Joint Meeting of the Durham-Chapel Hill-Carrboro & Capital Area MPOs October 31, 2018 9:00 a.m. RTP Foundation Headquarters





## Call to Order

#### • Welcome & Introductions

- Wendy Jacobs, Vice-Chair, Durham-Chapel Hill-Carrboro MPO
- Sig Hutchinson, Vice-Chair, Capital Area MPO

#### • Host Welcome

• Comments by the Public



## **Twelve Slides on Travel Markets**

(including this one!)

John Hodges-Copple October 31, 2018



TRIANGLE J COUNCIL OF GOVERNMENTS

Research Triangle Region

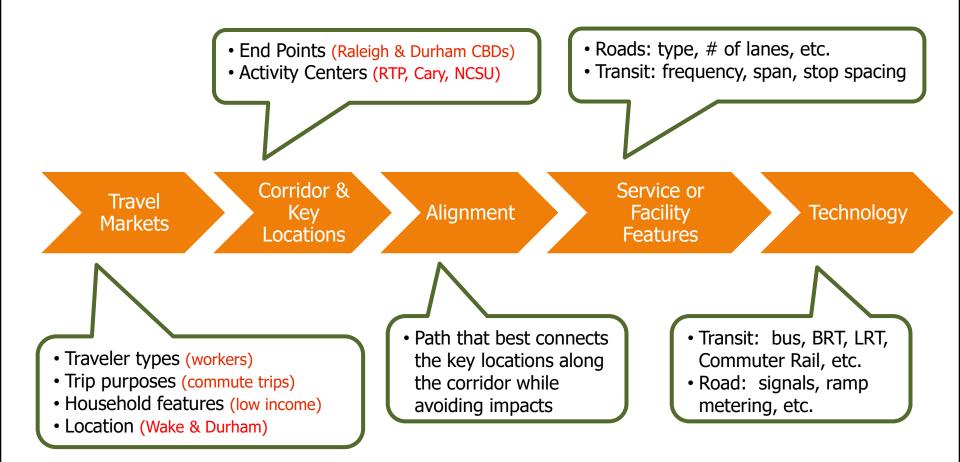
## **Two Generations Ago ...**

#### Today ...



1972 2017

#### **From Travel Markets to Investments**



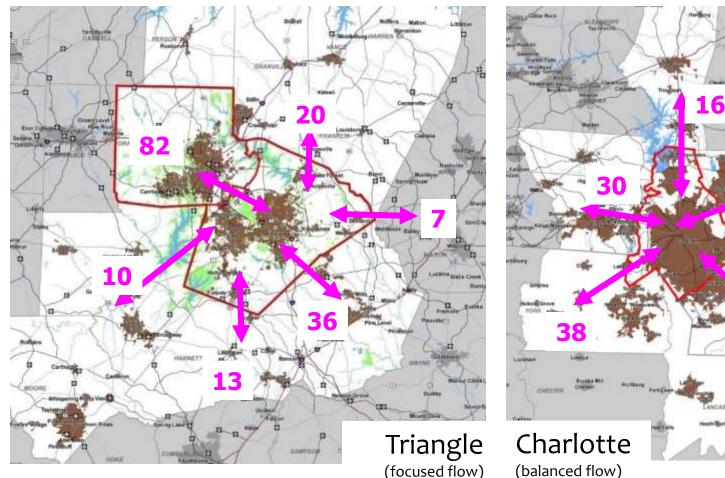
#### **Travel Markets:**

#### Why the "2 Sides of the Region" Plan Together

(commuting flows in thousands to/from the largest county)

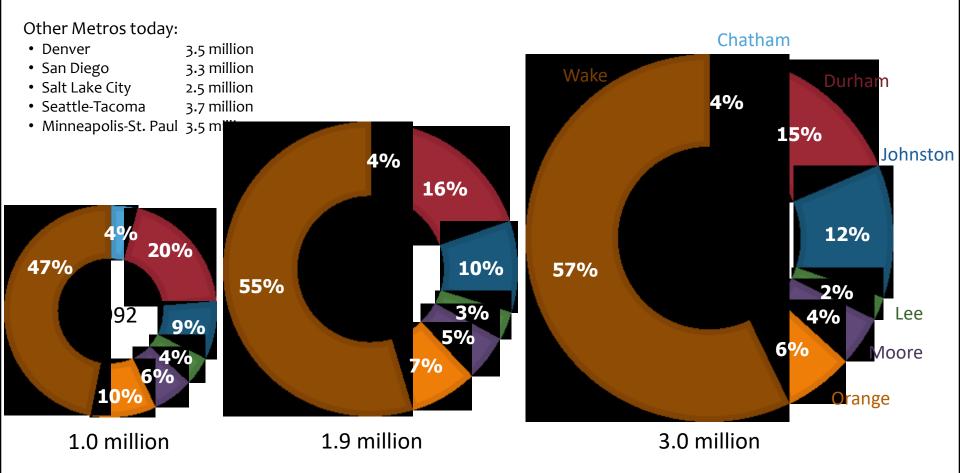
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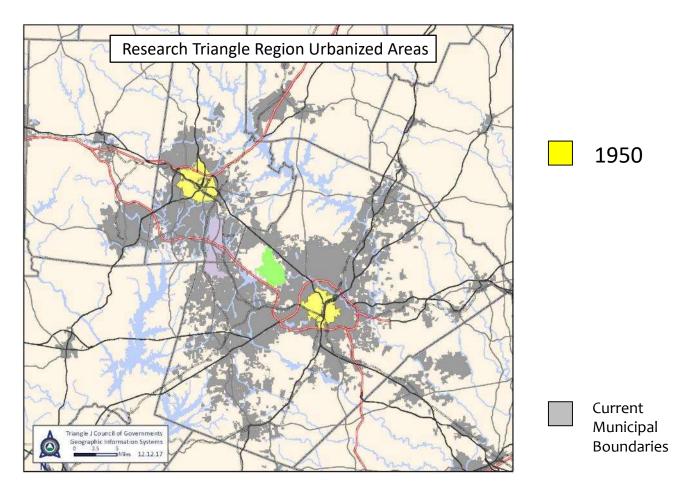
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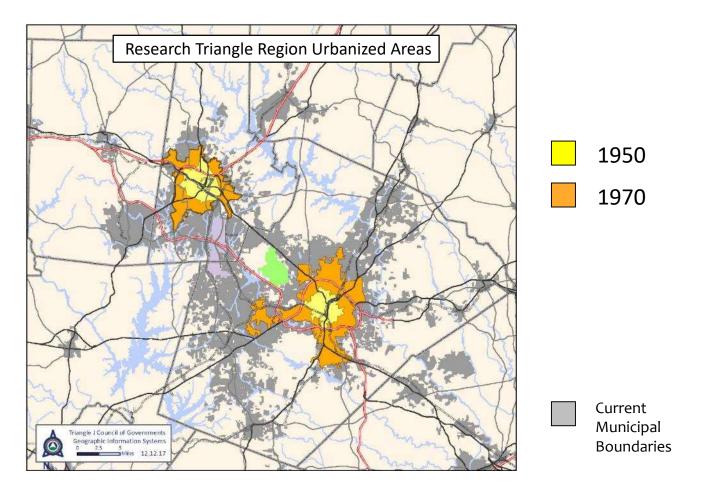


