

# Business Leadership on Transportation in the Triangle

**Joe Milazzo II, PE**  
Executive Director

Regional Transportation Alliance business coalition

North Carolina House Select Committee  
on Strategic Transportation Planning  
and Long Term Funding Solutions

*March 7, 2016*

# About the RTA business coalition

# Regional Transportation Alliance business coalition – overall goal

An efficient regional transportation system that supports talent attraction, employee retention, economic growth, and community prosperity – both now and as we grow

# About the RTA business coalition

## WHAT WE DO

- Unite and represent the regional business community
- Identify and advance mobility solutions for the Triangle market
- Bring regional partners together to overcome threats to projects
- Make the business case for strategic transportation investments

# About the RTA business coalition

## WHO WE ARE

- **125+ companies and 23 member chambers of commerce**  
Cisco, Golden Corral, MetLife, Duke Energy, RTP, GlaxoSmithKline, Fairway Outdoor, Fred Smith Company, Quintiles, and many more
- **Dozens of business leader volunteers**  
Steve Brechbiel, Quintiles, 2016 RTA chair  
Ed Paradise, Cisco Systems, Immediate past RTA chair

# About the Regional Transportation Alliance

## Key successes with our partners

- Accelerated \$1 billion **Triangle Expressway freeway**
- Saved 30 mile, \$2 billion **Triangle Expressway southeast extension**
- Elevated **bus rapid transit** as a viable option for Wake County
- Directed successful regional campaign to advance **new I-495**
- Pushed successful two-state campaign for **future I-89** to Va.

# About the Regional Transportation Alliance

## More successes

- Launched **Air Service Advancement Project (ASAP)** marketing push
- Coordinated N.C.'s first “**Bus on Shoulder System (BOSS)**”
- Supported **successful transit referenda in Durham, Orange** counties
- Garnered regional support for **new I-885 linkage** to RTP
- Advanced **US 70 freeway conversion** between Durham and Raleigh

# About the RTA business coalition

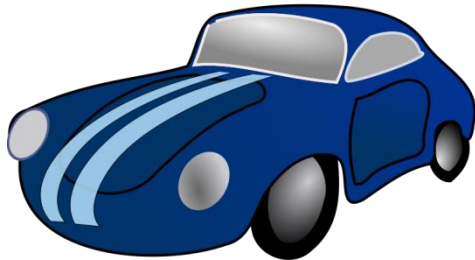
## PRIORITIES

- **Complete and enhance our freeway system**
  - 540 acceleration to I-40, convert US 70 to freeway, advance I-44/89
  - Add on-ramp signals for congestion relief, add express shoulder lanes
- **Enhance major streets**
  - Improve US 1 Capital Blvd, advance Synchronized Streets regionwide
- **Create robust transit networks**
  - Pass Wake Transit referendum, expand BOSS network
- **Advance intercity connections via high speed rail**
  - Connecting with Richmond, Washington, D.C. and Charlotte
- **Strengthen domestic and international air service**
  - Successful launch of RDU–Paris, strengthen domestic offerings



# Thank you

# State level funding

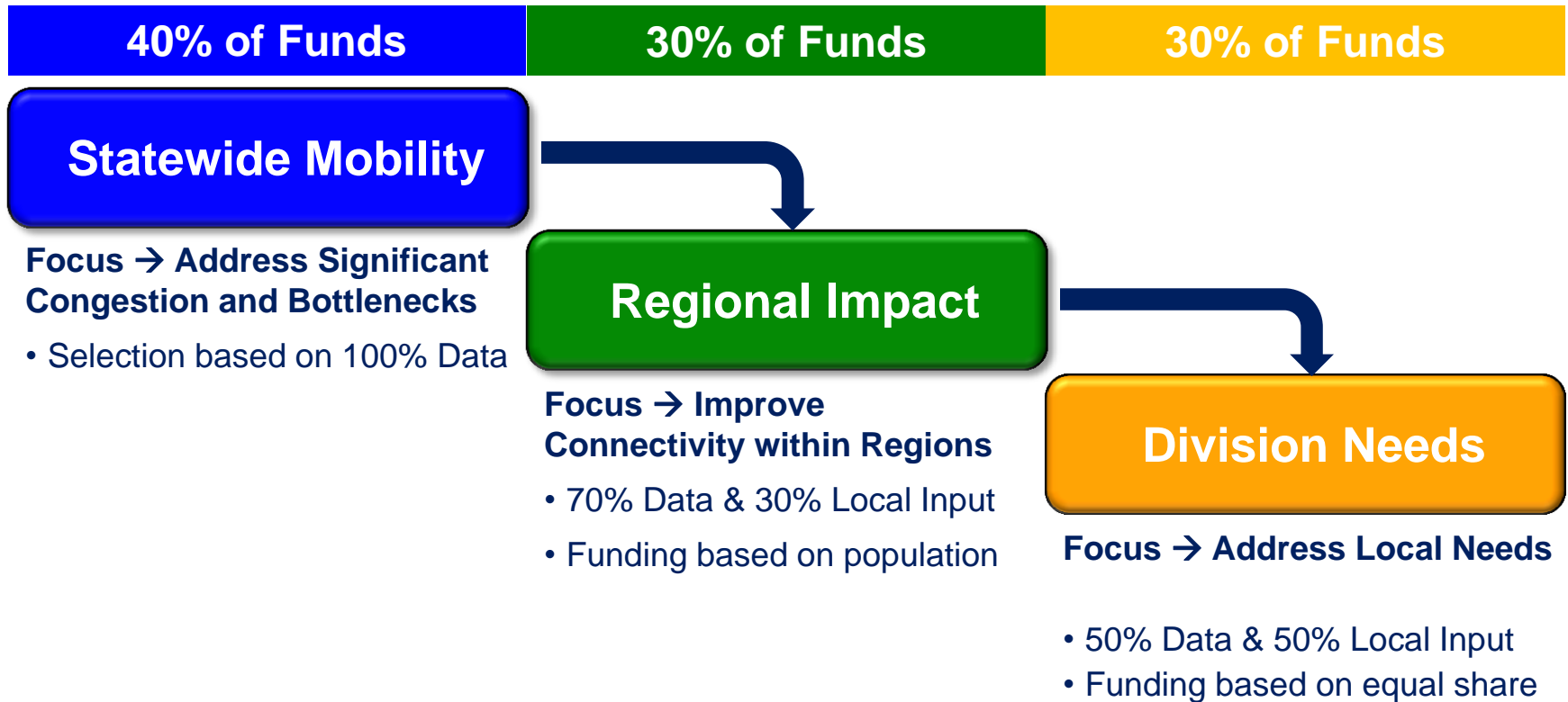


**Access Based**



**User-fee Based**

# Strategic Transportation Investments



# Freeways

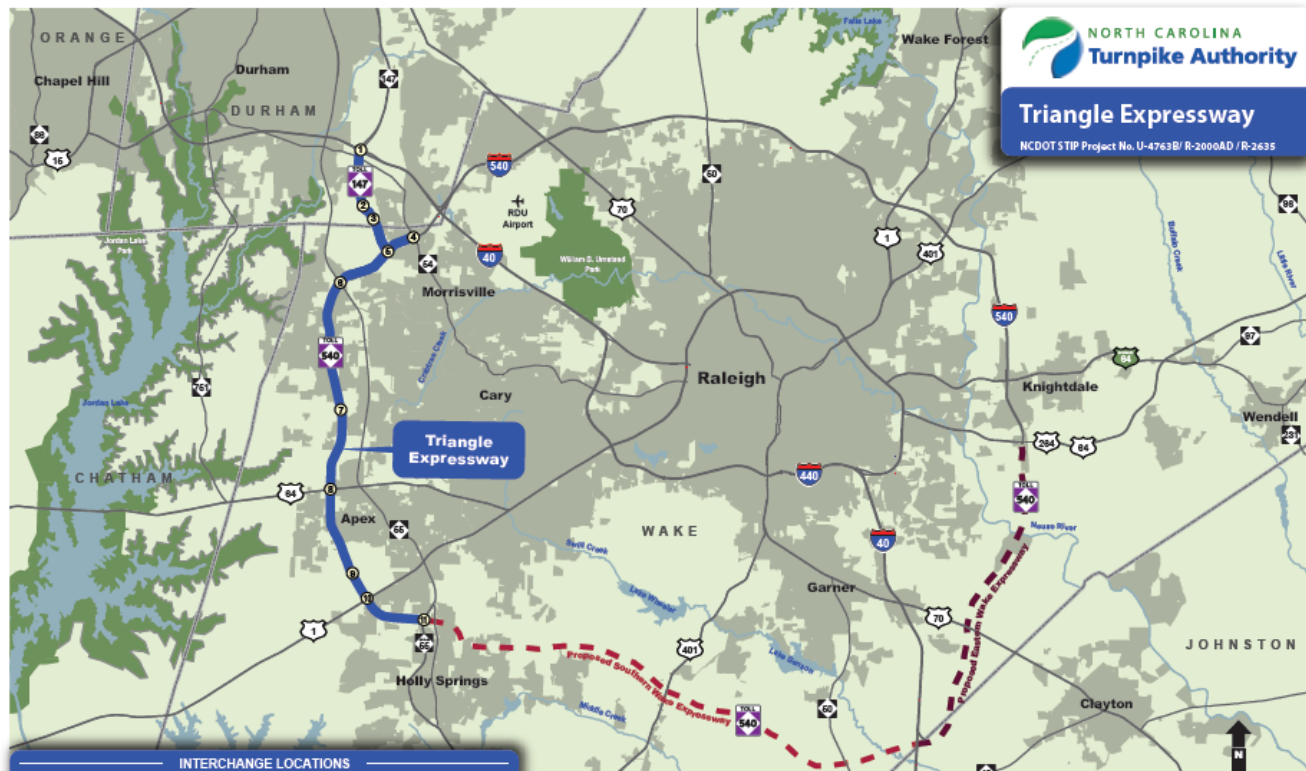
# I-540 Corridor

# Triangle Expressway

- Most interoperable toll road in the United States
- Accepts 5 different payment types

