DTOS59-14-RA-TIGER6

FY 2014 National Infrastructure Investments

FLOW

FREIGHT • LOGISTICS • OPPORTUNITIES • WORKFORCE

A Freight Mobility Plan for the Greater Charlotte Bi-State Region

TIGER Planning Grant Application

Centralina Council of Governments (CCOG)
Regional Planning Organization

TIGER Planning Grant Funding Request: $315,000






Catawba Regional Council of Governments | RFATS Rock Hill - Fort Mill Area Transportation Study | Cabarrus-Rowan MPO | CRTPO charlotte regional transportation planning organization | Gaston Urban Area MPO Metropolitan Planning Organization | Charlotte | Connect Our Future | CCOG Centralina Council of Governments

FLOW: A Freight Mobility Plan for the Greater Charlotte Bi-State Region – TIGER Planning Grant Proposal

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I. PROJECT DESCRIPTION: GREATER CHARLOTTE BI-STATE REGIONAL FREIGHT MOBILITY PLAN

1. Project Summary

Centralina Council of Governments, in concert with regional partners for the 14-county Greater Charlotte Bi-State Region, proposes to support anticipated growth in the Region's nationally-ranked Manufacturing and Logistics industries by developing a Regional Freight Mobility Plan. The Plan will:

- Identify ways to effectively and consistently address freight congestion and key regional bottlenecks,
- Identify links that connect mobility of freight modalities to regional economic development goals,
- Prioritize improvements to reduce barriers to efficiency,
- Promote effective land use in both urban and rural areas of the Region to support freight mobility, business development and job growth, and
- Mitigate environmental impacts related to mobility barriers across the Region.

This section of the proposal provides background about the Region, the need for a Regional Freight Mobility Plan, and the previous study efforts that relate to the need to develop a Regional Freight Mobility Plan for the Greater Charlotte area. Detailed Project Description, Schedule and Budget sections follow this section.

History of the City of Charlotte and Greater Bi-State Region – North and South Carolina

