



# Greater Charlotte Regional **FREIGHT MOBILITY PLAN**

*Keeping a Dynamic Economy on the Move*

**EXECUTIVE SUMMARY**

**DECEMBER 2016**



Centralina Council of Governments

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# THE GREATER CHARLOTTE REGIONAL FREIGHT MOBILITY PLAN

The Freight Mobility Plan project area is comprised of 14-counties in North and South Carolina. Coordinated by Centralina Council of Governments (CCOG) the Freight Mobility Plan was developed in partnership with the region's Transportation Planning Organizations, Federal Highway Administration, U.S. Department of Commerce Economic Development Administration, N.C. and S.C. Departments of Transportation, local governments, economic development organizations, and private rail and trucking companies, logistics and distribution firms.

The region's freight transportation system is a network of interstates, highways, local roads, railways, and pipelines. This network is tied together by inter-modal yards, airports, and other transportation facilities and it provides the means for the movement of raw materials and finished products from all sectors of our economy.

Freight is the economy in motion. As the greater Charlotte region has grown, its economy has become more diverse and a growing population consumes an even wider range of goods and services. This growth is supported and enhanced by a reliable multi-modal transportation network. The movement of goods continues to be an essential building block of the region's economic competitiveness.

The Freight Mobility Plan serves urban, suburban, and rural areas of the region by aiding in the understanding of current and future levels of freight network activity, identifying issues and opportunities, defining feasible solutions supported by the private sector, identifying new technologies to improve freight flow and attract new businesses to the region, and guiding the region's investments in freight infrastructure.

To ensure the region's strong economic future and economic competitiveness this region must collaborate to address its current and future freight transportation challenges.

# Introduction

Initiated in 2015, the Greater Charlotte Regional Freight Mobility plan will enhance the economic competitiveness of the Charlotte region by developing an integrated, multi-modal freight transportation system that will support the region's economic growth, foster job creation, and provide the mechanisms to maintain and improve the quality of life for the region's residents. The purpose of the plan is to strengthen the connection between the region's key freight transportation assets, core industries, and land use development.

Representing a comprehensive and collaborative planning effort, the Freight Mobility Plan analyzed existing conditions and forecasts future freight trends, incorporated stakeholder input and national best practices, identified project, program, and policy improvements, and methods for gauging successful implementation. For the Charlotte region, freight mobility planning is critical to help the region's planning organizations and leaders balance current and future demands for freight mobility, economic growth, and land development.

## **The Freight Mobility Plan is designed to:**

- Identify ways to effectively and consistently reduce freight congestion and bottlenecks.
- Identify connections between freight mobility and regional economic goals.
- Prioritize project, program and policy improvements to improve the safety, efficiency, and reliability of the freight transportation system.
- Promote effective land use to support freight mobility, business development and job growth.
- Mitigate environmental impacts of freight movements.

The Freight Mobility Plan includes a set of strategic recommendations and guidance for the region's transportation planning organizations, local and regional governments, and the private sector to implement. These will help local companies and the region be more economically competitive by making sound improvements to the freight transportation system, and enhancing land use and site selection decisions. It is imperative that the Charlotte region take actions to strengthen the region's freight transportation system to ensure that it provides safe, reliable and efficient freight mobility for our current needs as well as anticipated future needs.

The Freight Mobility Plan represents a multi-jurisdictional, public-private collaboration effort led by the Centralina Council of Governments (CCOG). The project region includes 10 counties in North Carolina and 4 counties in South Carolina. Project partners include:

- Federal Highway Administration (FHWA)
- NC Department of Transportation (NCDOT)
- SC Department of Transportation (SCDOT)
- Charlotte Regional Transportation Planning Organization (CRTPO)
- Gaston-Cleveland-Lincoln MPO (GCLMPO)
- Cabarrus-Rowan MPO (CRMPO)
- Rock Hill-Fort Mill Area Transportation Study (RFATS)
- Rocky River RPO (RRRPO)
- Local governments and economic development organizations
- Freight generators, providers, logistics, and other freight related businesses

# Greater Charlotte Regional Freight Mobility Plan Project Area



# Vision Statement

With its unique logistical and global competitive advantage for domestic and international commerce, the Charlotte region enhances economic competitiveness by collaboratively developing and investing in an integrated, multi-modal freight transportation system that provides safe, reliable, efficient and sustainable freight mobility and by coordinating transportation and land use decisions across the region. This goods movement system supports the region's economy, creates jobs, and provides the mechanisms to maintain and improve quality of life for the region's residents.



## STAKEHOLDER ENGAGEMENT

Engaging public and private sector stakeholders was a key component of the planning process. Developing and maintaining an efficient and effective regional freight transportation system will require coordination and collaboration of numerous public and private organizations. Stakeholders played a critical role in identifying issues, prioritizing projects, and determining recommendations of the Freight Mobility Plan. Their input has ensured that the plan reflects the priorities of freight operators and users, as well as the needs of the regional transportation planning organizations, economic development organizations and local governments.

Three groups of stakeholders - the Coordinating Committee, Steering Committee, and Advisory Committee - met throughout the development of the plan to guide and inform the process. In addition, surveys and interviews were conducted to ensure representation and participation.

### COORDINATING COMMITTEE

#### Technical level advisors

Federal, State and local transportation professionals  
*Convened 8 times*

### STEERING COMMITTEE

#### Policy level advisors

Local transportation, land use, economic development, and education professionals  
*Convened 5 times*

### ADVISORY COMMITTEE

#### System level advisors

Private sector freight related professionals  
*Convened 2 times and will continue to meet*

### SURVEYS & INTERVIEWS

Online survey and phone interviews  
Responses from state trucking associations, chambers of commerce, and regional freight stakeholders

# FREIGHT MOBILITY PLAN COMMITTEE MEMBERS

## COORDINATING COMMITTEE

Jamal Alavi, NCDOT  
Loretta Barren, FHWA  
Stuart Basham, NCDOT  
Phil Conrad, CRMPO  
Bob Cook, CRTPO  
David Gray, SCDOT  
Andy Grzymiski, CDOT  
Bjorn Hansen, GCLMPO  
David Hooper, RFATS  
Diane Lackey, SCDOT  
Anil Panicker, NCDOT  
Robby Moody, CRCOG  
Dana Stoogenke, RRRPO

## STEERING COMMITTEE

Steve Allen, York County  
Jay Almond, Town of Badin  
Kelly Atkins, Lincoln County  
Charity Barbee, Electri-Cities  
Cliff Brumfield, Lincoln EDA  
Andrew Bryant, Lincoln County  
Catherine Campbell, NC Railroad  
Brian Carnes, Lancaster County  
Carrie Cook, Charlotte Chamber of Commerce  
Shelley DeHart, City of Belmont  
John Dillard, CSXT  
Bill Dillon, CPCC  
George Dunlap, Mecklenburg County  
Brian DuPont, City of Mt. Holly  
Greg Edds, Rowan County  
Charles Edwards, NCDOT  
Natalie English, Charlotte Chamber of Commerce  
E.L. Faison, City of Monroe  
Greg Fennell, NC Ports Authority  
John Galles, CLT.biz  
Tim Gibbs, CDOT  
Clifton Goolsby, City of Rock Hill  
Zac Gordon, City of Kannapolis  
Stuart Hair, Charlotte Douglas International Airport  
Edd Hauser, UNC Charlotte  
Donny Hicks, Gaston County EDC  
Rob Hillman, Centralina EDC  
Carl Hollowell, ACW Railway  
Leslie Johnson, Mecklenburg County  
Michael Johnson, City of Statesville  
Willie King, Gaston County  
Durwood Laughinghouse, Norfolk Southern  
Joe Lesch, Union County  
Joel Long, Greater Gaston Development Commission  
Allison Love, York County