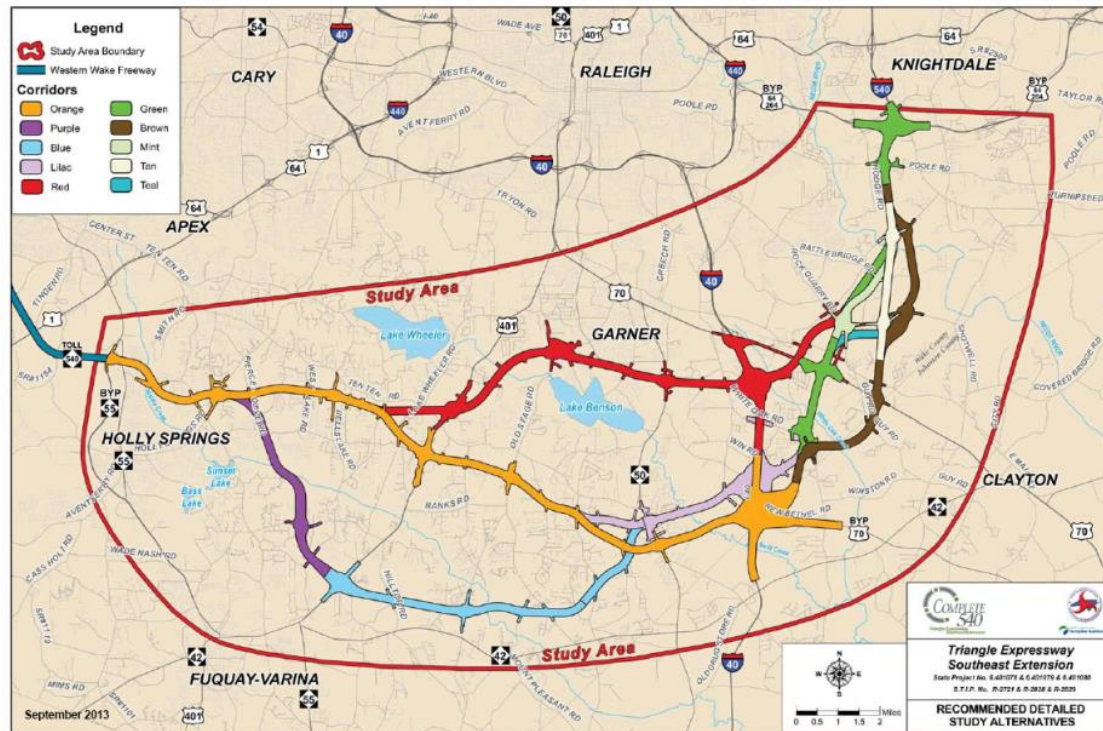


# Complete 540



# Complete 540

- [ncdot.gov/Complete540](http://ncdot.gov/Complete540)





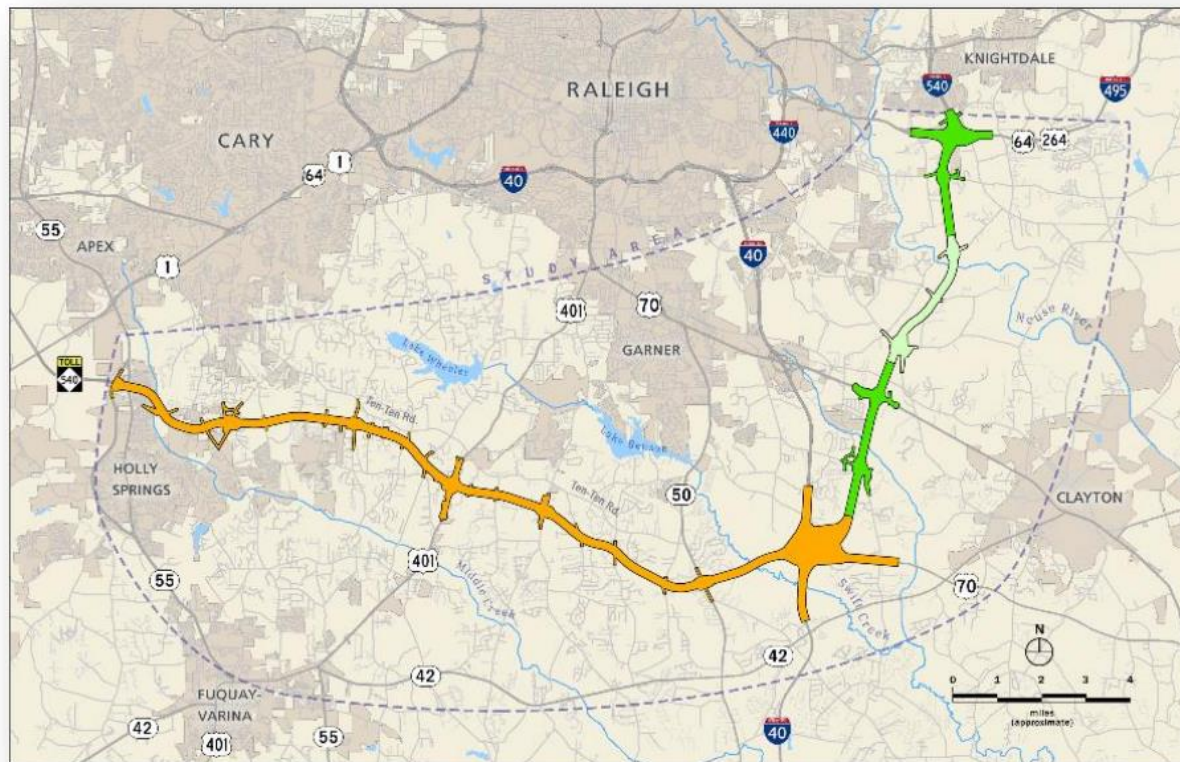
# Complete 540

- Complete 540 draft environmental study of alternatives released



# Complete 540

- NCDOT has recommended Orange/Green/Mint/Green corridor

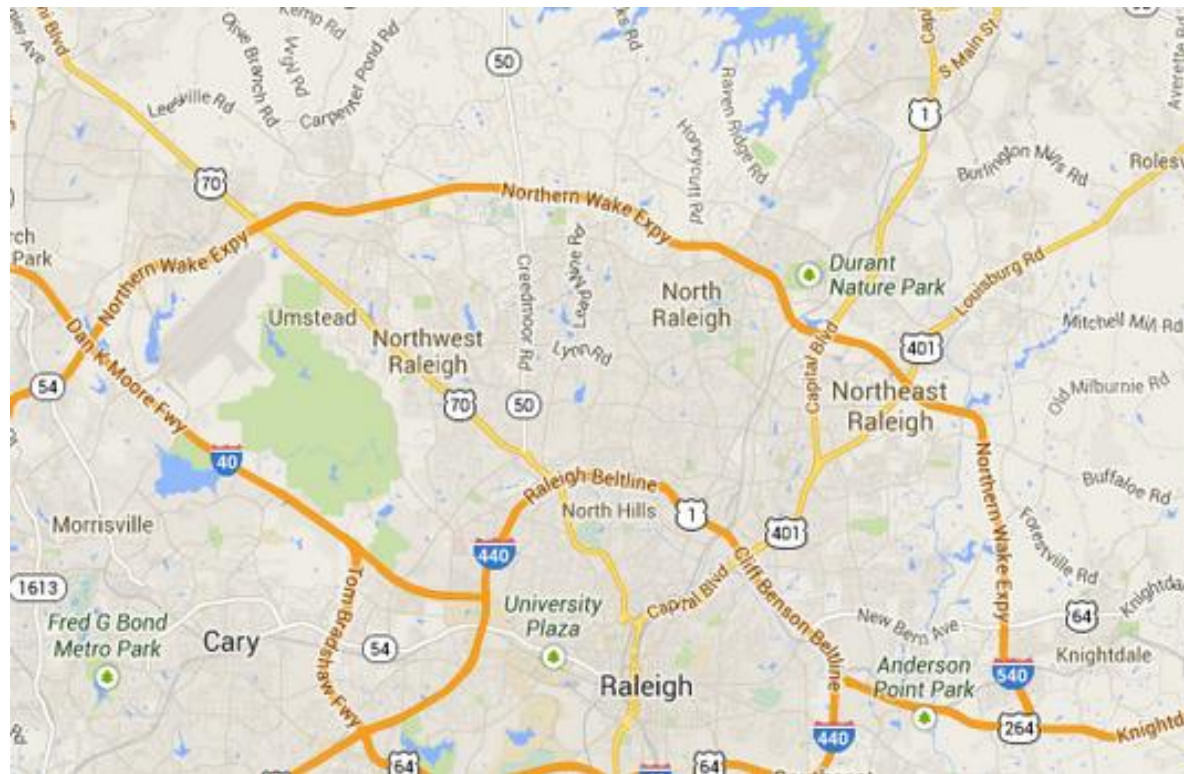


# Express Shoulder Lanes



# Express Shoulder Lanes

- Shoulder Managed Lanes action team launched with NCDOT





# Possible Express Shoulder Lanes Corridors

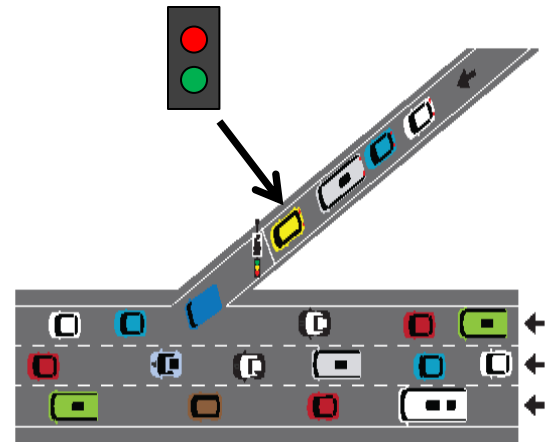
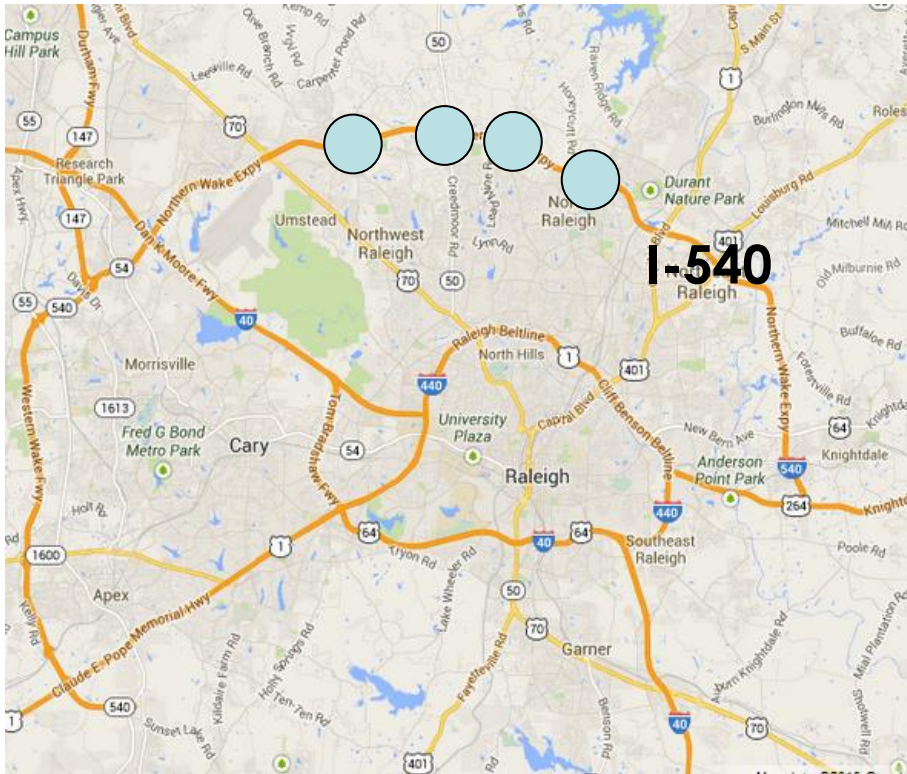
## Managed lane study corridors

- I-40
- I-440
- I-495
- I-540
- NC 147/I-885

## Other possibilities

- US 1 north of I-540
- US 1 south of I-40
- Wade Avenue Ext.