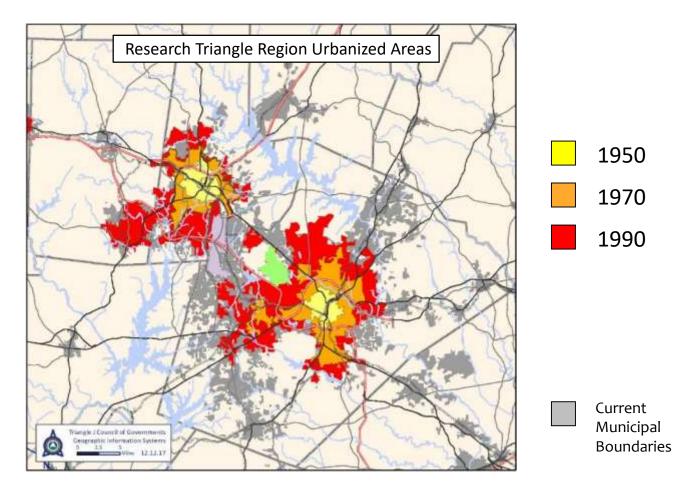
2009-2013 ACS journey-to-work (Triangle), 2006-10 ACS (Charlotte)

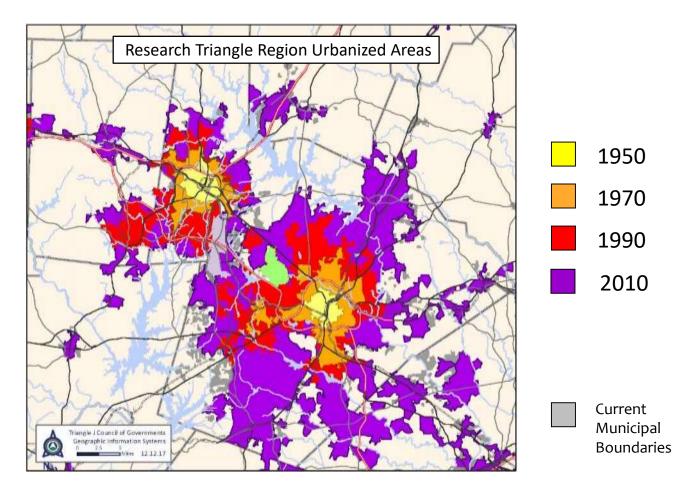
## **Triangle Population Growth**



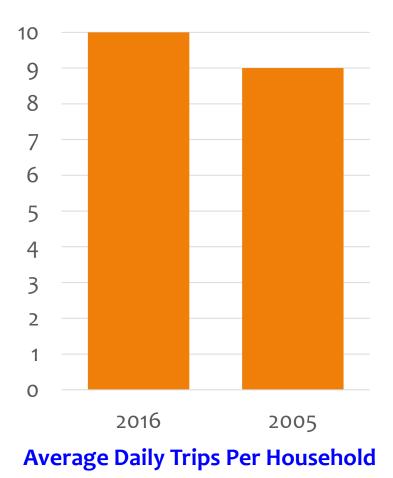








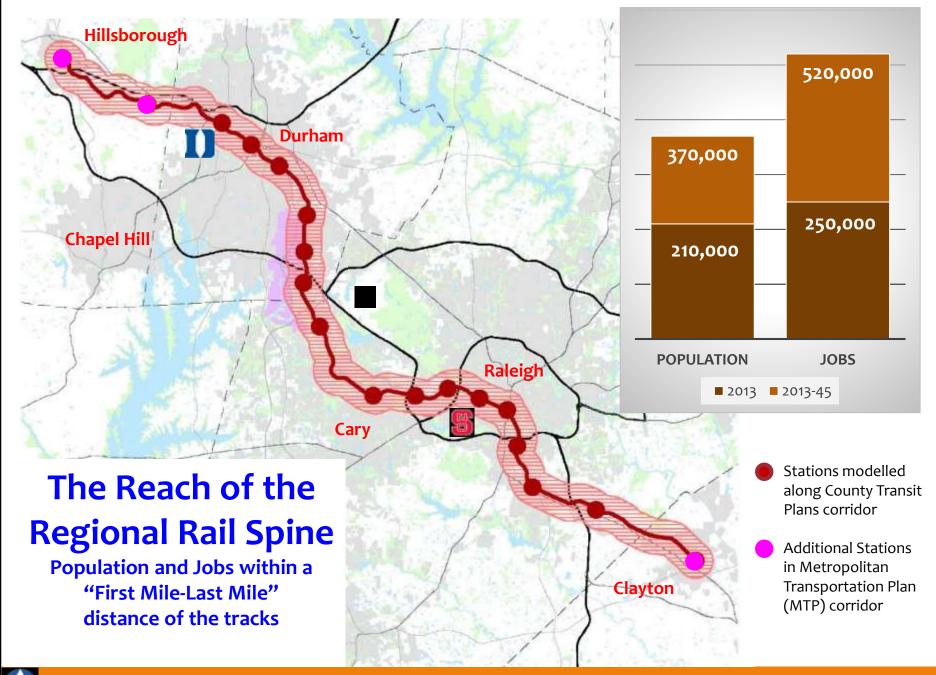
## **Changing Travel Behavior in the Triangle**

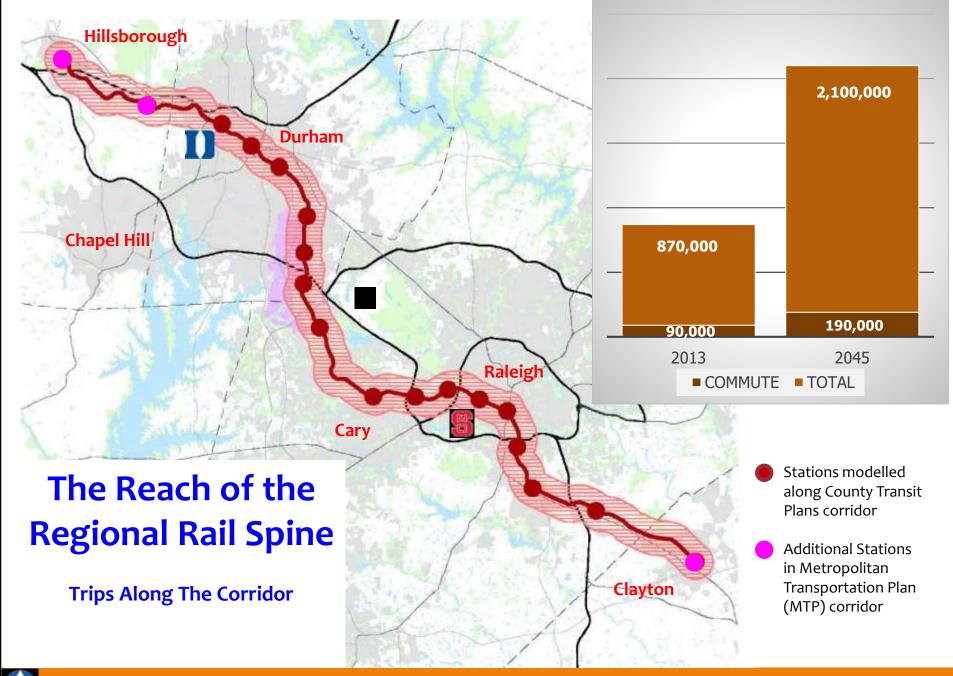


Smaller household sizes ... fewer households with children ... more households with retirees ... all lead to fewer trips