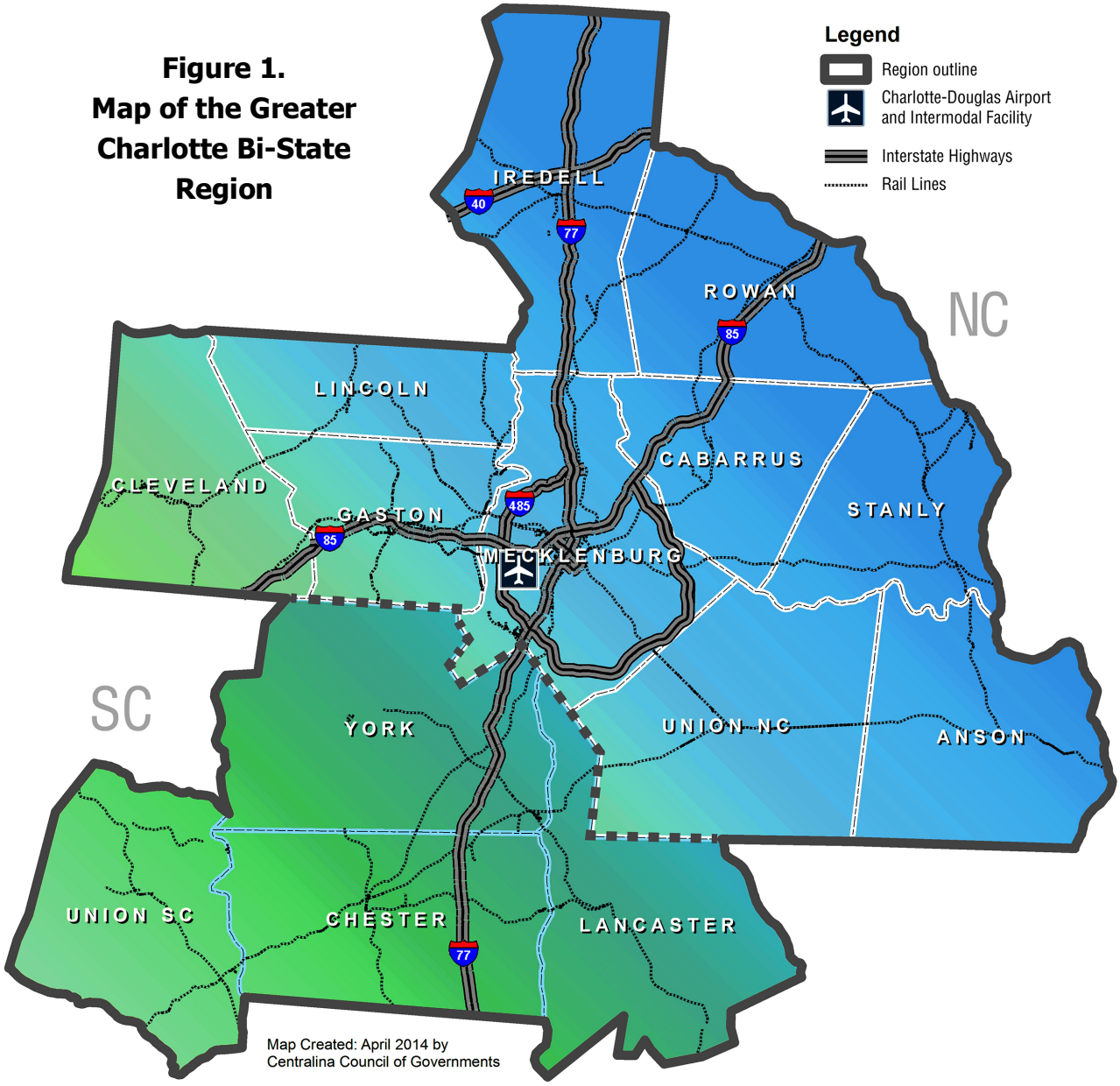
The City of Charlotte and surrounding region are once again at a critical economic and transportation crossroads. Founded in 1768 and originally built at the intersection of two Native-American trading paths (now known as Trade and Tryon Streets), the City of Charlotte has survived and prospered despite more than 250 years of reinventing itself over and over again. Now history is repeating itself once more, as the broader Greater Charlotte region, spreading across two states and encompassing 14 counties and 106 communities, is focused on preparing for its future while remembering and paying tribute to its past.

In the late 1700s the nation's first gold rush occurred in Charlotte with the discovery of a 17 pound gold nugget. Unfortunately, the boom was short-lived and many of those dreaming of striking it rich moving on to California by the time the west coast rush began in 1848. Prior to the Civil War, agriculture was the Region's leading focus, with tobacco and cotton its mainstays. Once the war ended, Charlotte re-emerged as a major textile industry and cotton processing center, again literally at the crossroads of the southeast region, becoming the Carolinas' largest city, with a major railroad

distribution hub connecting textile and clothing markets along north and south routes and to points west.

As the Region grew, so did its population. Railroad success spawned an influx of businesses and jobs to Charlotte. An electric streetcar system built in 1891 pushed the expansion of Charlotte neighborhoods beyond the city's boundaries into the surrounding suburbs, skyscrapers were built in the center of the city and businesses flourished. In the 1970s and '80s Charlotte's banking industry was transformed when the North Carolina National Bank grew to become the present-day Bank of America. Today, Charlotte is the home of numerous banking and financial institutions, including Bank of America and Wells Fargo's east coast headquarters, and is the second-largest banking center in the United States, trailing only behind New York City.

Figure 1.
Map of the Greater Charlotte Bi-State Region



Greater Charlotte Bi-State Region Today

The Greater Charlotte Bi-State Region's rich history as an industrialized, financial hub of the southeast, combined with its close proximity to an inter-regional and national freight network bringing goods to market, continues into the 21st century and offers a myriad of future opportunities for economic development and job growth. An expansive and varied area, the Region includes 7,100 square miles and 1.127 million parcels of real estate. Cities and towns within its boundaries range from large metropolitan centers to rural crossroads. The Region's footprint represents a geographic area larger than the State of Connecticut and was named the fastest urbanizing region over 1 million residents in the US in the last decade (2000-2010) [1]. Future growth projections by area transportation planning organizations indicate that the Region will nearly double in population in the next four decades (by 2050).