# I-540 On-Ramp signals for congestion relief



# I-40 Corridor

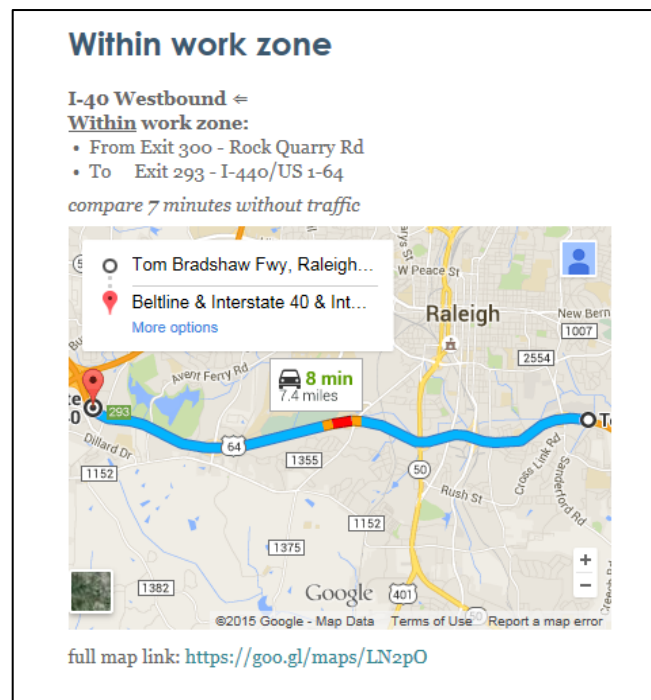
# I-40/440 Fortify rebuild





# I-40/440 Fortify rebuild

- I-40 segment well underway with lower delays than anticipated



# I-40/440 Fortify rebuild

- I-440 segment achieves completion



# Bus on Shoulder System (BOSS)



# Other freeways

# Convert US 70 to Freeway



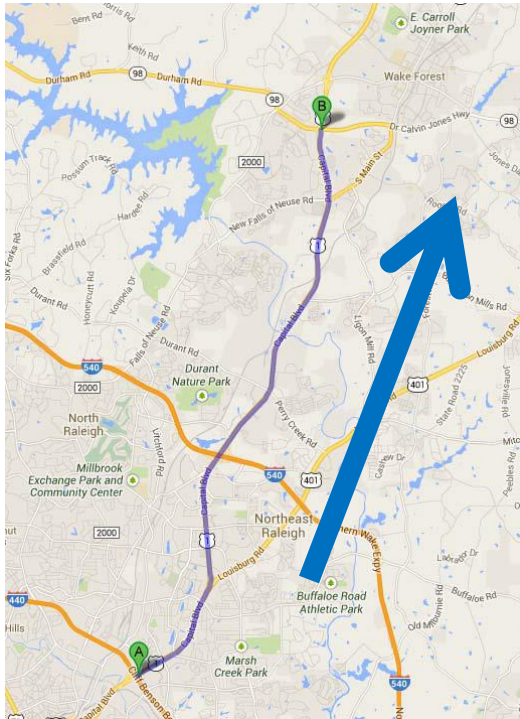


# US 1 freeway conversion



# US 1 freeway conversion

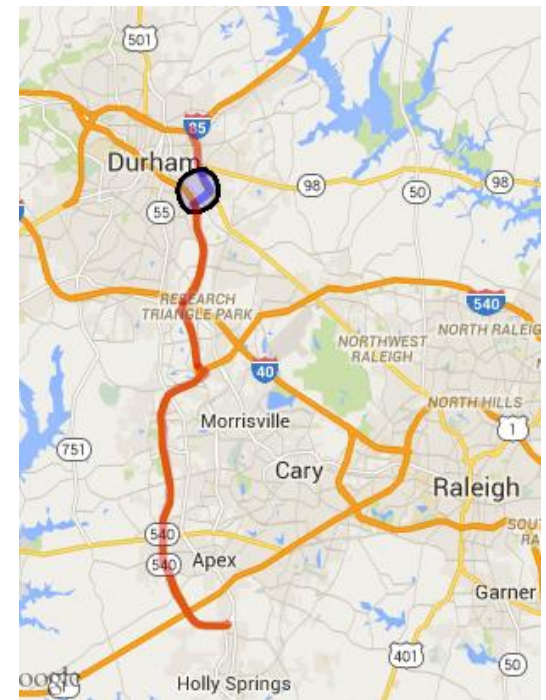
- US 1 freeway conversion approved with full funding



Northbound US 1 **PM** Peak Commute  
(Raleigh to Wake Forest)

- Today: **23** Minutes
- 2040: **45** Minutes (with no improvements)
- 2040: **22** Minutes (with improvements)