3-Person household	Trips per Day
with retiree and no children	9.2
with no retiree nor children	9.7
with children and no retiree	10.9

Household Size	Trips per Day
1 person	4.0
2 people	7.1
3 people	10.4





## **Regional Policy Priorities**

- Policy Priority Information Sheets
  - Are these products useful?
  - Are the policy priorities appropriate issues to frame in this way?
  - Content
    - Appropriate? Timely? Useful? Actionable?
    - Feedback desired via MPO staff

- Two samples for review
  - Strengthen Support for Demand-Management and Technology
    - Framework and Discussion
  - Make NC a Leader in Active Transportation Investments
    - Framework and Discussion



### **Key Regional Efforts**

Regional Toll Study (Lynn Purnell, David Ungemah, WSP)

Regional ITS (Jody Lewis, VHB)

Regional Passenger Rail (Jeff Mann, GoTriangle)





## **TOLLING & EXPRESS LANES OVERVIEW**

## Toll Road v. Express Toll Lanes



- Everyone pays a toll to use the facility
- Route-based Choice:
  option to use the Toll Road
  or use a different non-toll
  facility



- Only Express Toll Lane users pay a toll
- Lane-based Choice: option to use the Express Toll Lanes or use the toll-free general purpose lanes



## So Why Would Anyone Pay a Toll?

**Toll Roads** and **Express Toll Lanes** provide higher travel speeds, lower and consistent travel times, and a higher quality of trip than toll-free general purpose lanes ...

... as proven by over 40 variably priced facilities in 11 states.





## **Biggest Misconceptions about Express Toll** Lanes

- Cost to use express toll lanes is high.
  - National peak period toll is less than \$5
- Heavy cost burden per month
  - Less than 1% of corridor commuters use every day
  - National average cost per month is \$10-15 / month
- Express toll lanes will be as congested as toll-free lanes
  - Provide congestion relief for all travelers
  - Express lanes managed for 45+ mph at all times
- Foreign ownership concerns for tolling
  - 75% of express toll lanes are wholly owned, operated, and controlled by public agencies
  - Even if P3 concessionaire, state still controls the roadway operations, costs, and revenue through formal P3 contract

#### \*\*\*\*\*\*

Forget the infamous \$40 toll. Here's what the I-66 tolls are averaging.



#### Its Late Late Departule 8, 301

Yon've seen the headlines about the sky-high tolls on the new Interstate 66 Express Lanes: "A \$40 toll to drive 10 miles?" "\$34,50 for a one-way trip." "Drivers adjust to new tolls, with Thursday peak of \$25,50."

But while the peak of the peak tolls have been high, they don't tell the whole story. Most road users are paying a lot less, according to early data. from the Virginia Department of Transportation.

[Calling the toll prices "unacceptable," several Virginia havmokers want. to suspend 1-66 tolls]

Here are some highlights from first-day numbers:

where to any 160 vs. staying so list highway

untregreen on her bigmon, new of network . The average morning toll Monday was \$10.70. This exceeds the projections of \$0 for an eastbound trip for the entire 10 miles from the



# **ABOUT THE STUDY**

## Study Background

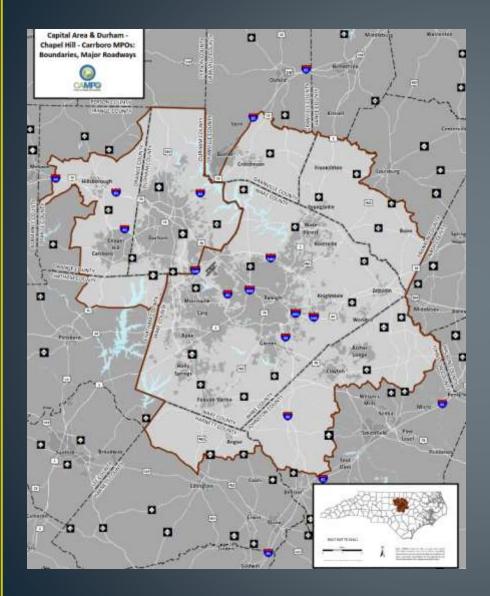
 The Triangle Region is growing rapidly and to stay competitive with other regions, a study is being conducted to:

Evaluate the regional transportation network

Determine if toll lanes and/or managed lanes are applicable to the Triangle Region

Develop a toll lane and/or managed lane strategy to address current and future capacity needs with funding deficiencies



