

# RTA Annual Leadership Breakfast and Retreat

The Umstead Hotel and Spa in Cary

Thursday, September 5, 2024

# RTA Mission

Deliver business leadership  
to get our region moving *faster*.

# RTA overview

A metropolitan private-public partnership that drives consensus and action, RTA has served as the voice of the regional business community on transportation for more than two decades.

# RTA overview

RTA represents more than 100 leading companies and over 25 member chambers of commerce across 13 counties in central, southern, and eastern North Carolina on vital mobility issues and priorities.

RTA is a regional program of the Raleigh Chamber.

# RTA purpose

The regional business community believes that advancing enhanced mobility options and infrastructure is essential for improving the quality of place and life for our associates, customers, suppliers, visitors, and the broader community

– and that accelerating results will attract and retain top talent and equitable economic development.

# RTA purpose

*Transportation projects will always take “forever.”*

*RTA works with our partners to make them take “less forever.”*

# RTA purpose

*Transportation projects will always take “forever.”*

*RTA works with our partners to make them take “less forever.”*

*... Which means less risk, more certainty,  
and faster, better solutions, for our members and the region.*

# RTA Annual Leadership Breakfast and Retreat

- Welcome, introductions, and overview
- Year in review and 2025 preview
- Guest speakers on sustainability/electrification, RDU, NC Turnpike
- Interactive discussions on acceleration and sustainability

# 2024 Partial Regional Year in Review

- RDU primary runway construction underway
- 540 Southern Wake freeway opens later this month
- BRT implementation moving forward in 5+ corridors
- Intercity rail – largest grant in NCDOT history, under construction
- Access user fee expansion in legislature, chamber endorsements
- Multiple new international flights (Mexico City, Panama City, Frankfurt)

# 2024 Partial Regional Year in Review

- I-40 widening in Wake/Johnston – substantial completion
- I-40 widening in Orange proceeding
- I-440 widening/modernization in west Raleigh – milestones
- 540 Eastern Wake freeway – which will Complete 540 – under constr.
- I-42 upgrade in Johnston, Wayne advancing
- US 1 / Capital Boulevard freeway acceleration toll study underway

# 2024 Partial Regional Year in Review

- RTP mobility hub receives federal funding
- FAST study with 15+ partners, \$900k funding, spring 2025 deadline
- US 70 upgrade study upcoming
- Dynamic Left Turn intersections – multiple sites advancing
- Freeway cap conversations, including RTA Richmond *QuickTour*
- RTA maintains RTI research and policy partnership

# 2024 RTA Year in Review

- RTA maintains level Leadership Team pricing for 22<sup>nd</sup> consecutive year
- Majority of members support optional membership initiative
- New introductory rate for smaller firms introduced
- Second Omnia Gold firm added plus two new Silver members
- Several upgrades, a few drops; overall RTA membership stable

# 2024 RTA Year in Review

- RTA major events (State of Mobility, Brunch) – well attended
- Special events (Airline CEO Forum, *QuickTour*) – media, net income
- RTA thanks 10+ outgoing focus chairs at brunch event
- RTA will welcome new RTA focus chairs at 2025 annual meeting

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# 2025 RTA Business Plan focuses

## **Strategic advocacy priorities**

- Identify sustainable business model for RDU infrastructure
- Lobby for access user fee implementation for state highway funding
- Complete FAST study, accelerate BRT and transit priority

# 2025 RTA Business Plan focuses

## **Rapid implementation initiatives**

- Accelerate US 1 / Capital Boulevard freeway
- Implement multiple Dynamic Left Turn intersections (DLTi)
- Secure funding to activate SMART freeway for I-40

# 2025 RTA Business Plan focuses

## **Ongoing priorities and initiatives**

- Advance Southeast higher-speed intercity rail
- Encourage new road and multimodal solutions
- Advance US 70 improvements
- Create Triangle Bikeway system
- Continue regional RTA events
- Maintain RTA Leadership Team pricing for 23rd consecutive year

# RTA chairs

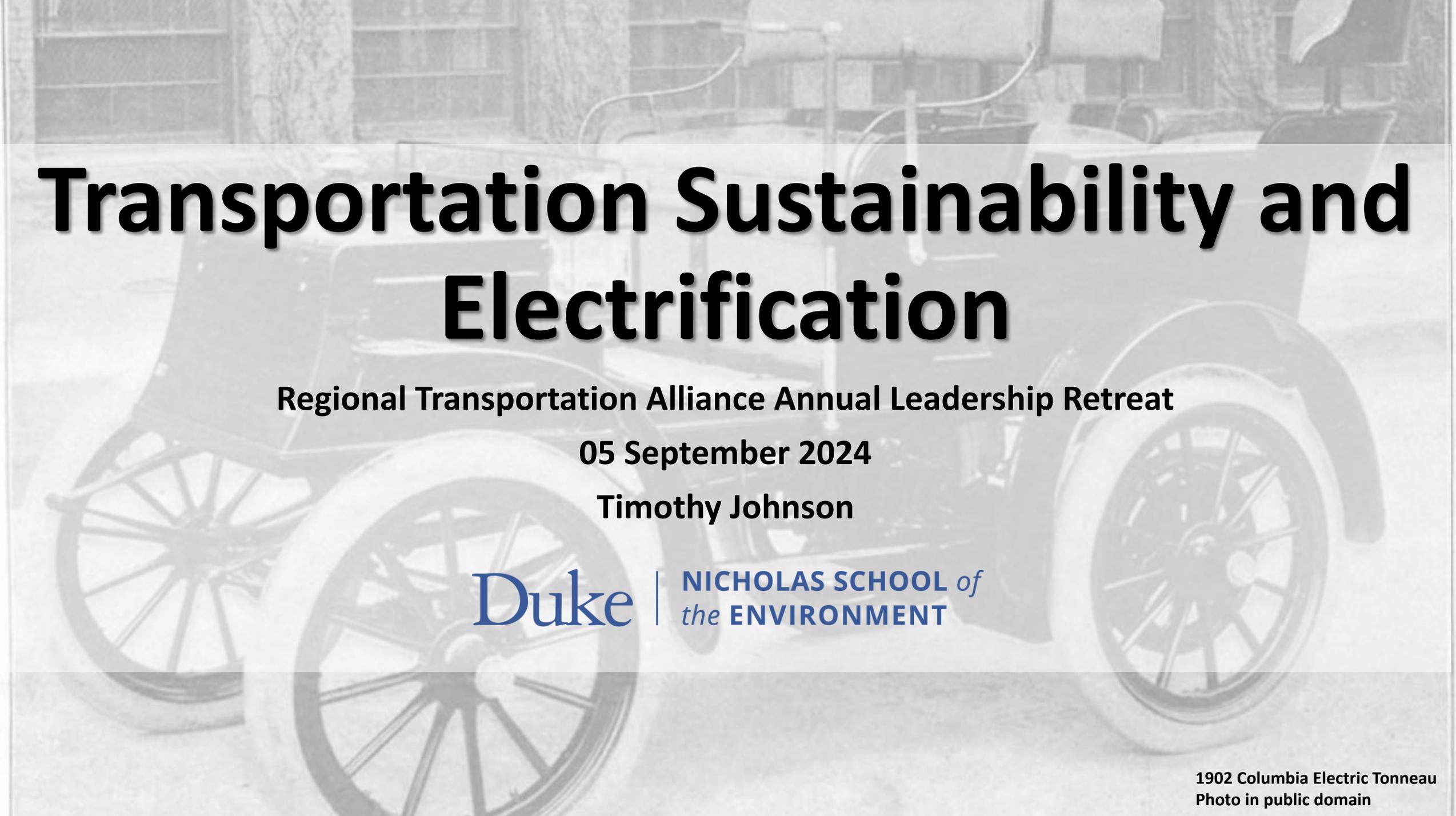
## ***RTA chair leadership***

- Jay Irby, First Citizens Bank -- *RTA chair*
- Sarah Gaskill, FUJIFILM Diosynth Biotechnologies – *RTA chair-elect*
- Harold Hicks, RTI International – *RTA immediate past chair*

## ***RTA focus area chairs***

- Alex Culpepper, The Sunrock Group – *commerce and logistics chair*
- Frederico Egli, IBM – *emerging technology chair*
- Avi Halpert, United Therapeutics -- *partnerships and outreach chair*
- Lilyn Hester, Google – *innovation chair*
- John Kane, Kane Realty – *real estate and mobility chair*
- Scott Levitan, Research Triangle Foundation of North Carolina -- *legislative and policy chair*
- Dana Martinez, Amgen – *sustainability and environment chair*
- Shaylah Nunn Jones, Novo Nordisk – *air service and infrastructure chair*
- Stelfanie Williams, Duke University – *regional transit chair*

Dr. Tim Johnson  
Duke University



# Transportation Sustainability and Electrification

Regional Transportation Alliance Annual Leadership Retreat

05 September 2024

Timothy Johnson

Duke

NICHOLAS SCHOOL *of*  
the ENVIRONMENT

# What is “Sustainable Transportation”?

Meets **access** needs of all people (**equity**)