Charlotte is now the 17th largest city in the United States, with a population of 775,202 as of the 2012 census. The Region contains 14 counties and 106 cities in both North and South Carolina, encompassing the 23rd largest metropolitan area in the country with a population of approximately 2.5 million. Charlotte's geographic location is desirable for residents, businesses, commerce and visitors as it is within two hours' flight time or one day's delivery time by motor freight of 60% of the U.S. population (along the I-85 "Piedmont Crescent" corridor from Atlanta to Washington, D.C.). With a highly-favorable business environment, relatively low cost-of-living and numerous lifestyle assets including a mild four-season climate, educated workforce and overall high quality of life, the Region is expected to grow dramatically as it heads into the future. However, there are concerns that population growth will vary widely in some rural and exurban locations of the Region based on lack of access to sustainable jobs, suitable housing and health care and other regional amenities. These factors contribute to the Region's desire to develop a Freight Mobility Plan, and are discussed further in this application.

The population boom within the Region has been fueled in great part by accelerated job growth in the financial, manufacturing and energy sectors over the past three decades. The Region is home to nine Fortune 500 firms and continues to attract corporate headquarters from throughout the world. Often referred to as the "New Energy Capital", Greater Charlotte has numerous businesses involved in the production of energy alternatives and identification of new and renewable energy resources. Charlotte also is the home of The University of North Carolina at Charlotte (UNC Charlotte) and its affiliated Energy Production and Infrastructure Center (EPIC), a highly collaborative industry/education partnership focused upon the advancement of energy technology through research and public/private partnerships and the provision of a well-trained

[1] *https://www.census.gov/newsroom/releases/archives/2010_census/cb12-50.html*

engineering and professional workforce to enhance and strengthen the state and the Region's workforce and global economy.

Manufacturing, Logistics and Global Commerce are alive, strong and growing in the Greater Charlotte Bi-State Region. *New Geography* recently ranked the Charlotte MSA as the 13th highest among the nation's 66 largest MSAs for manufacturing and North Carolina as the nation's ninth largest manufacturing state. The Region's Comprehensive Economic Development Strategy (CEDS) and Advanced Manufacturing research reports have identified over 1,200 firms specializing in sophisticated intelligent manufacturing, including energy, advanced materials, precision metrology, optoelectronic and biomedical technology located within the Region. These specialized firms have developed alongside 1,000-plus traditional manufacturing firms such as primary and fabricated metals, machinery, chemicals, plastics, electronics, transportation equipment, food and beverages. They range in size and assets from Fortune 500 companies to entrepreneurial start-up operations with considerable potential for long-term success. Most of the Region's manufacturing firms are small or medium-sized businesses, positioned to benefit from agglomeration and cluster efficiencies if connected with available resources, especially global delivery systems.

The Charlotte Foreign Trade Zone is one of the largest in the state, and the U.S. Export Assistance Center in Charlotte assists many local firms in navigating world trade issues. The Charlotte Chapter of the North Carolina World Trade Association is one of the largest in the nation. The Manufacturing Extension Partnership is active in Charlotte and throughout North Carolina.

The Problem

The Greater Charlotte Bi-State Region's urbanized area ranks as the 25th most congested in the country, according to the 2012 Urban Mobility Report[2]. The average traveler in the Region encounters more than 40 hours of annual delay. Traffic congestion and mobility are projected to be problematic as the Region grows toward the future – today, over 30% of the Region's workers cross a county line to get to their jobs, an indication of the interconnectedness of the region's communities. Sufficient state and regional transportation investments along "preferred growth corridors" lag significantly behind the rate of projected population increase, expected job growth and projected economic development opportunities.