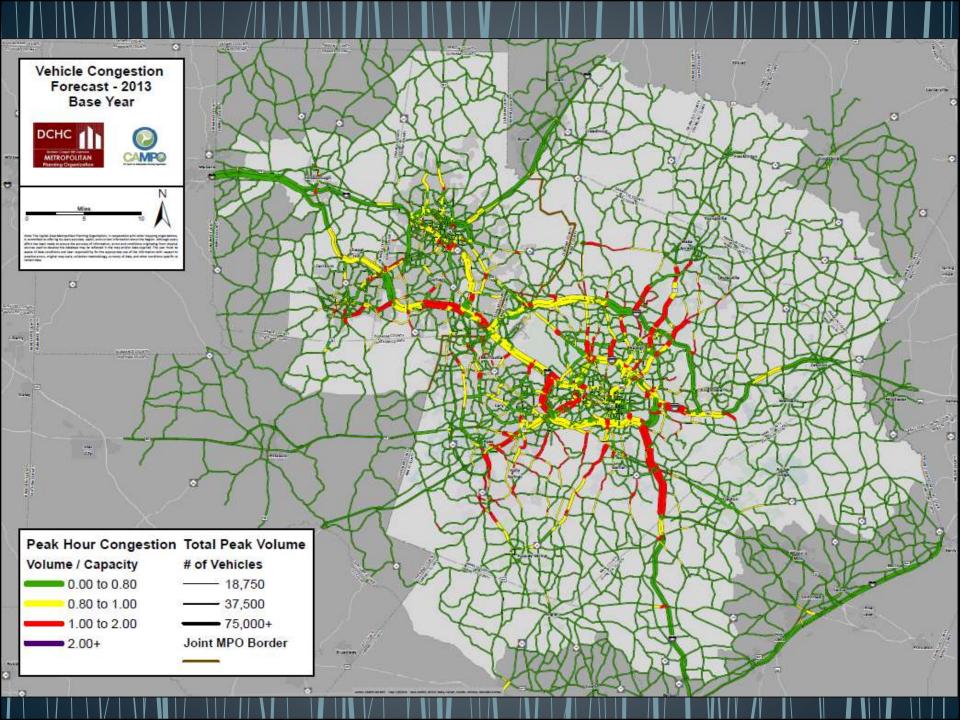


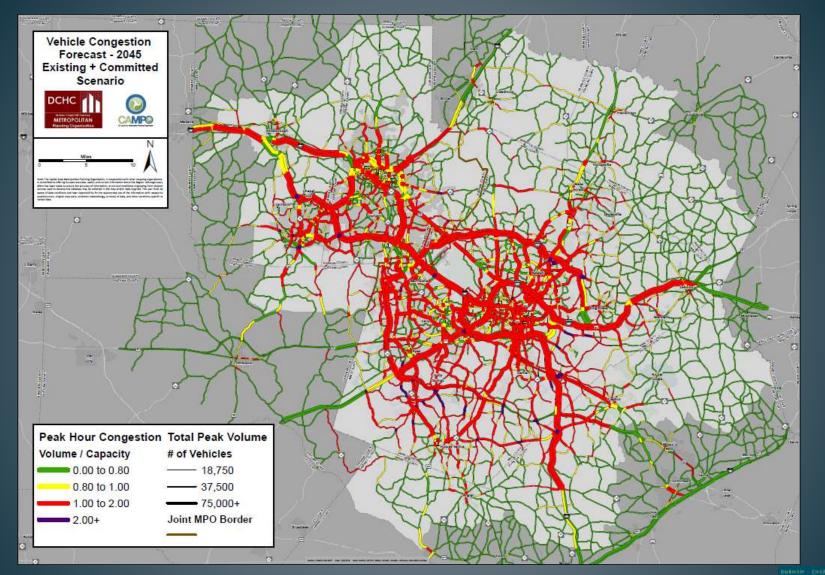
#### Study Sponsors

# This study is a collaborative effort of:

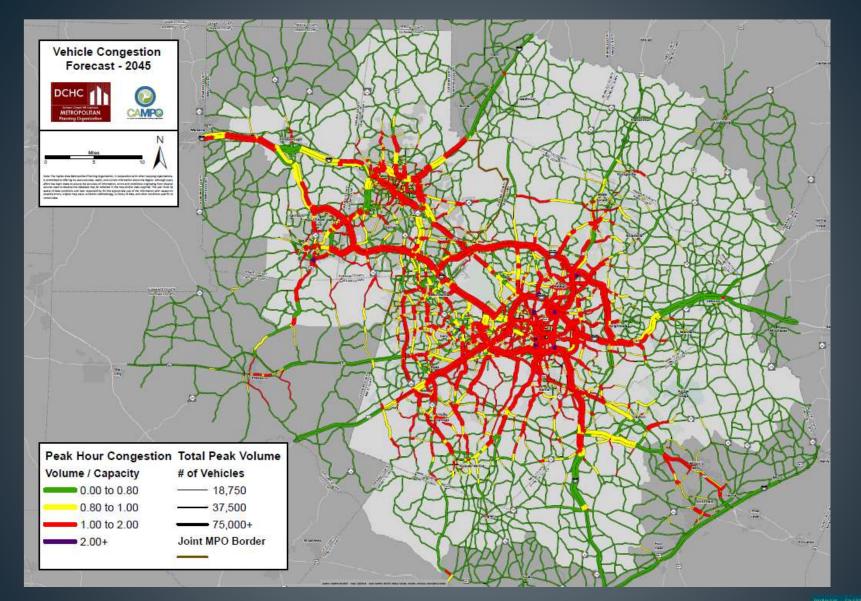
Capital Area MPO NCDOT



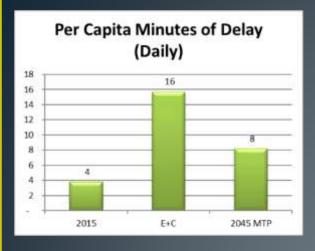


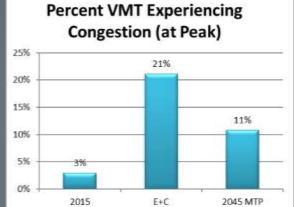






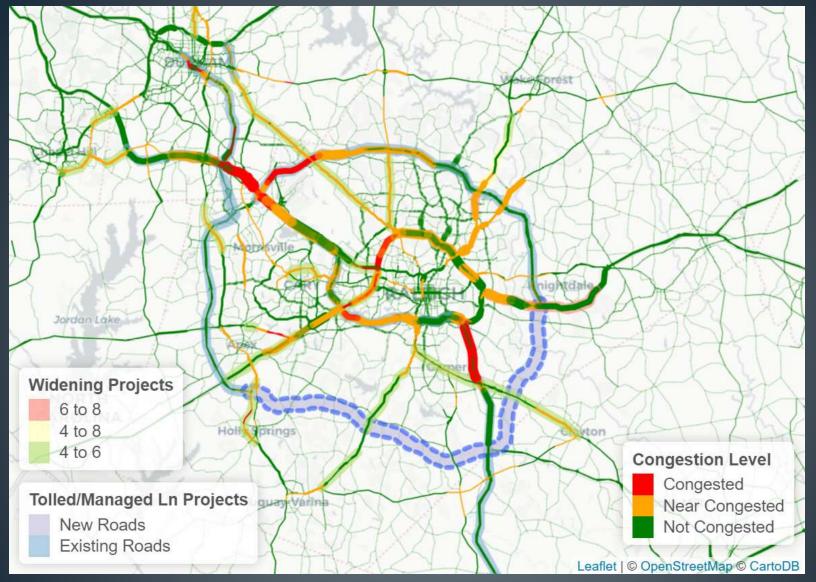




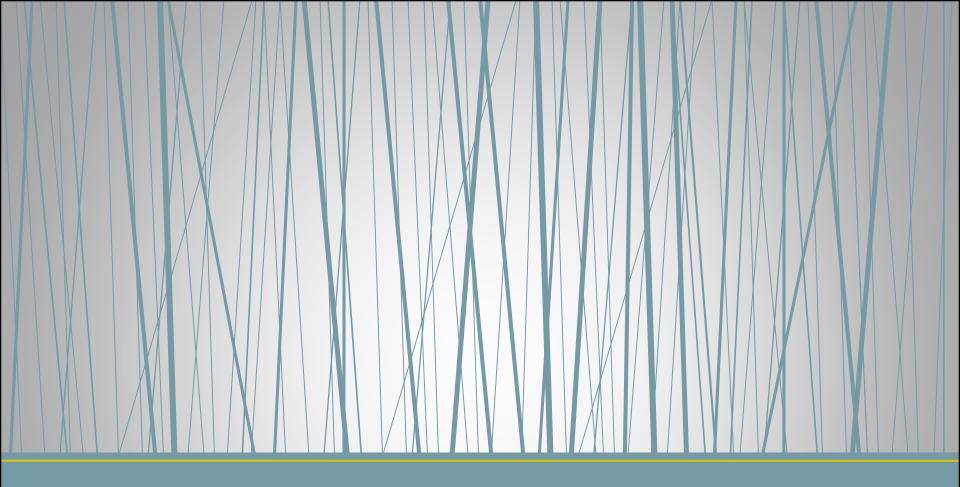


#### Hours of Delay (Daily) 800,000 749,810 700,000 600,000 500,000 390,995 400,000 300,000 200,000 112,390 100,000 0 2015 E+C 2045 MTP