Vi Lyles, City of Charlotte  
Mary Mackson, NC Ports Authority  
Janet Malkemes, CPCC  
Jonathan Marshall, Cabarrus County  
Earl Mathers, Gaston County  
Lawana Mayfield, City of Charlotte  
Sarah McAulay, Centralina Foundation  
Bill McCarter, Cleveland County  
Larry Milano, Town of Badin  
William Morgan, City of Statesville  
Ed Muire, Rowan County  
Sushil Nepal, Town of Huntersville  
LeeAnn Nixon, Cabarrus EDC  
Doug Paris, Jr., Town of Midland  
Christopher Plate, Monroe Union County ED  
Srinivas Pulugurtha, UNC Charlotte  
Kristin Reese, Cleveland County EDP  
Michael Sandy, Stanly County  
Fern Shubert, Town of Marshville  
Elaine Spalding, Rowan County Chamber of Commerce  
John Spencer, NC Railroad  
Ben Stikeleather, Iredell County  
Paul Stratos, Stanly County EDC  
Bryan Tarlton, CDOT  
Ed Thum, ACW Railway  
Richard Turner, City of Belmont  
Robert Van Geons, RowanWorks  
Andrew Ventresca, City of Statesville  
Jason Wager, Centralina Clean Fuels Coalition

## ADVISORY COMMITTEE

Donald Arant, NC Railroad  
Bill Bartosh, Piedmont Northern Railroad  
Jeff Boothby, Woodsmen Forestry  
Stephen Brusso, Drake Enterprises  
Beverly Cheek, Siemens Energy  
Grant Cothran, Norfolk Southern  
Sheila Cox, Global Match  
Paul Cozza, NC Ports Authority  
John Dillard, CSXT  
Harold Doctor, Walmart  
Wallace Everett, Bonded Logistics & CSCMP  
Stuart Hair, Charlotte Douglas International Airport  
Mike Hamilton, EPES  
Buddy Holson, NC League of Transportation & Logistics  
Sean Kelley, Bonded Logistics  
Kevin McDonough, Lowes  
Kevin Meek, Gildan Yarns  
Clarence Ponder, Walmart  
John Ustica, Siemens Energy  
Daniel Zupko, IFF CBA of Charlotte

# Goals and Objectives

## GOAL DEVELOPMENT

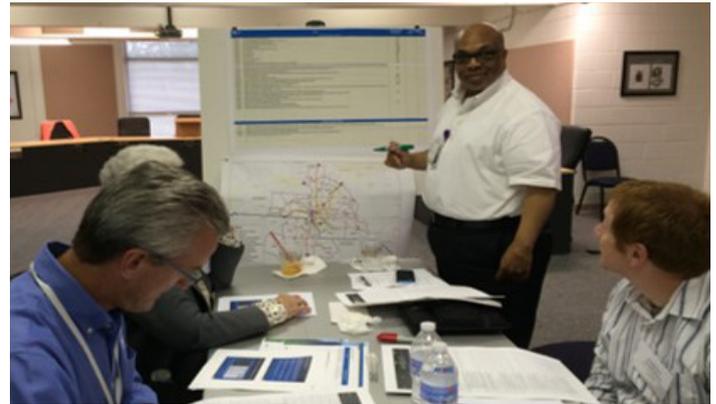
The Freight Plan goals were established after reviewing the National Freight Policy goals, NCDOT and SCDOT Long Range Transportation Plan goals, regional MPO plan goals, and local transportation plans. A set of objectives were developed to articulate the Freight Plan goals, help define freight transportation system needs, and identify the desired future performance of the freight network.

## ALIGNMENT WITH STATE AND FEDERAL PROGRAMS

The Fixing America’s Surface Transportation (FAST) Act establishes a national policy of maintaining and improving the condition and performance of the National Multi-modal Freight Network (NMFN) and a new National Highway Freight Program to improve the efficient movement of freight on the National Highway Freight Network (NHFN). The FAST Act specifies goals related to the condition, safety, security, efficiency, productivity, resiliency, and reliability of the NMFN, and also to reduce the adverse environmental impacts of freight movement.

The FAST Act encourages the development of comprehensive freight plans to understand and improve the condition and performance

of the freight network. The law provides a unique opportunity for states to identify freight projects that may qualify for an increased level of federal funding participation. South Carolina currently has a Moving Ahead for Progress in the 21st Century Act (MAP-21) compliant state freight plan and North Carolina is currently developing a FAST Act compliant state freight plan, putting the Greater Charlotte Regional Freight Mobility Plan in a position to incorporate elements of one and inform the development of the other, providing the advantage of identifying a prioritized list of freight-specific projects and policies.



Steering Committee Members (left to right) - Zac Gordon, Sarah McAulay, Tim Gibbs, and Andrew Ventresca

## ALIGNMENT WITH FEDERAL GOALS

Greater Charlotte Regional Freight Plan Goals	National Multimodal Freight Policy Goals	National Freight Highway Program Goals
Economic Competitiveness and Efficiency	●	●
Safety and Security	●	●
Infrastructure Preservation and Maintenance	●	●
Environmental Stewardship	●	●
Congestion and Reliability	●	●
Performance and Accountability	●	●
Regional Coordination		●



## GOAL 1: Increase Economic Competitiveness & Efficiency

- Develop, integrate, and maintain a freight transportation system to support the region's position as a major global freight hub via a network of highways, railroads and airports.
- Advocate with current regional strategic initiatives to optimize the region's competitiveness in freight logistics and exports infrastructure.
- Formulate and launch increased partnerships between the private and public sectors to leverage available public and private revenue resources for system enhancements.



## GOAL 2: Improve Safety & 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 rail grade crossings.



## GOAL 3: Support Infrastructure Preservation & Maintenance

- Maintain regionally significant streets, highways, and bridges to a state of good repair to minimize truck travel times and cargo damage.



## GOAL 4: Promote 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.



## GOAL 5: Reduce Congestion & Improve Reliability

- Reduce the frequency of recurring and non-recurring congestion on the freight system.



## GOAL 6: Track Performance & Accountability

- Decrease the costs of freight movement by reducing empty backhaul movements.
- Improve freight system operations and information sharing to benefit regional planning and decision making through improvements in technology.
- Increase freight knowledge and expertise by planners and elected officials throughout the region.
- Implement a performance-based tracking process to determine how well the freight system is functioning relative to freight investments.



