- Mute your microphone unless speaking during a Q&A session
- Use the "Raise Your Hand" or chat box feature to ask questions
- Announce your name whenever you speak
- If you get disconnected, please reference the log-in instructions to reconnect audio or visual
- If you are dialing-in or had the meeting dial-out to you, do not answer any calls and put this call "on-hold" (this will disrupt our meeting)
- *Please pay attention:* A lot of important information will be shared!

APPALACHIAN COUNCIL OF GOVERNMENTS
REGIONAL FREIGHT MOBILITY PLAN

Appalachian Regional Freight Mobility Plan

Steering Committee Meeting #2

July 16, 2020

AGENDA

1. Task Purpose
2. The State of Freight
3. Regional Freight Network & Operational Analysis
4. Best Practices

Introduction to Speakers

Roger Schiller

Austin, Texas

Steering Committee

Who is on the Call?

Task Purpose

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Task Purpose

Conduct a data-driven freight network evaluation focusing on truck and rail. Use ACOG regional TDM and SCDOT statewide TDM roadway data.

The State of Freight

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Freight Analysis

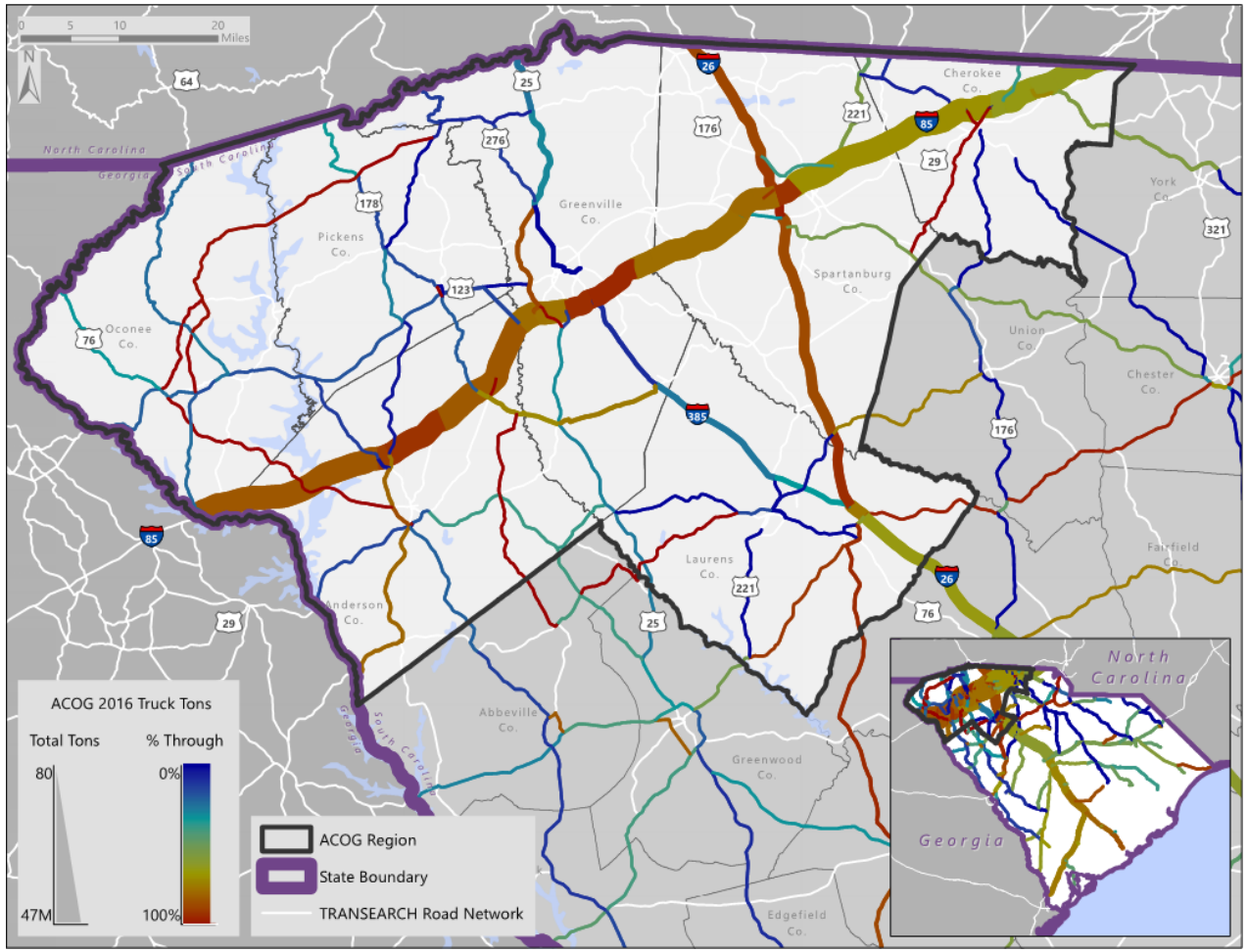
- Freight is the economy in motion
- Freight volume
  - *Volume* – tons, value, units (trucks, railcars)
  - *Mode* – truck, rail, air
  - *Direction* – inbound, outbound, intra-regional, through
  - *Commodity* – 40 broad categories (750+ sub-groups)
- Economic impacts
  - *Activities* – Freight transport (trucking, RR) and users (shippers/receivers)
  - *Types* – direct impacts, indirect suppliers, induced re-spending
  - *Measures* – employment, income, output, etc.

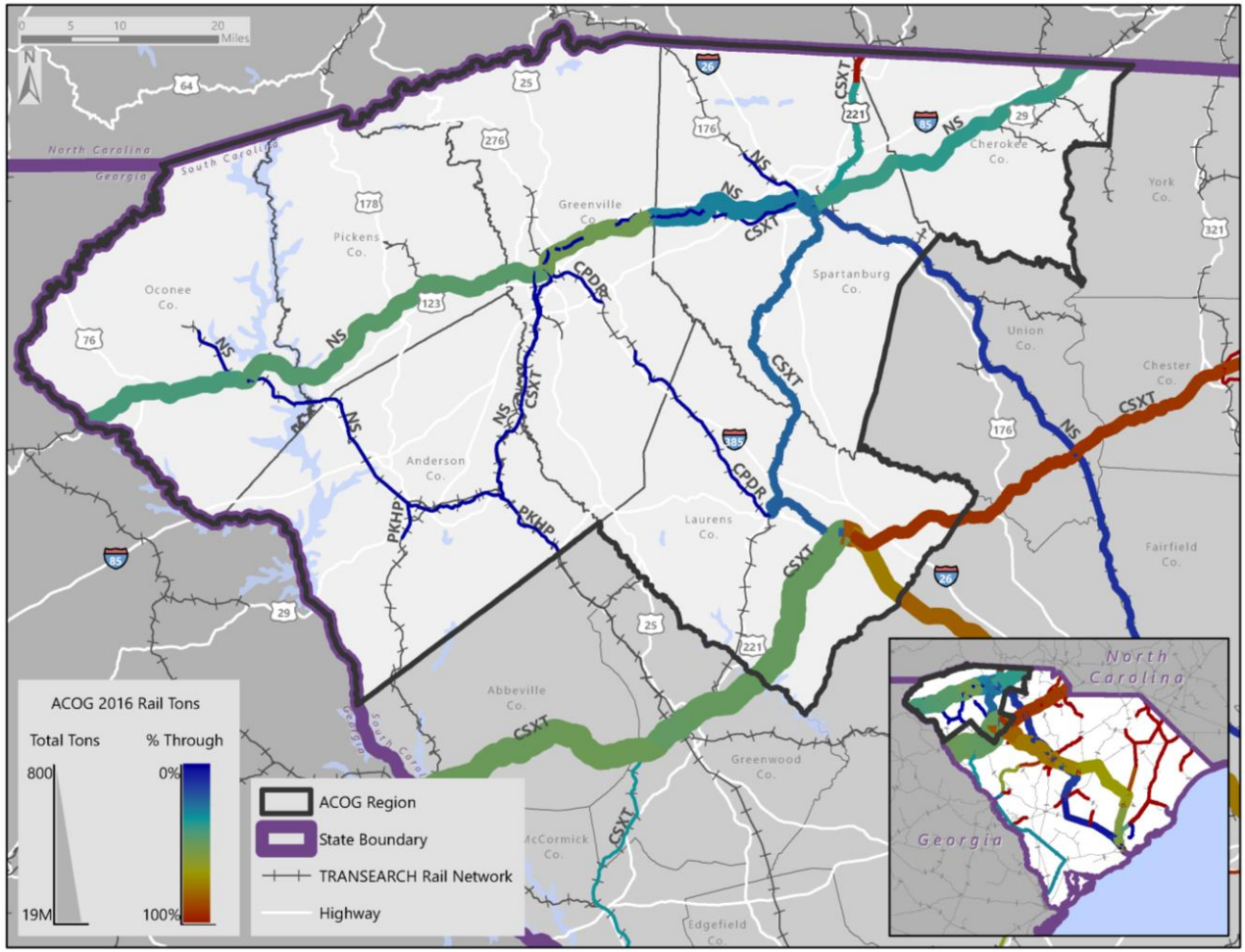
Freight Data/Maps

- Different queries for IHS Markit's TRANSEARCH database
  - Network density – roadway and railroad tonnage maps
  - Commodity x direction – STCC2, outbound, inbound, etc.
  - Origin/destination pairings – trading partners
- Each provides different/complementary perspectives
- Objective
  - Preliminary bird's eye perspective
  - TRANSEARCH QA/QC
  - Springboard to commodity x direction x O/D detail

Truck and Rail Network Density

ACOG REGIONAL FREIGHT MOBILITY PLAN





POLLING QUESTION

Do these overall truck and rail patterns look reasonable from your experience?

