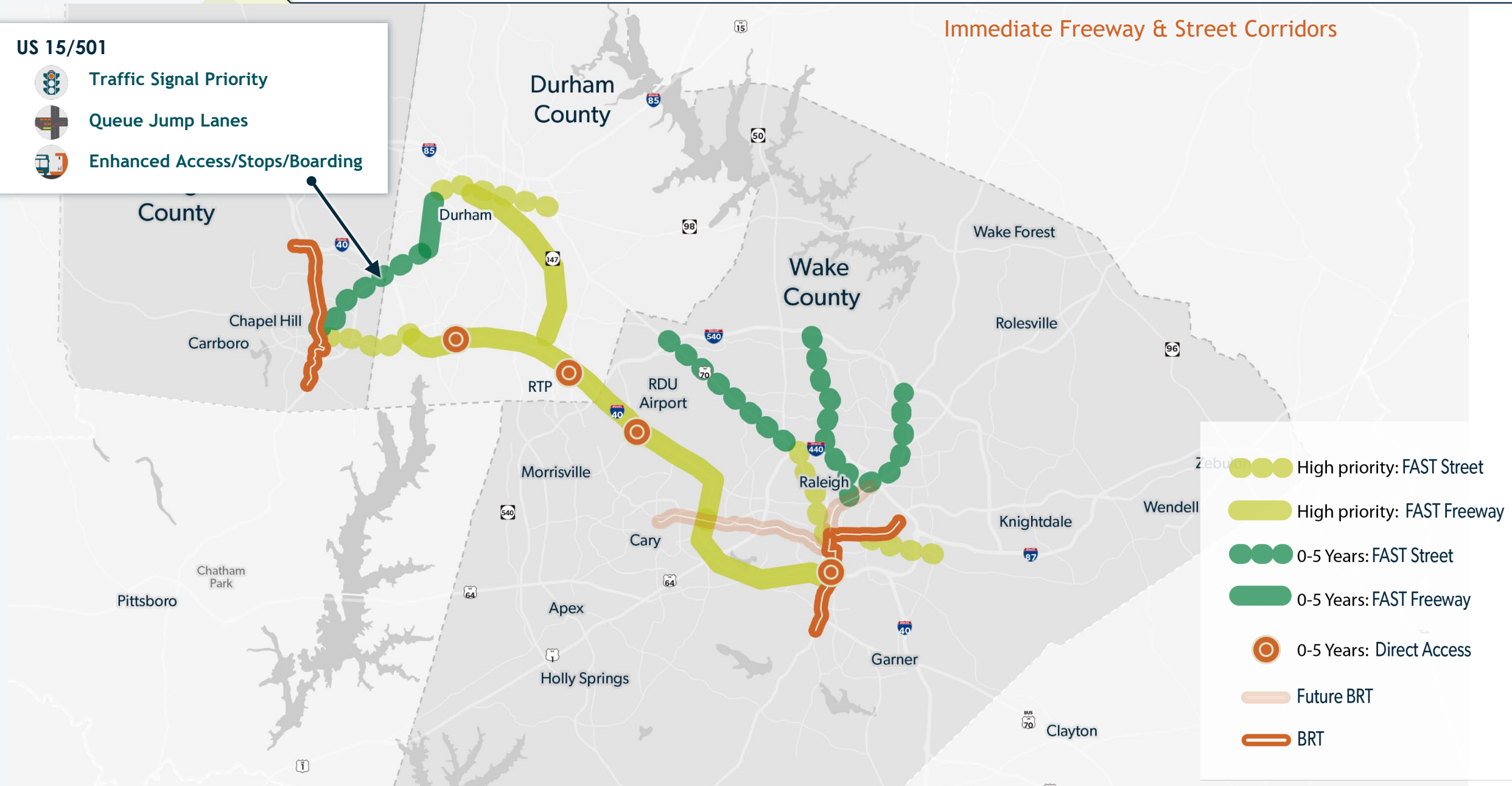