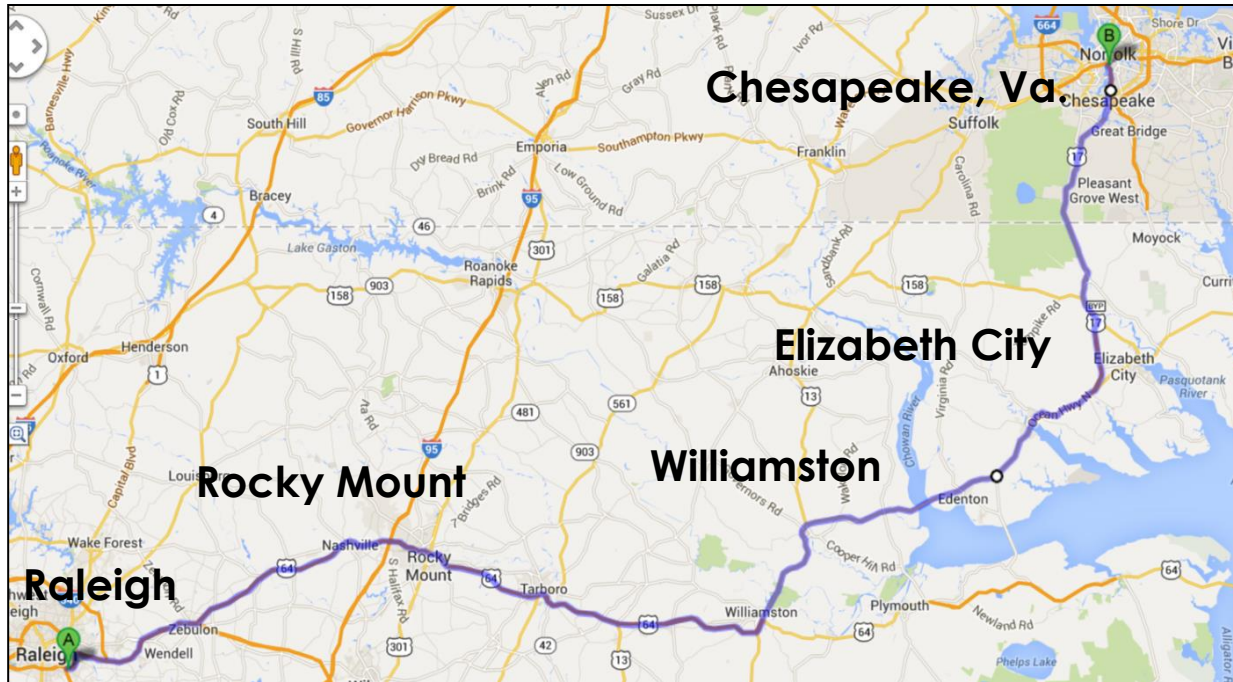
# I-885 / Triangle Connector to I-85





# Future Interstate from Raleigh to Coastal Virginia

# Future Interstate Authorization

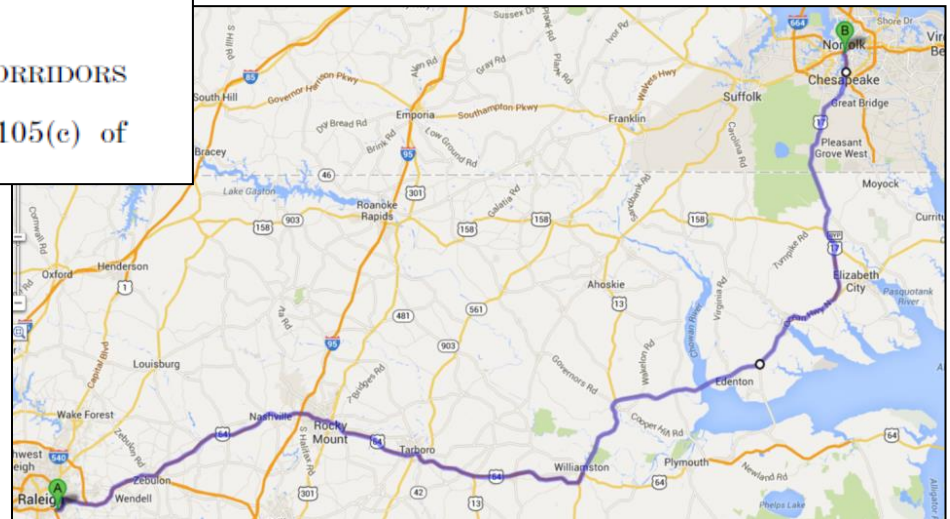


# Future Interstate Authorization

- Entire NC Congressional delegation sponsored bill

22 SEC. 1416. HIGH PRIORITY CORRIDORS ON NATIONAL  
23 HIGHWAY SYSTEM.

24 (a) IDENTIFICATION OF HIGH PRIORITY CORRIDORS  
25 ON NATIONAL HIGHWAY SYSTEM.—Section 1105(c) of



# I-495 Approval



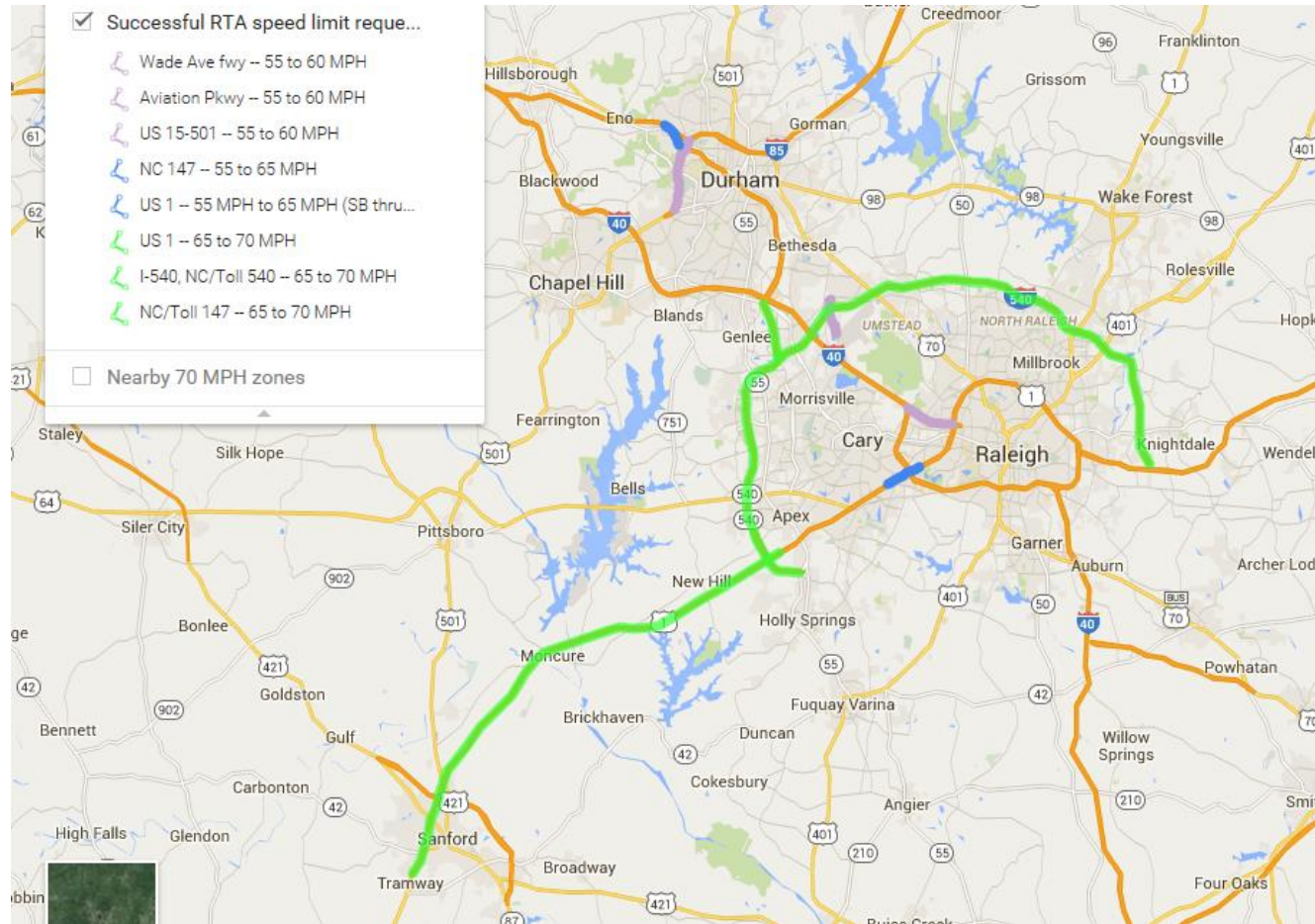


# I-495 Approval



# Freeway speed limit increases

# Freeway Speed Limit Increases



# Freeway Speed Limit Increases

- Support 75 MPH pilot for lower-volume freeway(s)
- Current 70 MPH freeways among safest highways in state
- Connect rural regions to urban centers and enhance economic development



# Wake Transit

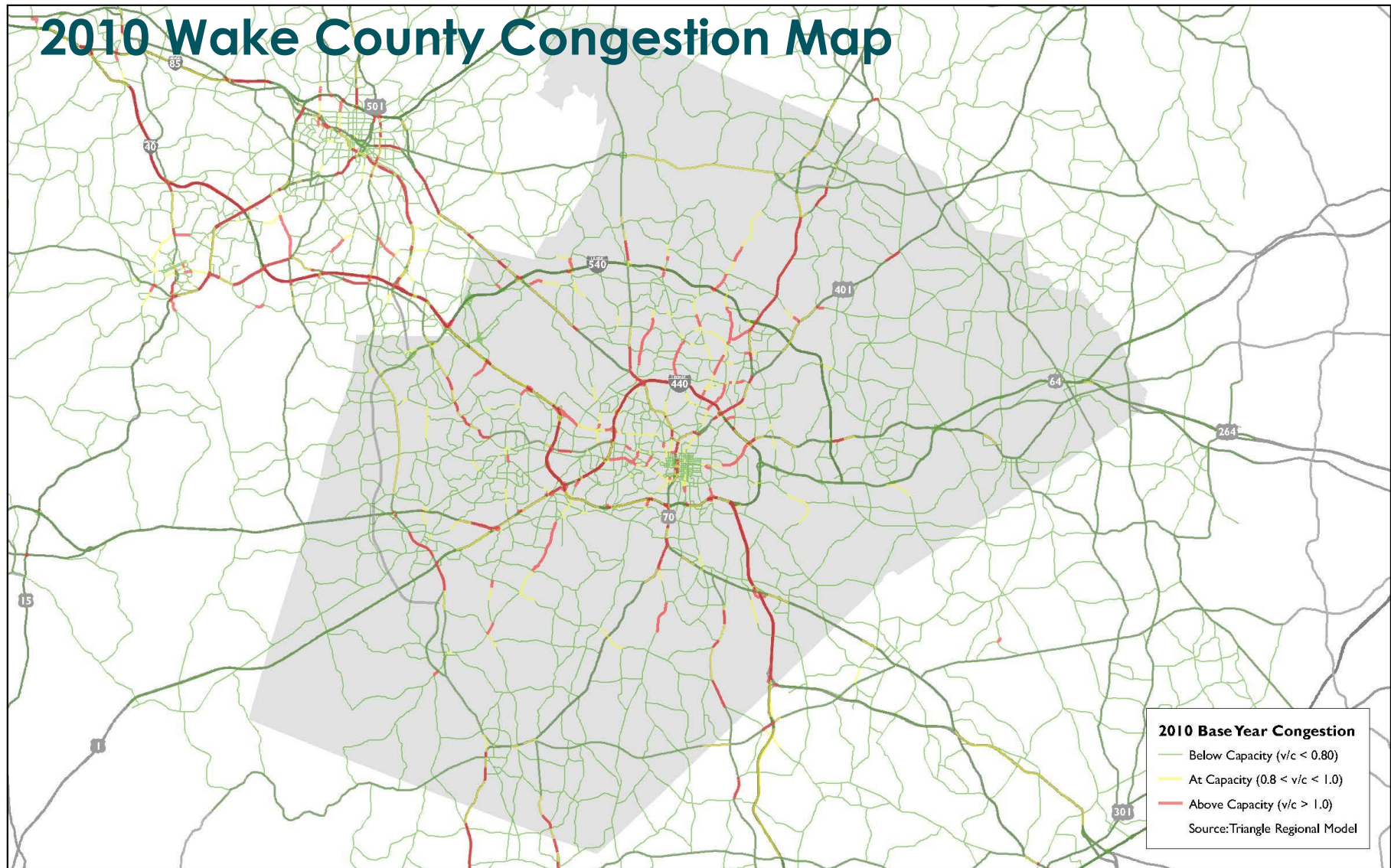
# Why Transit

**WAKE  
EXCEEDS A  
MILLION  
1,000,000**

Including  
470,000 employees  
60,000 college students

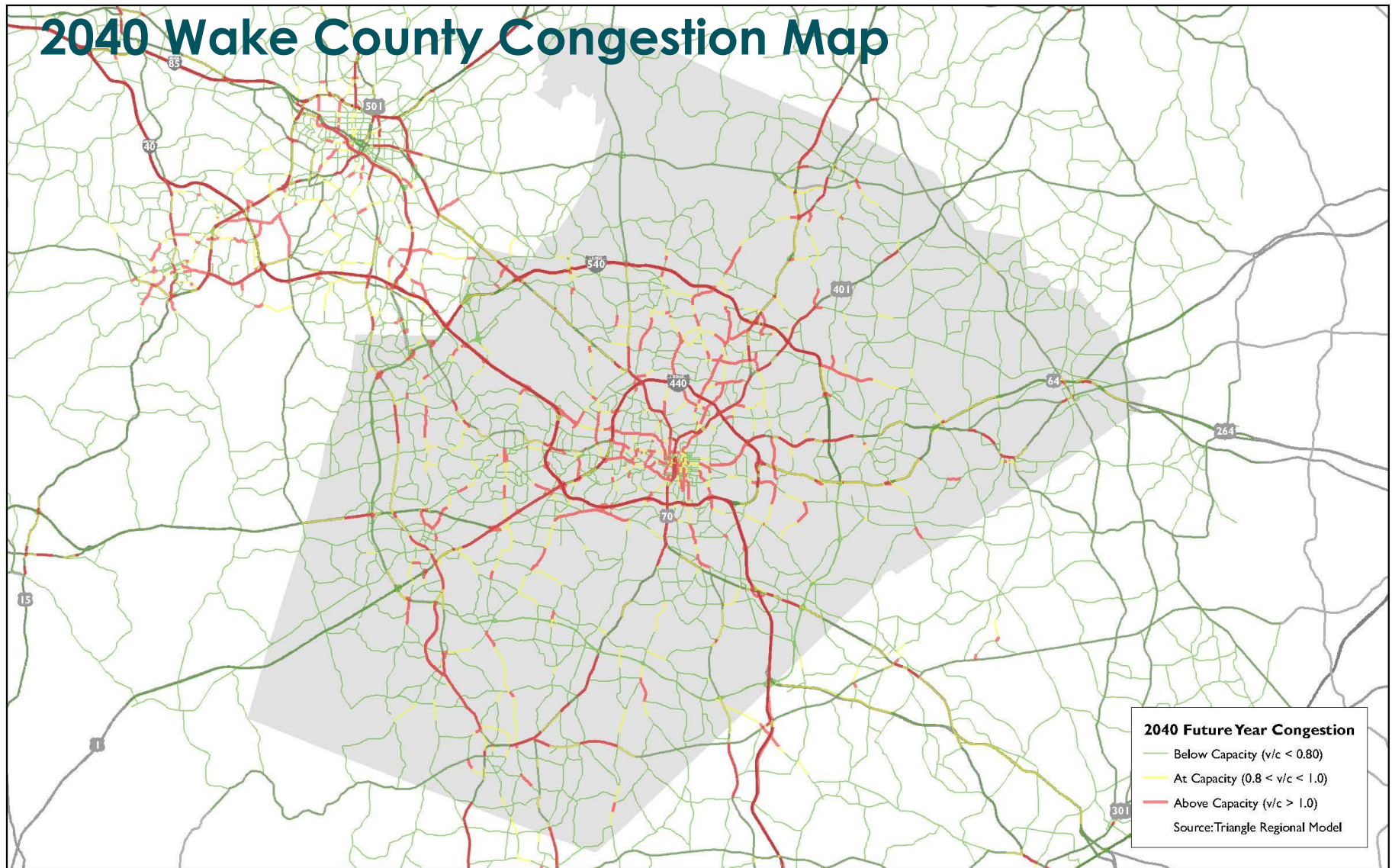
**+ 600,000 people**  
expected in next 20 years