## GOAL 7: Regional Coordination

- Improve coordination among regional agencies responsible for freight transportation planning and implementation.
- Engage private sector freight stakeholders to inform freight transportation planning and decision making.

# Key Challenges, Needs, and Opportunities

## POPULATION GROWTH

The greater Charlotte region is one of the fastest growing metropolitan areas in the country, and is expected to continue growing rapidly, with an estimated population of 4.2 million by 2050. Population growth is well over the national average of 4.1 percent and NC and SC state averages of 5.3 and 5.5 percent, respectively. Between 2010 and 2014, the 14-county region grew 6.6 percent with the bulk of the population growth occurring in the urban areas of Mecklenburg, Union, Iredell, Cabarrus, and Lincoln counties in NC and York County in SC.

## ECONOMIC GROWTH

Manufacturing remains a dominant driver of the regional economy despite losses in textile and furniture manufacturing, and the region's manufacturing and freight logistics interests play a strong role on the national and international stage. Manufacturing

contributes over 140,000 jobs in the greater Charlotte region, or 11.7 percent of the total regional workforce. Most of the region's manufacturing firms are small or medium-sized businesses, positioned to benefit from industry agglomeration and cluster efficiencies.

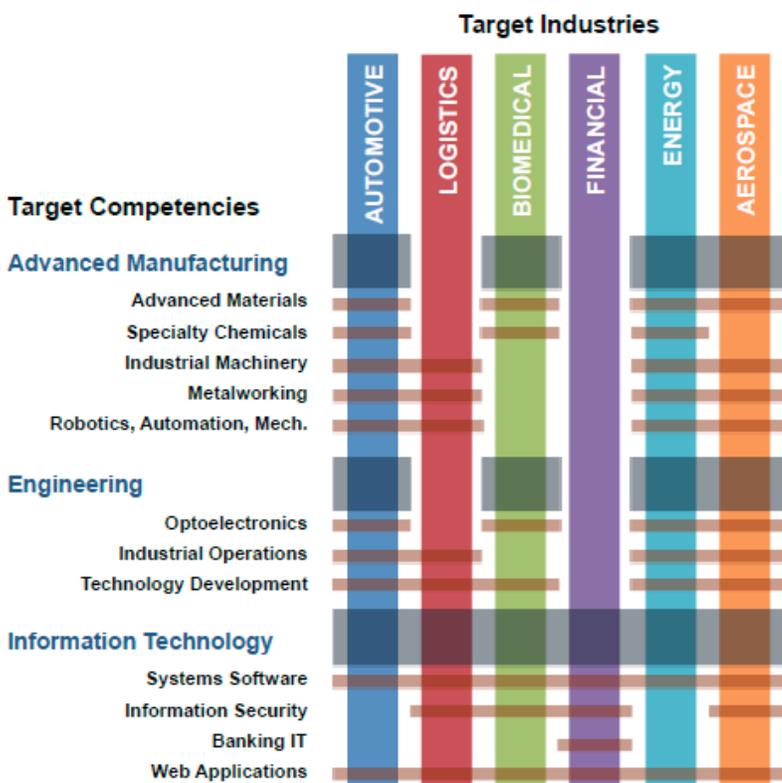
The greater Charlotte region has numerous competencies supporting industry growth, from specializations in Advanced Materials and Robotics to Engineering expertise in Optoelectronics and Industrial Operations. The Target Competency Matrix illustrates the identified and recommended Target Industries and Target Competencies and unique Cross-Competencies from the current EDA Comprehensive Economic Development Strategy (CEDS), "Prosperity for Greater Charlotte."

Today's communities and companies must embrace the 21st century reality that their unique identity and strengths in a globally competitive environment come from the combination of their workforce skills, technology and product knowledge, ability to produce, manufacture, market and deliver products to their consumers. Globalization and new technologies continue to transform the way businesses operate, challenging supply chains and transportation networks, and creating new customer opportunities. Businesses in the greater Charlotte region are more dependent than ever on integrated, agile, and efficient freight networks to sustain and enhance their ability to compete. To foster a growing economy, the region must optimize its freight transportation system assets.

## FREIGHT TRANSPORTATION SYSTEM

The region has three interstates, two Class I railroads and 7 short-line railroads, 2 inter-modal yards, Charlotte-Douglas International Airport's Air Cargo Terminal, Free Trade Zone and access to inland port/seaport. In the past the region has received around

Target Competency Matrix – Greater Charlotte Region



twice as much freight as it originates. In 2012, the region exported 12.6 million tons and imported 24.3 million tons of freight. Over 66.4 million tons of freight moved in, out, and within the greater Charlotte region using all modes of transport. Truck transport moved the largest share of these goods, carrying 77% of all goods by tonnage. Pipeline moved 14% and rail moved 5% of the tonnage with the remainder moved by air cargo and other modes.

Congestion on the interstates and highways continues to frustrate commuters and freight transporters alike. **There are 8 major roadway bottlenecks, 5 on-interstate and 3 off-interstate, in the region.** A bottleneck is a localized constriction of traffic flow. According to the Texas Transportation Institute (TTI) *2015 Annual Mobility Scoreboard*, the Charlotte NC-SC region ranks 47th in the nation for annual truck congestion cost of \$131 million.