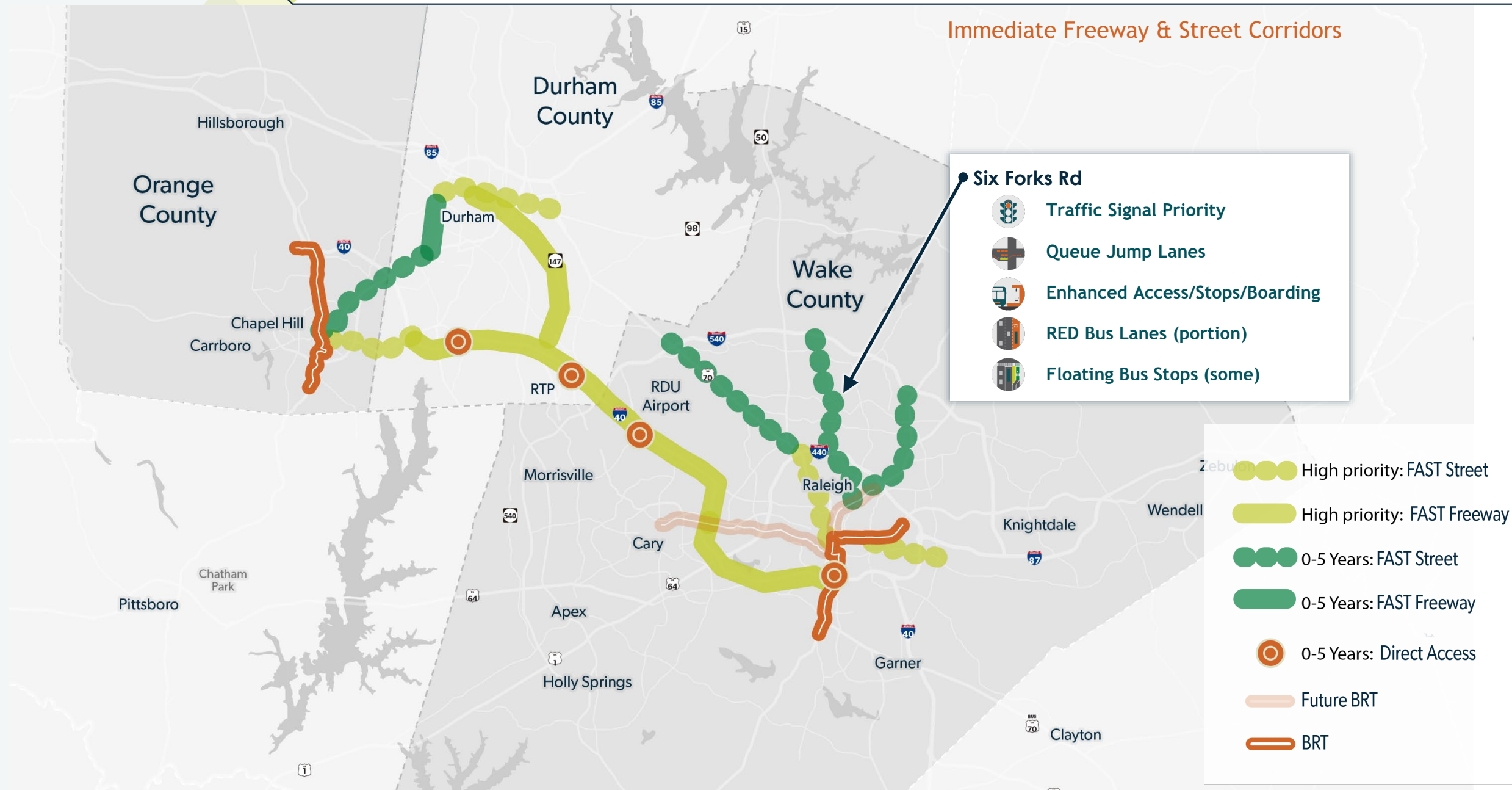
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