# 2010 Wake County Congestion Map





# 2040 Wake County Congestion Map



# Wake Transit Initiative Funding Partners



[Click here for a video invitation from Bob Geolas](#)



TOWN OF CARY

# Why Transit

- More travel options both now and as we continue to grow
- Competitive advantage in attracting/retaining talent
- Alternative to driving and a means to avoid congestion, parking
- Access to jobs, healthcare, education, social and cultural events
- Focus land use, support sustainable and walkable development

**WAKE  
EXCEEDS A  
MILLION  
1,000,000**





# Recommended Wake Transit Plan

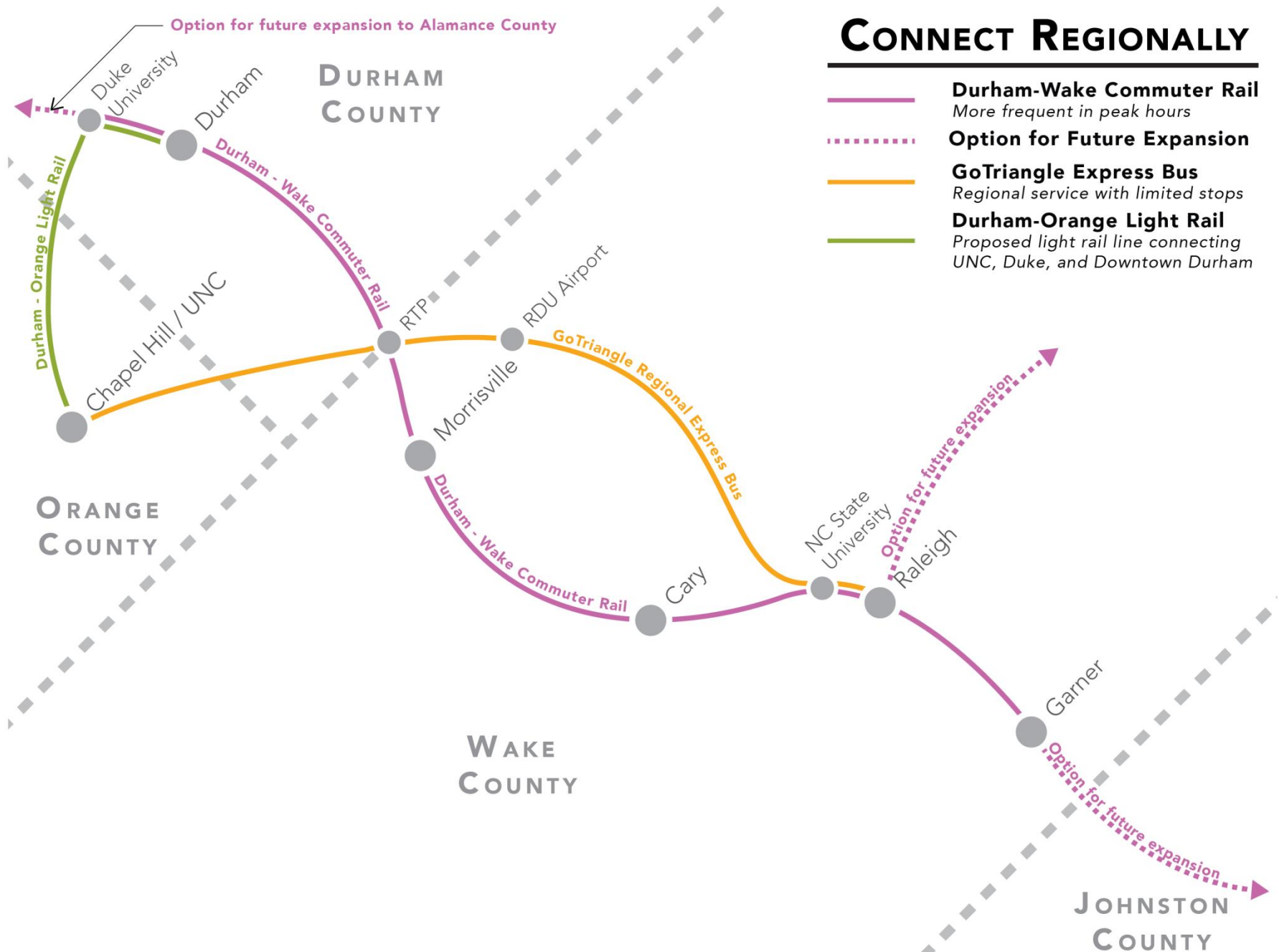
## Primary Elements

- Adds more than **60 new miles in our frequent transit network**, providing service every 15 minutes or better
- Creates **20 miles of bus rapid transit** infrastructure
- Increases **overall bus service by three times** current levels
- Expands regional connections with **enhanced express bus** and **37 miles of commuter rail**





# CONNECT REGIONALLY



# Examples of commuter rail



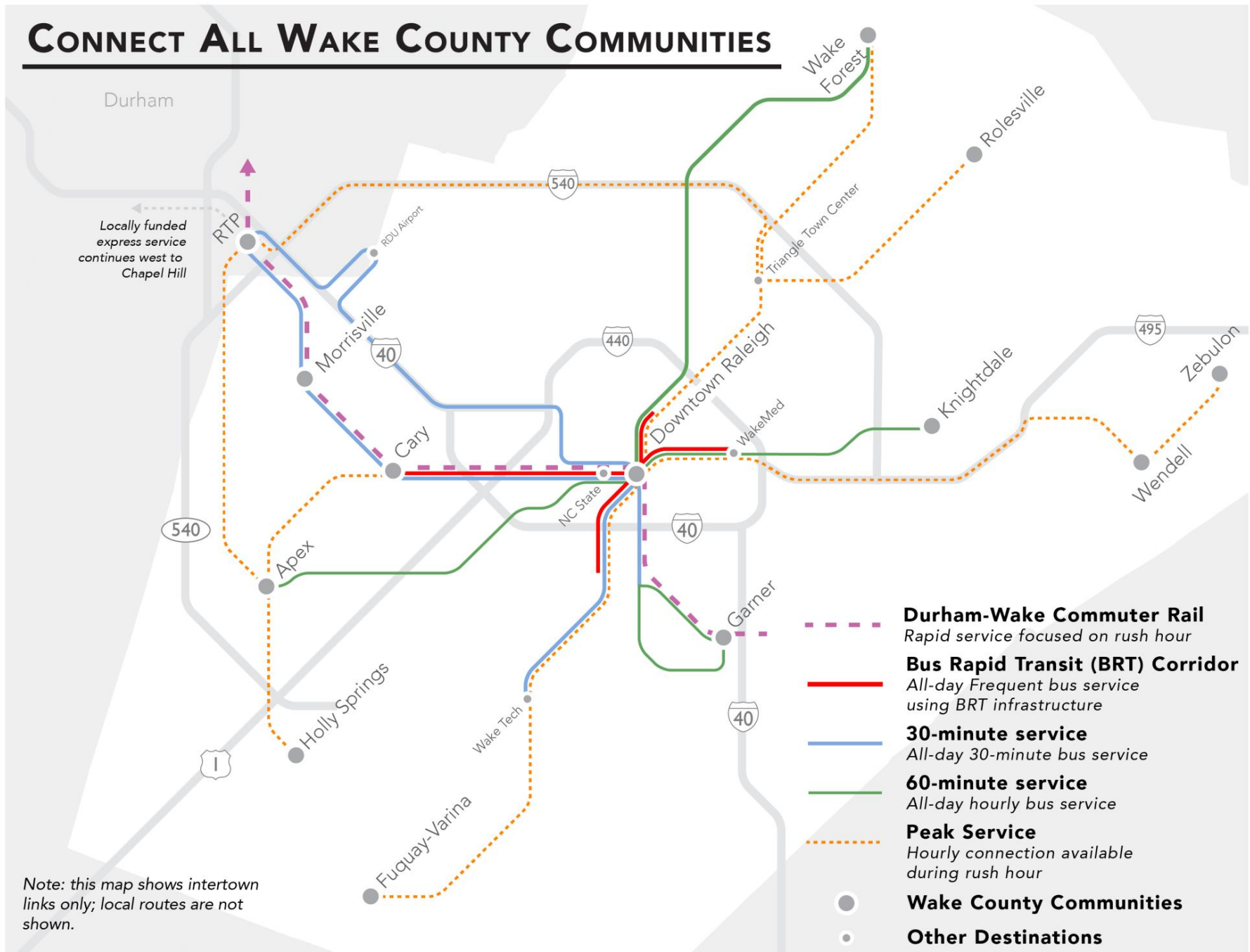
*Virginia Railway Express in Arlington, Va.*