Stop and Pause

Please type your questions in the questions box for open discussion

Draft ACOG Regional Freight Network

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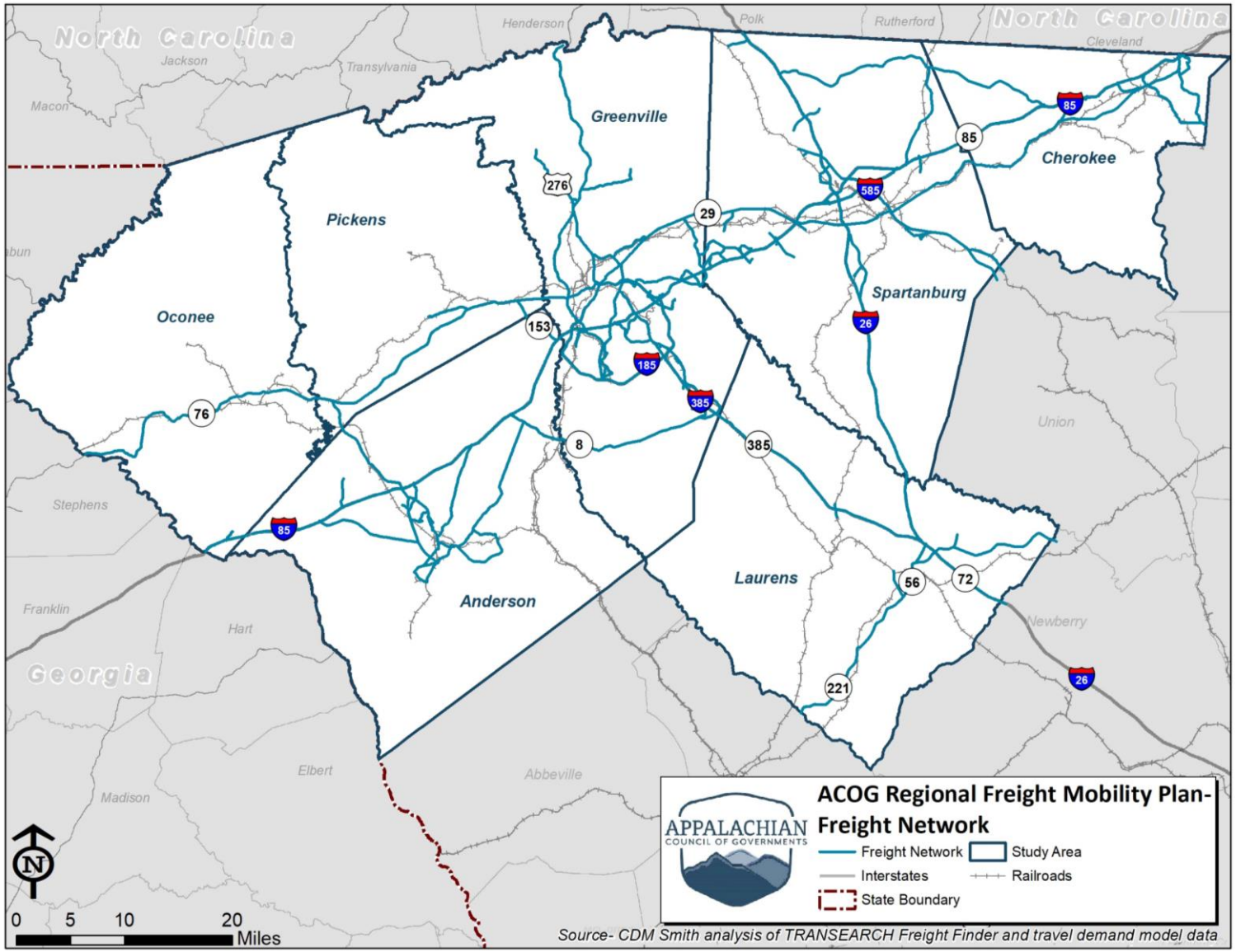
Draft ACOG Regional Freight Network

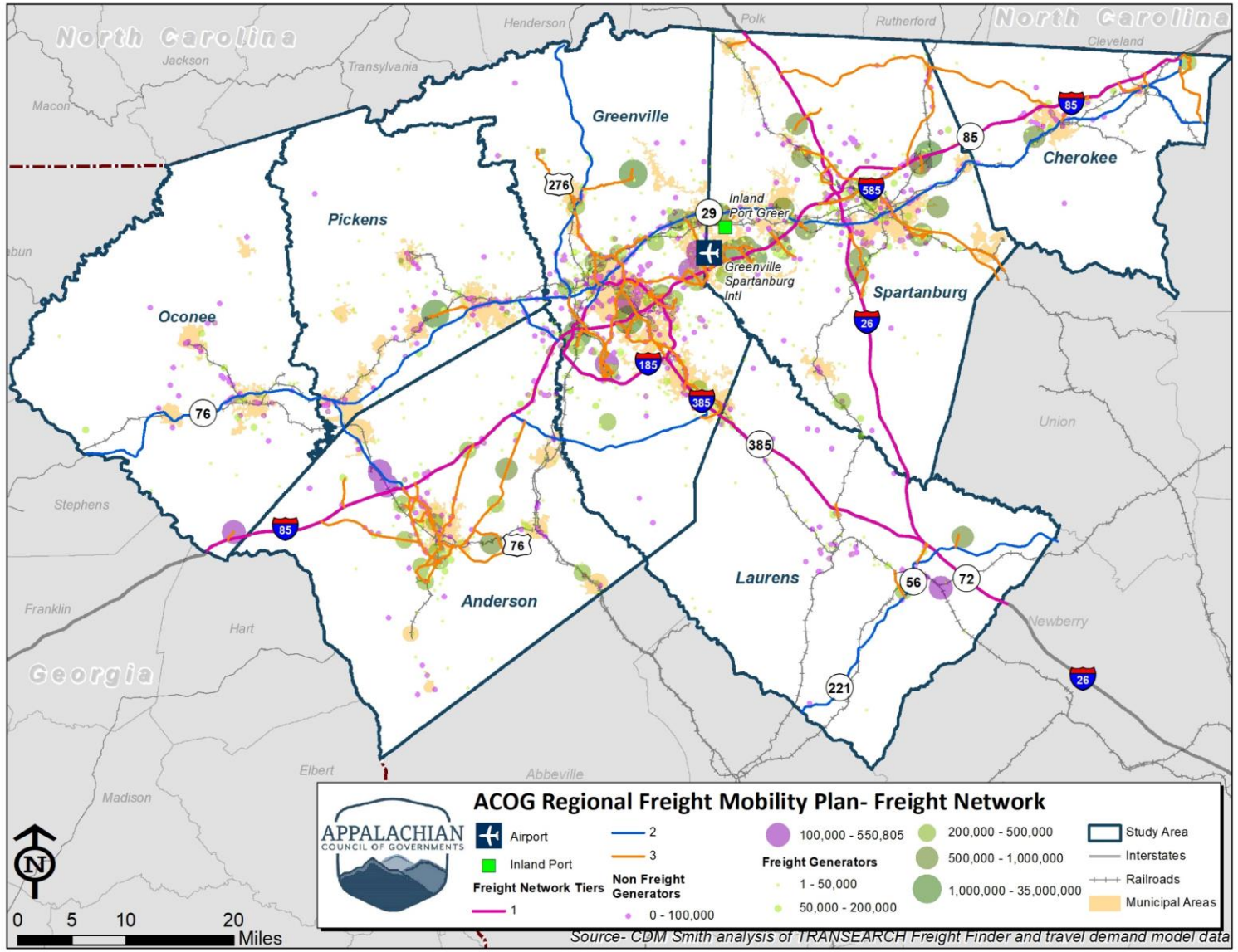
- Methodology
  - Data sources: National/state freight networks, TRANSEARCH, travel demand model
  - Mapped major freight generators and industry clusters
  - Reviewed high truck volume corridors
  - Visually selected additional links for network continuity
  - Tiered highway network

Draft ACOG Regional Freight Network

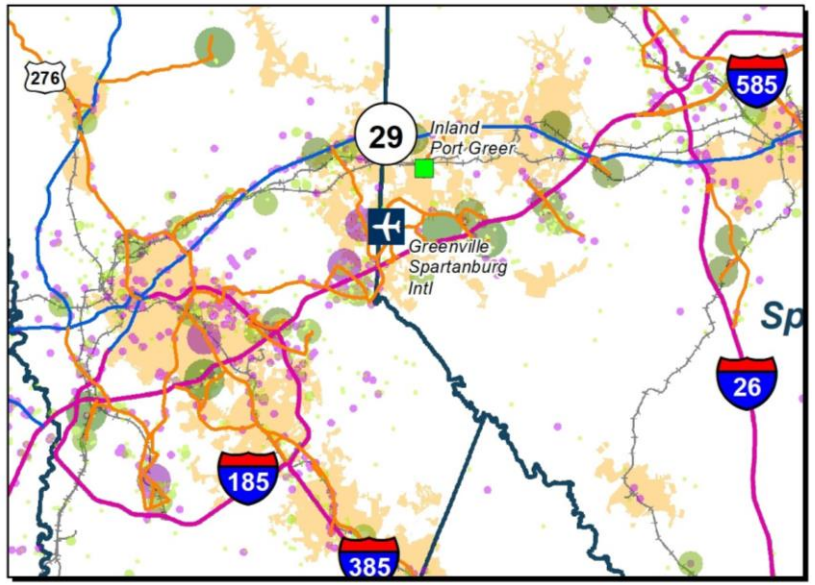


Draft ACOG Regional Freight Network

ACOG REGIONAL FREIGHT MOBILITY PLAN



- Tier 1 – Interstates
- Tier 2 – Non-Interstate SC Freight Network
- Tier 3 – Local freight routes



POLLING QUESTION

Do you have suggestions for additional routes that should be included in the draft freight network?

ACOG Regional Freight Network Operational Analysis

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Bridge and Pavement Conditions