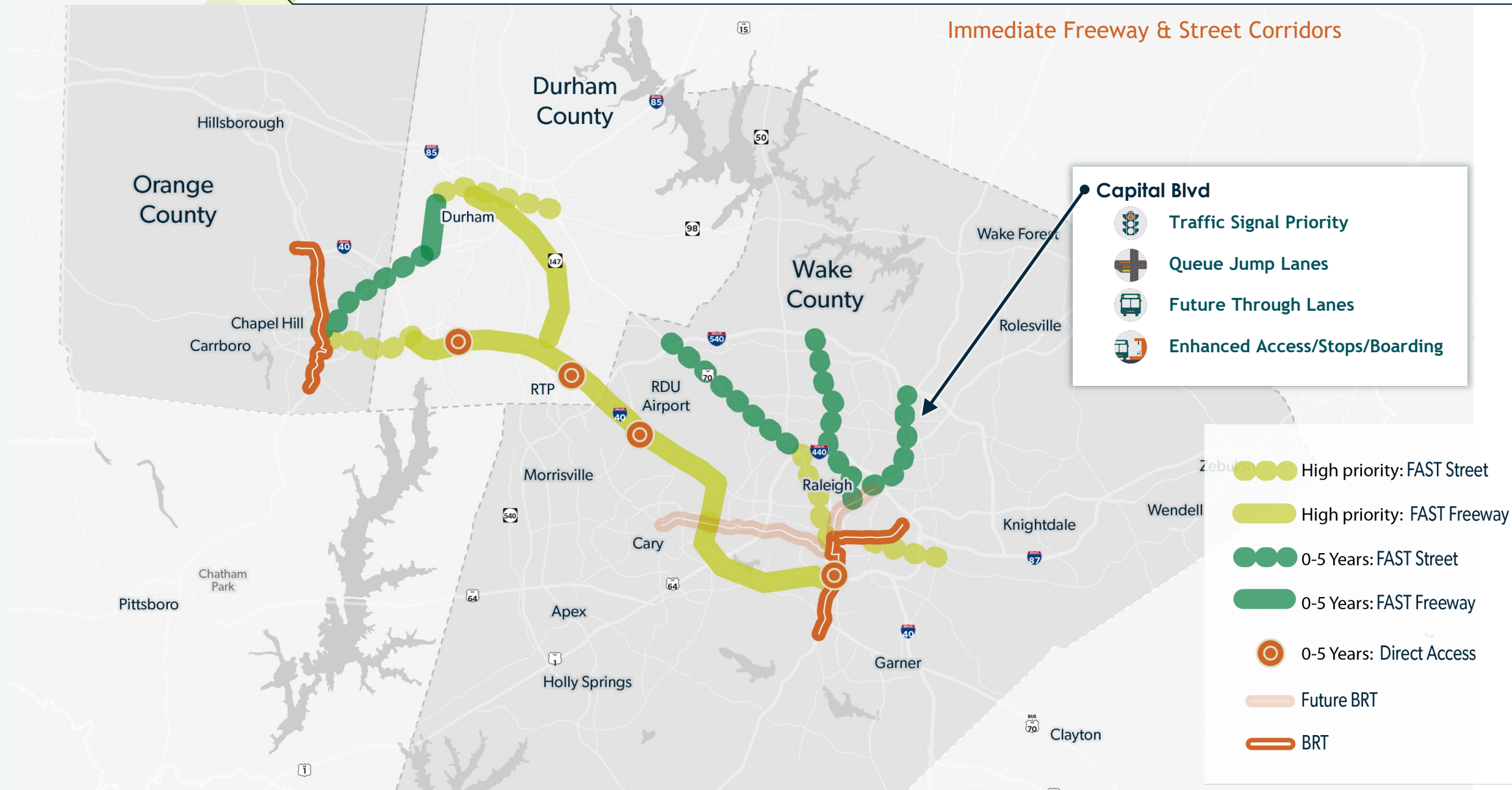