Is **affordable** for individuals and communities

Is **efficient**

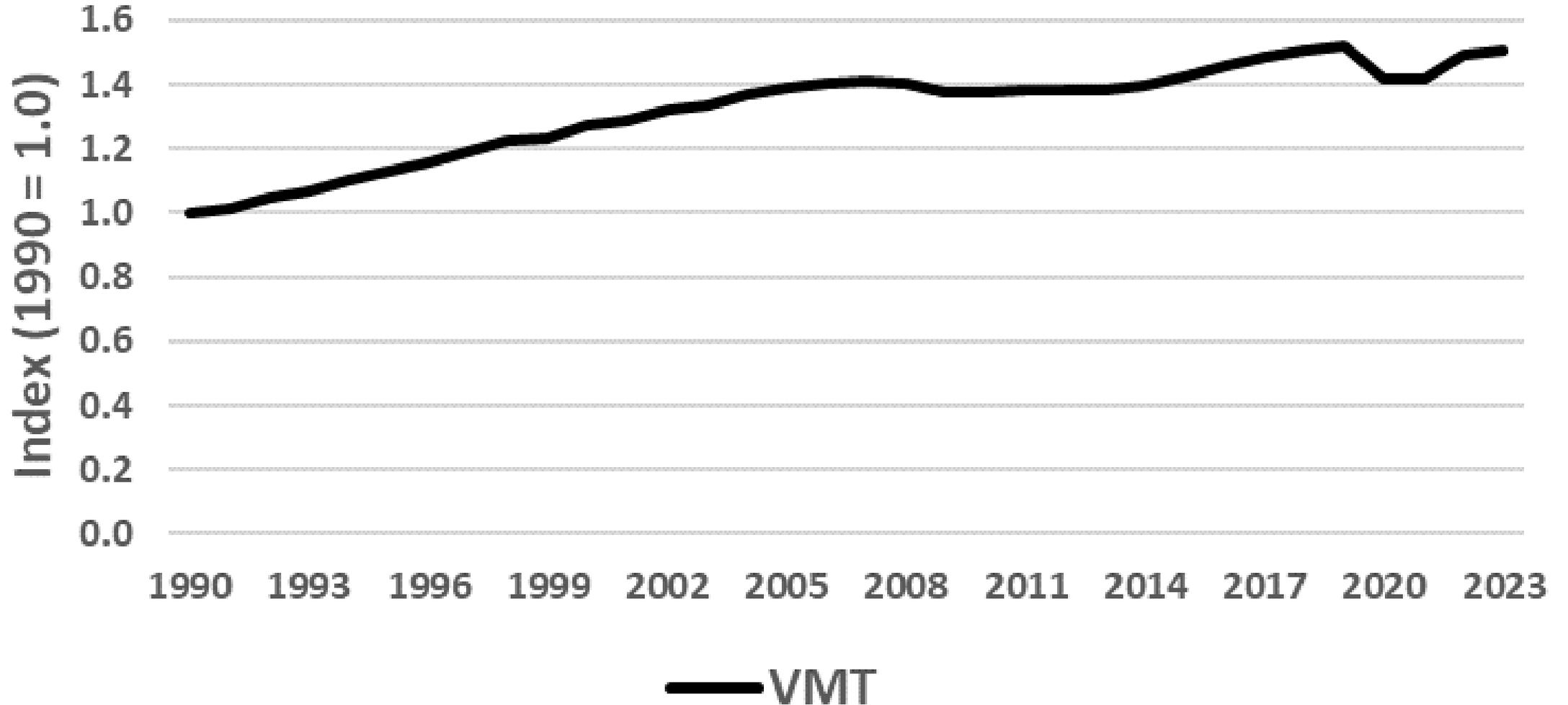
Is **safe**

Is **secure**

Minimizes **depletion of nonrenewable resources**

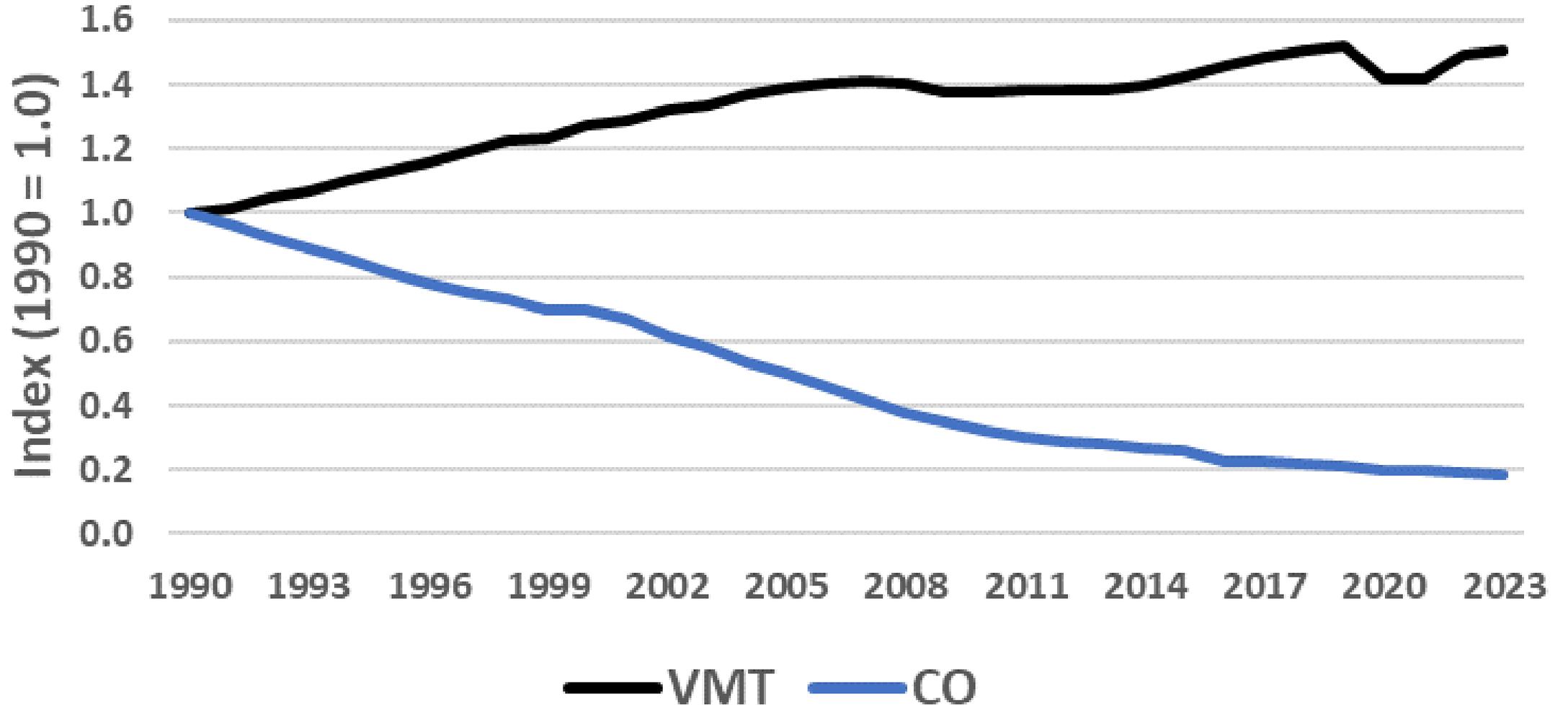
Minimizes **environmental impacts**

# US Transportation Emissions and VMT Relative to 1990



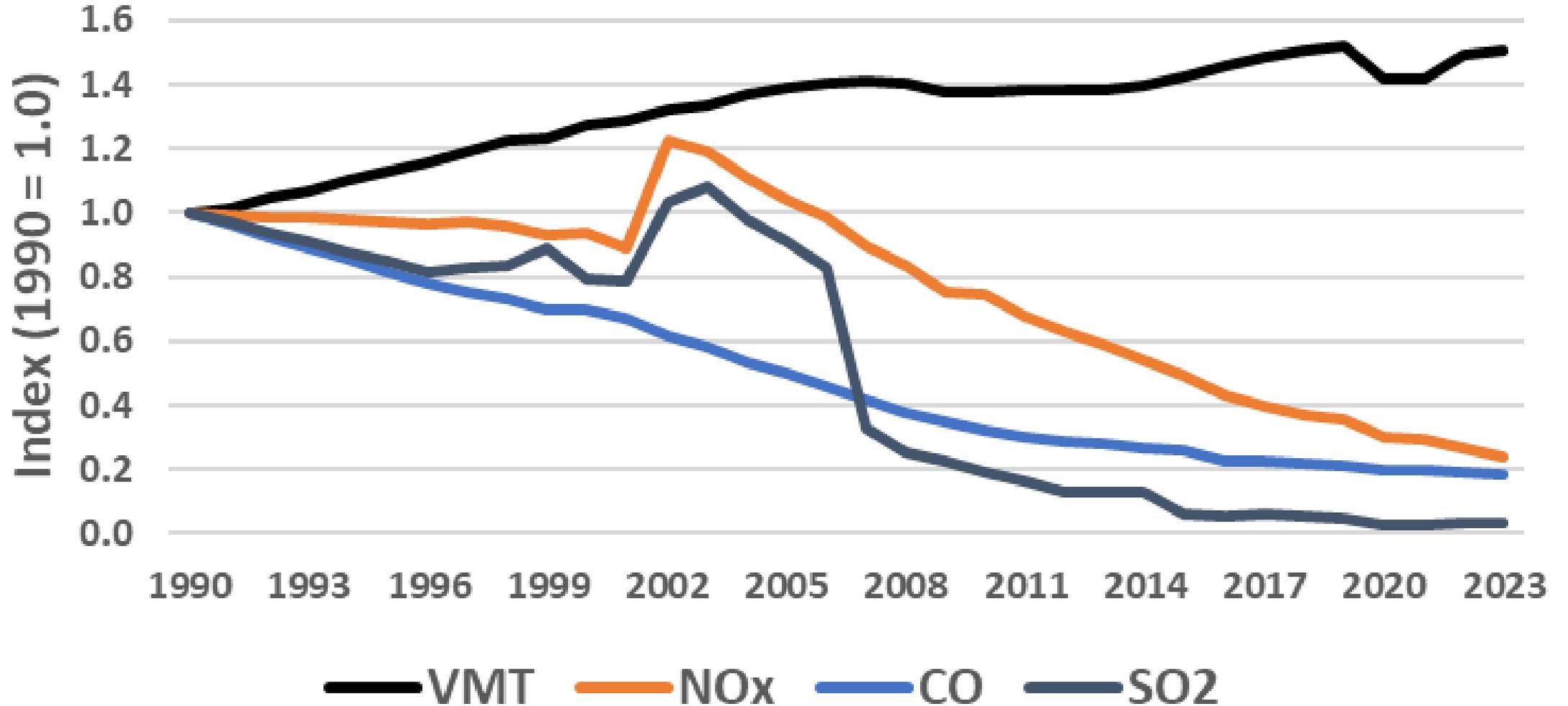
Criteria Pollutants: National Tier 1 CAPS Trends (xlsx) Criteria pollutants National Tier 1 for 1970 - 2023. US EPA Air Pollutant Emissions Trends Data (updated February 28, 2024) <https://www.epa.gov/air-emissions-inventories/air-pollutant-emissions-trends-data>; VMT 1990 to 1998: Stacy C. Davis and Robert G. Boundy (2021). Transportation Energy Data Book. Edition 39. Oak Ridge National Laboratory, ORNL/TM-2020/1770 (Edition 39 of