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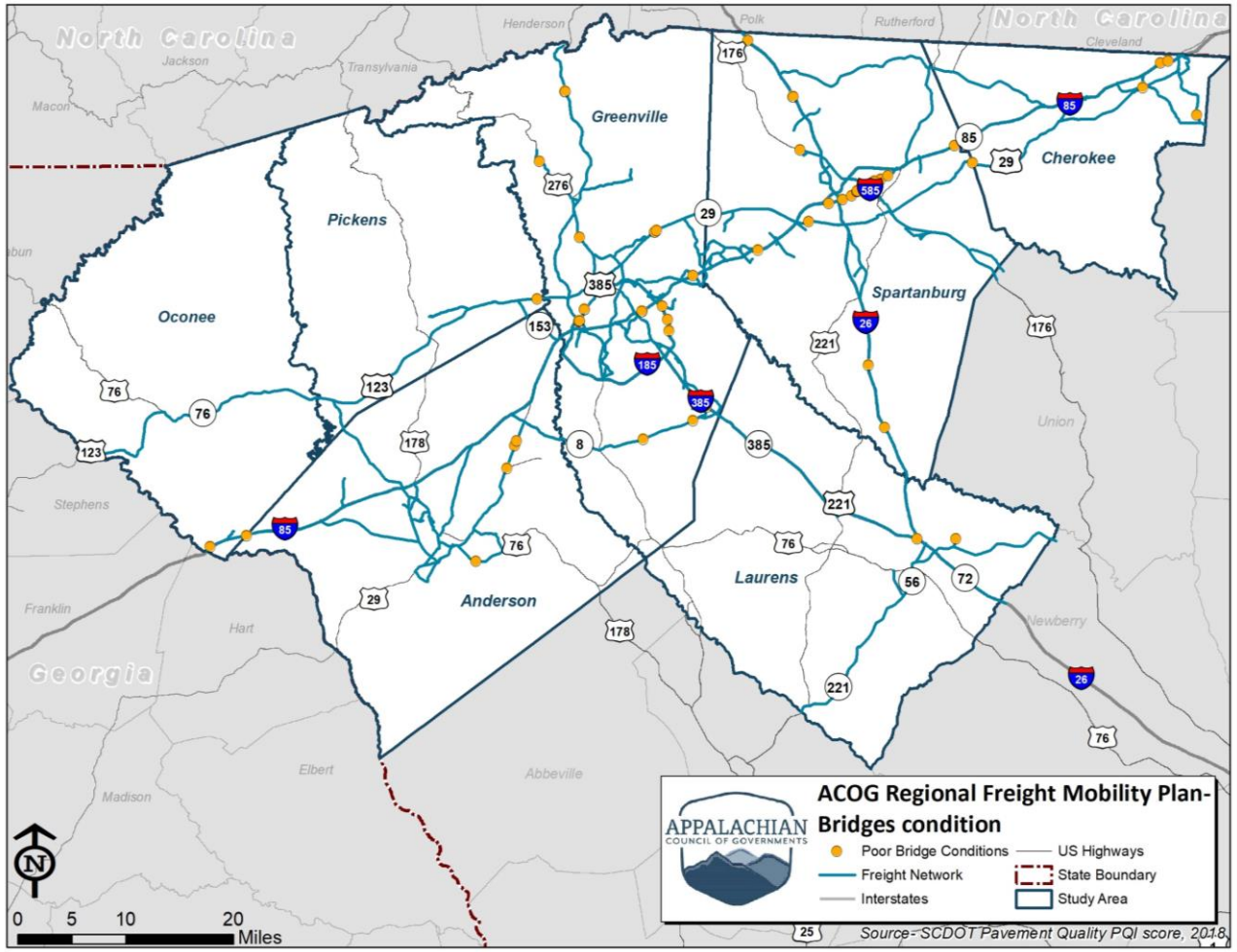
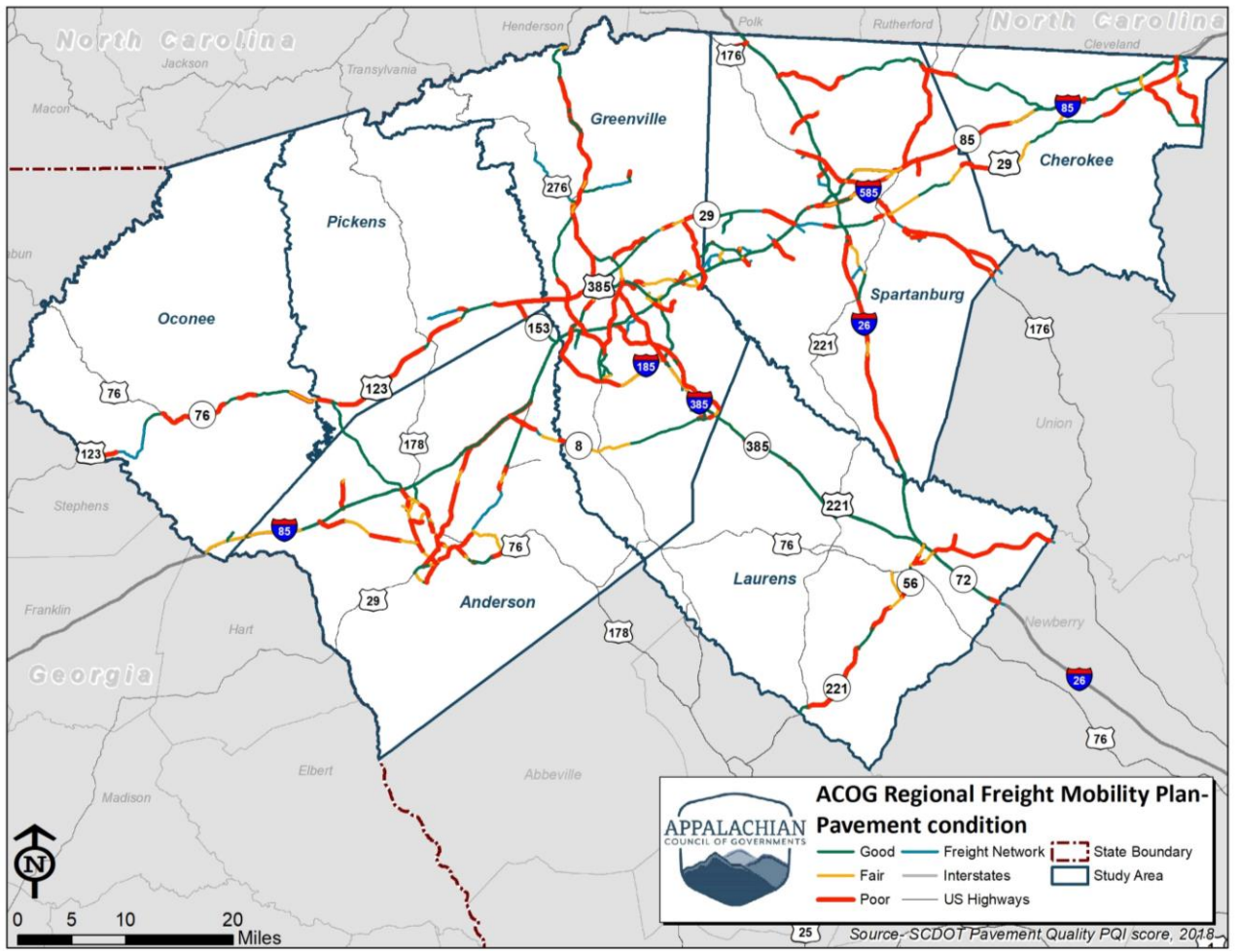
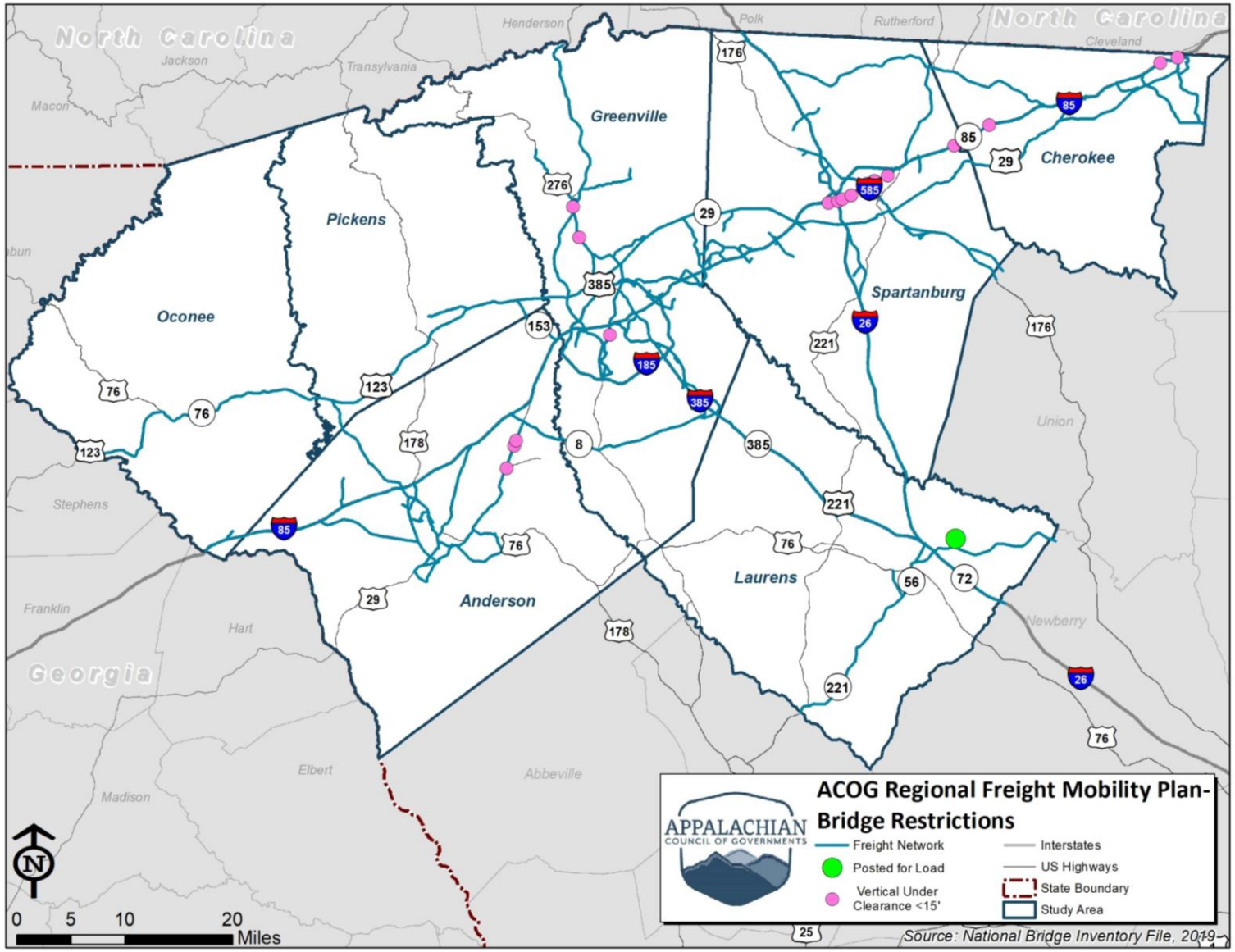