*Northstar Metro Minneapolis, Minn.*







# CONNECT ALL WAKE COUNTY COMMUNITIES

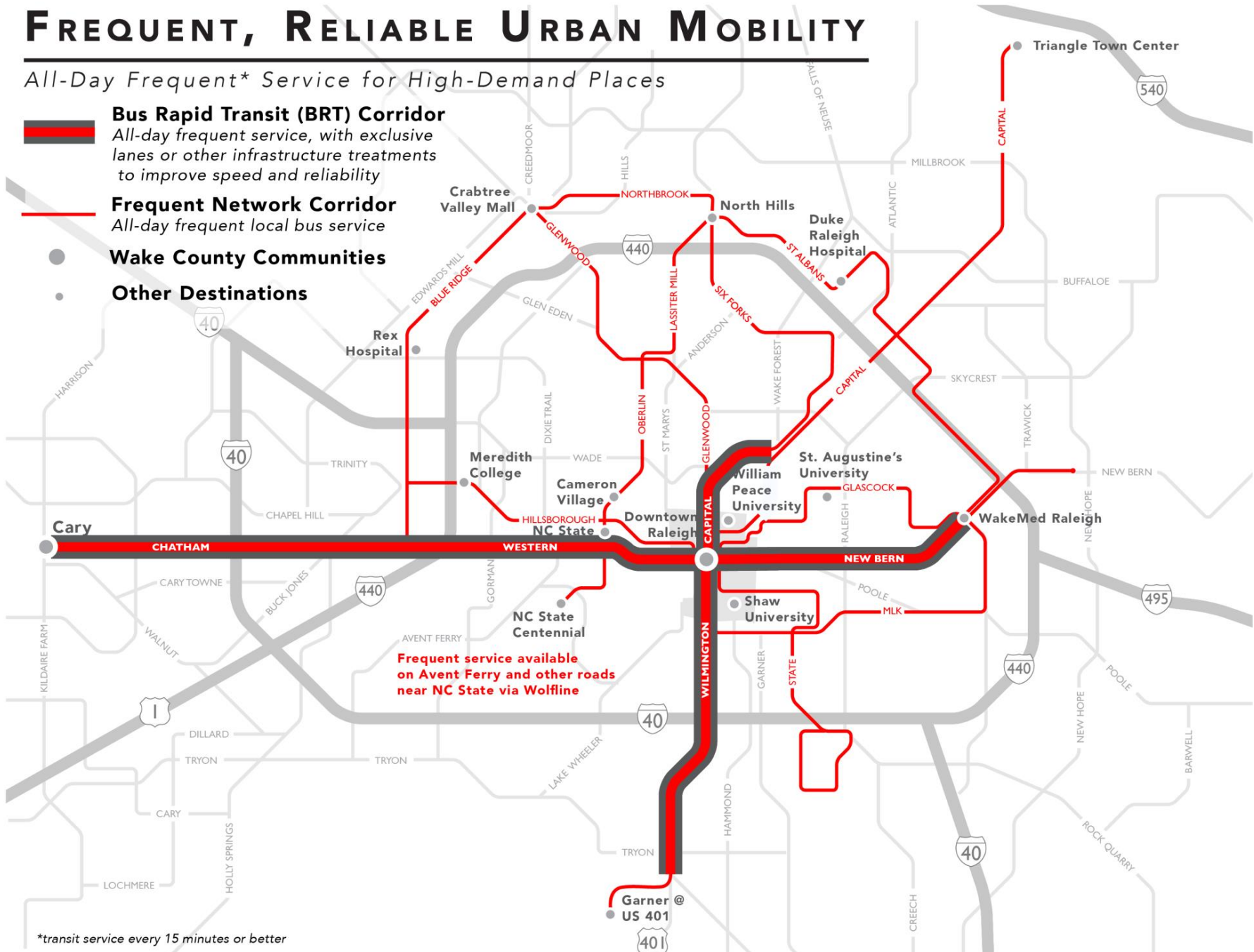




# FREQUENT, RELIABLE URBAN MOBILITY

All-Day Frequent\* Service for High-Demand Places

-  **Bus Rapid Transit (BRT) Corridor**  
All-day frequent service, with exclusive lanes or other infrastructure treatments to improve speed and reliability
-  **Frequent Network Corridor**  
All-day frequent local bus service
-  **Wake County Communities**
-  **Other Destinations**



\*transit service every 15 minutes or better

# Examples of Bus Rapid Transit (BRT)



*Alexandria, Va. metroway*

# Examples of Bus Rapid Transit (BRT)



*Alexandria, Va. metroway*



# Examples of Bus Rapid Transit (BRT)



# New Bern Ave. Today



## New Bern Ave. Today



## New Bern Ave. Future with BRT





# BRT and Economic Development

“A new peer-reviewed research study provides compelling evidence that BRT — often with a price tag far lower than other transit investments — can provide ample economic benefits for cities large and small.”

*National study of BRT Development Outcomes  
National Institute for Transportation and  
Communities (NITC)*

*Unveiled by Transportation for America  
January 12, 2016*



## **Buses Mean Business**

New Evidence Supporting Economic Benefits of Bus Rapid Transit in the U.S.

# ENHANCED ACCESS TO TRANSIT



## Areas Close to Fixed-Route Service

Shaded areas are within 3/4 of a mile of fixed-route bus services, regional express or intertown connections during the first 10 years of the plan.



## Flexible Service Area

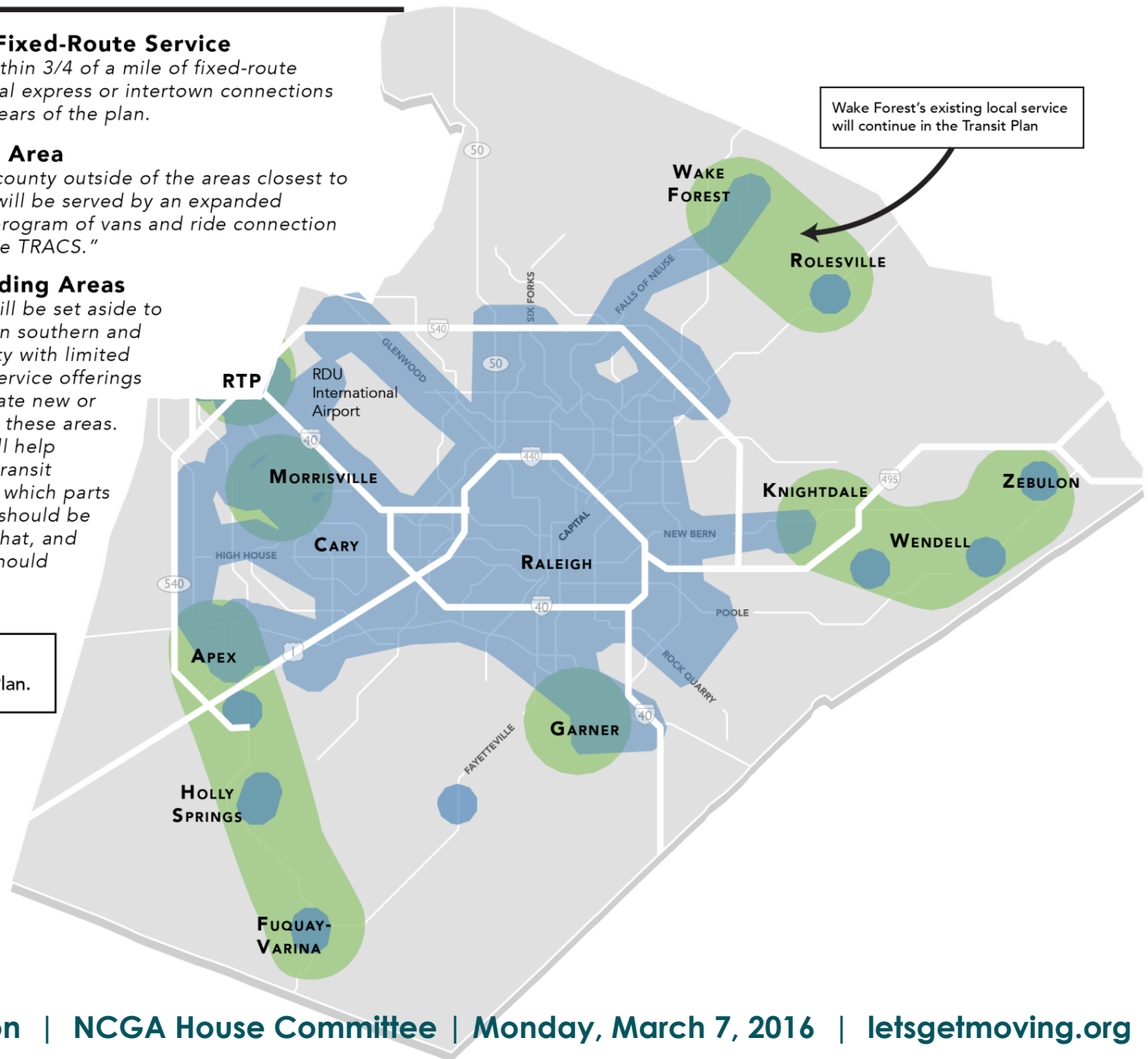
The entirety of the county outside of the areas closest to fixed-route service will be served by an expanded on-demand call-in program of vans and ride connection services called "Wake TRACS."