# PRELIMINARY SCREENING RESULTS

## **Tier 1 Corridor Evaluation**

- Estimated 2045 peak-period congestion levels and speeds using Triangle Regional Model (TRM)
- Examined current PM peak hour congestion using Google
- Used TRM to generate demand volumes for projected express toll lane network (assuming 2045 MTP build-out)
- Applied ECONorthwest's Toll Optimization Model using TRM outputs to test future performance of express toll lane facilities

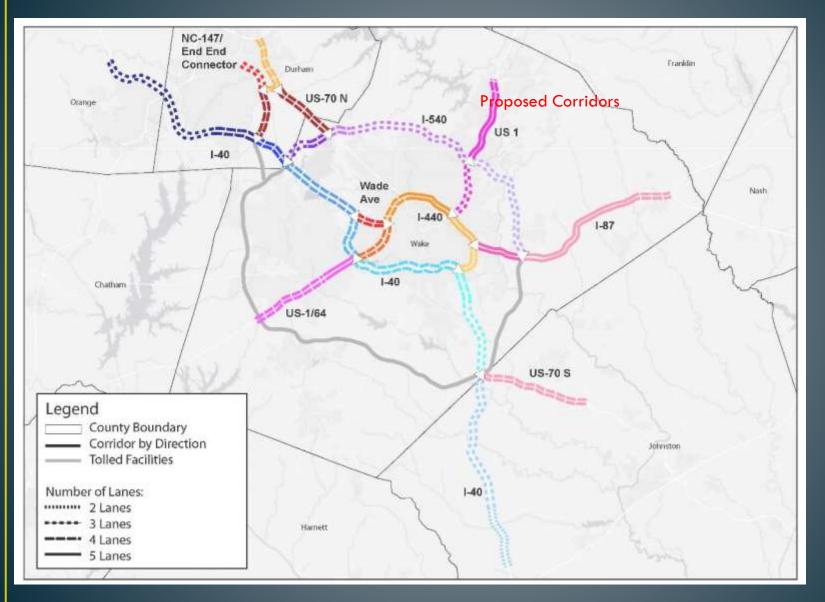


## Preliminary Corridor Modeling Results

- Revenue & travel time savings results based on all users paying for facility use
- Buses and vanpool vehicles travel for free
- Results are general indication of corridor's relative performance