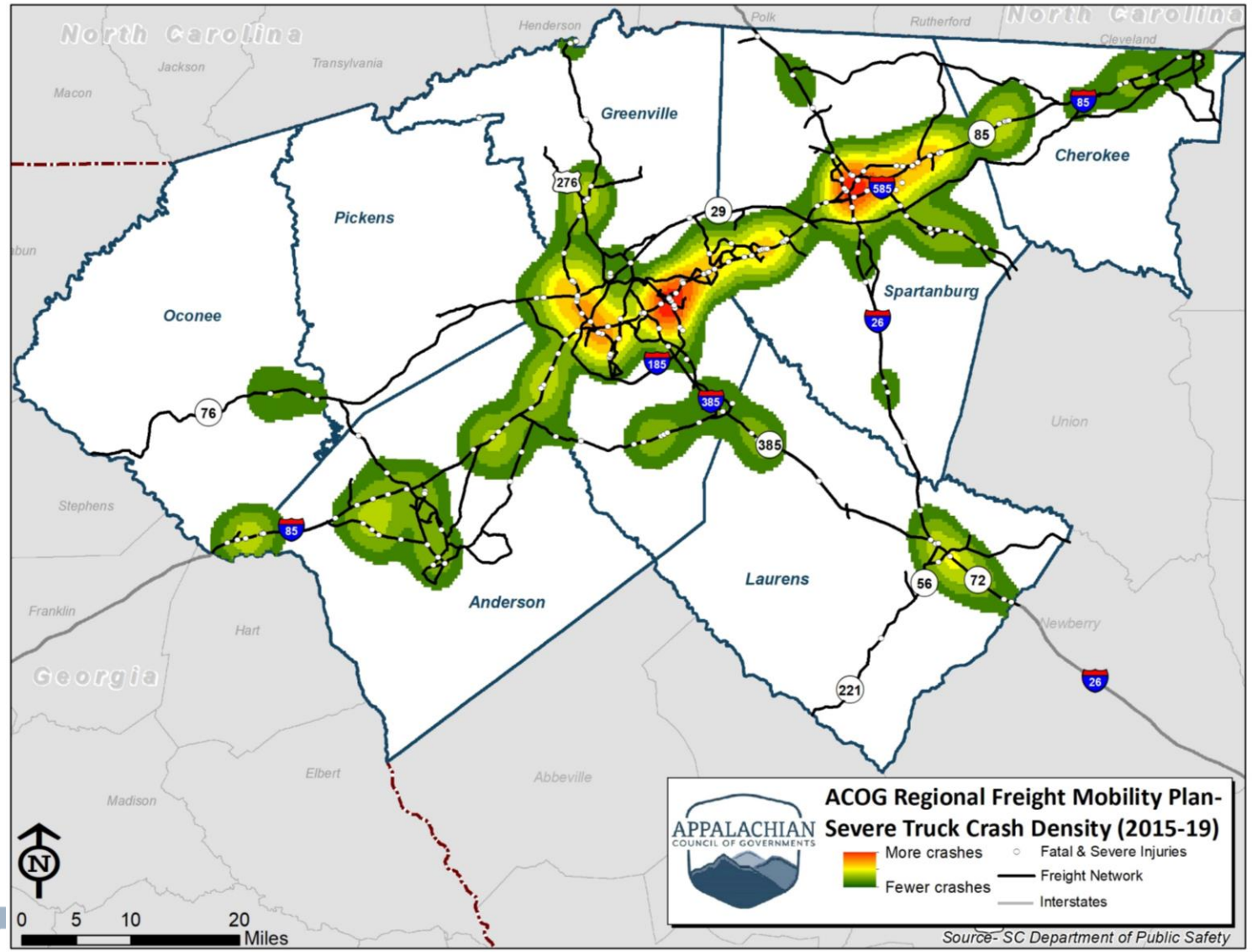


Bridge Clearance and Load Restrictions



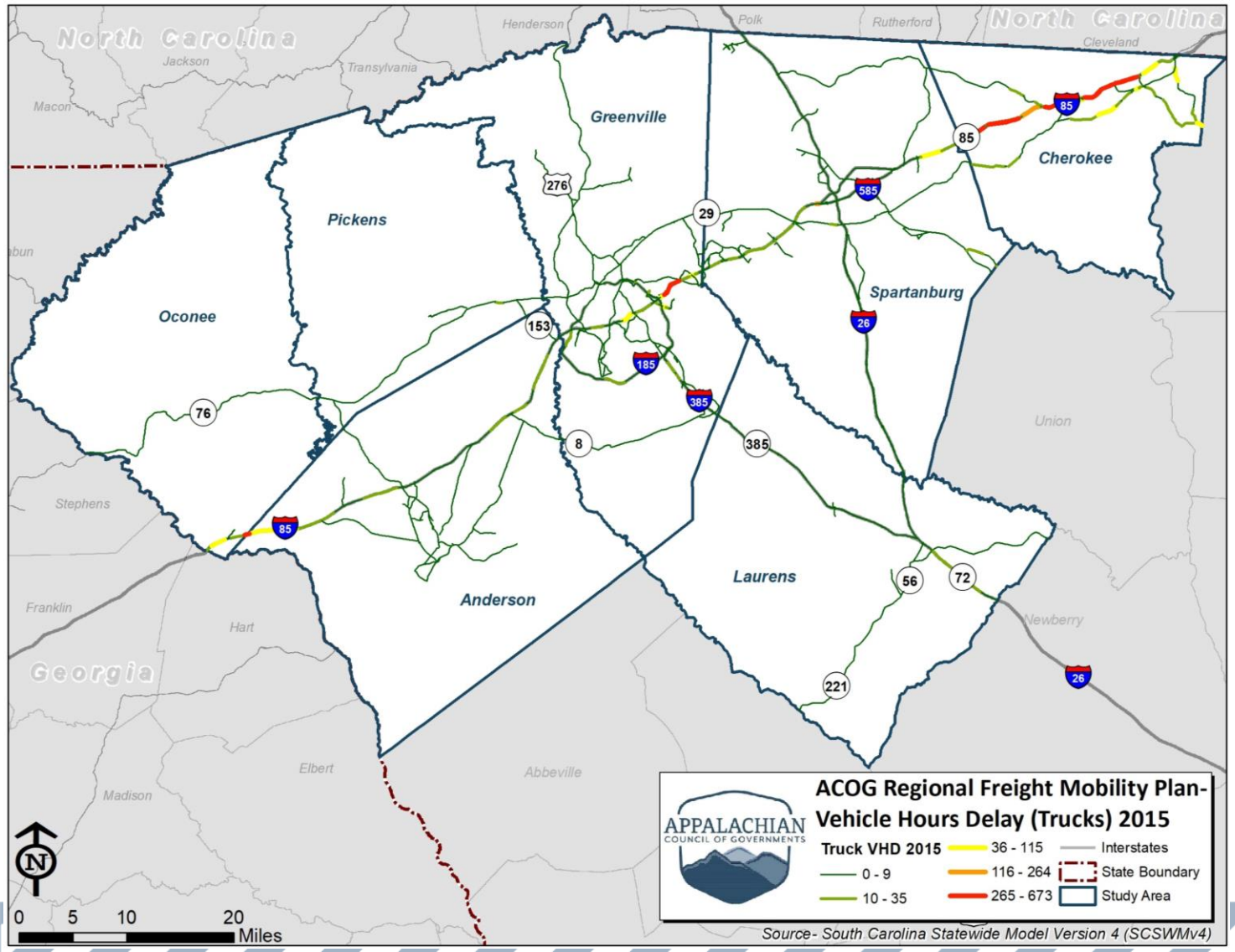
- Low vertical clearances on I-85, US 276, US 29

Severe Truck-Involved Crashes



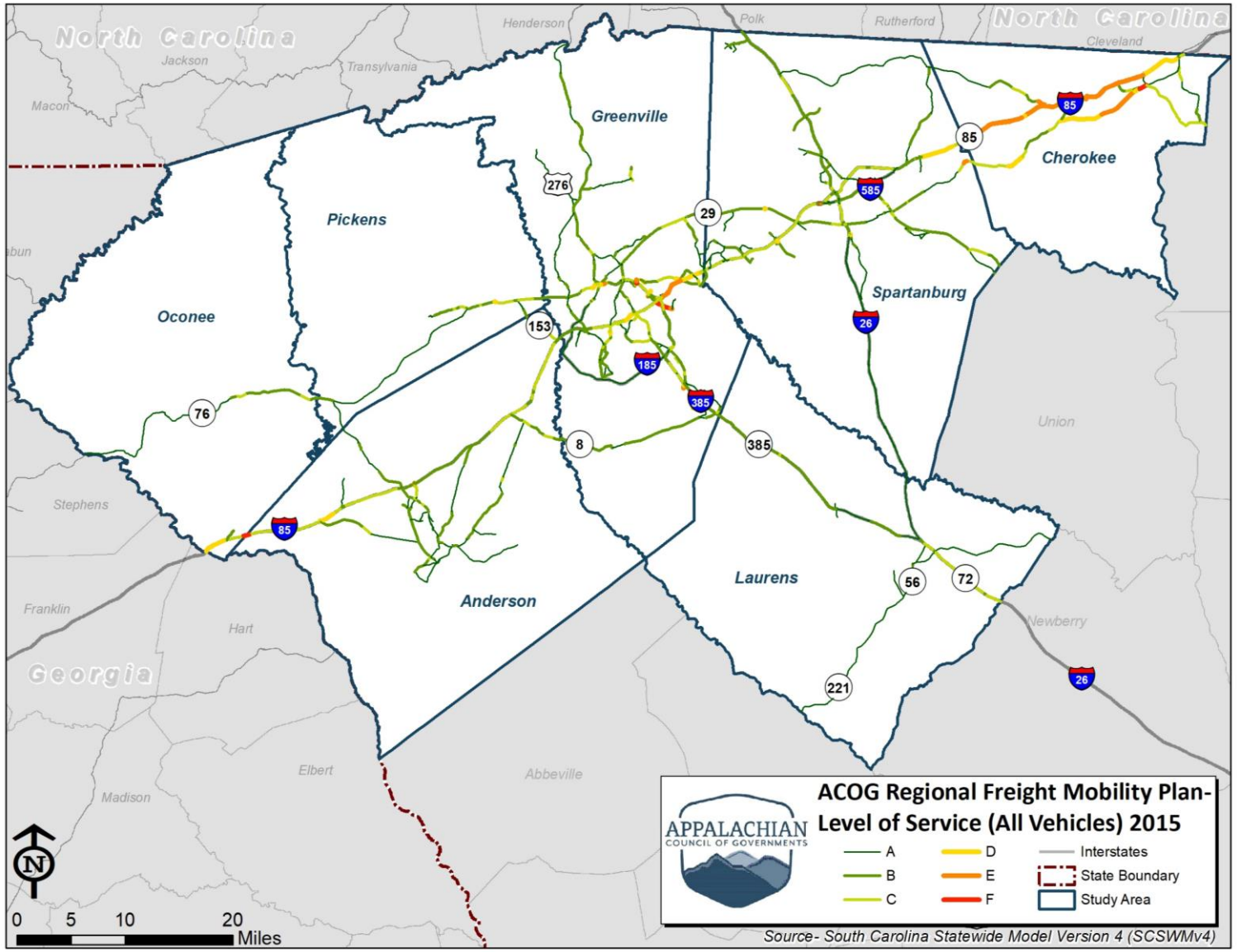
- Fatal and incapacitating injury crashes on the freight network
- Hotspots in larger urban areas and on the Interstates

Truck Vehicle Hours of Delay



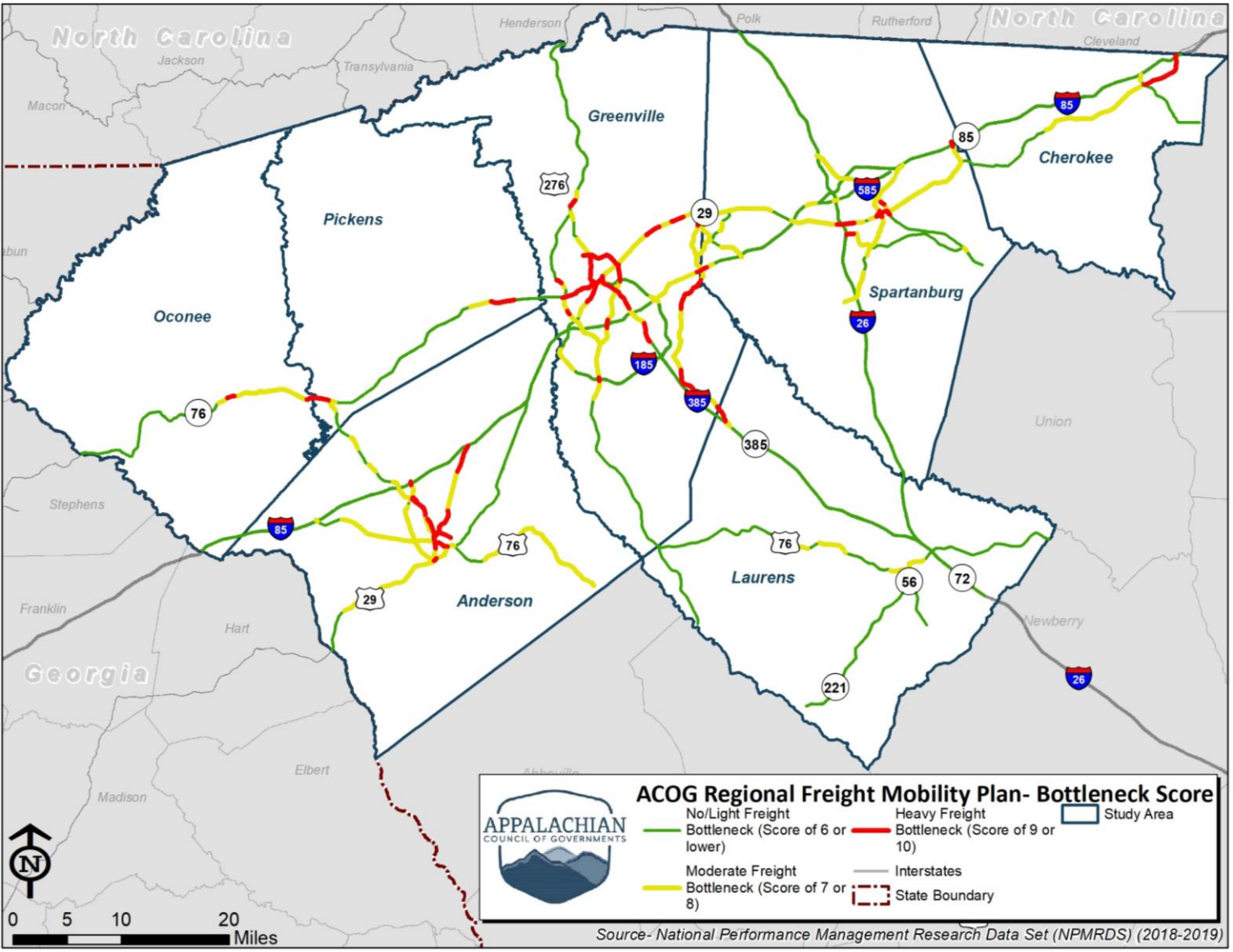
- Most truck delay happens on I-85, especially in Cherokee County