ORNL-5198), <https://tedb.ornl.gov/>; Table 3.9.; VMT 1999 to 2024: US Department of Transportation, Federal Highway Administration, Traffic Volume Trends 2024 (June 2024), [https://www.fhwa.dot.gov/policyinformation/travel\\_monitoring/tvt.cfm](https://www.fhwa.dot.gov/policyinformation/travel_monitoring/tvt.cfm); CO2: Table 11.5 of U.S. Energy Information Administration. August 2024 Monthly Energy Review. August 27, 2024, <https://www.eia.gov/totalenergy/data/monthly/>

# US Transportation Emissions and VMT Relative to 1990



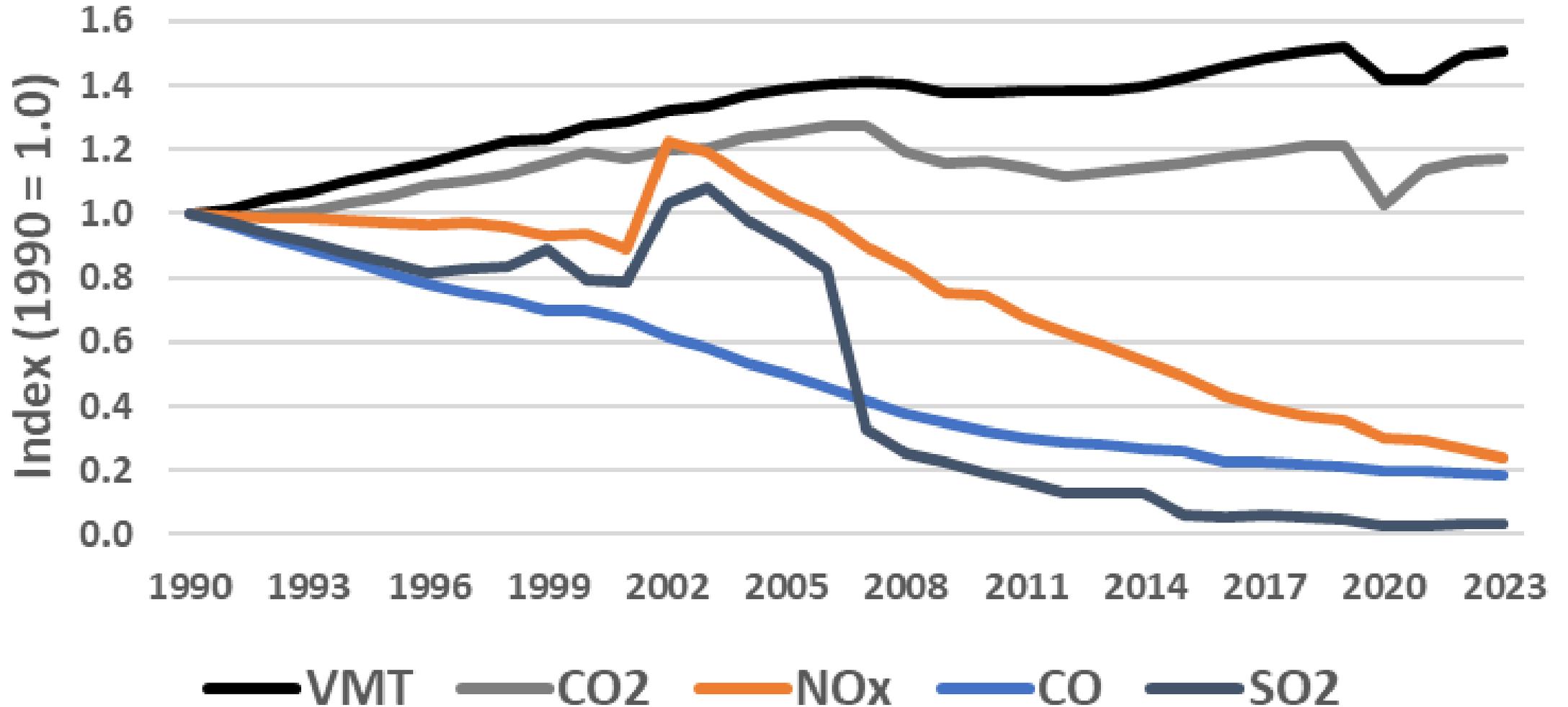
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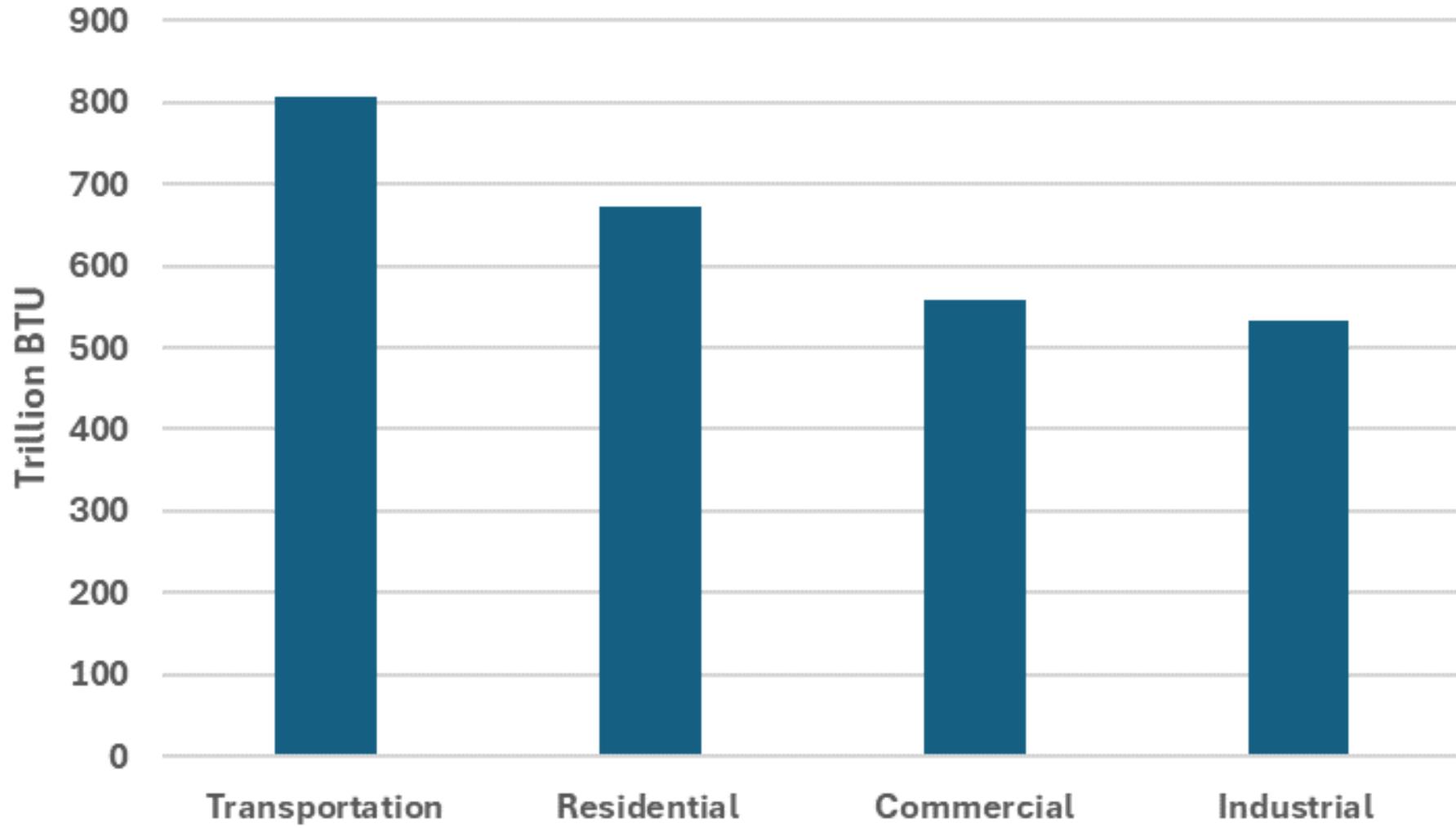
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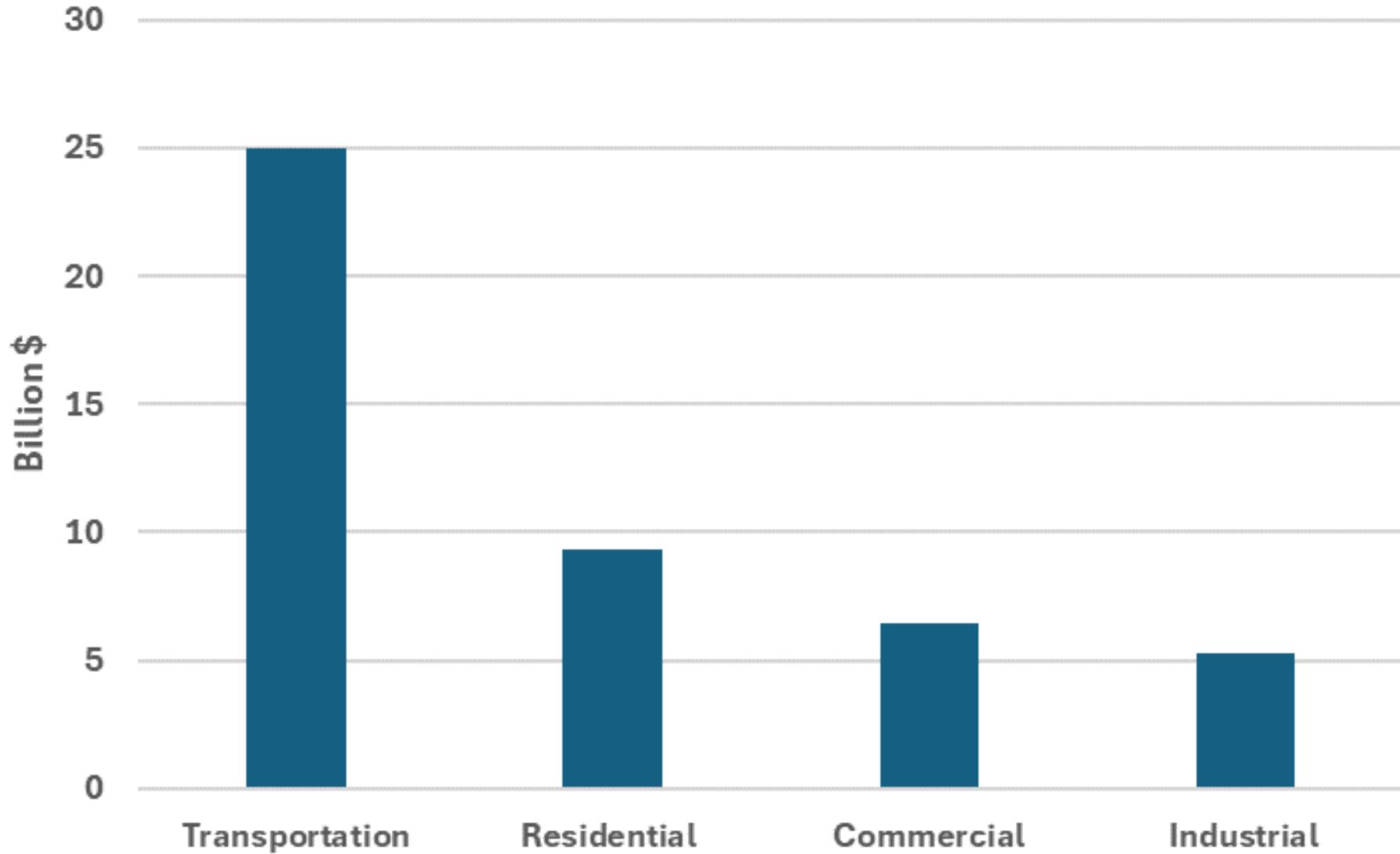
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# NC Energy Consumption