Enhanced Access/Stops/Boarding

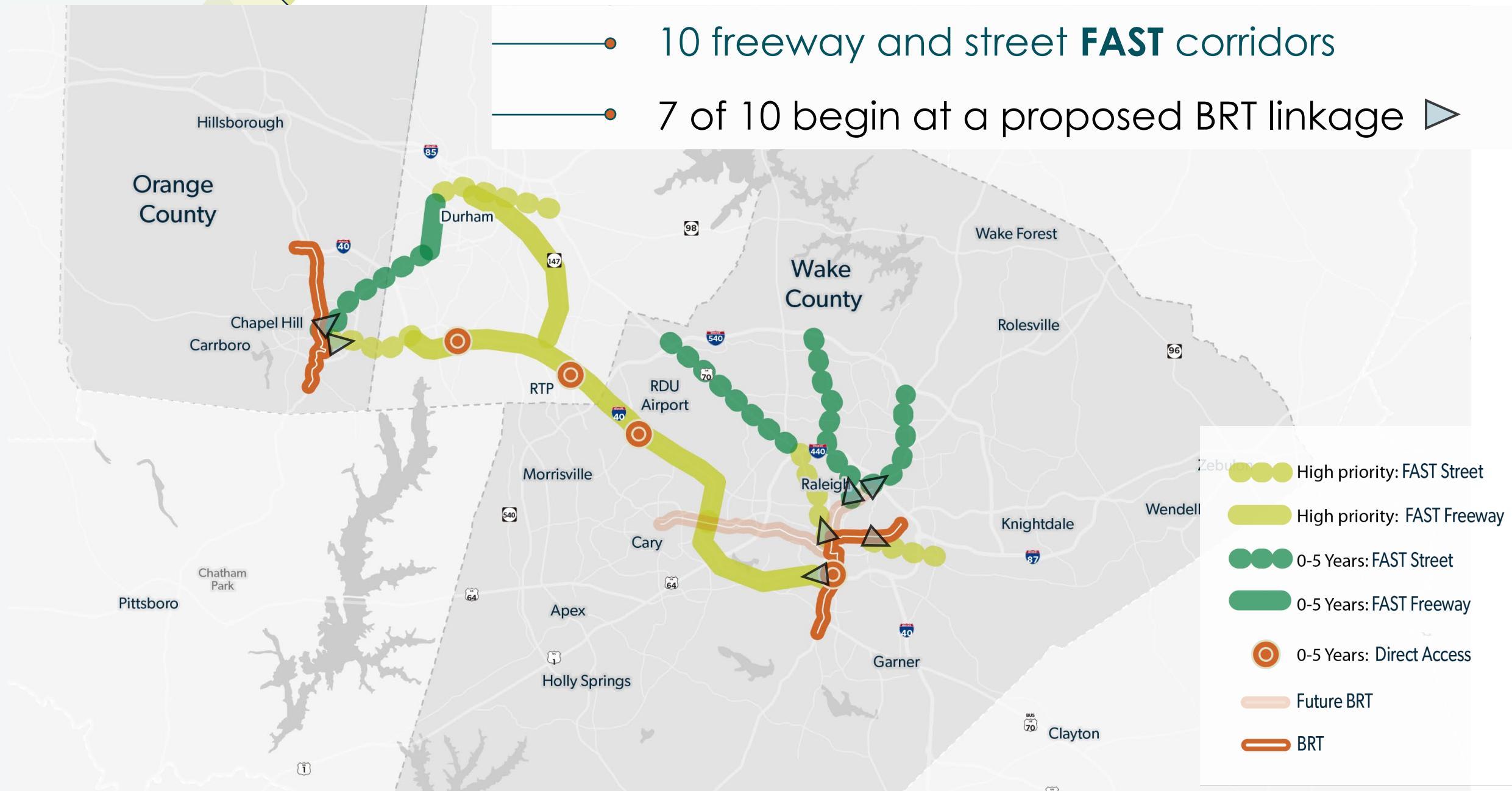
Immediate Freeway & Street Corridors

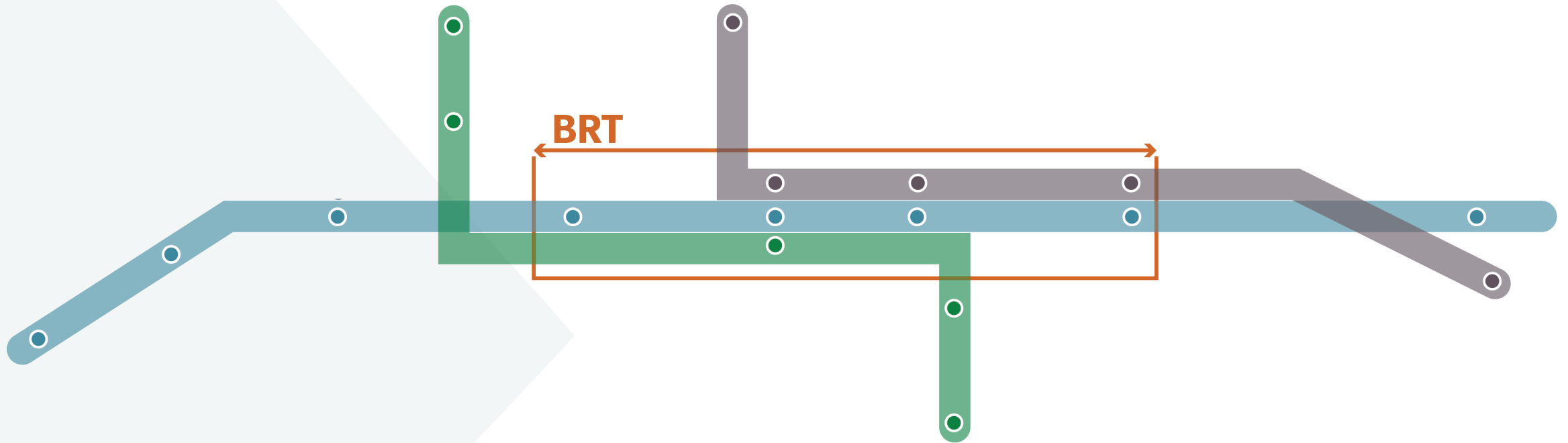






- 10 freeway and street **FAST** corridors