Level of Service (All Vehicles)



- LOS is generally good but deteriorates on I-85 and in/around Greenville

Truck Bottlenecks



- National Performance Management Research Data Set
- Scored based on two metrics:
  - Frequency of Congestion
  - Planning Time Index

Candidate CUFCs and CRFCs

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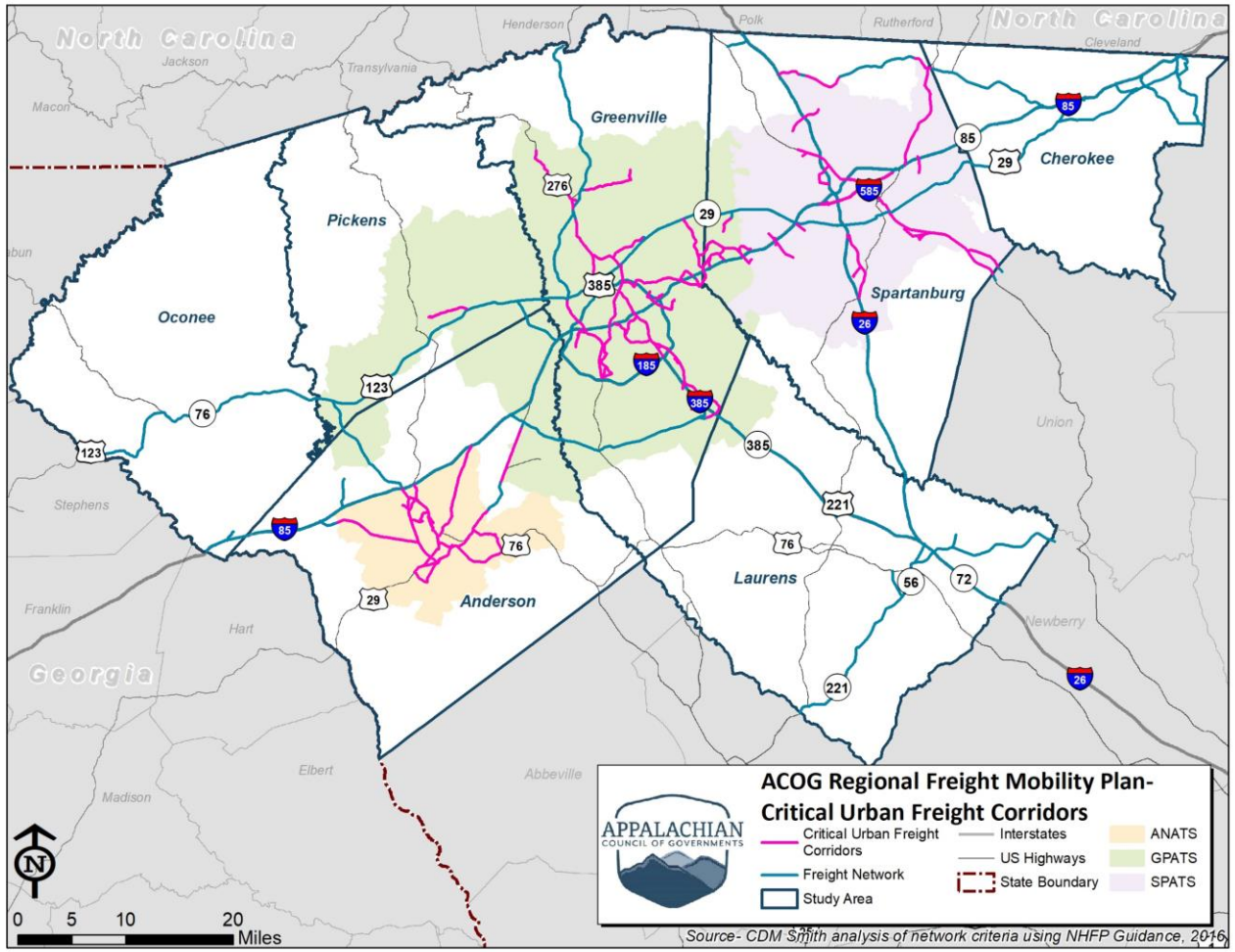
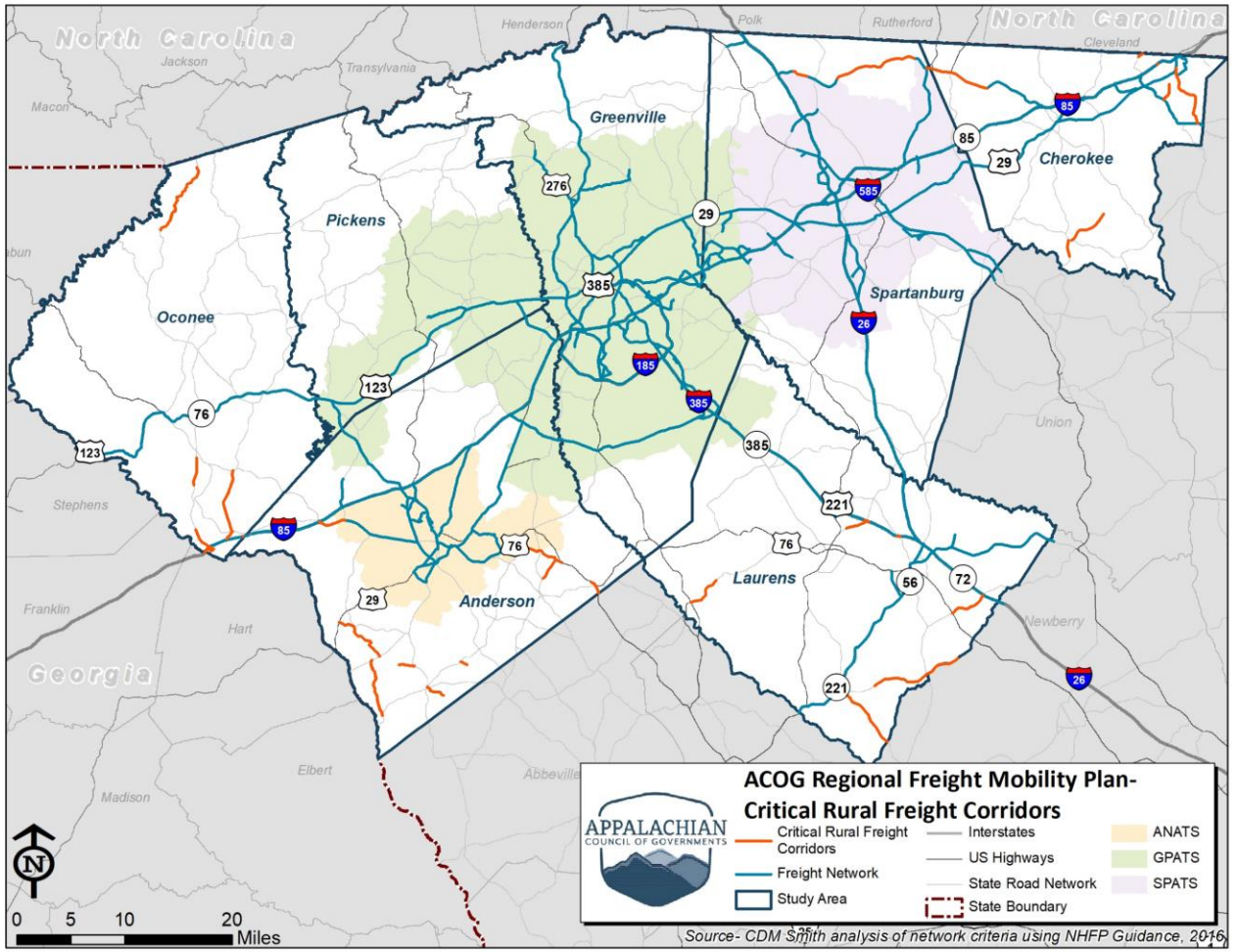
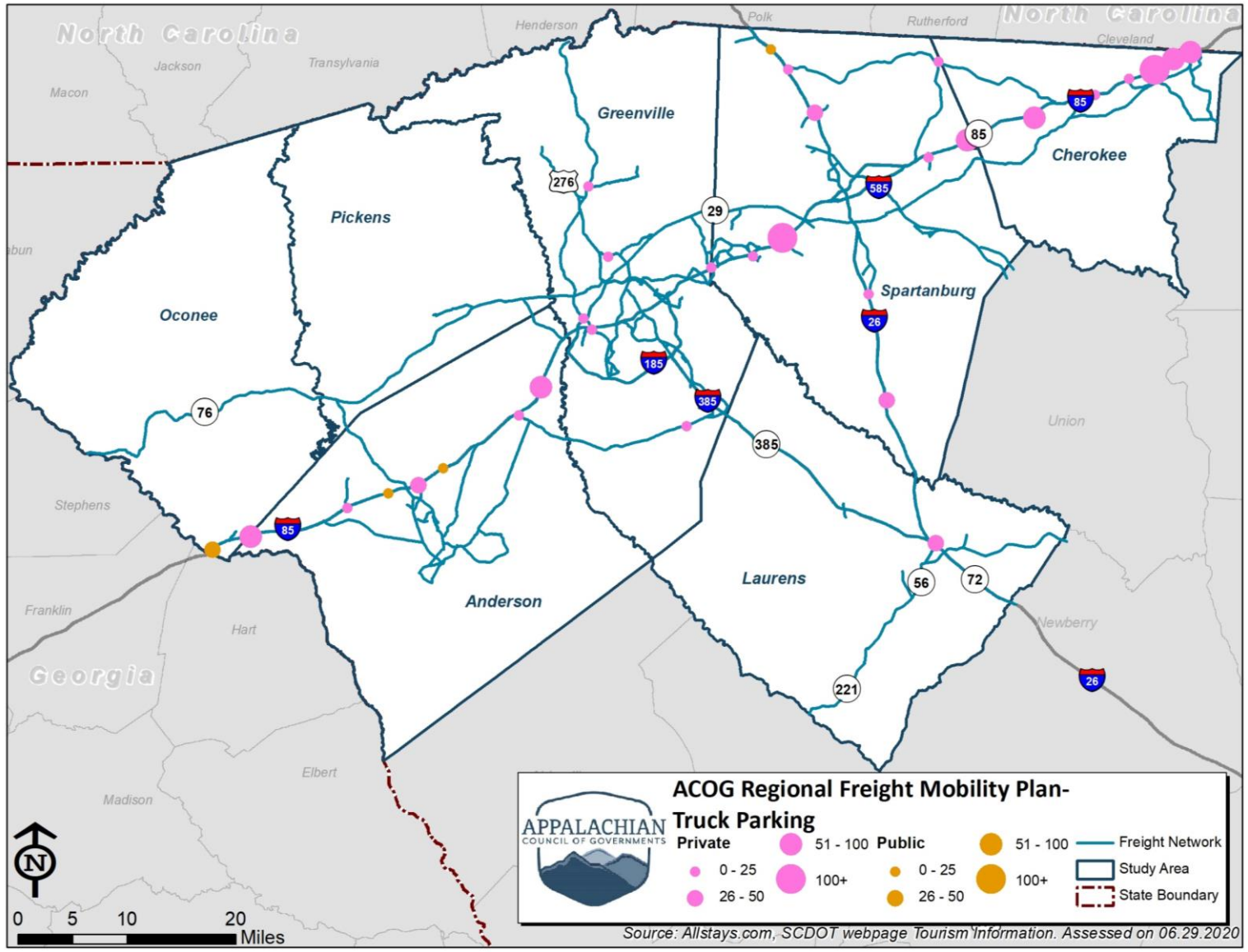




Truck Parking



- Most supply along I-85
- I-85 truck parking study identified 21 exits where trucks were parking illegally

Stop and Pause

Please type your questions in the questions box for open discussion

Best Practices

Freight Plan Peer Reviews

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Community and Environmentally Friendly Freight Planning

Centralina and Will County, IL Freight Plans

Identifying Issues

- Greater Charlotte
  - Land use – freight conflicts
  - Reducing freight emissions
  - Agency coordination and plan implementation
- Will County
  - Land use – freight conflicts
  - Agricultural base – preserving community character
  - Visual and noise impacts of freight growth
  - Protecting cultural resources – Lincoln Cemetery, Midewin Tall Grass Prairie

Working with Stakeholders

- Greater Charlotte had extensive stakeholder engagement

Coordinating Committee	Steering Committee	Freight Advisory Committee	Surveys/Interviews
• 22 Members • Federal, State, and Local • Technical Oversight	• 63 Members • Transportation & economic development partners • Policy-level	• 20 Members • Private-sector freight • Guide implementation of Freight Plan	• Web-based survey • Phone interviews • Private & public stakeholders

"Highest priorities for private sector freight are congestion relief and travel time reliability."