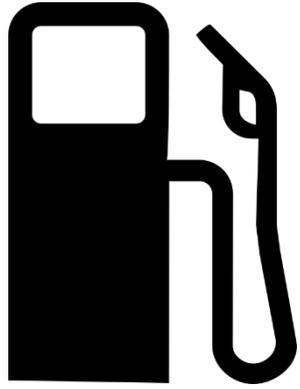
2022 data from US Energy Information Administration, State Profile and Energy Estimates for North Carolina, <https://www.eia.gov/state/data.php?sid=NC#EnergyIndicators>

# NC Energy Expenditures



2022 data from US Energy Information Administration, State Profile and Energy Estimates for North Carolina, <https://www.eia.gov/state/data.php?sid=NC#EnergyIndicators>

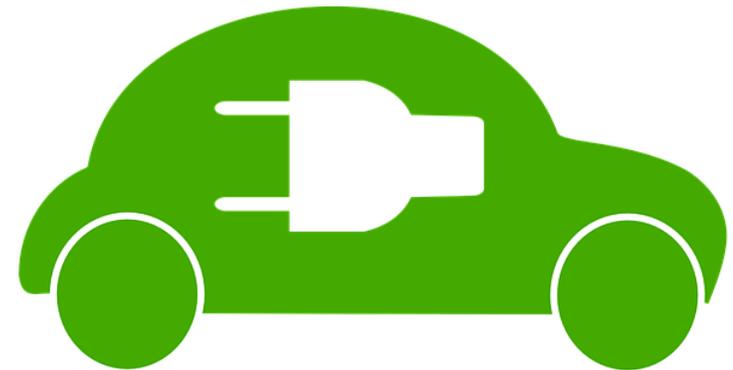
# Why Electrify Vehicles?