- 7 of 10 begin at a proposed BRT linkage ►





"Interlining" with 2+ routes along part of a BRT lane (e.g.)

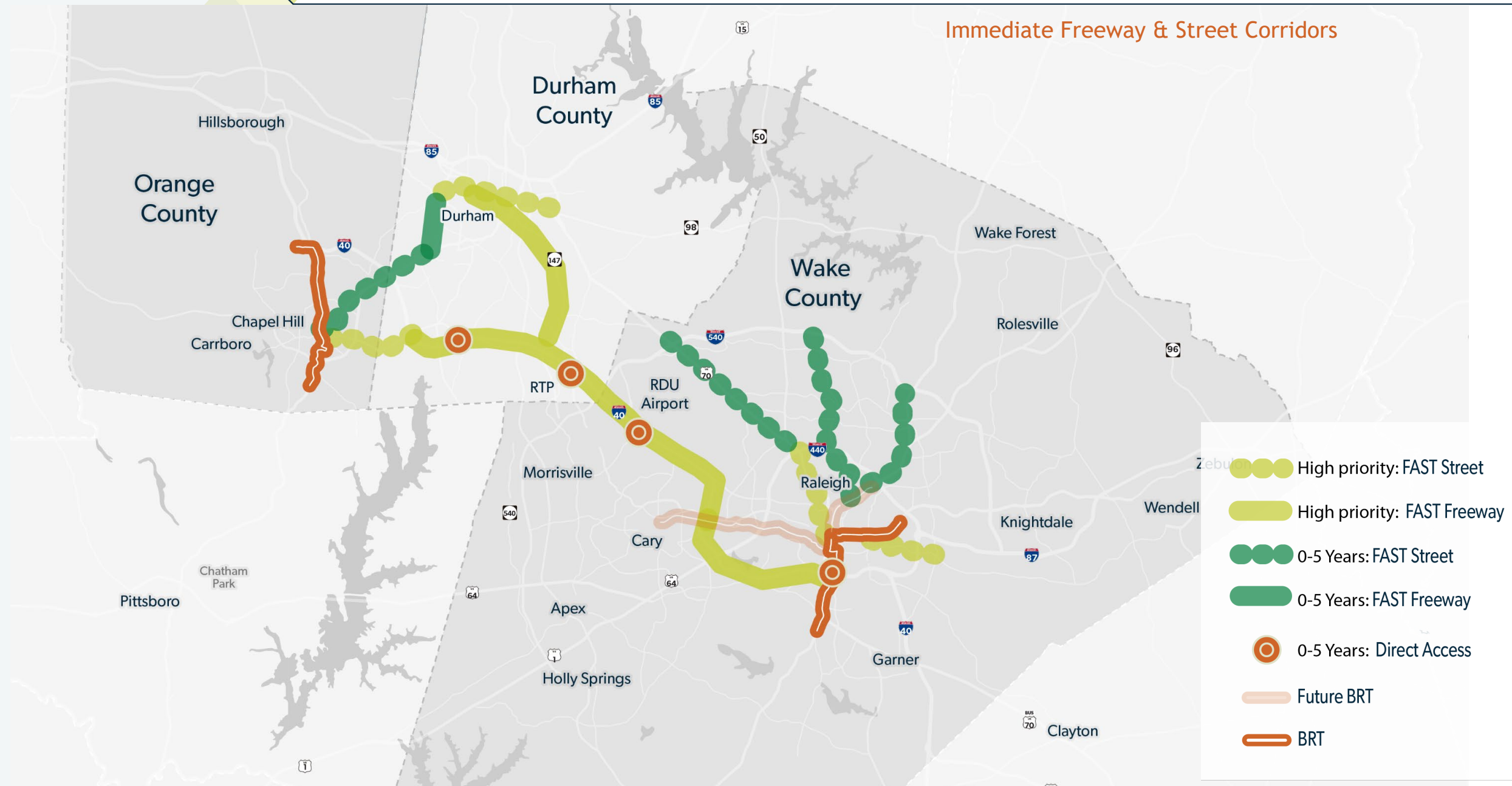
- Increased speed and reliability
- Higher frequency
- Multiple travel options