Performance Measures

- Greater Charlotte
  - Performance measures are tied to the 7 freight goals
  - Focus on safety, preservation, maintenance, and congestion reduction
  - Require data for tracking
  - Data sources include NCDOT, SCDOT, and federal data resources such as INRIX and NBIS

Freight Mobility Plan Goals	Freight Mobility Plan Objectives	Performance Measures (source of data)
1. Economic Competitiveness and Efficiency	• Develop, integrate, and support a freight transportation system that supports the region's position as a major freight hub via a network of highways, railroads and airports • Encourage regional efforts to maximize the region's competitiveness in freight and logistics • Formulate a relationship between the private and public sectors to leverage available public and private revenue resources	• Reduce congestion on intermodal connectors and roads leading to major energy/manufacturing centers (INRIX travel time data or AADT-based level of service)
2. Safety and Security	• Assist regional emergency management agencies to be better prepared in the event of crashes on the freight system, and in response to hazardous material incidents • Expand the use of technology to increase regional freight safety and security • Reduce the number of high crash locations that involve trucks or at-grade rail crossings	• Hours of delay from incidents (NCDOT, SCDOT) • Number of crashes and fatal crashes involving trucks (and rate) (NCDOT, SCDOT, SCDPS) • Grade Crossing Crash/Incident Rate (NCDOT, SCDOT, SCDPS)
3. Infrastructure Preservation and Maintenance	• Maintain regionally significant streets, highways and bridges to a state of good repair to minimize truck travel times and cargo damage	• Percent of structurally deficient bridges on freight network (NCDOT, SCDOT, NBIS) • Percent of freight network meeting pavement condition targets (NCDOT, SCDOT) • Number of weight-restricted bridges on the freight network (NCDOT, SCDOT, NBIS) • Number of vertical restrictions on the freight network (NCDOT, SCDOT, NBIS)
4. Environmental Stewardship	• Encourage land use planning that supports and promotes the efficient movement of freight • Reduce the emissions resulting from freight congestion and excessive vehicle/train idling	• MPO and RPO Air Quality Design Values (MPO/RPO Data) • Annual Hours of Excessive Delay Per Capita* • 2- and 4-year Total Emission Reductions for each applicable criteria pollutant and precursor*

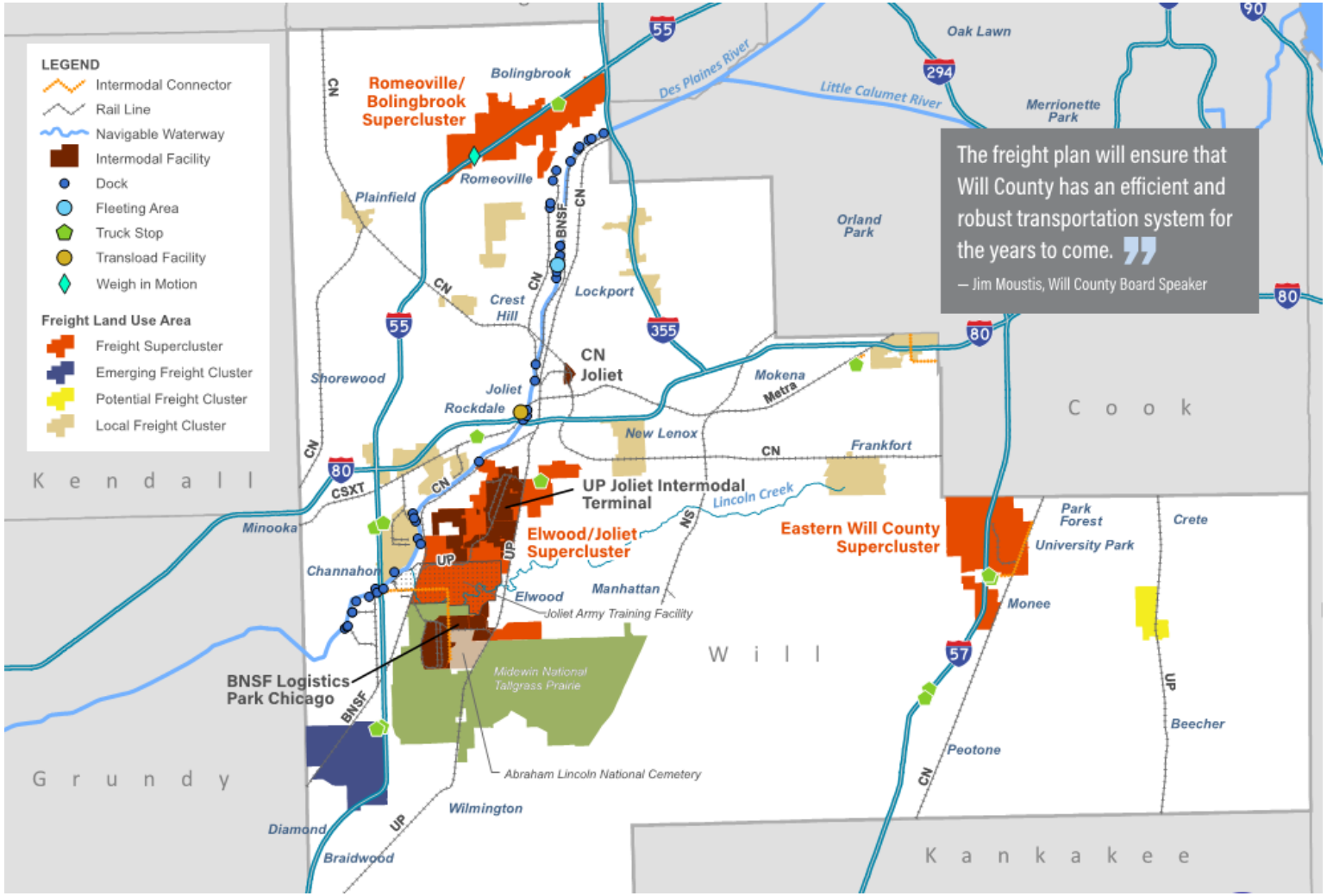
Environmental Mitigation

- Tool Box Development

Environmental Issue	Measures to Address
Air Quality	– Partner with industry to minimize air quality impacts from freight – Partner on strong anti-idling regulations and technology – Plan for buffer zones around new/expanding freight developments
Water Quality	– Employ best management practices for avoidance and minimization of impacts to wetlands and for stormwater management – Consider water quality impacts in truck route selection and implement stormwater best management practices in roadway design
Hazardous Materials Transportation	– Regularly review and update route designations with partners – Ensure emergency management plans are reviewed and updated
Encroachment on Sensitive Areas	– Develop a county land use plan and strategy – Focus new freight development in existing identified freight clusters – Review truck routing to minimize impacts to adjacent environmentally sensitive areas

Land Use and Freight

- Mapping Clusters



Land Use and Freight

- Forecasting Growth and Impacts
  - Will County – Macro and Micro
    - TRANSEARCH National/Global to Regional – translated to trip generation
    - Land Use – Bottom-up Cluster Build Out Analysis
    - Ground truth in local land use plans and with COSTAR/EMSI

Cluster	Industrial			Current Employment (2014)			Future Employment (2026)
	Existing Building Area (s.f.)	Anticipated Growth in Building Area (s.f.)	Percent Build Out (2026)*	Cluster Total	Transportation/ Trade/Utilities	Percent	
Elwood/Joliet	22,879,553	24,490,000	48%	2,290	1,429	62.4%	10,984
I-80/Houbolt Rd	9,698,466	4,740,000	61%	4,486	1,757	39.2%	6,055
Channahon	2,109,612	2,590,000	34%	955	316	33.1%	1,891
New Lenox	5,088,882	5,400,000	56%	1,738	800	46.0%	2,723
Total	39,776,513	39,220,000		9,469	4,302	45.4%	21,653

** The percent build out refers to the rentable building area required to fill all of the industrial space in each cluster.*
Source. RT&A, Industry Cluster Analysis

Environmental and Community Impacts Best Practices

- Work with stakeholders – engage with the contentious
- Need for a multi-jurisdictional coordination effort between all relevant stakeholders
- Leverage different tools – forums, surveys
- Understand regional freight issues and opportunities
  - Tailor mitigation strategies
  - Include environmental and land use issues in project prioritization
- Develop policy toolboxes
- Measure performance beyond just moving goods/vehicles

Land Use and Freight Best Practices

- Know the planned freight-intensive acreage
- Overlay acreage with freight concentrations & corridors
- Incentivize freight-intensive businesses within freight concentrations & corridors
- Develop local strategies for freight concentrations
- Prioritize freight improvements within freight concentrations and corridors
- Incorporate freight into site design standards