## Community Funding Areas

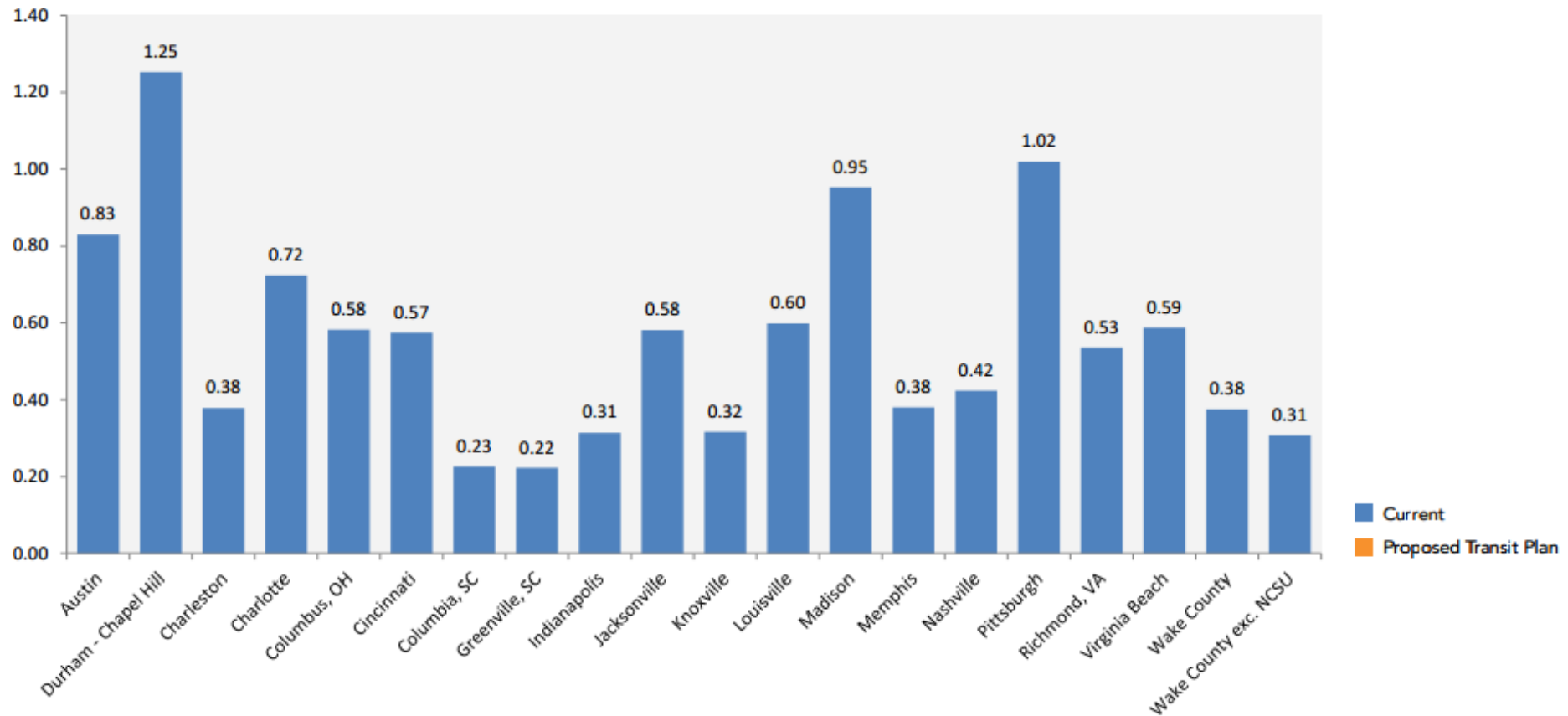
Matching funding will be set aside to partner with towns in southern and eastern Wake County with limited fixed-route transit service offerings to create or accelerate new or enhanced service in these areas. The partnerships will help determine the best transit services to provide, which parts of each community should be connected and to what, and when the services should be put in place.

Existing bus service will be roughly tripled in the Transit Plan.



# Current Transit Service

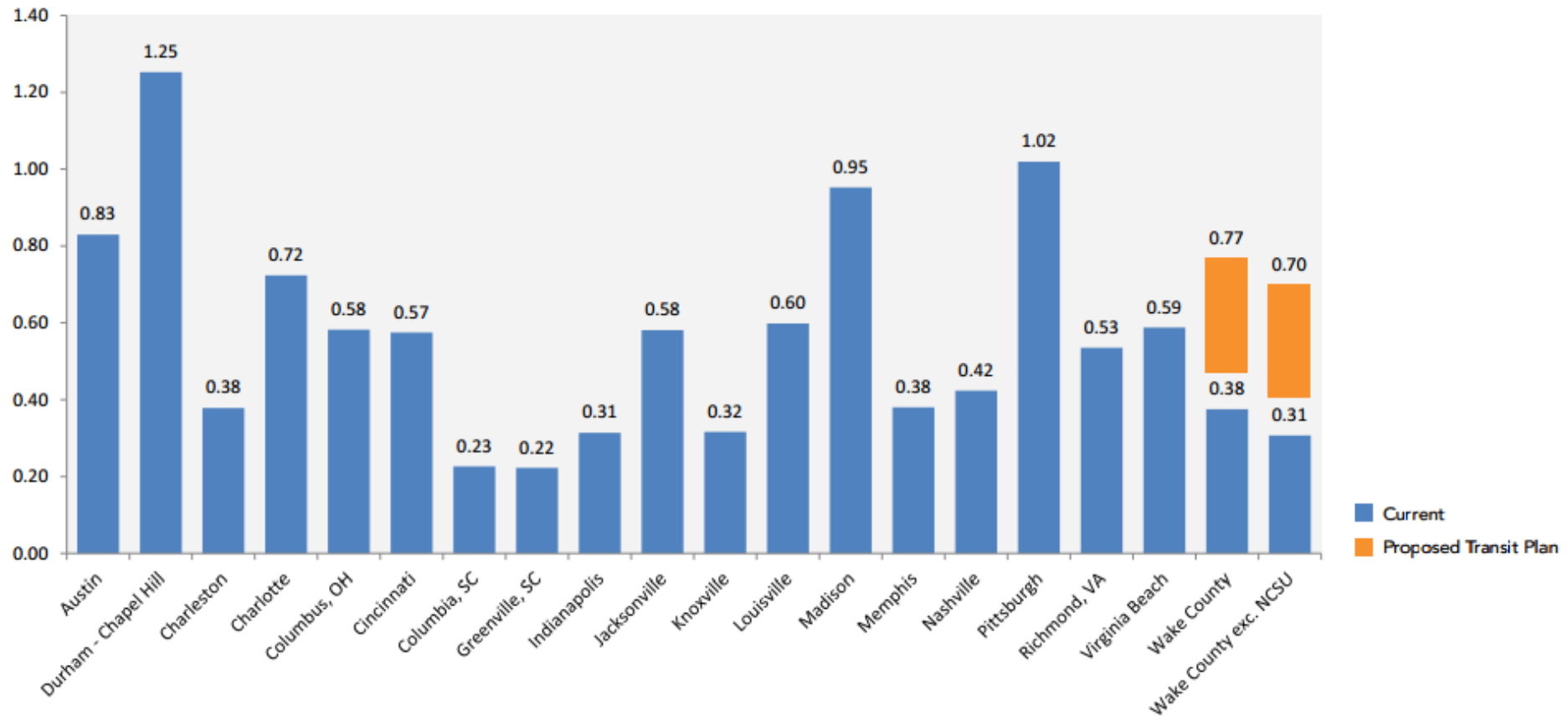
Transit Service Abundance (Revenue Hours per Capita)





# Proposed Transit Service

Transit Service Abundance (Revenue Hours per Capita)

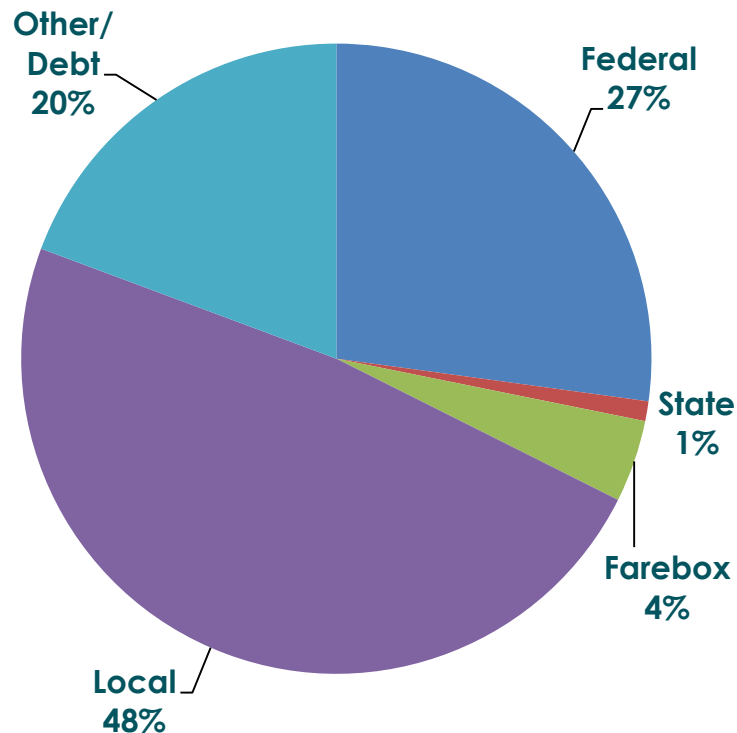


# Wake Transit Plan Evolution

	Prior draft plan (2012)	Recommended plan (2015-16)
<b>Commuter rail</b>	37 miles	<b>37 miles</b>
<b>Bus rapid transit</b>	0	<b>20 miles, 4 corridors</b>
<b>Enhanced bus service</b>	2x existing bus service	<b>3x existing bus service</b>
<b>Frequent network</b>	0 additional miles	<b>66 additional miles</b>
<b>Time horizon</b>	20 years	<b>10 years</b>
Light rail	17 mile corridor	n/a

# Funding for Wake Transit Plan

## Federal and State Contributions Through 2027



### **\$1.2 billion - Wake Co. share**

- Half-cent local sales tax
- New \$7 county vehicle registration fee
- Existing 5% vehicle rental tax
- Fare box revenue