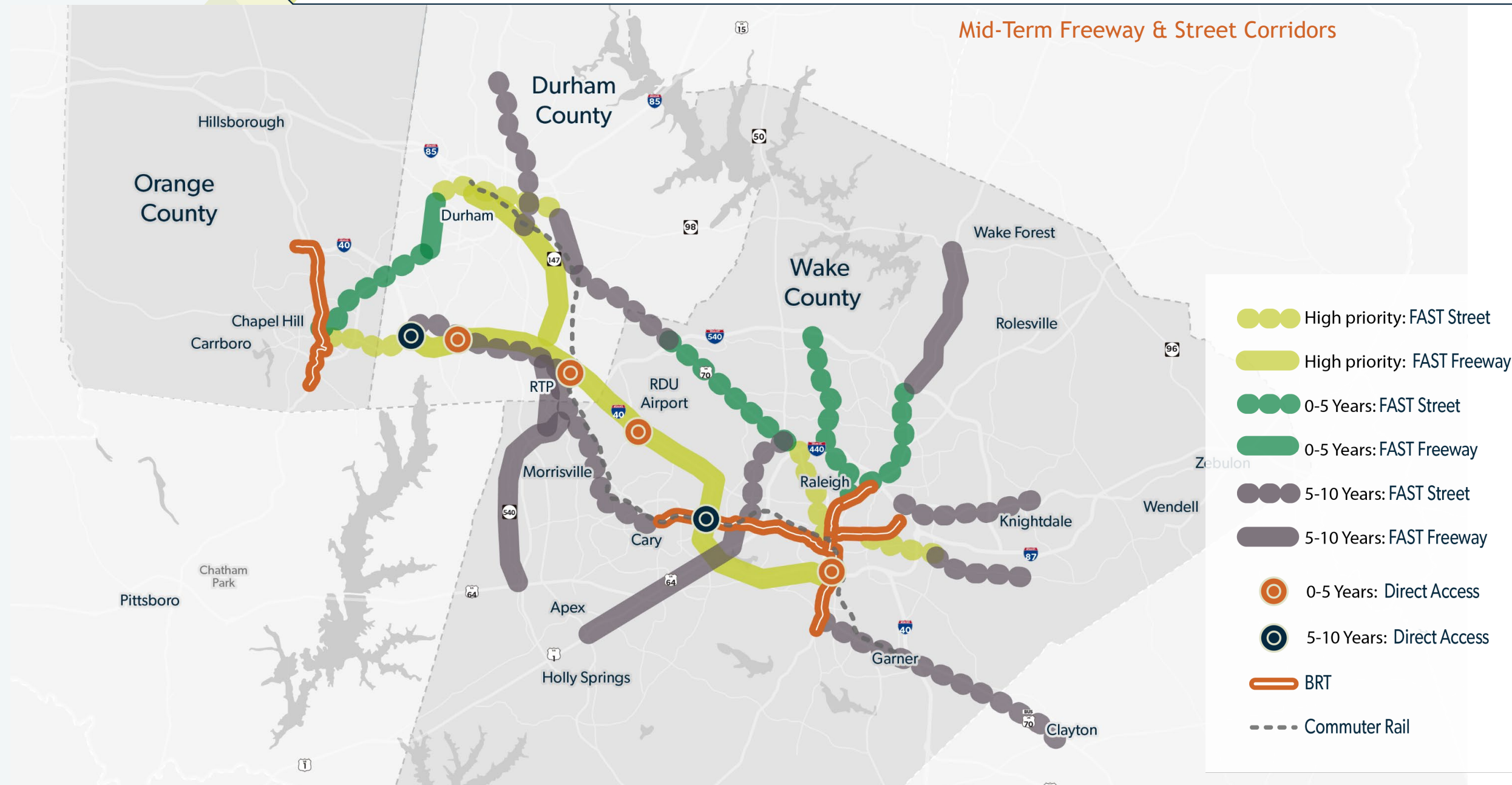
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FAST