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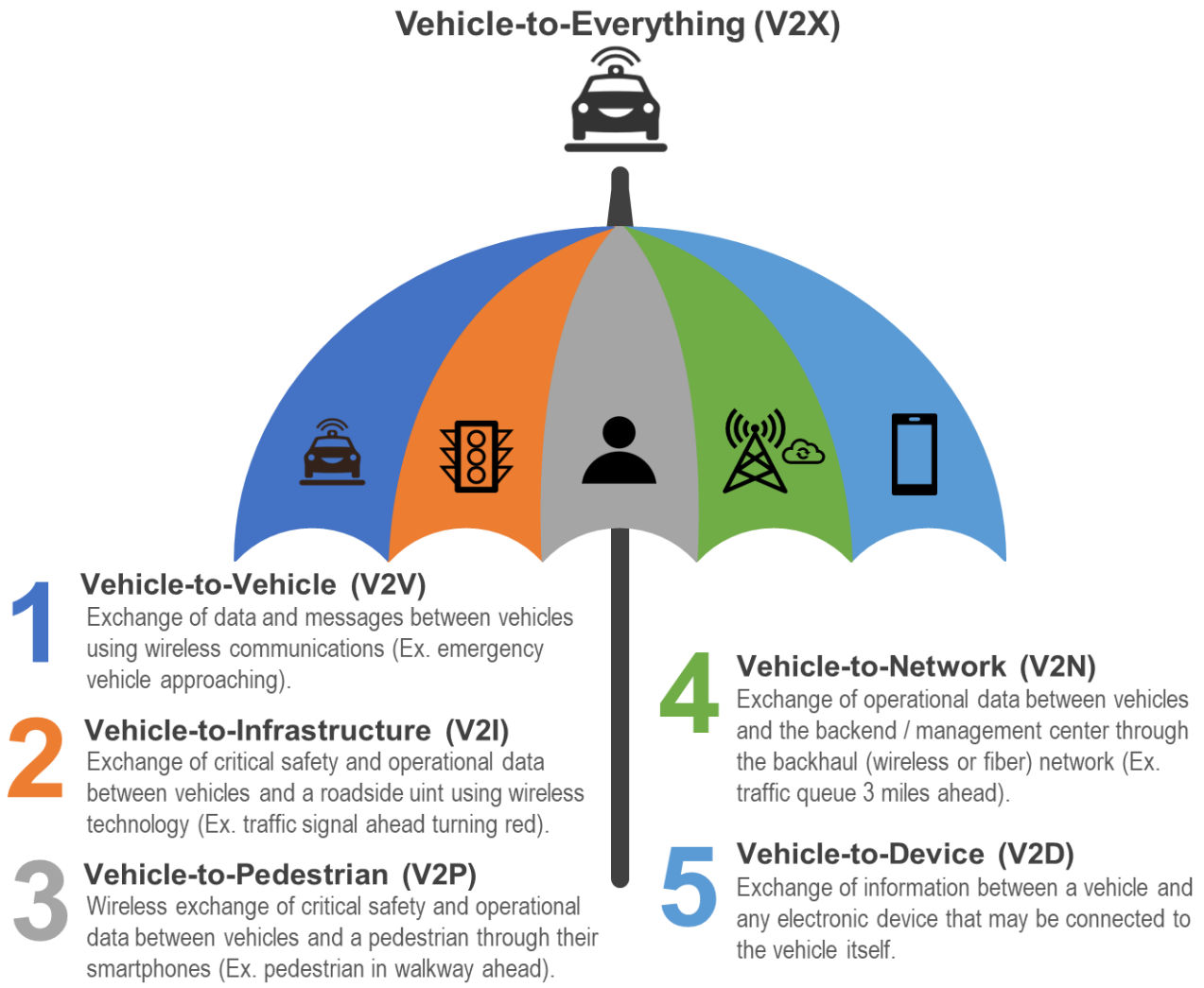
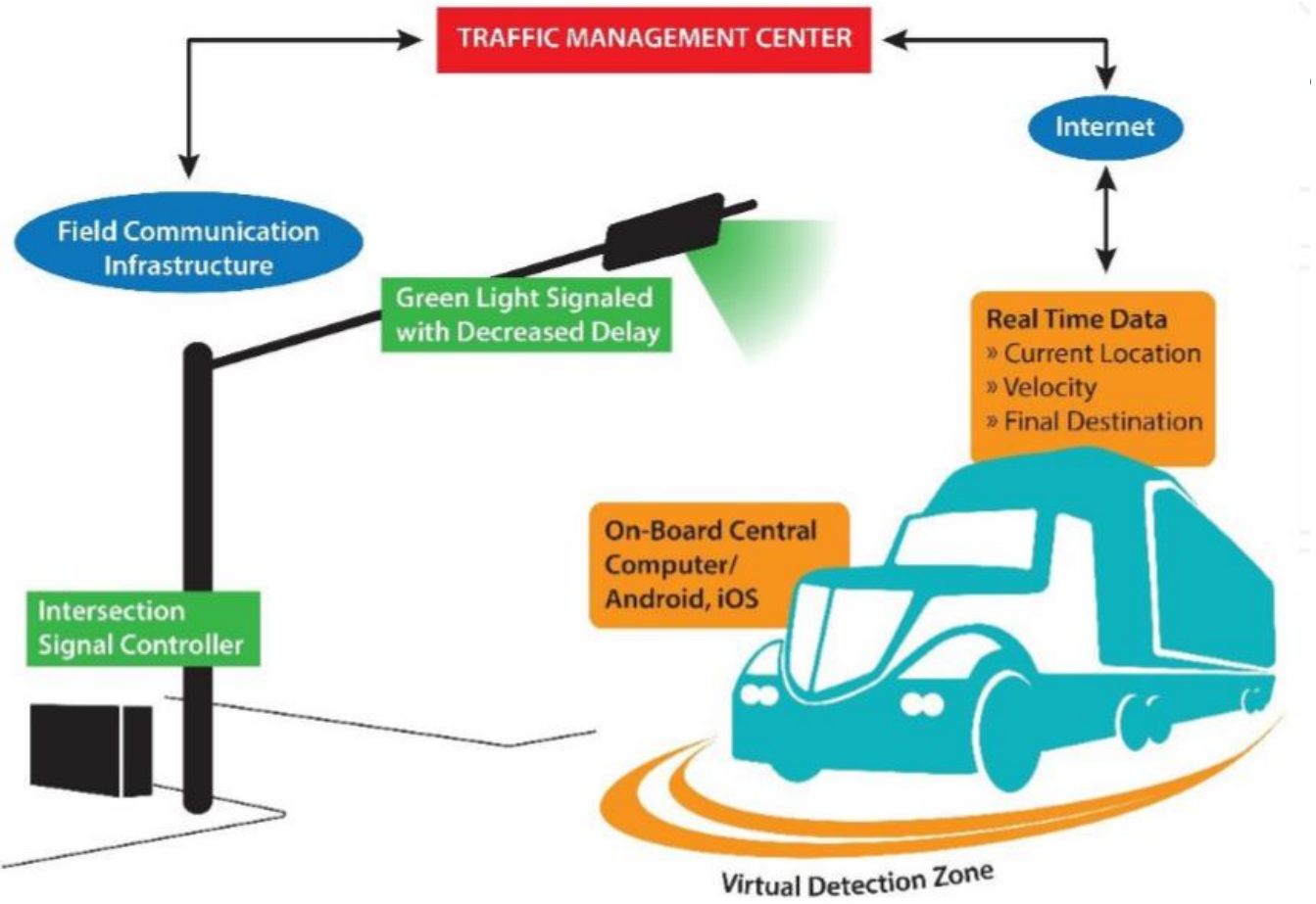
Future Technology Trends and Applications

Connected Vehicles – V2X

- What is V2X?
- What can be shared?
  - Safety alerts
  - Weather
  - Traffic
  - Work zone information
  - Signal priority
  - Collision warnings



Miami-Dade ITS Deployment



$7.5 Million Funded Through:

- FDOT
- Miami-Dade Transportation Planning Organization
- Miami-Dade Department of Transportation and Public Works
- City of Doral
- Florida Trucking Association

Wyoming I-80 Connected Vehicles

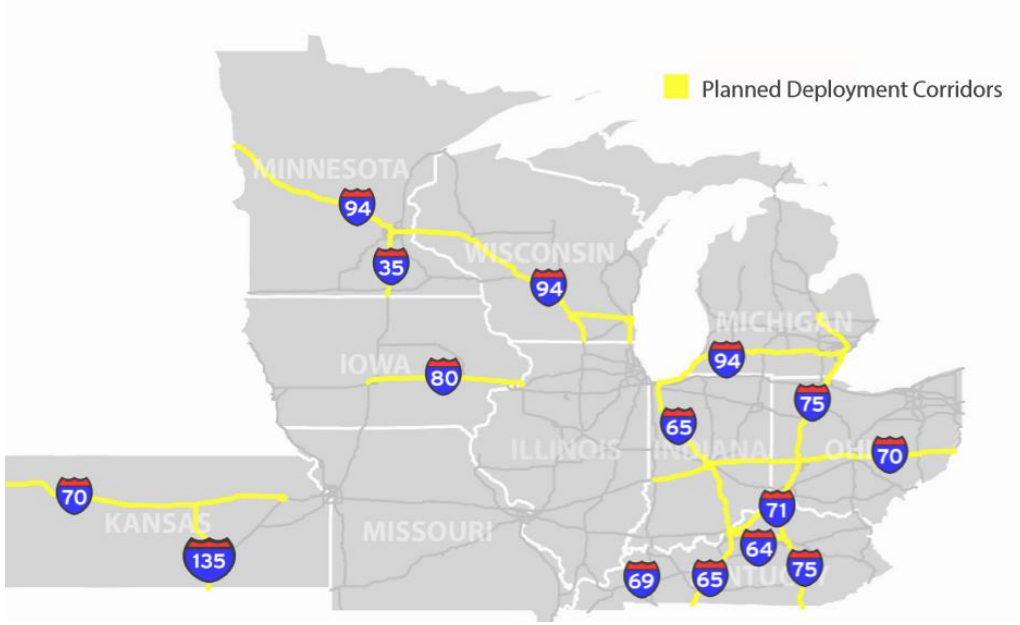
- $15 Million Funded Through USDOT:
  - Safety Pilot Model Deployment (SPMD) Program
    - Comprehensive data collection of vehicles with V2X technologies
    - V2I – Vehicle to Infrastructure
    - V2V – Vehicle to Vehicle
    - I2V – Infrastructure to Vehicle
- Phase 1
  - Concept development
- Phase 2
  - Design, build, and test deployment of technologies
- Phase 3
  - Maintain & operate

Connected Vehicles Best Practices

- Leverage funds and expertise from USDOT
  - Funding for South Carolina could come from National Highway Freight and SCDOT Guideshare programs
- Use entire corridor from state line to state line to ensure maximum coverage – requires regional coordination
- Gain buy-in from private industry to ensure success
- Capitalize on freight movement along congested arterials / non-peak hour signals near distribution and intermodal facilities