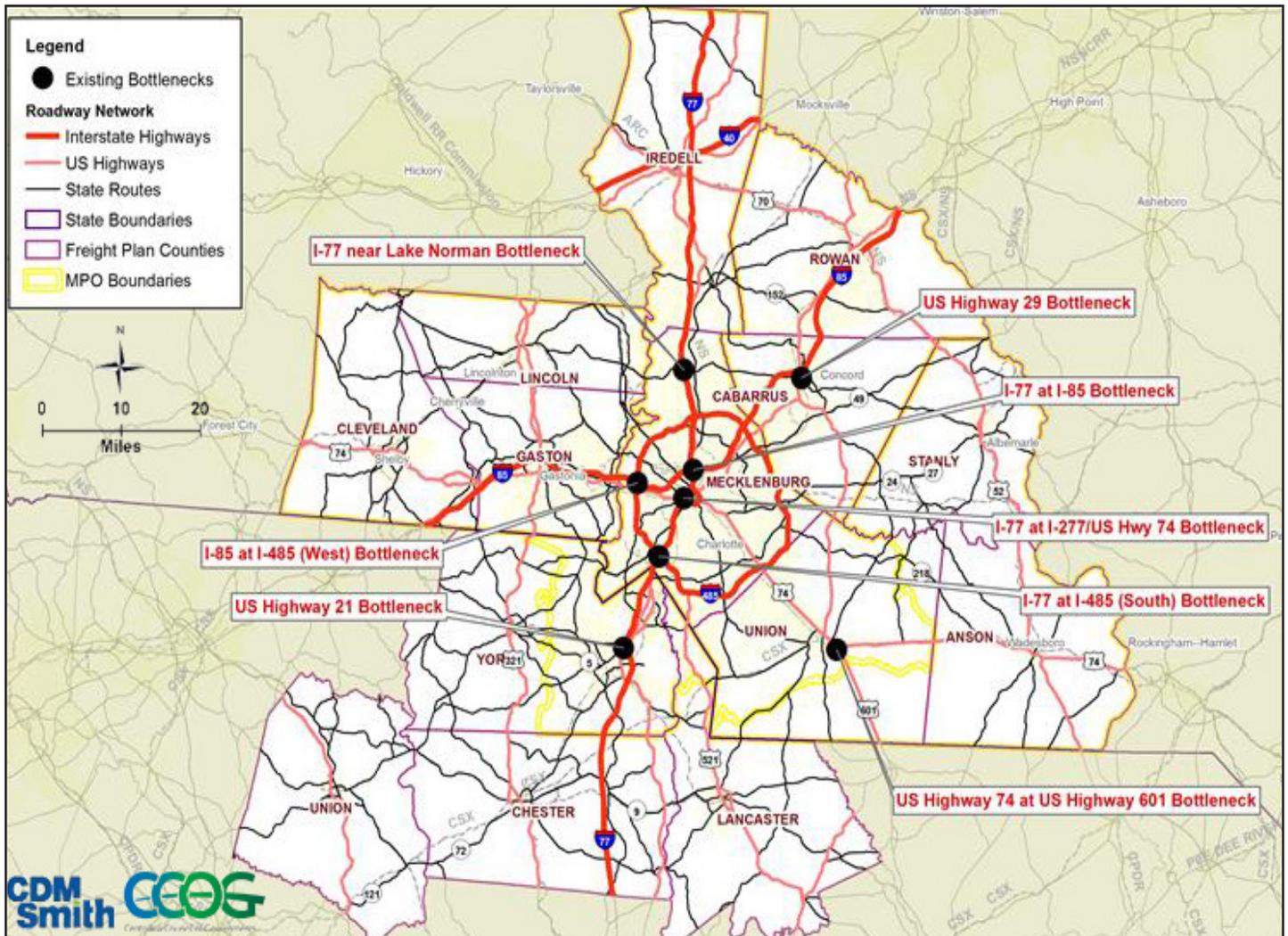
## ROADS

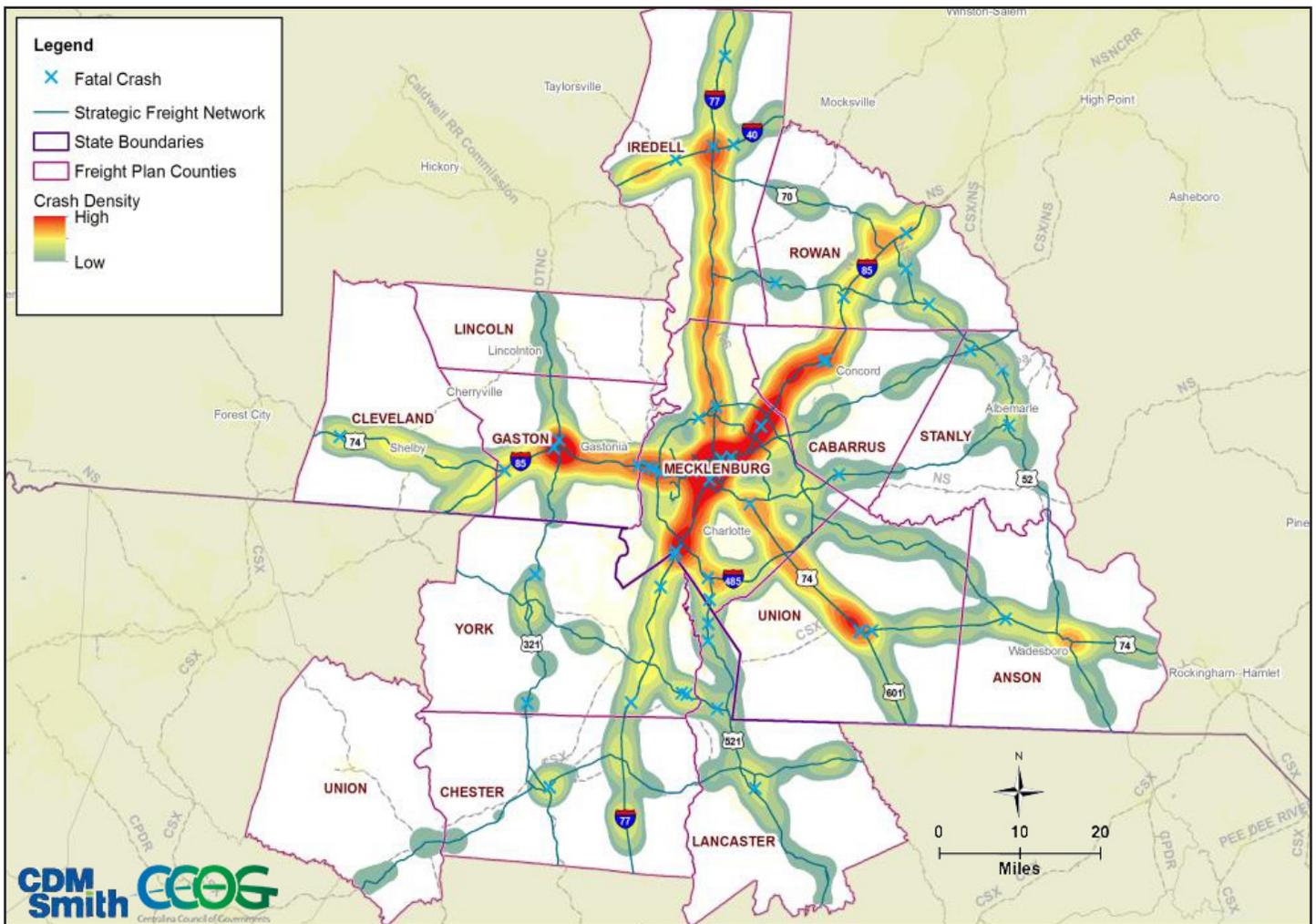
The interstates carry the majority of the region's daily truck traffic. I-85 and I-77 constitute the critical freight corridors. Other roadways that play a vital role in the movement of truck freight are I-485, US 74, NC 160, and SC 9. **Over 77 percent of the region's freight tonnage is moved by truck.**

## Roadway maintenance and improvement needs far outweigh available funding.

In the region, there are 898 functionally obsolete and 421 structurally deficient bridges. Functionally obsolete bridges no longer meet the current standards, such as narrow lanes or low load-carrying capacity, while structurally deficient bridges will require significant maintenance, rehabilitation or replacement and are unable to carry certain freight loads. These bridges are constraints to the freight network.

## REGIONAL ROADWAY BOTTLENECK MAP





## REGIONAL COMMERCIAL CRASH DENSITY MAP

### ROADWAY SAFETY

As the region’s population and economy grow, and new industries are established, the roadway system will be expected to handle more vehicles.

Corridors with particularly high densities of commercial vehicle crashes include I-85 from Kannapolis to Charlotte and I-77 from Charlotte to Fort Mill, SC. Other commercial crash hotspots are in more densely populated areas such as Gastonia, Statesville, Mooresville, Salisbury and Monroe.