As the Region continues to expand and further develop, proper land use planning is one extremely critical factor in facilitating mobility for people and goods movement within and through the area. Businesses and industry must be able to locate in areas that

[2] *2012 Urban Mobility Report, Texas Transportation Institute, The Texas A & M University.*

provide them with uninterrupted logistics, options for delivering and receiving goods and viable ways in which to access a trained, educated workforce. Without sufficient mobility and accessibility, the Region cannot sustain the forecasted demand of economic growth, businesses and manufacturers will be unable to move supplies and employees in and goods out, and what was once a thriving, global regional economy crossing two state lines will decline. Using lessons from its past as a reminder of what can happen in the future, the Greater Charlotte Bi-State Region has already begun to focus its efforts by systematically building a sustainable, collaborative regional coalition to identify regional impacts and long-term needs. However, there is still much more work to do, and simply not enough resources to ensure that the collaborative planning process and lively partnerships that have been working toward the same vision can continue the momentum already begun.

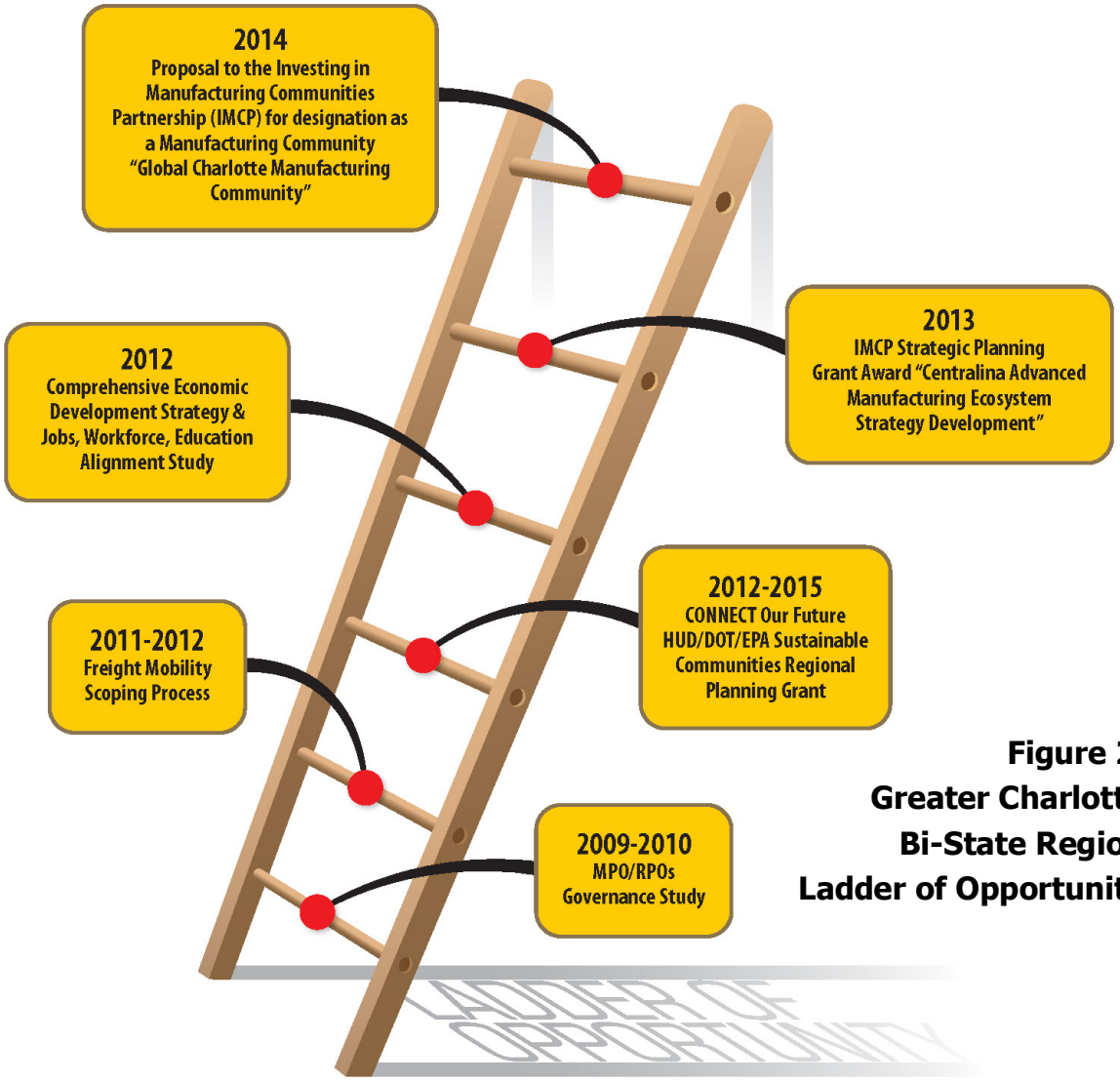


Figure 2. Greater Charlotte Bi-State Region Ladder of Opportunity

Greater Charlotte Bi-State Region's "Ladders of Opportunity"

As the Region moves forward with its collaborative planning process, the opportunity to apply for TIGER planning grant funds at this key point in time is unparalleled. Borrowing a key phrase from the TIGER dictionary, the Region is already positioned to move forward to a logical next step or "rung" on its very own "Ladder of Opportunity". A number of previous and current collaborative efforts among a wide variety of regional and state agencies, communities, businesses, educational institutions and non-profit organizations have set the stage and provide a sound base of public involvement and outreach consensus on the Region's next step—a Freight Mobility Plan for the Greater Charlotte Bi-State Region linking **F**reight, **L**ogistics, **O**pportunities and **W**orkforce... **FLOW.**

Each "rung" on the Region's "Ladder of Opportunity" refers to a specific, highly-collaborative project or initiative which has identified issues and desired outcomes in the Region and which has involved all affected stakeholders. More information about the most significant of these efforts and how they are intertwined with this TIGER funding request for a Regional Freight Mobility Plan is provided below.