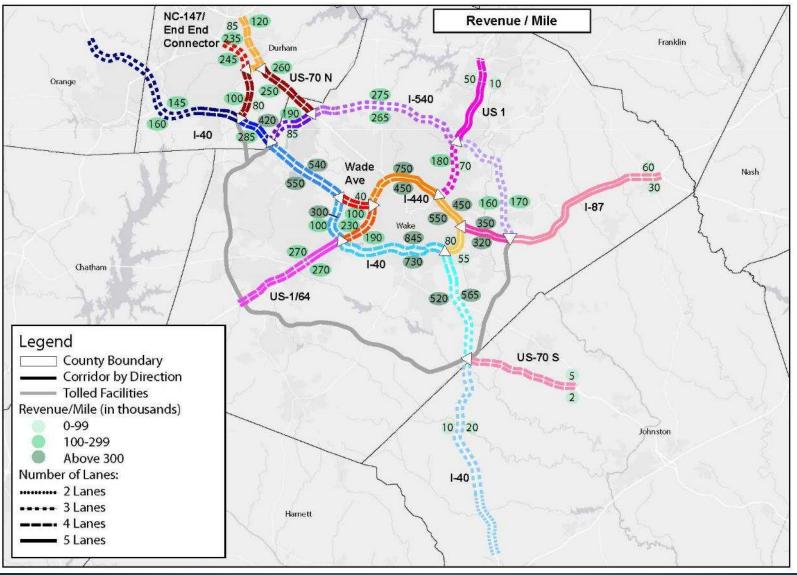


#### Tier 1 Corridor Screening



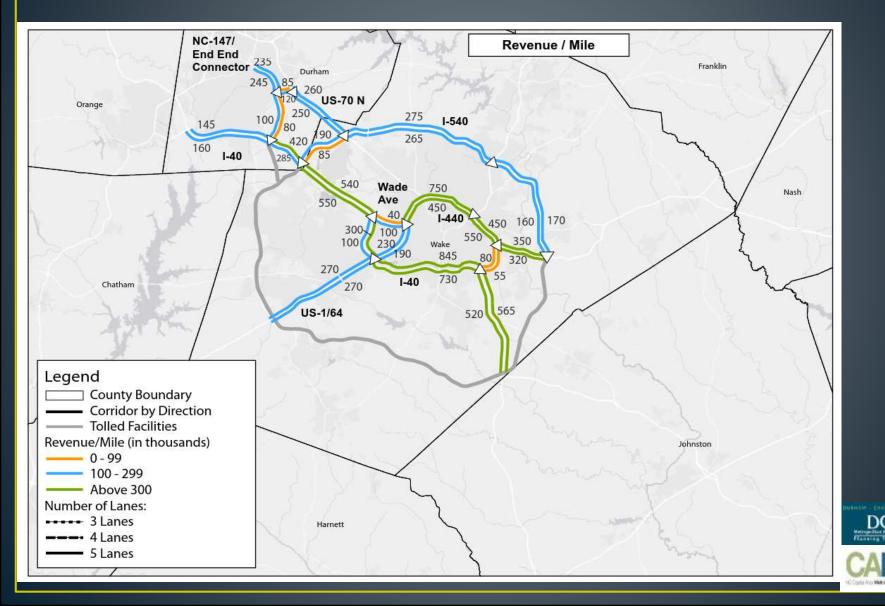


## 2045 Annual Weekday Gross Revenues/Mile

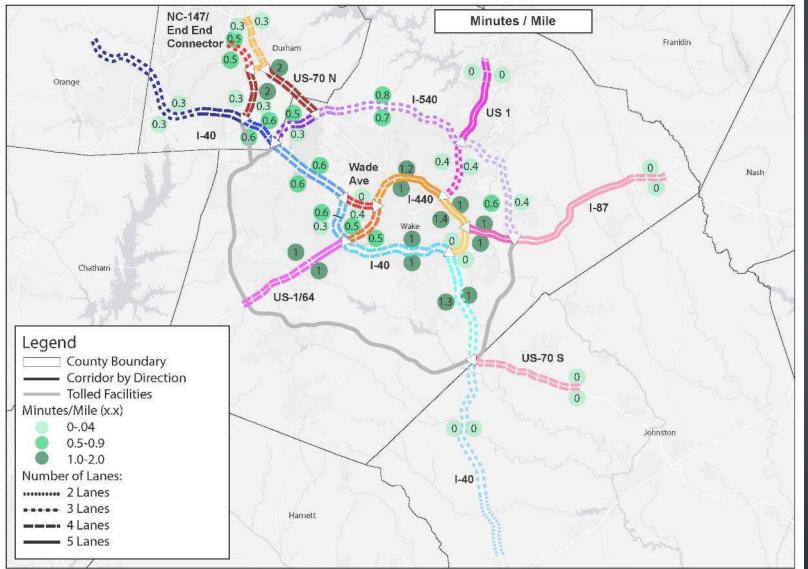




## 2045 Annual Weekday Gross Revenues/Mile

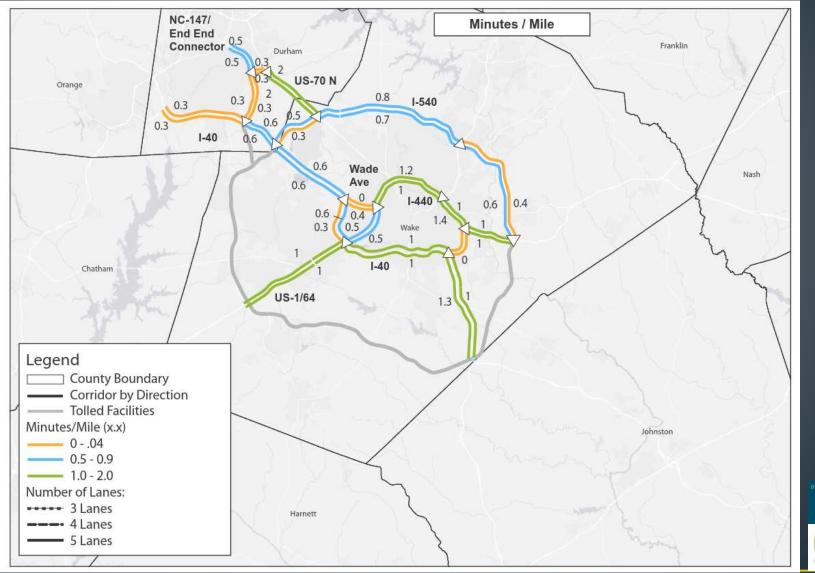


## 2045 Peak Hour Travel Time Savings

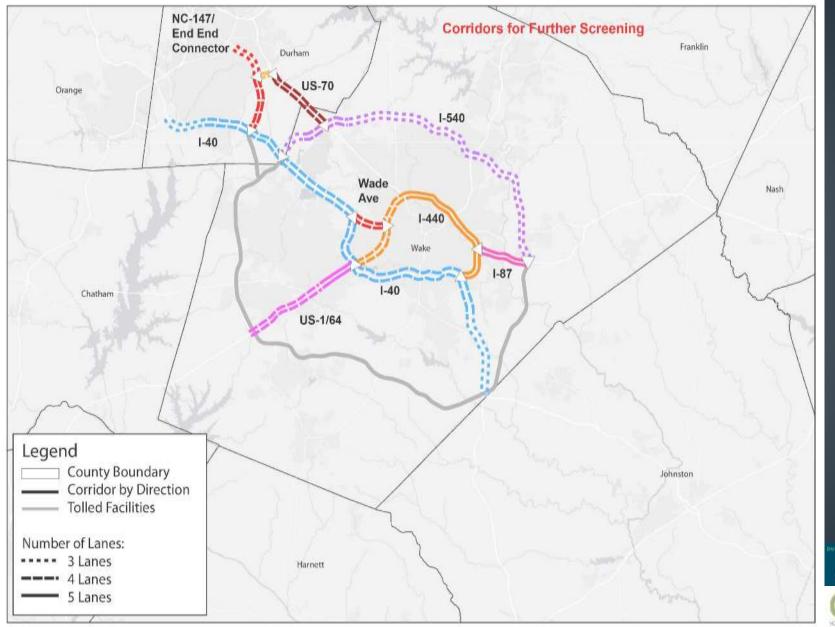


DCHC CAMPO

# 2045 Peak Hour Travel Time Savings



## **Tier 2 Corridor Screening**





DCHC

# **Tier 2 Corridor Screening**

- Re-run models using "model feedback" to refine corridor performance results
- Evaluate corridor performance based on:
  - Traffic operations improvements
  - Transit services
  - Equity impacts (Environmental Justice population)
  - Stakeholder input (MPO Executive Board,
    Stakeholder Oversight Team & Core Technical Team)
  - Revenue, capital and O&M costs & project delivery schedules



## **More Information?**



- http://triangletollingstudy.com
- Kenneth Withrow, AICP

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Andy Henry, AICP

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## TRIANGLE REGION INTELLIGENT TRANSPORTATION SYSTEMS PLAN UPDATE

#### CAMPO-DCHC MPO Joint Meeting

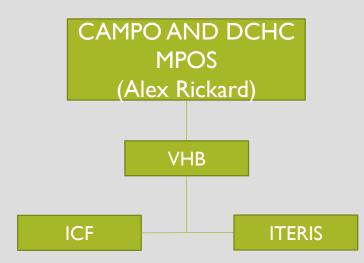
October 31, 2018











## STUDY OVERVIEW

- Schedule All services completed by June 30, 2019
- Objectives Update to current architecture and standards, identify gaps and opportunities. Include state-ofthe-art systems for managing current and emerging traffic including implementation of transit management technologies
- Deliverables– Report document, web-based architecture outputs, recommended projects for future deployment with estimate costs for deployment

## ITS BENEFITS

- Improved transportation efficiency
- Reduced delays and crashes
- Improved system reliability



## WHAT IS ITS?

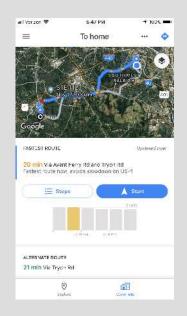
 Intelligent Transportation Systems is the advancement of transportation safety and mobility and enhancement of productivity through integration of advanced communications technologies into transportation infrastructure and into vehicles. ITS encompasses a broad range of wireless and traditional communications-based information and electronic technologies.

## EVERYDAY ITS

• Technology examples include CCTV cameras, speed sensors, preemption receivers and emitters and mobile phone applications for navigation







## EVERYDAY ITS

• Operational examples include improved sharing of information; traffic signal preemption for emergency and transit vehicles; automatic identification of incidents to improve incident clearance times; cross-jurisdictional cooperation to provide seamless operations along corridors; real-time bus location, and automatic toll payment.





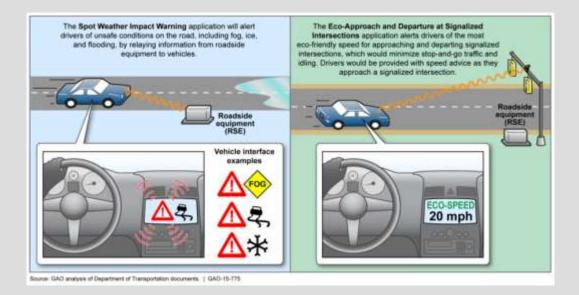






## UPCOMING ITS

• Connected vehicles (vehicle to vehicle and vehicle to infrastructure) and autonomous vehicles



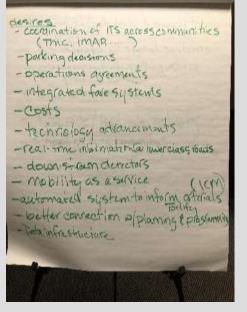
## STUDY SUMMARY

- Last updated in 2010
- Project Components
  - Assessing existing conditions and identifying gaps
  - Evaluation of new ITS strategies
  - Updating the Triangle ITS architecture
  - Develop regional architecture use and maintenance plan
  - Develop methodology to prioritize ITS projects for funding
  - Prepare regional ITS deployment plan



## STUDY SUMMARY

- Project Timeline
  - Notice to proceed April 2018
  - Kick-off with stakeholders May 2018
  - First stakeholder workshop July 2018
  - Small group stakeholder interviews October-November 2018
  - Final stakeholder workshop Winter 2019
  - Anticipated completion date June 30, 2019



• Updated architecture (FHWA Rule 940 and ARC-IT 8.1)



- Updated status of previously planned and implemented projects
- Identification of new technologies and strategies for implementation

What's been done?