In addition, truck parking remains an issue throughout the region. At the 28 public and private truck parking locations in the region, there are approximately 1,100 spaces. **Over 96 percent of truck parking spaces were observed being used with 23 of the 28 facilities being over-capacity.**

Heavily used truck routes often exhibit rough pavement, tight turning radii, narrow lane widths, short ramps, inadequate merging lanes, land restrictions and overall capacity issues.

### AIR



Though small in terms of total tonnage, airborne freight has by far the highest value per ton of any mode. Typical commodities include goods from pharmaceutical, automotive, and high-tech manufacturing sectors. **The Charlotte Douglas International Airport (CLT) handles virtually all air cargo in the region and 42 percent of all NC air cargo.** While airborne freight movement is minimal in the region, the national trend of decreasing air cargo space in domestic airplanes will inhibit an increase in airborne freight.



## RAIL

Within the greater Charlotte region there are a number of key rail freight corridors and facilities. Norfolk Southern's (NS) Main Line operating through Kannapolis, Charlotte and Gastonia serving the Charlotte-Douglas Inter-modal Yard is one of the busier corridors on the east coast. The CSX Transportation (CSXT) SE Line connects to the Port of Wilmington and Hamlet Yard. **Although the region has 2 Class I railroads and 7 short-line railroads, only 5 percent of freight tonnage is moved by rail.** There are 4 rail freight bottlenecks:

- Charlotte Junction Wye - impacts the connection between the NS Main line and the R line
- ADM rail crossing in uptown Charlotte - impacts the NS Main line and the CSXT SF line
- The Aberdeen Carolina & Western Railway (ACW) - Operations create bottlenecks within CSXT's yard in NODA
- The CSXT terminal operation at the northwest yard - impacts local roadway networks at numerous at grade crossings

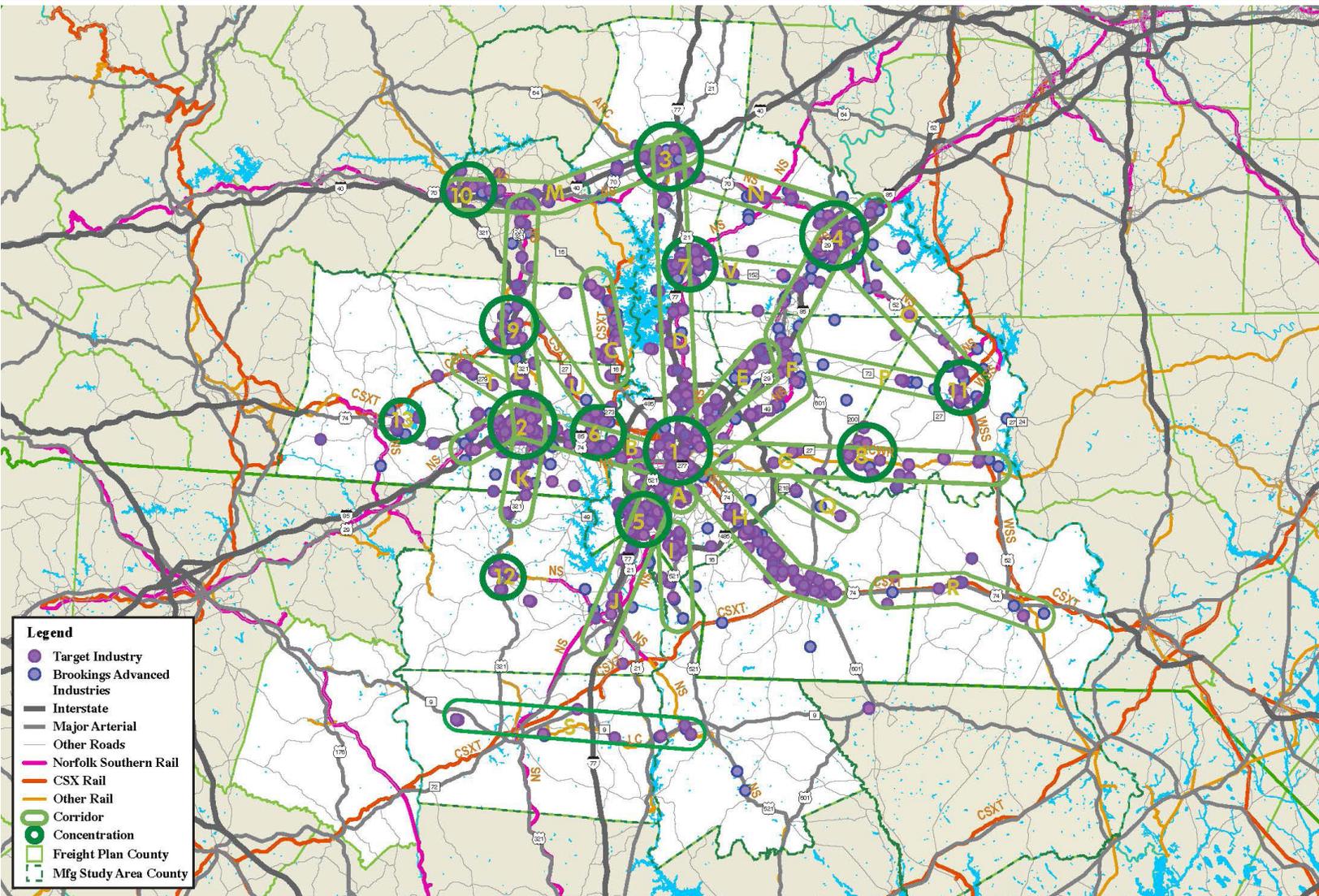
## FUTURE FREIGHT DEMAND

- Total freight tonnage from, to, and within the greater Charlotte region is projected to increase approximately 35 percent from 2015 to 2045.
- Total value of freight is expected to grow by 79 percent from 2015 to 2045.
- Freight will continue to be transported predominantly by truck and outbound volumes are expected to exceed inbound volumes by 2045.
- Foreign trade flows are expected to grow faster than domestic freight.
- The strongest directional growth is outbound shipping by value, which is expected to double, driven by increase in higher value commodities such as machinery, electronics, and pharmaceuticals. This is a positive indicator for the regional economy.
- By 2045, the nation will grow to nearly 400 million people and with this population growth freight movements are expected to increase by 45 percent.
- The new Panama Canal 20,000 TEU container ship if put on a single train would stretch 96 miles long.
- The entire U.S. transportation system must become more efficient, effective and seamless and this begins at the local and regional levels.



Image by: Carlos Bocanegra

# Connecting Economic Development and Land Use Planning to Freight



## TARGET INDUSTRIES AND ADVANCED MANUFACTURING CORRIDORS & CONCENTRATIONS MAP

Globalization and new technologies continue to transform the way businesses operate, challenging supply chains and transportation networks, and creating new customer opportunities. To compete, businesses must optimize every asset, produce quality competitively priced products, attract and retain a skilled workforce, and have access to a reliable freight transportation network. Businesses are more dependent than ever on integrated, agile, and efficient freight networks to sustain and enhance their ability to compete. To foster a growing economy, the region must optimize its assets as well.