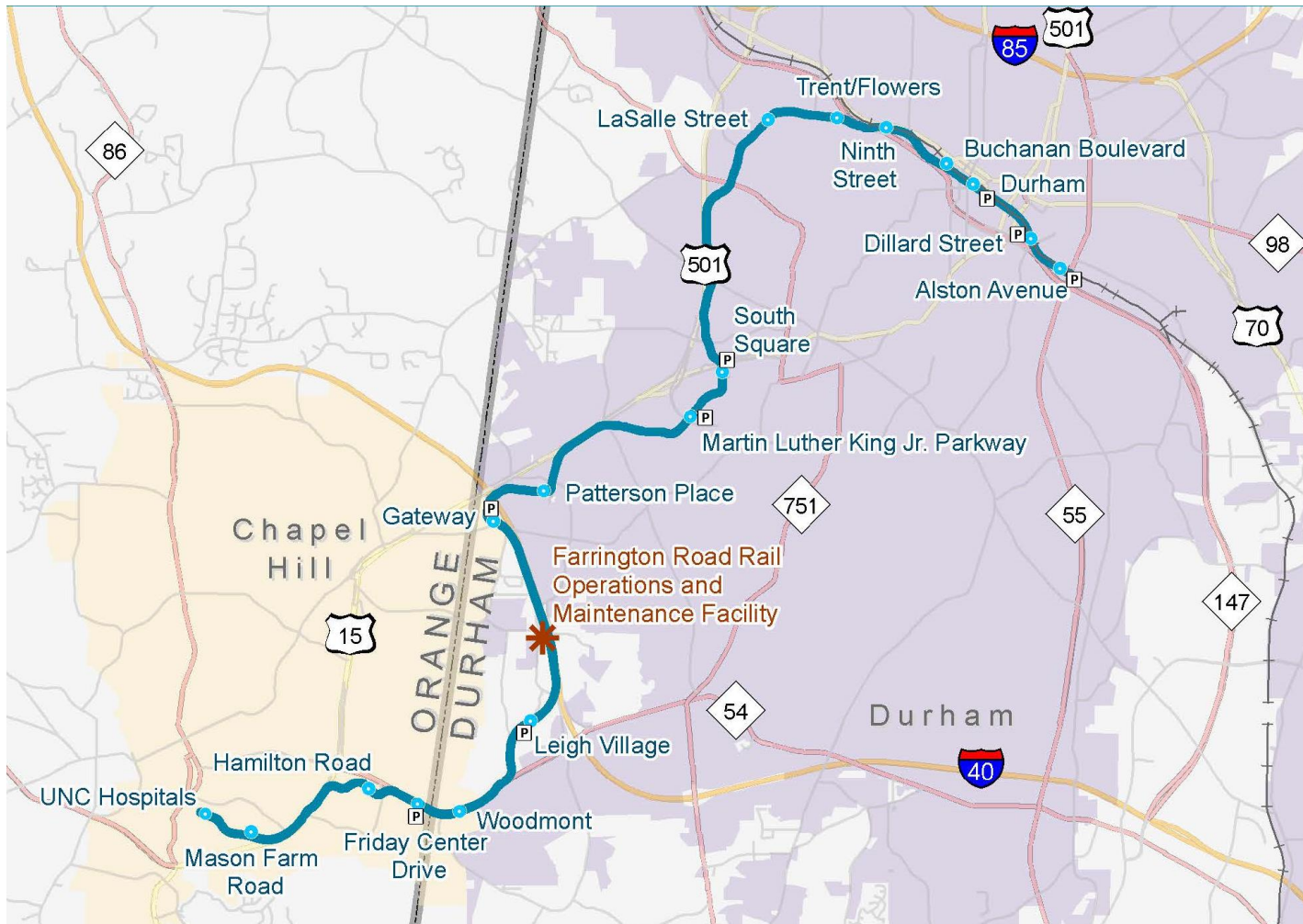
### **\$2.4 billion - total plan cost**

- Capital, operating, fund balance allocation

# Timeline for Wake Transit

<b>Dec. 2015</b>	Recommended Wake Transit Plan released
<b>Jan. 2016</b>	RTA business coalition endorses plan
<b>Spring 2016</b>	CAMPO, GoTriangle, Wake Commissioners to approve plan and voter referendum
<b>Nov. 8, 2016</b>	Anticipated ½ cent sales tax referendum

# Durham-Orange transit





# Streets

# Synchronized Streets



## Synchronized Streets

### What is a Synchronized Street?

Formerly called a superstreet, a Synchronized Street provides for reduced delay and simultaneous coordination of both main street travel directions at all times of day.

While main street travelers may turn left, right or travel straight through — just like at a conventional intersection — side-street travelers who want to cross or turn left at a Synchronized Street intersection must first turn right and then make a U-turn to return to their desired route.

The North Carolina Department of Transportation evaluates traffic volumes and the number of crashes and collisions at an intersection. This helps to determine if Synchronized Streets are the most effective solution for the area.

A Synchronized Street is also referred to in other states and by the Federal Highway Administration as a J-turn or as a restricted crossing U-turn (RCUT).

#### Side Street Left-Turn:

In a conventional intersection, drivers turning left from a side street create more delay and conflicts. At a Synchronized Street, they first join the main street flow, reducing wait times and conflicts.

### Benefits of Synchronized Streets

Synchronized Streets can help alleviate congestion while increasing travel capacity and reducing the number of collisions at intersections.


Improved traffic flow is possible by simplifying traffic signal phasing (e.g., eliminating the need for left-turn signals or cutting down on the time spent at a traffic light) and allowing both directions of traffic to move simultaneously.

Redirecting traffic to avoid high-risk movements, such as through movements, reduces the number of conflict points — places in intersections where collisions might occur.

Synchronized Streets are also cost effective because they fit within the existing right of way. Interchanges, by comparison, are more costly because they can require further land acquisition and/or bridges, underpasses or access ramps to fully separate the two roads.

#### Side Street Cross-Traffic:

In a conventional intersection, drivers crossing the main street create more delay and conflicts. At a Synchronized Street, they first join the main street flow, reducing wait times and conflicts.



### Synchronized Streets (Superstreets)


Communities and transportation professionals strive to promote smooth and efficient travel flow that helps drivers along a street or corridor keep moving while providing safe access to and from various locations along the street for drivers and pedestrians.

Most delays to drivers and pedestrians along a street or corridor occur at signalized intersections, and multiple turn arrows or left turn phases can exacerbate those delays by reducing the amount of time during a signal cycle available for both through travel and other movements.

"Synchronized Streets" can dramatically improve travel by allowing simultaneous coordination of both travel directions at all times of day — while providing reasonable access to side streets with signal control.

A Synchronized Street is sometimes known by different names — such as Superstreet, J-turn, Restricted Crossing U-turn, Reduced Conflict Intersection and Alternative Intersection — but the end result is the same: smoother traffic flow, fewer collisions, and a more efficient use of public roadway.

#### Synchronized Streets — improving travel flow and safety by redirecting side street travel



Examples of how side street travelers can cross or turn left at a Synchronized Street

#### How do they work?

If a driver is approaching a Synchronized Street from a side street, he or she can't go straight across or turn left in front of approaching traffic. Instead, the driver will first turn right onto the Synchronized Street and then make a U-turn at a designated median opening a little further downstream. In general, the overall delay caused by a traditional signalized intersection is much greater than the delay associated with Synchronized Streets, even with the additional travel distance, thanks to the reduction in the number of signal phases.

#### Why do they work?

At a traditional intersection, a side street driver must look in both directions to cross a divided highway, and there are more threats to a left-turning driver. Conversely, a driver waiting to cross a Synchronized Street from a side street only needs to focus on one direction of traffic at a time. Synchronized Streets reduce the number of conflict points, which reduces the risk of severe right-angle ("T-bone") crashes, especially for side-street drivers desiring to turn left or cross all lanes.

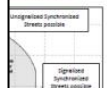
#### Where can they work?

The Synchronized Street design is well suited for urban or suburban areas with many traffic signals by enabling efficient coordination in both directions. In addition, the design can be applied to lower volume rural areas without signals, with through travel free-flow rather than synchronized.

[letsgetmoving.org/letpartnership](http://letsgetmoving.org/letpartnership)

Presented April 22, 2015

**continued**



Unsignalized Synchronized Streets position

Synchronized Streets position

PLAN

Side Street Demand (Left)

Way Administration (FHWA)

~ 60,000 vehicles/day  
~ 80,000 vehicles/day  
~ 100,000 vehicles/day  
Each 25,000 vehicles/day  
leads for efficient operation

3-501 in Chapel Hill use in both travel directions

RTD NCDOT

by 17 in Lakeland

Revised April 22, 2015

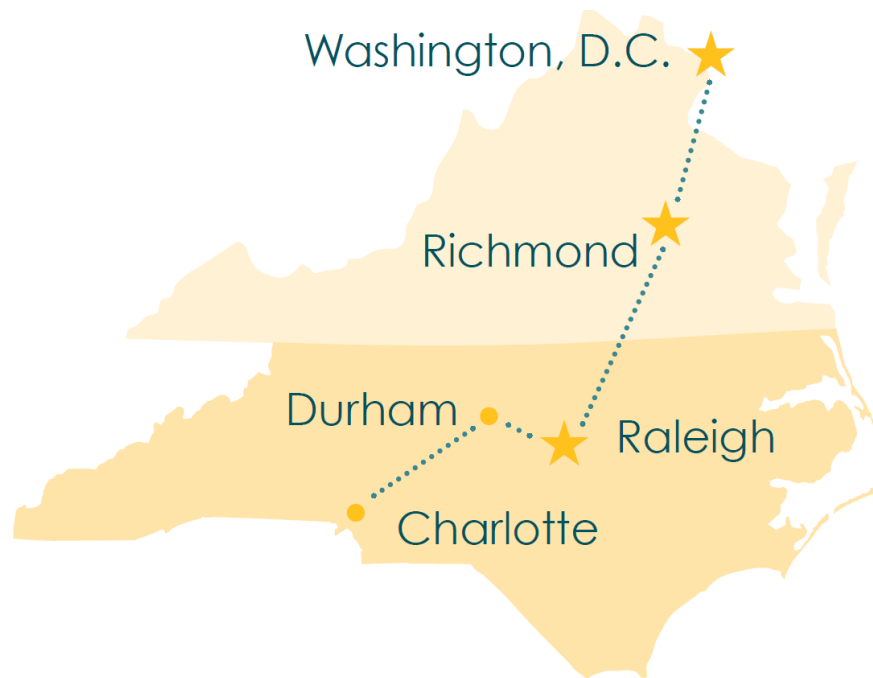
For more information about Synchronized Streets:  
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Meredith McDermid, PE, NCDOT State Systems Operations Engineer, [mcdermid@ncdot.gov](mailto:mcdermid@ncdot.gov), 919.835.2619  
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# Synchronized Streets



# Higher Speed Rail

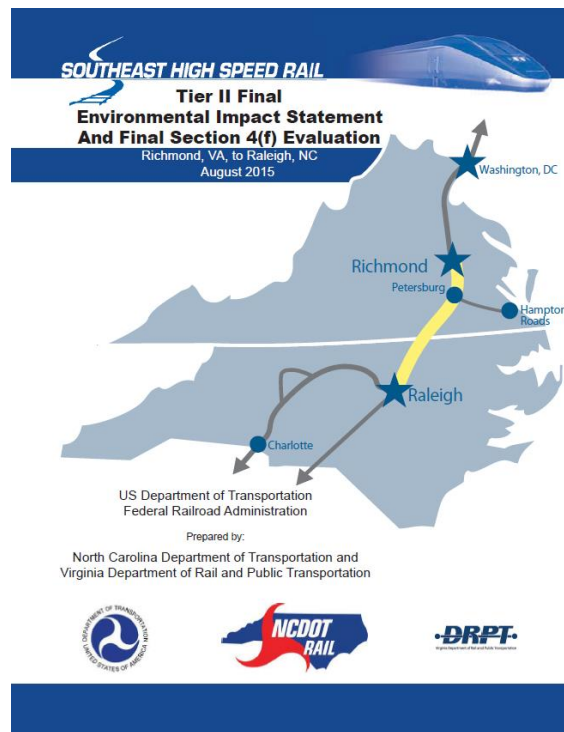
# Higher Speed Rail





# Higher Speed Rail

- Final environmental document approved for Raleigh-Richmond



# Higher Speed Rail

- Raleigh Union Station groundbreaking



# Business Leadership on Transportation in the Triangle

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*March 7, 2016*