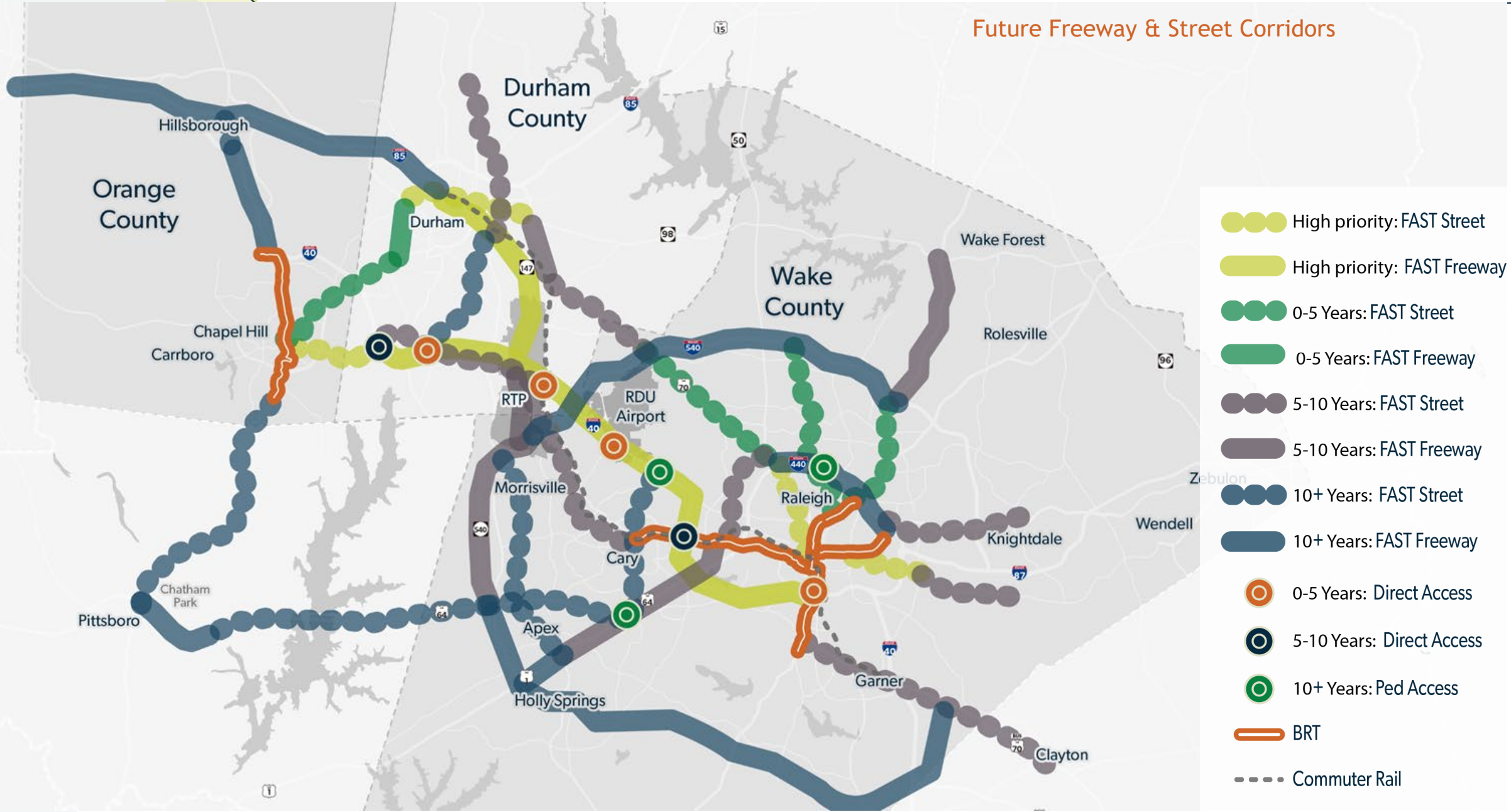
Freeway And Street-based Transit network