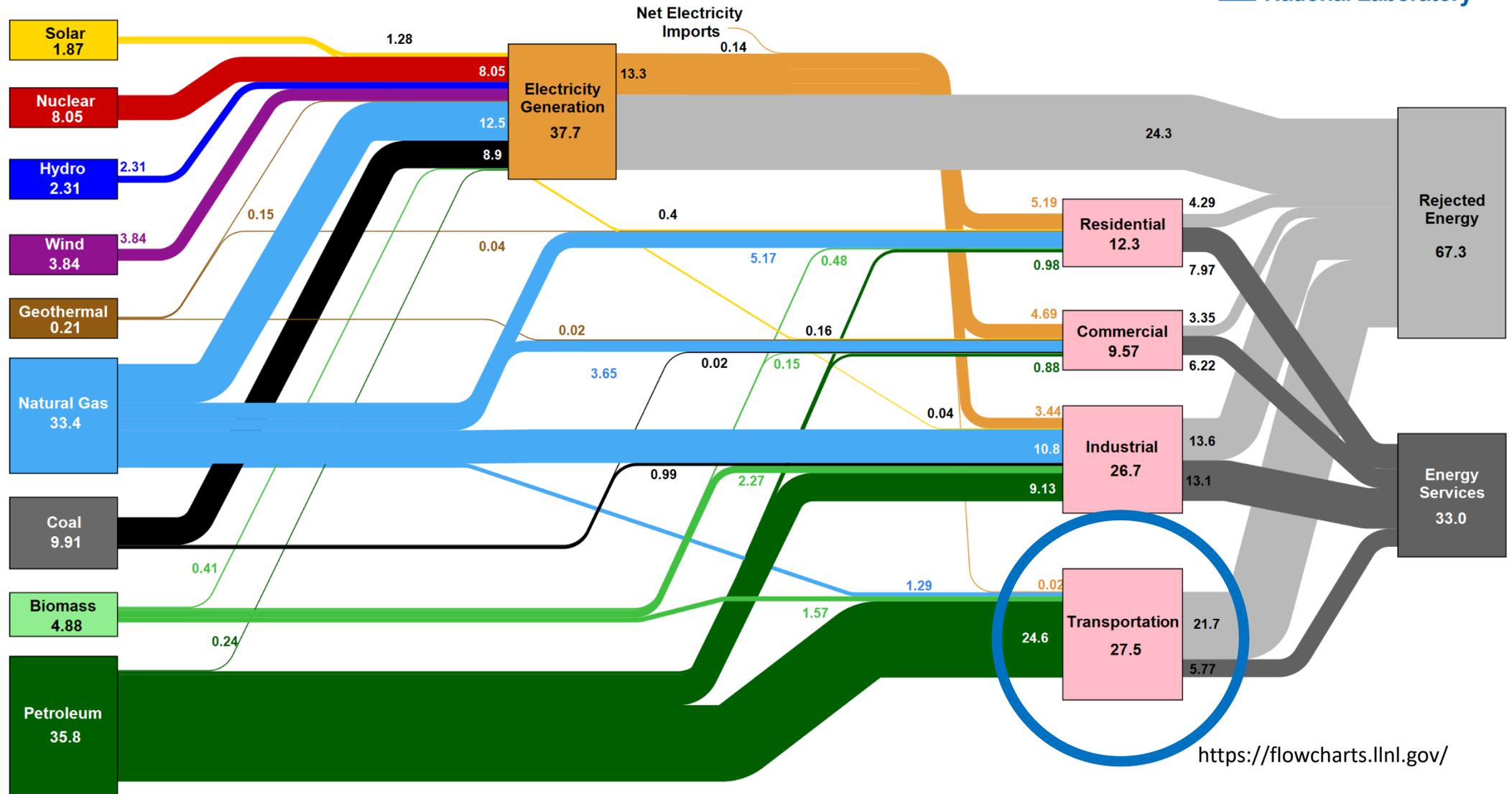
— 20 % →



— 90 % →



# Estimated U.S. Energy Consumption in 2022: 100.3 Quads



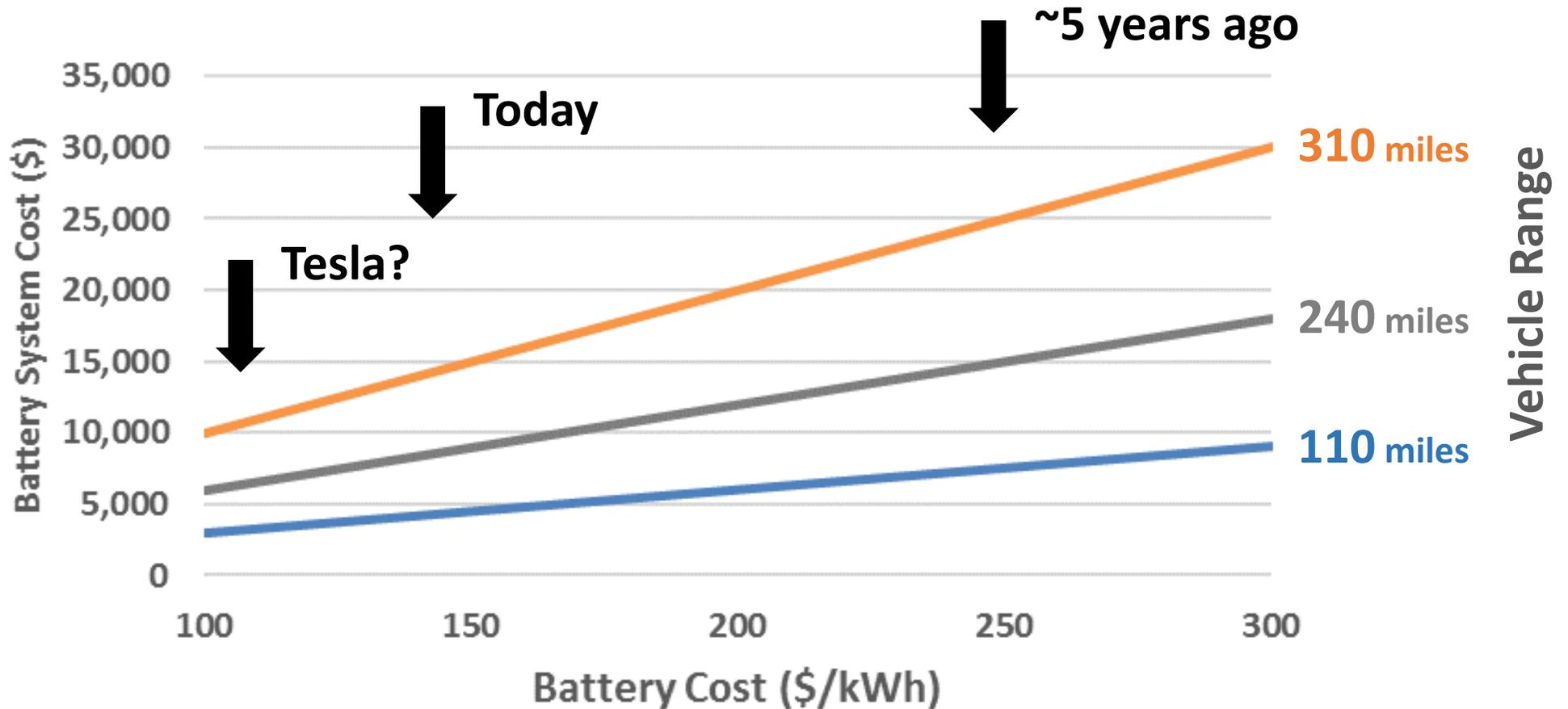
<https://flowcharts.llnl.gov/>

Source: LLNL July, 2023. Data is based on DOE/EIA SEDS (2021). If this information or a reproduction of it is used, credit must be given to the Lawrence Livermore National Laboratory and the Department of Energy, under whose auspices the work was performed. Distributed electricity represents only retail electricity sales and does not include self-generation. EIA reports consumption of renewable resources (i.e., hydro, wind, geothermal and solar) for electricity in BTU-equivalent values by assuming a typical fossil fuel plant heat rate. The efficiency of electricity production is calculated as the total retail electricity delivered divided by the primary energy input into electricity generation. End use efficiency is estimated as 0.65% for the residential sector, 0.65% for the commercial sector, 0.49% for the industrial sector, and 0.21% for the transportation sector. Totals may not equal sum of components due to independent Rounding. LLNL-MI-410527

# Transportation Electrification: Technical Challenges

1. Battery development
  - Range (kWh/kg)
  - Cost (\$/kWh)
  - Charging time (lifetime and safety)
  - Mineral supply and supply chain
2. Charging infrastructure build-out
3. Grid capacity
4. Policy stability

# Battery System Cost vs per-kWh Cost



# EV Power Grid Impacts

## Generation

1. Capacity
2. Emissions

## Transmission

## Distribution

## Point of charge



Near-term Impacts

Impacts depend on level and timing of charging

Bill Sandifer

RDU Airport Authority

September 5, 2024



Raleigh-Durham  
Airport Authority

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# RDU: Building for the Future