The freight transportation network serving the region is defined by the patterns of the truck and rail flows, distribution and warehouse centers, rail yards, and airports, as well as the pattern of economic activity, primary those involved in advanced manufacturing that require the input of raw materials and generate outbound products.

The region must ensure that it builds a sustainable framework on its valuable existing manufacturing ecosystem assets. It is critical that the region maintains its competitive edge in its advanced manufacturing core competency that supports five of the six

target industry clusters. Key anchors and manufacturers in the supply and value chain were identified and mapped in an EDA and Investing in Manufacturing Communities Partnership (IMCP) funded project - *2015 Centralina Manufacturing Ecosystem Development Strategy-Mapping Key Value Chains*. Industrial sites were grouped into a set of 22 corridors and 13 concentrations to understand how these industries impact the freight transportation network. Most of the cluster facilities and advanced industry anchors are near a road/rail transportation corridor. The concentrations typically occur either within urban locations along a road or rail corridor or at the junction points in the corridor pattern.

The interstate system is a dominant influence on the location of economic activity in the region and as this system is upgraded and improved it will be the major locational attractor of new economic activity. While a significant amount of economic activity is found along the arterial system it is anticipated that much of this is legacy activity and not new.

Within these 22 corridors and 13 concentrations there are approximately 52,000 acres of existing freight-related uses and over 100,000 acres of vacant- or underutilized- land to accommodate new development. Targeting future opportunities in key locations for developing freight-related uses in these areas is important for capturing and accommodating the anticipated needs in the region.

Freight-generating land uses can bring both positive and negative impacts to the region. The region's economy and workforce benefit from freight activity but in a few instances

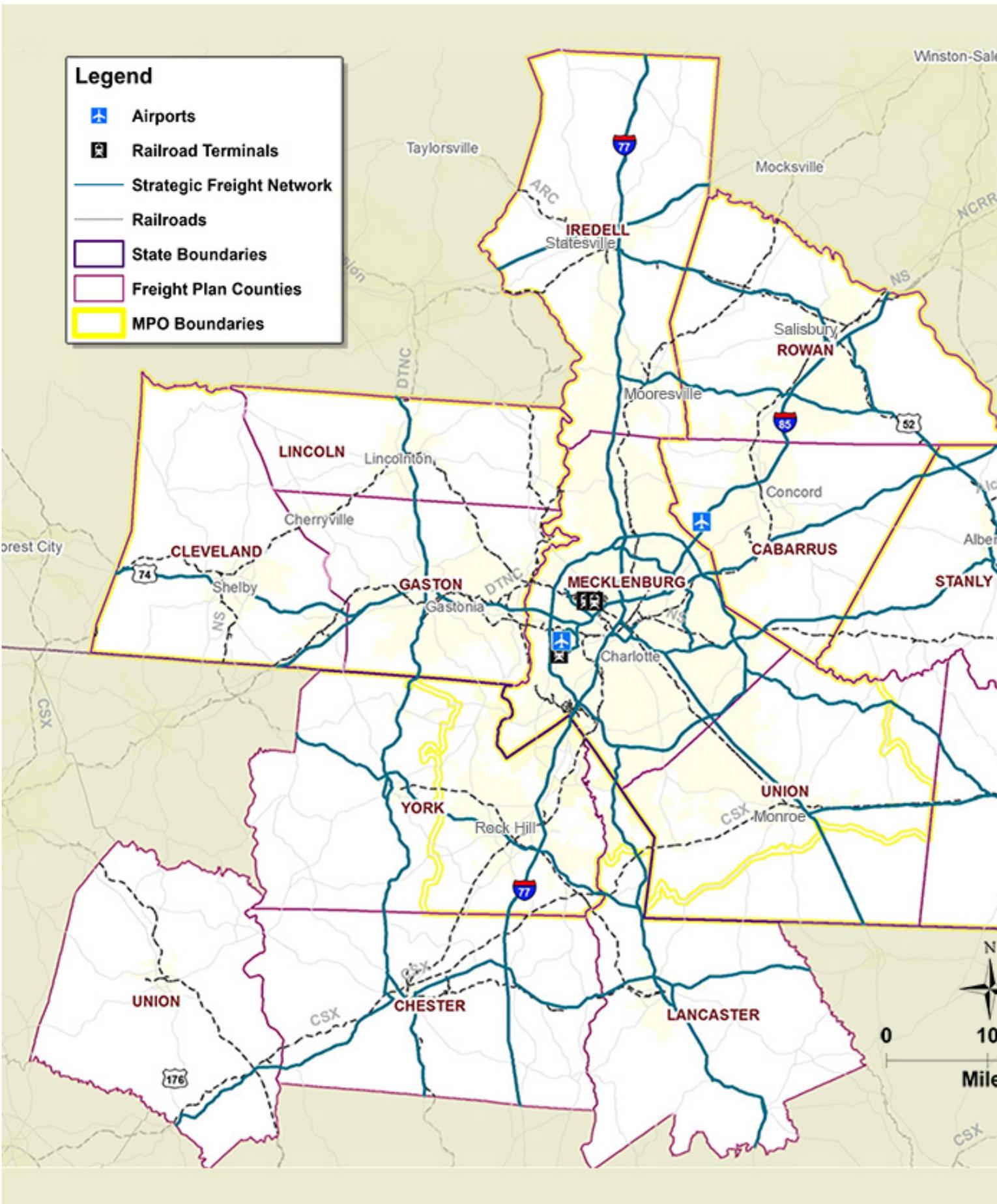
freight can produce negative impacts to the region and its neighbors. Freight-generating activities can produce increased vehicle emissions, noise, vibration, odor and light pollution. Freight planning and land-use decision making must be integrated to ensure that both the public and private sectors benefit. By choosing to focus on development strategies that link priority freight assets with strategic land assets, and siting freight-generating industries in locations to reduce and or mitigate negative impacts, the region will continue to attract quality job opportunities and business investments.

Per the International Trade Administration, in 2015 the Charlotte MSA region was the 23rd largest U.S. exporter. The region should continue to position itself as an emerging global trade hub in the southeast with connections to the eastern seaboard and ports. Brookings Institution's 2015 *Global Metro Monitor* analyzed performance of the world's 300 largest metropolitan areas based on their annualized growth rate of GDP per capita and employment. The Charlotte MSA ranked 110 of 300 in Economic Performance of the World's Largest Metropolitan Economies.

With a focus on exports and capacity and aligned with the region's nationally validated CEDS "Prosperity for Greater Charlotte," the Freight Mobility Plan ensures the efficient and cost-effective flow of imports/exports by leveraging successful existing planning frameworks. Improving the mobility and efficiency of freight operations will further develop and strengthen the region's economic base and increase its global competitiveness.

## **IDENTIFYING OPPORTUNITIES BETWEEN LAND USE AND FREIGHT PLANNING:**

- Support additional localized analysis/inventory efforts to increase awareness of available freight related acreage planned for in community adopted land use plans.
- Collaborate on maintaining periodic evaluations on how future freight acreage absorption aligns with the freight concentrations and corridors network identified for strategic regional efficiencies.
- Determine if land use policies should be amended to incentivize freight related businesses within planned concentrations and corridors and Strategic Freight Network.
- Work with local economic development organizations to develop local strategies for freight concentrations in future growth zones.
- Determine freight improvements that would create positive impacts for identified Concentrations and Corridors and support these projects through coordination with the MPO/RPO.
- Incorporate freight into site design standards and zoning codes.