Example future FAST corridors

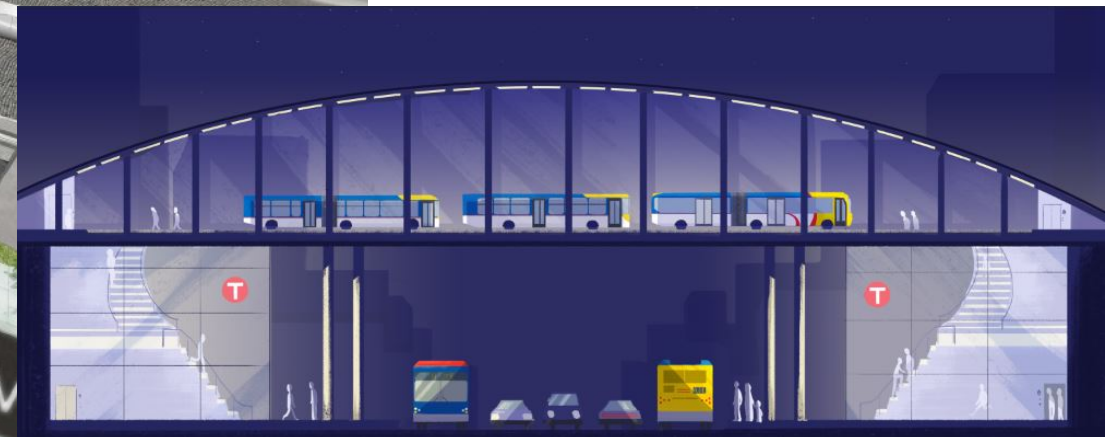




Future Freeway & Street Corridors



Minneapolis: I-35W Lake Street Station





FAST

Freeway And Street-based Transit network

Wrap Up

Public Comment Period

- Download a version of this presentation at letsgetmoving.org/FAST
- Email comments to FAST@letsgetmoving.org
- 45-Day Comment Period
July 16-August 31



Next Steps

- Review ongoing/upcoming highway projects for potential transit advantage incorporation opportunities
- Develop implementation playbook for several illustrative examples
 - High priority projects
 - 0-5 year projects





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- Don Bryson | dbryson@vhb.com | 919.334.5615

www.vhb.com