What's to come?

- Estimated costs of new initiatives
- Methodology for prioritizing ITS projects for funding

## What's it going cost?

How does an ITS project rank against others?

• Coordination of ITS planning with other regional and statewide planning and programming efforts

Connect 2045 The Metropolitan Transportation Plan for the Capital Area Metropolitan Planning Organization and the Durham-Chapel Hill-Carrboro Metropolitan Planning Organization

State Transportation Improvement Program

## EARLY FINDINGS

- Region is actively implementing ITS infrastructure
- Many success stories FORTIFY is a great example
- Strong desire for regional cooperation
- Some gaps already identified
- Operational strategies are key to fully realize ITS benefits
- Plan should be updated on a cycle similar to other regional planning documents







## UPCOMING

- Complete stakeholder interviews and complete gap assessment
  - DCHC, City of Durham, Town of Chapel Hill, and Town of Carrboro
  - NCDOT Division Traffic Engineers
  - Transit operators
  - NC Turnpike Authority
- Complete architecture update







## QUESTIONS?

Jody Lewis,VHB Project Manager (919) 334-5618 JLLewis@VHB.com

Alex Rickard, CAMPO (919) 996-4396 Alex.Rickard@campo-nc.us

### TRIANGLE REGION INTELLIGENT TRANSPORTATION SYSTEMS PLAN UPDATE







# SPOT 5 Update

#### ncdot.gov

#### **Division Needs Funding**

## Prioritization 5.0 – Division Needs Funding Availability (2020-2029)

Division	Total Allocation	Amount Programmed	Amount Available fo P5.0 Projects*
Division 1	\$502M	\$344M	\$158M
Division 2	\$502M	\$363M	\$139M
Division 3	\$502M	\$359M	\$143M
Division 4	\$502M	\$285M	\$217M
Division 5	\$502M	\$416M	\$86M
Division 6	\$502M	\$295M	\$207M
Division 7	\$502M	\$369M	\$133M
Division 8	\$502M	\$250M	\$252M
Division 9	\$502M	\$284M	\$218M
Division 10	\$502M	\$346M	\$156M
Division 11	\$502M	\$232M	\$270M
Division 12	\$502M	\$416M	\$86M
Division 13	\$502M	\$448M	\$54M
Division 14	\$502M	\$381M	\$121M
Total	\$7,028M	\$4,788M	\$2,240M

\*As of August 23, 2018 - does not account for additional Build NC Bond revenues





## P5.0 Division 4 Funding



Committed Funding Available Funding

Division 4 Total Requests:



## P5.0 Division 5 Funding

		Projected Funding vs. Submitted Need	
Division 5 10-Year Funding: <i>Committed:</i>	\$501,177,000 <i>\$415,177,000</i>	<i>Division 5</i> \$9,000,000,000 \$8,000,000	
Available	\$86,000,000	\$7,000,000,000 \$6,000,000 \$5,000,000,000	
Division 5 Projects: DCHC/CAMPO Projects:	269 229	\$4,000,000,000 \$3,000,000 \$2,000,000,000 \$1,000,000,000 \$-	
Division 5 Total Requests: \$8,470,021,868			

Committed Funding Available Funding Division 5 Total Requests:



## P5.0 Division 6 Funding



Division 6 Total Requests: \$5,782,066,705

## P5.0 Division 7 Funding



Division 7 Total Requests: \$3,401,176,627

Committed Funding Available Funding Division 7 Total Requests:



## **P5.0 Division 8 Funding**

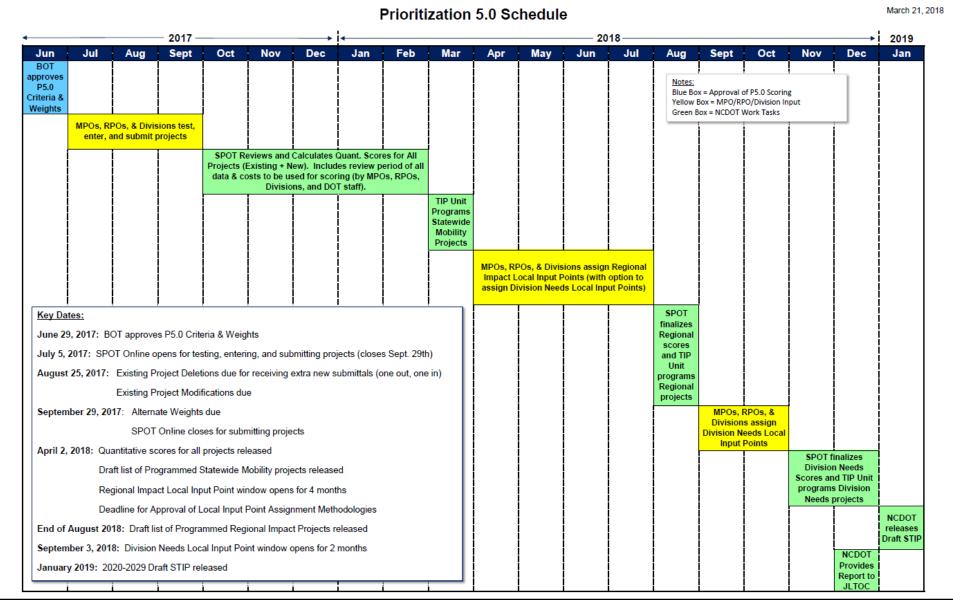


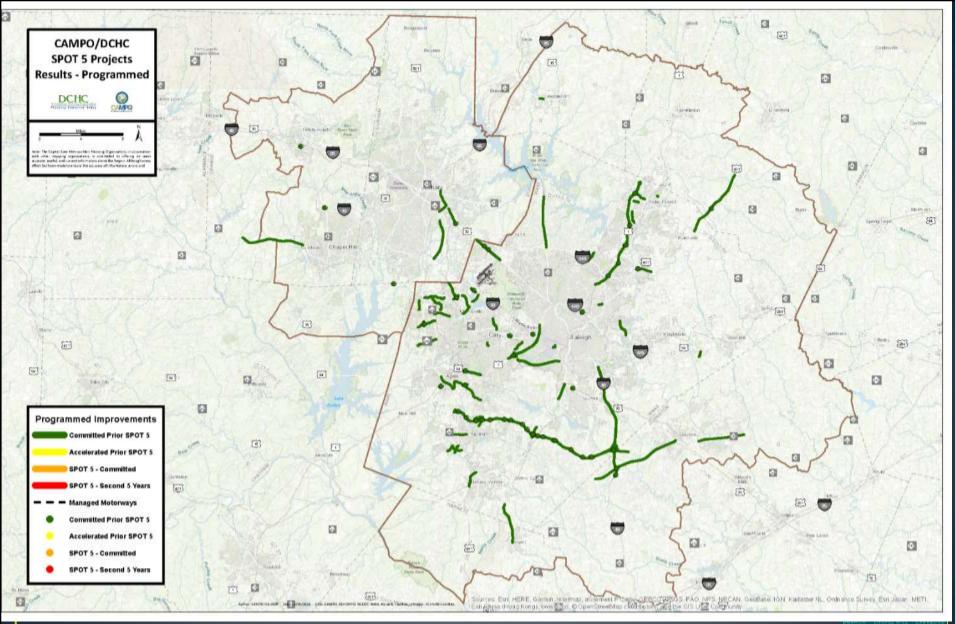
Division 8 Total Requests: \$2,468,966,071