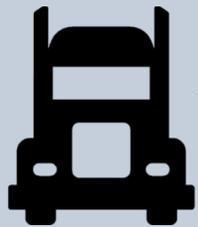


**Legend**

-  Airports
-  Railroad Terminals
-  Strategic Freight Network
-  Railroads
-  State Boundaries
-  Freight Plan Counties
-  MPO Boundaries

# Strategic Freight Network

Within the greater Charlotte region there are a number of key road, rail and air freight facilities and infrastructure. The regional Strategic Freight Network (SFN) is a system of infrastructure which are critical to the successful movement of freight in the region.



## ROAD

Interstates, highways designated by NCDOT and SCDOT as either truck routes or on the strategic statewide freight network, local roads critical to local freight movement, and inter-modal connectors approved by the National Highway System.



## RAIL

All active freight railroads and inter-modal rail terminals which includes Norfolk Southern and CSXT, two Class 1 railroads, connecting the region to ports in Charleston, Savannah, and Wilmington. As well as 7 short-line railroads operating in the region, and NC and SC.



## AIR

The Charlotte Douglas International (CLT) and Concord Regional Airports are the region's two commercial service airports.

The Freight Mobility Plan recommendations focus on the Strategic Freight Network for maintenance, operations, and capacity improvements. Recommendations were prioritized based on their impact on freight needs and addressing the Plan's goals and objectives.

The Freight Mobility Plan recommendations focus on the **STRATEGIC FREIGHT NETWORK** for maintenance, operations, and capacity improvements.

# Recommendations

The Freight Mobility Plan includes recommendations that support the region's vision to enhance the region's economic competitiveness by developing an integrated, multi-modal freight transportation system. There is not a single solution to address the region's freight mobility. Instead, a continuous and simultaneous implementation of multi-dimensional strategies, coordinated across the greater Charlotte region is necessary. The region's needs and issues identified through the existing conditions analysis, stakeholder engagement process, and best practices review were grouped into three categories: Projects, Programs, and Policies.

**INFRASTRUCTURE PROJECTS** to improve the freight truck, rail, and air networks. These are infrastructure improvements that will require additional project scoping.

**REGIONAL PROGRAMS** to improve how freight systems operate. These are programs that suggest a planning effort and additional analysis are necessary in order to define the action's needed.

**LOCAL POLICIES** to promote the region's assets and to encourage land use and site selection efficiencies. These are policy changes on the local, regional, or state level that require action by a governing body.



## KEY RECOMMENDATIONS INCLUDE:

- Centralina COG and project partners should continue to work with multi-state partners to make corridor-wide system decisions.
- Undertake an effort to educate the public on the importance of freight to the region, including elected officials and the general public.
- Establish a protocol for a functioning regional Freight Advisory Committee.
- Prioritize projects designed to improve freight mobility and eliminate freight bottlenecks.
- Identify areas for future truck parking and rest areas along the region's Strategic Freight Network.
- Expand the use of Intelligent Transportation Systems (ITS), technology, and innovation to improve the flow of freight
- Facilitate the sharing of information, best practices, and training among local emergency response agencies to improve Traffic Incident Management.
- Work with governments and the private sector to mitigate issues with at-grade crossings.

# Implementation

The Plan should be used for three principal purposes:

## **DATA DRIVEN DECISIONS:**

A great deal of data has been compiled in the development of this plan. Warehoused by Centralina COG, infrastructure, parking, land use and other relevant data are available for reference for implementation and ongoing planning efforts.

## **PROVIDE FREIGHT-RELATED RECOMMENDATIONS FOR INCLUSION IN STATE AND LOCAL LAND USE AND TRANSPORTATION PLANS:**

Throughout this Freight Mobility Plan are examples of performance measures, prioritization framework, and recommended policies, programs and projects that should be considered for inclusion in North and South Carolina state freight plans as well as local jurisdiction's land use and transportation plans.

## **SERVE AS A CORNERSTONE FOR EXPANDED AND SUSTAINED REGIONAL COORDINATION THROUGH THE COUNCIL OF GOVERNMENTS:**

Centralina COG has initiated valuable dialogue across the public and private sectors, raising awareness of freight mobility and its role in the regional economy. This Plan should serve

as the foundation for additional conversations, coordinated planning efforts and ongoing campaigns supporting freight mobility.

The Freight Mobility Plan is available to local municipalities and other governmental agencies to facilitate their efforts in comprehensive plan updates, mapping updates of the land use and zoning layers, and providing developmental services.

Implementation of the freight recommendations requires coordination from local, regional, state and national partners, involving both public and private sectors.

In order for the plan to be a guiding document the region's MPOs/RPO and local governments must recognize its value. Buy-in is critical. The region will need to act together to improve the system and gain the maximum benefit from the Plan's recommendations. It cannot be a winners and loser's mentality. Instead we must support each other to maximize our assets and grow our economy.

- Prioritize improvement or replacement of functionally obsolete and structurally deficient bridges on the region's Strategic Freight Network.
- Continue to identify and close any first/last mile gaps near major inter-modal centers and manufacturing hubs.
- Identify freight corridors where non-traditional improvements may significantly reduce congestion (e.g. Intelligent Transportation Systems (ITS), Managed Lanes, Value Pricing, etc).

- Support opportunities for inter-modal terminal development and multi-modal diversity.
- Ensure private sector freight representation and participation in the North Carolina and South Carolina state and MPO/RPO planning processes.
- Partner with local, state, and federal agencies to expand programs that support fuel efficiency and alternative fuel options in the transportation industry.

# Positioning the Region: Steps for the Public Sector

## **TRANSPORTATION PLANNING ORGANIZATIONS**

The greater Charlotte region's transportation planning organizations are charged with providing a continuing, coordinated, and comprehensive transportation planning process. Freight mobility is a critical component of the planning process and the Plan's infrastructure PROJECTS will most likely be their responsibility to implement. The PROJECT RECOMMENDATIONS should be considered for further analysis and inclusion in local prioritization processes and included in the MPO/RPO Metropolitan Transportation Plan and Comprehensive Transportation Plan. By design, the recommendations of the Freight Plan are not given numeric scoring but rather relative prioritization on a regional level.

## **CENTRALINA COUNCIL OF GOVERNMENTS**

As a regional organization, Centralina COG will continue to provide coordination and collaboration opportunities between multiple organizations and across jurisdictional boundaries. Centralina COG will investigate regional PROGRAM RECOMMENDATIONS, such as Intelligent Transportation Systems (ITS) and Traffic Incident Management (TIM). A key concern continues to be education and Centralina COG will conduct activities that raise awareness of freight mobility. In addition, Centralina COG will continue to convene the Freight Advisory Committee to help guide the implementation of recommendations and identification of new issues and trends in the freight industry.