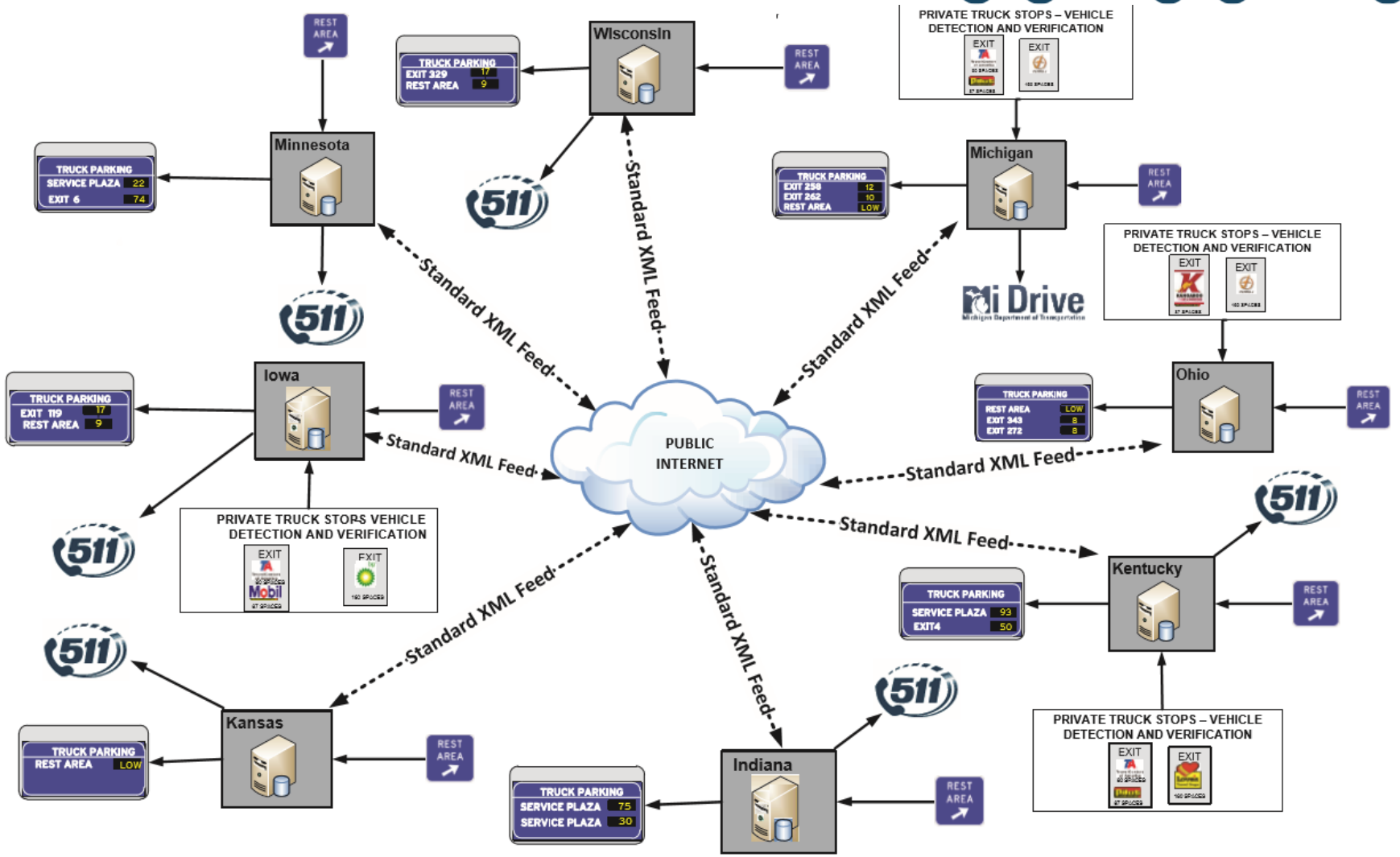
MAASTO Regional TPIMS

- Mid America Association of State Transportation Officials (MAASTO)
  - Indiana, Iowa, Kansas, Kentucky, Michigan, Minnesota, Ohio, and Wisconsin
- Truck Parking Information and Management System (TPIMS)
  - Funded through $25 million TIGER Grant and state matching funds
  - Reduces time searching for parking and provides safe truck parking alternatives



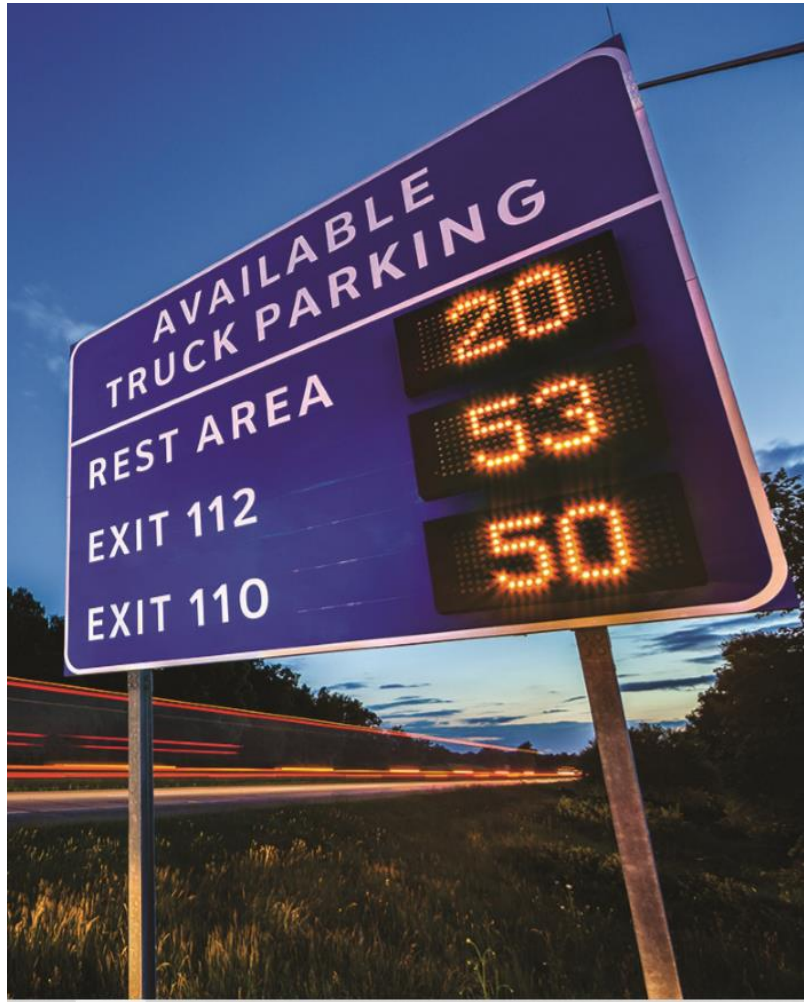
MAASTO Regional TPIMS

- TPIMS Data Structure



MAASTO Regional TPIMS

- Sharing Information
  - Dynamic Truck Parking Signage
  - Smart Phones and In-Cab
  - Traveler Information Websites



Truck Parking Technology Best Practices

- Shovel-ready technology packages help win funding
- Highlight safety and environmental benefits to win support and gain funding
- Scalable solutions – can apply this model at a regional level or partner to go statewide
  - Uniform data standards
- Focus on truck parking needs within the corridor for implementing Dynamic Truck Parking Signage

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Opportunities for P3 and Federal Grant Programs

Moving the Carolinas Forward

- TIGER Funded Project / P3
  - $9.8m TIGER Grants
  - $3.5m R.J. Corman
  - $8.1m South Carolina Governments
  - $1.8m North Carolina Governments

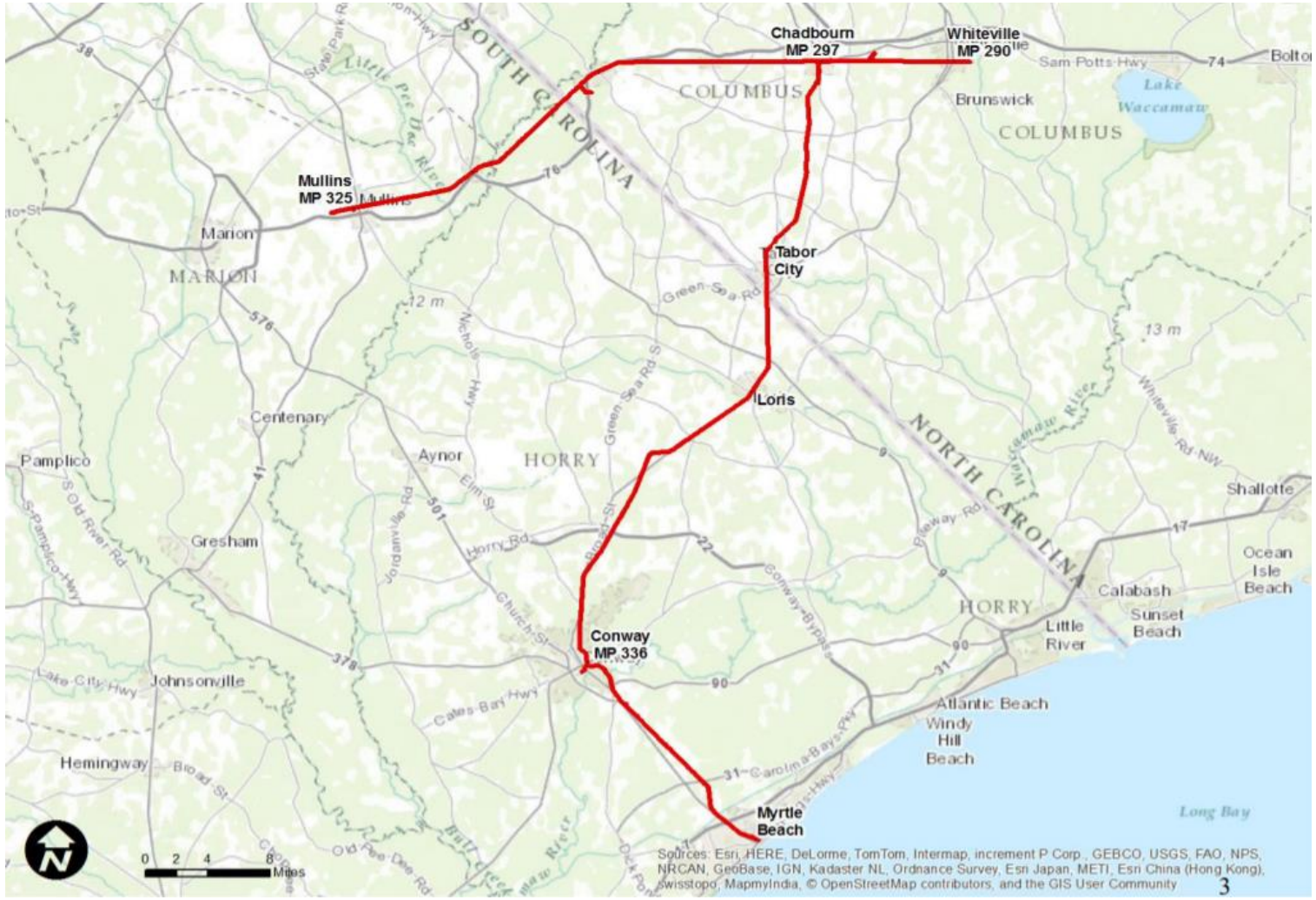
RJ Corman Railroad Company

- Railroad out of service to rural communities of Mullins, Conway, and Loris, SC as well as Chadbourn and Whiteville, NC
  - Increase travel speed from 10 mph to 25 mph
  - Upgrade RR crossings in communities

Moving the Carolinas Forward

ACOG REGIONAL FREIGHT MOBILITY PLAN

- Increased Freight for Rural Communities



Moving the Carolinas Forward

- Economic Rejuvenation For Rural Communities
  - 200 permanent railroad jobs
  - $7.8 million in local tax revenue for communities
  - Increased safety at railroad crossings throughout the region

Federal Grants Best Practices

- Leverage funding opportunities with private investment
  - R.J. Corman got incentive to put the rail line back into operation with financial assistance from TIGER, SC, and NC governments
- Regional impacts – increased safety at RR crossings as well as economic benefits
- Look for rail rehab opportunities to facilitate:
  - Increased speeds
  - Double-stacking

P3 Truck Parking Opportunities

- Weed, California
  - Lease-deal with Pilot's Travel Centers
  - 30 truck parking spaces adjacent to Pilot's, with access to showers, travel center, and food options provided in exchange for maintenance of the site
- Brainerd Lakes Welcome Center
  - Partnership between local government agencies to construct a Welcome Center in the middle of highway right-of-way
  - 30 truck parking spaces that are funded from a gift shop featuring local products to support the operating costs of the facility

P3 Truck Parking Opportunities

- Rural Truck Parking Through P3
  - Focus on land that is City, County, or State owned to promote lease agreements or new construction
  - Identify funding sources either through sales taxes or leasing retail options
  - Enable operations to be provided through private enterprises that benefit from increased business

P3 Truck Parking Opportunities

- Identify opportunities for businesses to provide services and operations & maintenance in exchange for increased business
- Identify candidate parcels for new truck parking
  - Adjacent to existing private truck centers
  - Within existing right-of-way
- Identify revenue sources for O&M

POLLING QUESTION

Which of these examples do you think is most applicable to the region?

Questions and Answers

Please type your questions in the questions box and our project team will answer them

If we do not get to all the questions, we'll prepare written responses and post them to the website with the meeting recording