William C Sandifer | Executive Vice President & CDO

J.D. POWER RANKS

# RDU TOP 5 LARGE AIRPORT

IN NORTH AMERICA  
FOR 2023



## Top Large Airport in the Country for Passenger Growth in 2023

*Record 14.5 million passengers*



## 71 Nonstop Destinations

*Varies by season*



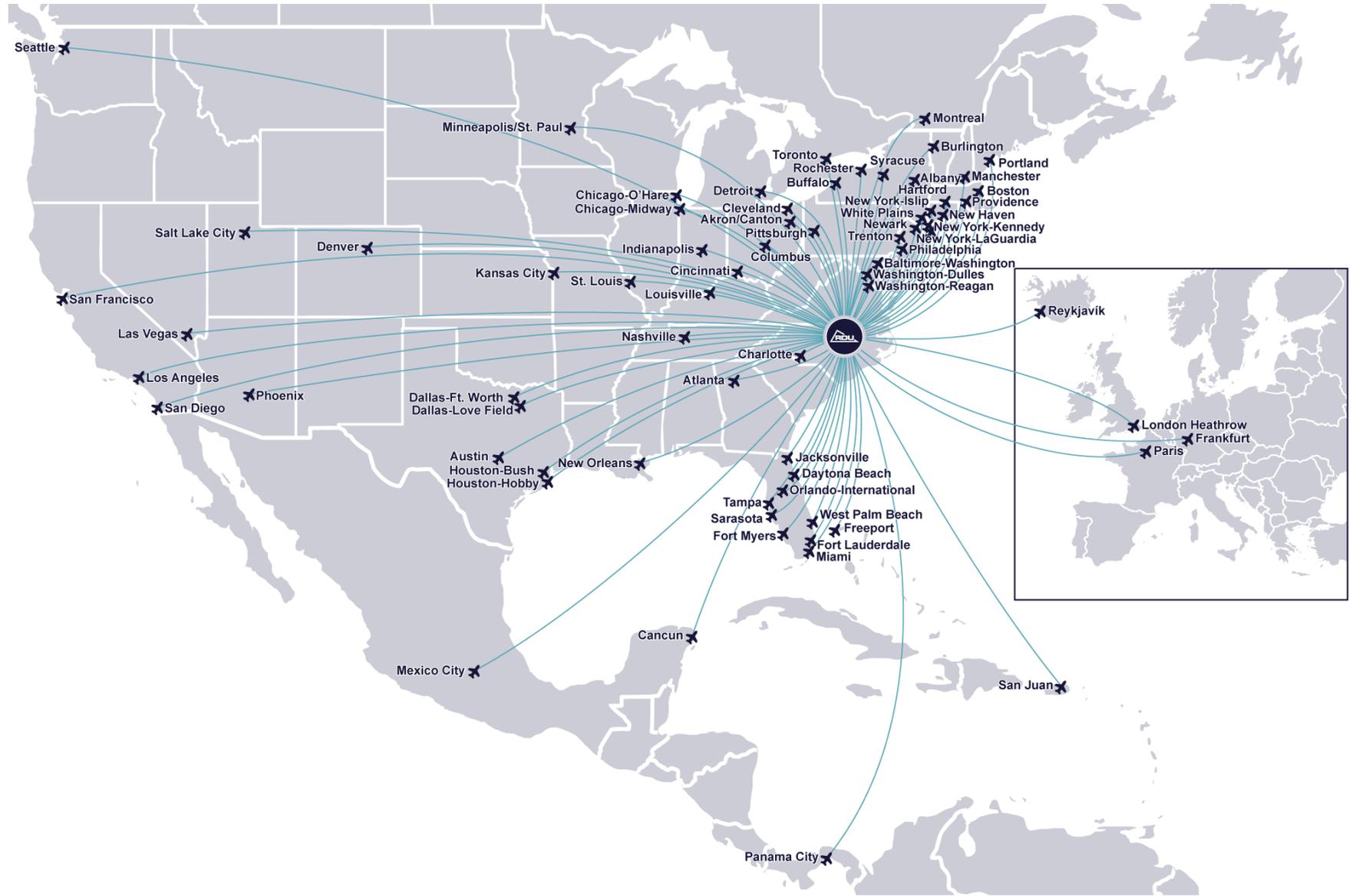
## 10 International Destinations

*Cancun, Frankfurt, Freeport, London, Mexico City, Montreal, Panama City, Paris, Reykjavik, Toronto*



## 18 Airlines

*Aeromexico, Air Canada, Air France, Alaska, American, Avelo, Bahamasair, Breeze, Copa, Delta, Frontier, Icelandair, JetBlue, Lufthansa, Southwest, Spirit, Sun Country, United*



# 71 Nonstop Destinations

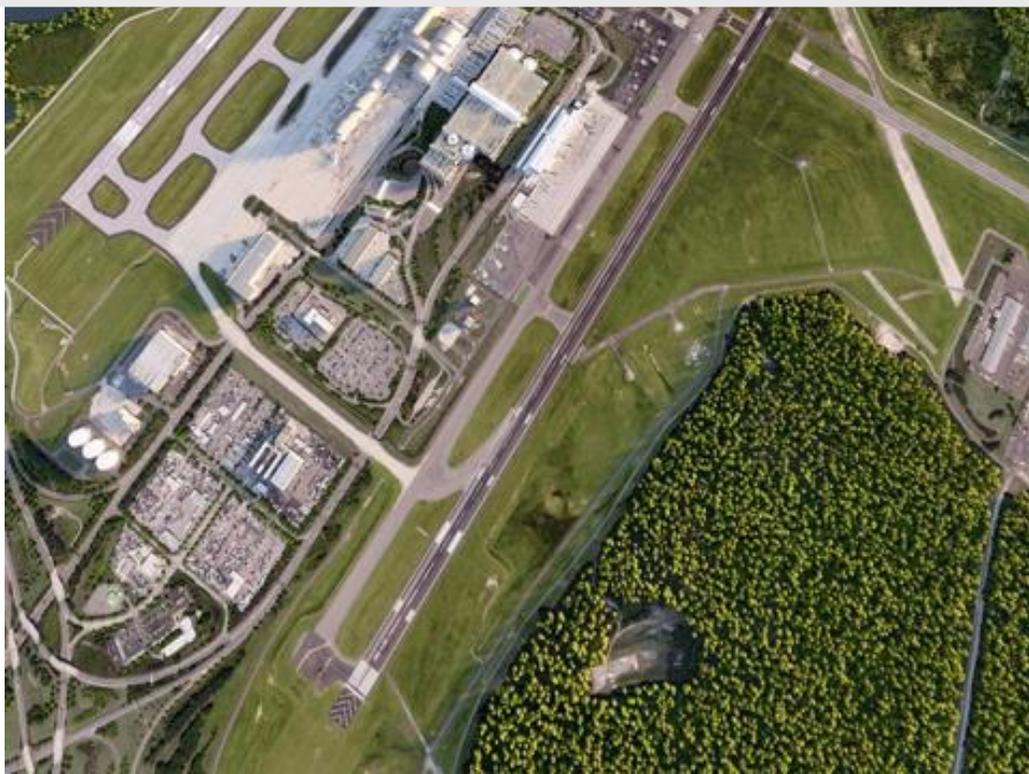
as of August 19, 2024

# Building for the Future: Vision 2040



# MASTER PLAN

VISION  
2040



# Runway 5L/23R Replacement



- Replacing the ‘most important two miles of pavement in the Triangle’
- Current runway is near end of life and will be converted into a taxiway
- Needed to keep up with the region’s increasing demand for air travel and help recruit new airlines and more routes

# Runway 5L/23R Replacement



**Status:** Broke ground October 2023. Currently performing site work, grading, drainage, utility relocation and environmental mitigation.

**Expected Runway Completion:** 2029

**Estimated Cost:** \$1 billion

**Seeking Significant FAA Funding Dollars**

MASTER  
PLAN | VISION  
2040

# Terminal 2 Landside Expansion



Project includes the expansion of the security checkpoint area, the international arrivals area and the ticketing hall

# Terminal 2 Landside Expansion

**Status:** Final Design

**Expected Completion:** 2031

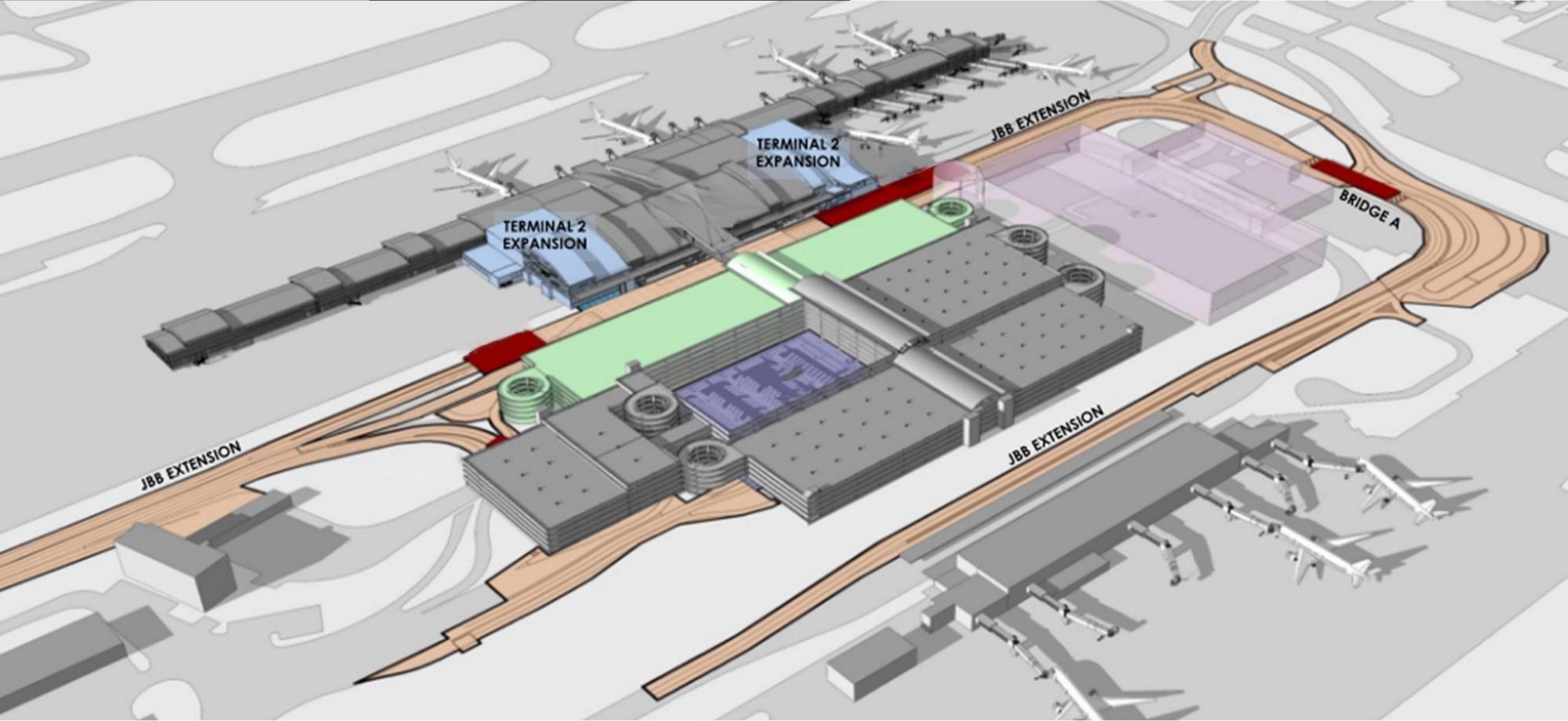
**Estimated Cost:** \$750 million

**Seeking Significant FAA Funding Dollars**



# John Brantley Blvd. Extension

Terminal roadway widening  
and extension



# Aviation Parkway Interchange

**Status:** Schematic Design

**Expected Completion:** TBD

**Estimated Cost:** \$50+ million

**Seeking Significant Federal  
Funding Dollars**





# Thank You



Raleigh-Durham  
Airport Authority

David Roy

NC Turnpike Authority

# RTA Annual Leadership Meeting

David Roy

Director of Innovative Finance



# Mission Statement



The North Carolina Turnpike Authority is committed to delivering innovative transportation solutions on behalf of local planning organizations, providing drivers more choices for their commute.