## **LOCAL GOVERNMENTS**

In addition to transportation planning, freight has implications for land use and local comprehensive planning. Most of the land use recommendations will fall under the purview of the region's local governments as the managers of land use planning and policies. Local governments will be able to use the plan's POLICY RECOMMENDATIONS to help guide efficient land use decisions and policies that impact both the private sector and the community. Much of the potential interaction between land use and freight planning occurs through future land use categories of comprehensive plans and zoning and design standards found in land development regulations.

## **ECONOMIC DEVELOPMENT ORGANIZATIONS**

Economic development organizations and chambers of commerce should use the Plan's recommendations to retain existing businesses as well as attracting new ones. By being better informed of the region's plan for the freight transportation system they can advise prospective clients on site locations that are near or on the Strategic Freight Network.

# Positioning the Region: Steps for the Private Sector

## **FREIGHT ADVISORY COMMITTEE**

Representatives from freight-related organizations will serve on the region's Freight Advisory Committee to guide local, regional, and state transportation planning organizations as the Plan's recommendations are implemented and to help identify new trends or issues in the freight industry.

## **SITE SELECTION FOR NEW FACILITIES**

Where rail, port and airport projects are concerned, the Freight Mobility Plan will be made available to the various stakeholders for reference to assist in their selection of improvement projects.

Identifying and selecting future distribution and manufacturing facility sites is vital to support freight mobility and economic growth. It will be vital for private firms to have access to and build on land that is on or near the region's freight transportation network to reduce their impacts to the rural and local roads and neighborhoods.

## **GENERAL OPERATIONS**

Retailers can implement transportation policies to reduce freight impacts to communities such as off-peak and night deliveries.

The freight movers (i.e. trucking companies, rail) can invest in technology improvements and operation efficiencies.



# Next Steps For Centralina COG

## **FREIGHT ADVISORY COMMITTEE**

Centralina COG will convene the Freight Advisory Committee, comprised of freight-related private sector representatives, who will continue to guide the freight project partners in the implementation of recommendations and will assist in the identification of future needs and trends in the freight industry.

## **FREIGHT PLANNING COORDINATION**

Centralina COG will continue to coordinate and cooperate with the State and regional transportation planning organizations for freight planning and privatization of state and regional impactful projects.

## **INVESTIGATE REGIONAL PROGRAMS**

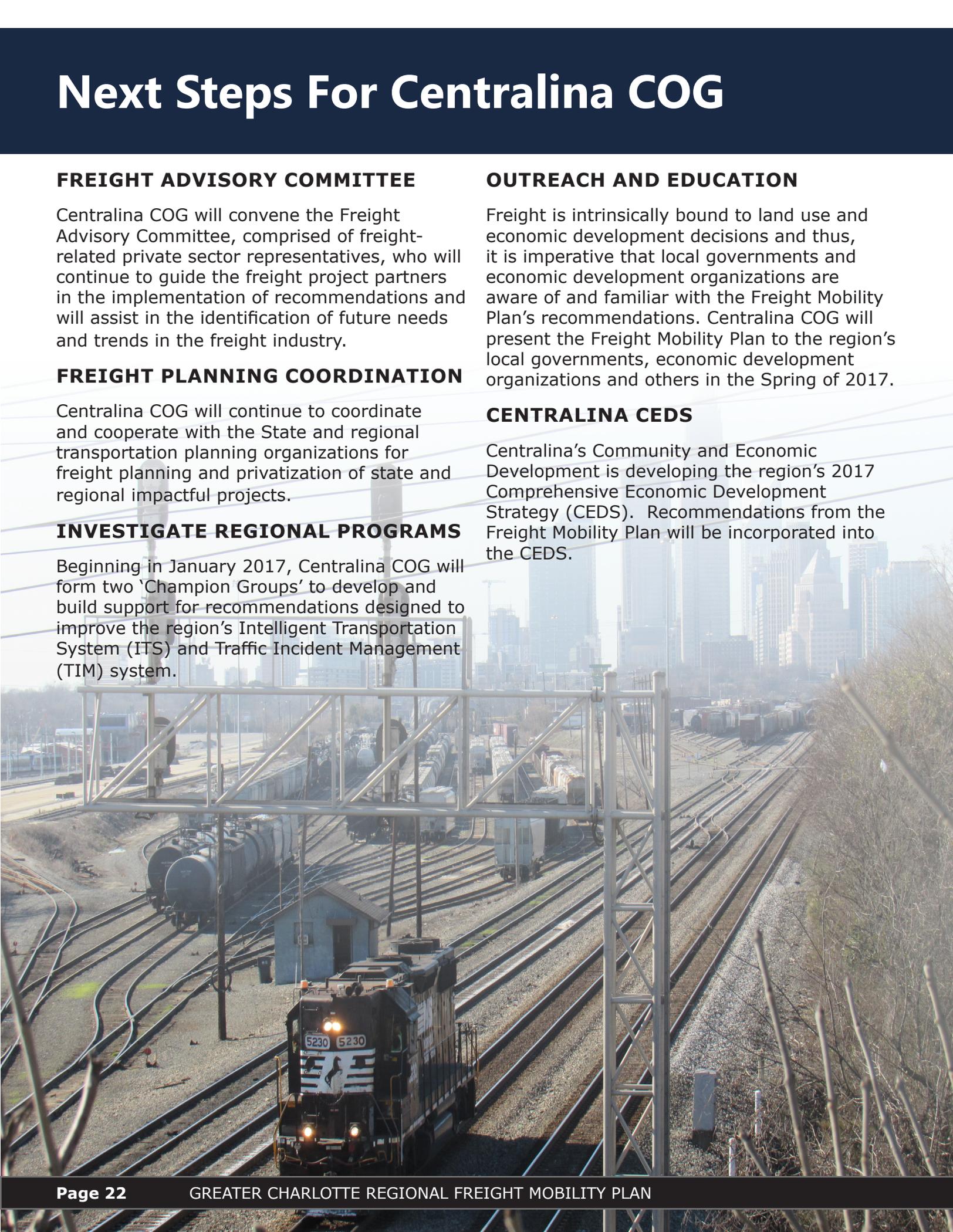
Beginning in January 2017, Centralina COG will form two 'Champion Groups' to develop and build support for recommendations designed to improve the region's Intelligent Transportation System (ITS) and Traffic Incident Management (TIM) system.

## **OUTREACH AND EDUCATION**

Freight is intrinsically bound to land use and economic development decisions and thus, it is imperative that local governments and economic development organizations are aware of and familiar with the Freight Mobility Plan's recommendations. Centralina COG will present the Freight Mobility Plan to the region's local governments, economic development organizations and others in the Spring of 2017.

## **CENTRALINA CEDS**

Centralina's Community and Economic Development is developing the region's 2017 Comprehensive Economic Development Strategy (CEDS). Recommendations from the Freight Mobility Plan will be incorporated into the CEDS.



# Funding and Project Partners

The Freight Mobility Plan is the product of extensive discussions with public and private sector partners combined with an in-depth analysis of the region’s freight transportation system condition and performance. The Greater Charlotte Regional Freight Mobility Plan was authored by CDM Smith, along with Centralina Council of Governments.

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