Available Funding Division 8 Total Requests:

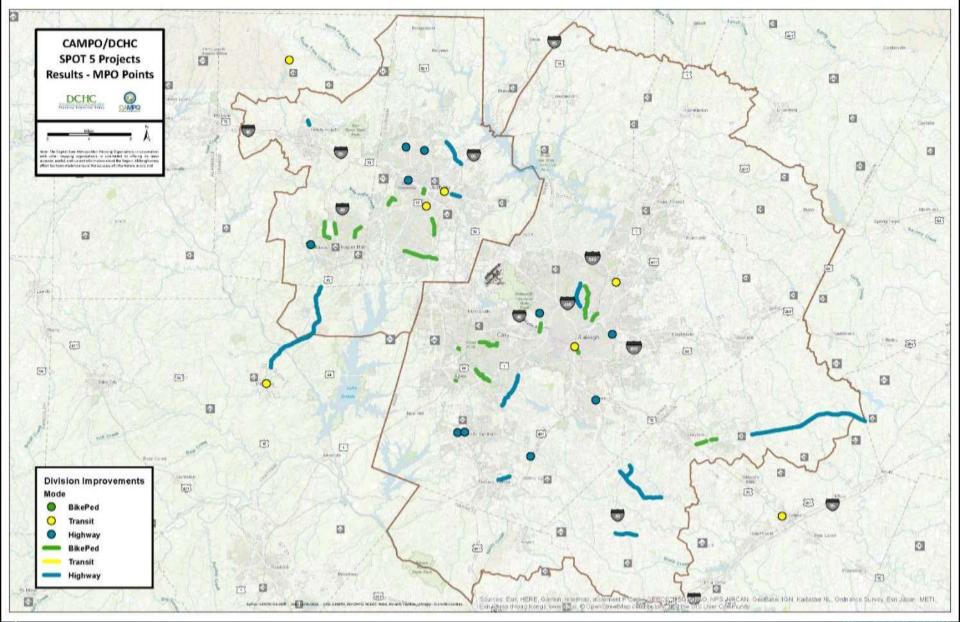


# SPOT Schedule & Next Steps

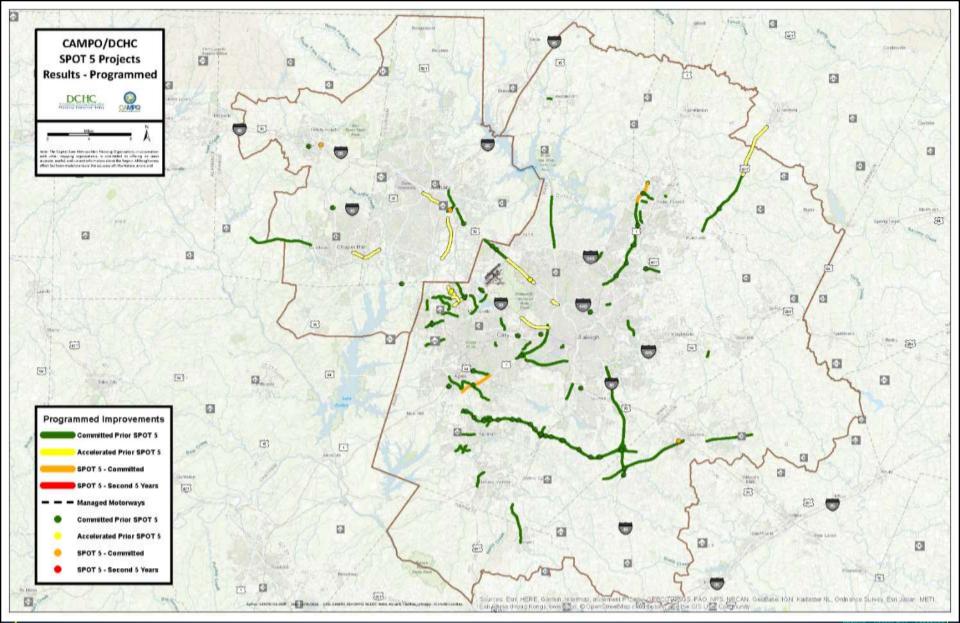




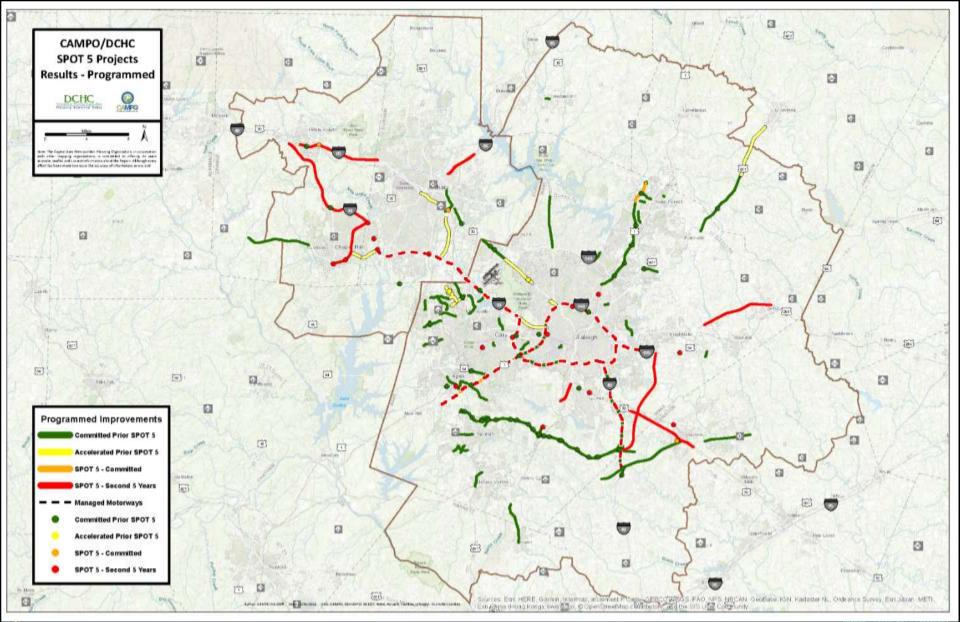














# **Updates from MPO Strategic Partners**

- a. GoTriangle (Jeff Mann)
- b. RTA (Joe Milazzo)
- c. NCDOT (Julie White)



# **Updates from MPO Strategic Partners**

## RTA 2017-18 Priorities

- Accelerate 540 to I-40
- Fund RDU Master Plan
- Push fast, effective transit and bike share
- Advance congestion relief efforts
- Promote new tech and flexible, scalable solutions



• Other Business

# • Adjournment