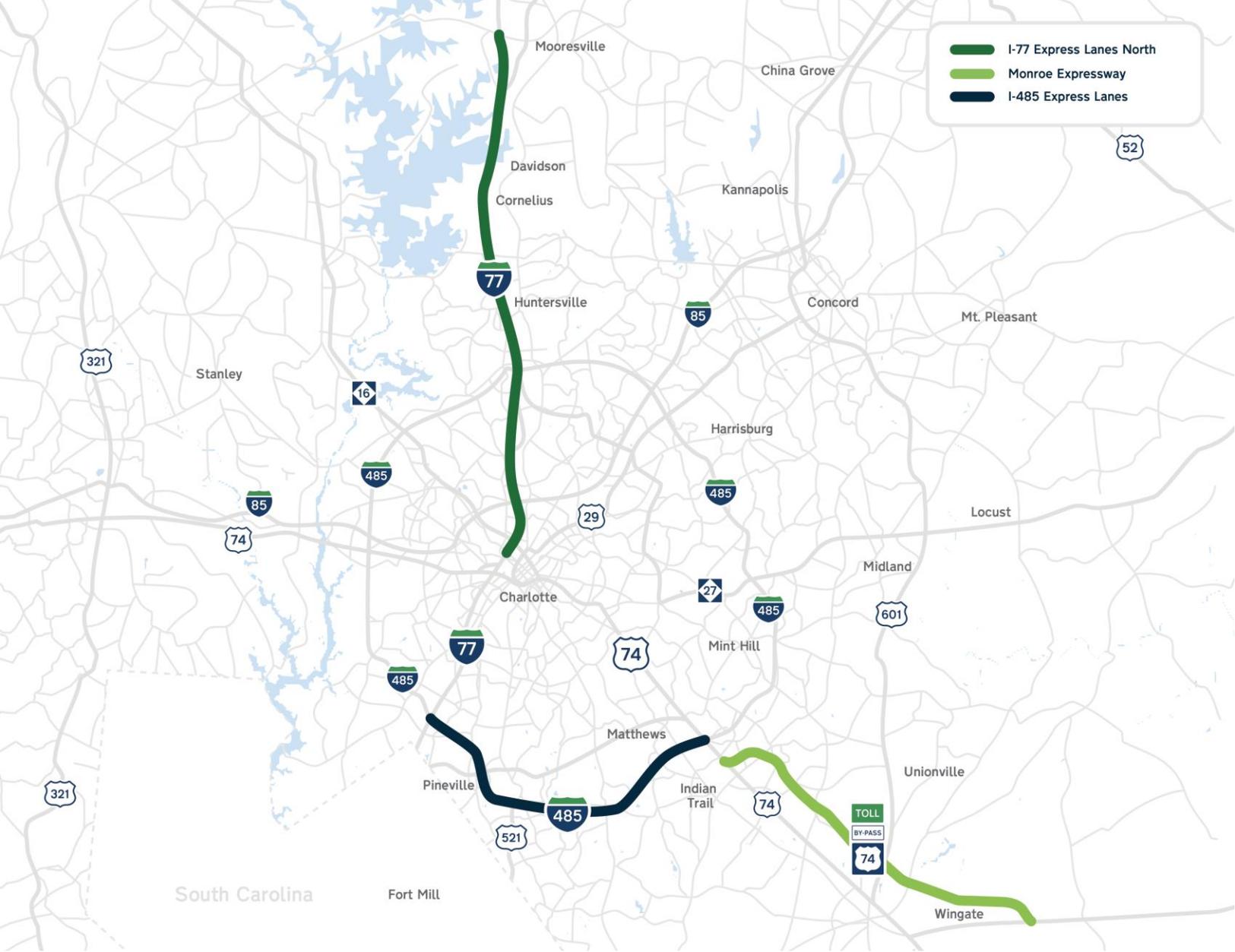


# Toll Projects in North Carolina



## Raleigh Area

-  Triangle Expressway  
Open to traffic
-  Complete 540 Phase I  
Under construction
-  Complete 540 Phase II  
Construction contracts awarded



# Charlotte Area

- Monroe Expressway  
Open to traffic
- I-77 Express Lanes  
Open to traffic
- I-485 Express Lanes  
Under construction



# Potential Projects

# Projects



Under Development



Submitted for Prioritization



Under Consideration



## Western NC

-  I-77 Express Lanes South
-  U.S. 74 Express Lanes
-  I-485 West Express Lanes
-  I-485 East Express Lanes
-  Marshville Bypass
-  I-40 Express Lanes (Haywood and Buncombe counties)

## Central NC

-  I-540 Managed Shoulder Lanes
-  Capital Boulevard

## Eastern NC

-  Mid-Currituck Bridge
-  Cape Fear Memorial Bridge

# Capital Boulevard Update



## Request

In early 2024, NCDOT received a request from CAMPO to explore alternative funding options. RTA and the Town of Wake Forest recently sent NCTA a letter, reaffirming support.



## Current Status

In coordination with CAMPO, Traffic and Revenue work is underway, including expressway and express lanes options.



## Next Steps

The Traffic and Revenue analysis is expected to complete before the end of the year. NCDOT will present findings to CAMPO.



The background features a dark blue field with a subtle, light-colored hexagonal grid pattern. Overlaid on this are several dynamic, glowing trails of small particles. These trails originate from the top left and bottom left, moving towards the right side of the frame. The particles in the trails vary in color, ranging from light blue to bright green, and their density is higher in some areas, creating a sense of motion and energy.

# The Funding Gap

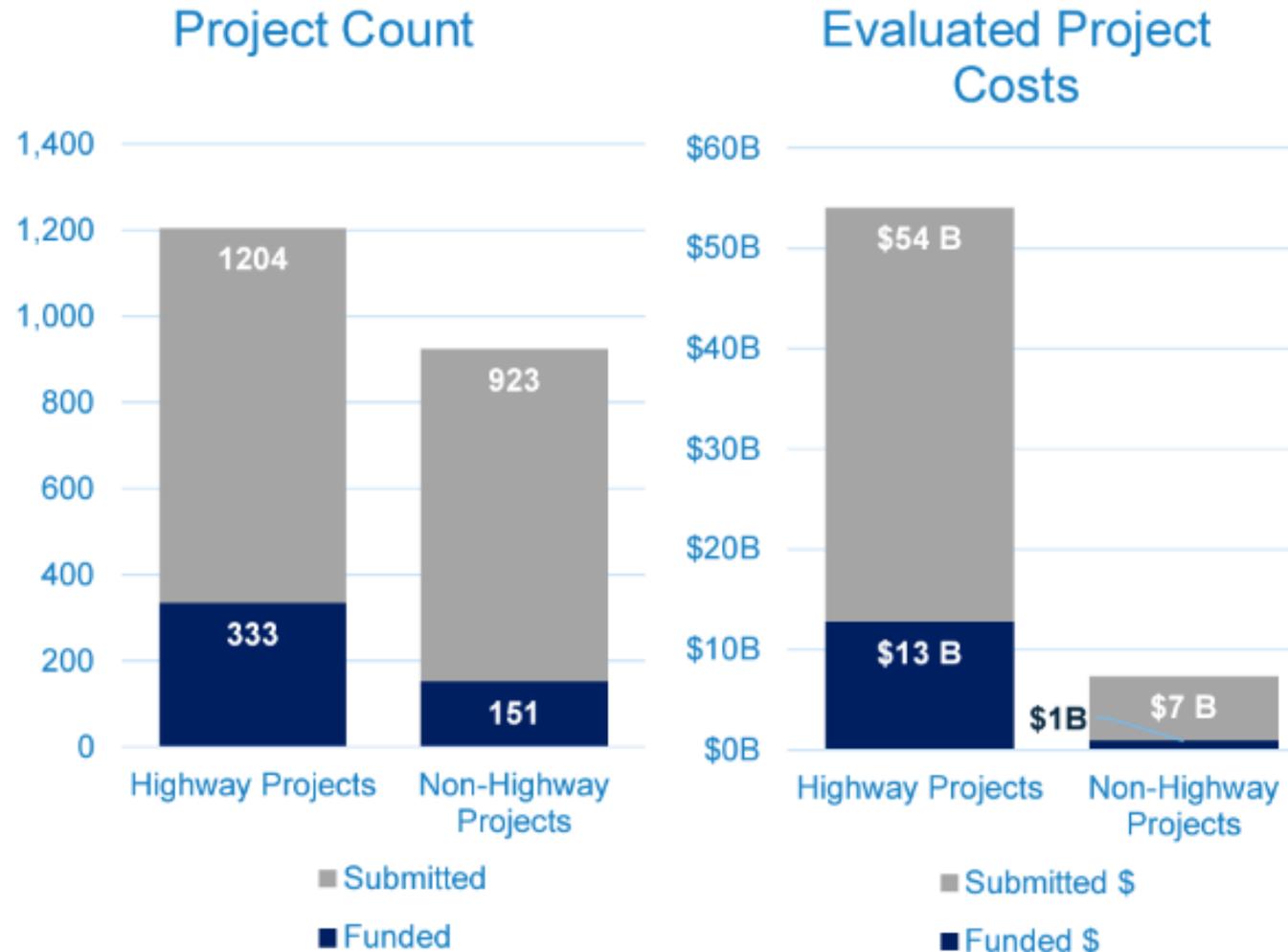
## The North Carolina Department of Transportation

- North Carolina has the second-largest state-maintained road network (Texas is first)
- The largest sources of funding are the federal and state gas taxes, the highway use tax, and a portion of the state sales tax
- NCDOT's annual construction budget is about \$3.5 billion
- Projects are funded based on a data-driven process established in state law known as "STI" — Strategic Transportation Investments



# The Cost of Requested Projects Routinely Exceeds Available Funds

Funding Gap in the FY2020-FY2029 STIP





# Toll Project Feasibility

1

Build  
Projects Faster

2

More  
Travel Options

3

Improved  
Travel Times

4

Additional Funding  
Source

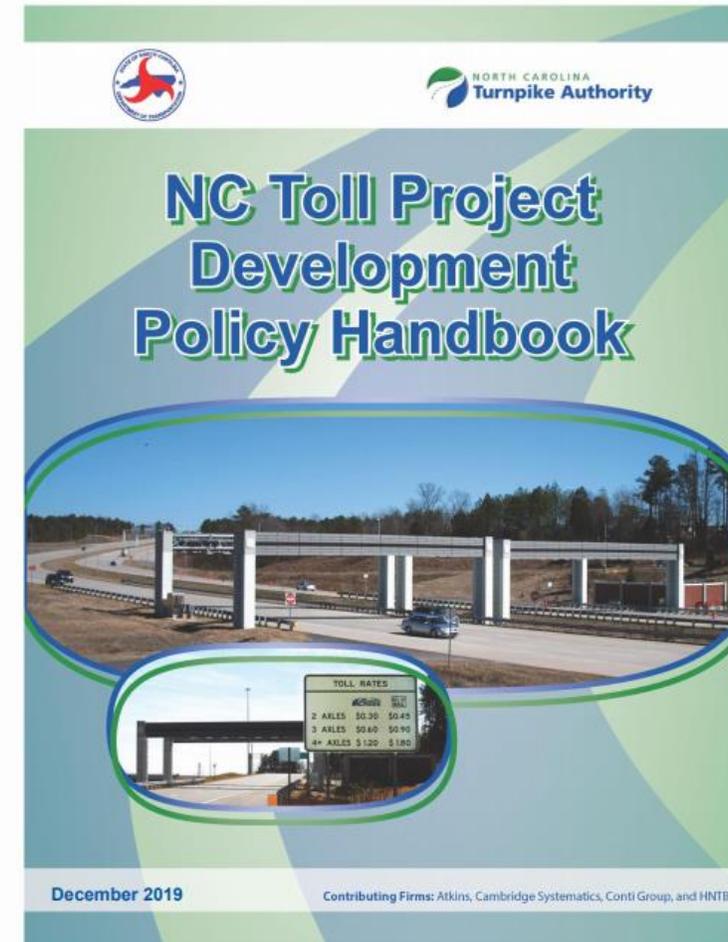
5

Support  
Growing Populations

# Determining the Feasibility of a Potential Toll Project

Planning organizations can request a toll analysis of funded and unfunded projects

1. Project Identification
2. Initial NCDOT Toll Feasibility Testing
3. MPO and RPO Screening
4. Prioritization and Programming



The background features a dark blue to light green gradient. A faint, repeating pattern of hexagons is visible, creating a subtle grid. A trail of small, glowing particles in shades of blue and green curves across the frame, starting from the top left and moving towards the bottom right.

Complete 540



## Ribbon Cutting Ceremony

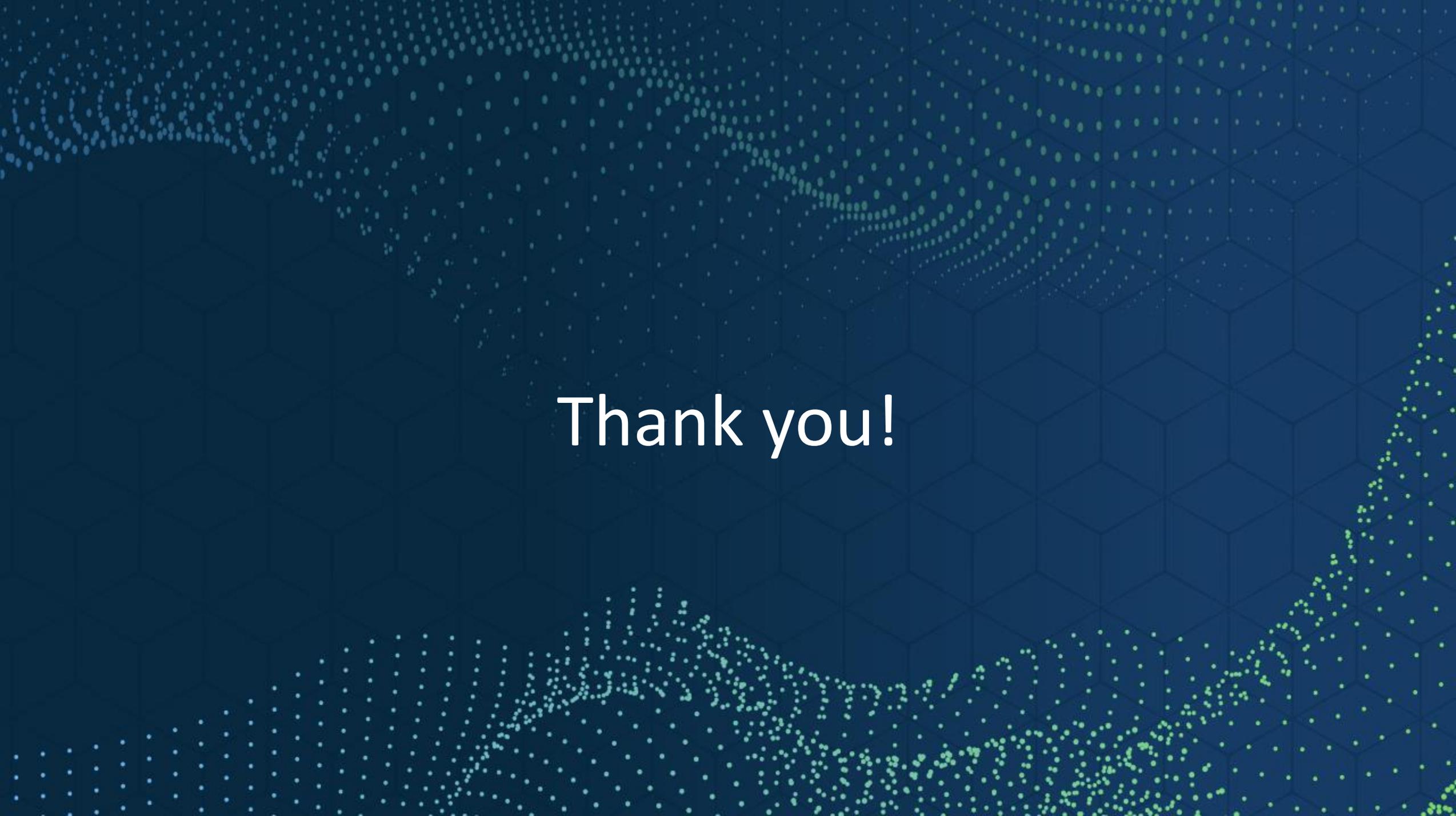
September 24, 2024

10:00 AM – 11:00 AM

## Open to Traffic and Begin Toll Collection

September 25, 2024, at 6:00 AM





Thank you!

# Contact Us



[ncdot.gov/turnpike](https://ncdot.gov/turnpike)

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[@NorthCarolinaTurnpikeAuthority](https://www.youtube.com/@NorthCarolinaTurnpikeAuthority)



[ncquickpass.com](https://ncquickpass.com)

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