CONNECT Our Future Regional Growth Framework/HUD Sustainable Community Regional Planning Grant (2012-2015)

While the Region is healthy in terms of population growth, there is increasing pressure on state and regional policymakers to begin planning now for projected needs. One of the most significant regional initiatives now underway is the CONNECT Our Future Regional Growth Project. A comprehensive three-year regional planning effort led by the Centralina Council of Governments (CCOG) that began in 2012, CONNECT Our Future has brought together states, counties, local communities, businesses, educators, non-profit organizations and the general public within the 14-county Bi-State Region to develop a shared long-term vision for the Region's future. CONNECT Our Future focuses on a framework to produce and sustain the following critical regional outcomes:

- Well-managed growth
- Safe and healthy environment
- Strong, diverse economy
- High quality educational opportunities
- Enhanced social equity
- Increased collaboration among all jurisdictions

CONNECT Our Future

Vibrant Communities – Robust Region

Developed through extensive community outreach and engagement practices and built upon locally-identified existing conditions, future needs and potential outcomes,

CONNECT Our Future is supported financially through the award of a $4.9 million Sustainable Communities Grant (a historic partnership of HUD, USDOT and EPA) and $3 million in local public and private match. When completed in 2015, the CONNECT Our Future Framework will identify a preferred regional growth scenario and the strategies, best practices and expected outcomes that will give local communities the tools they need individually and regionally to address the priorities of their stakeholders. The Framework will also identify general areas for residential, commercial, industrial and walkable land uses across the region and tools for developing community-specific guidelines and changes to existing zoning requirements. One crucial component that has already been identified by the CONNECT planning process is the need to "link" land use to transportation systems and services for moving goods inter-regionally and throughout the Greater Charlotte Bi-State Region. More information about the CONNECT Our Future Initiative can be found at: http://www.connectourfuture.org.

Investing in Manufacturing Communities Partnership (IMCP) Strategic Planning Grant (2013)

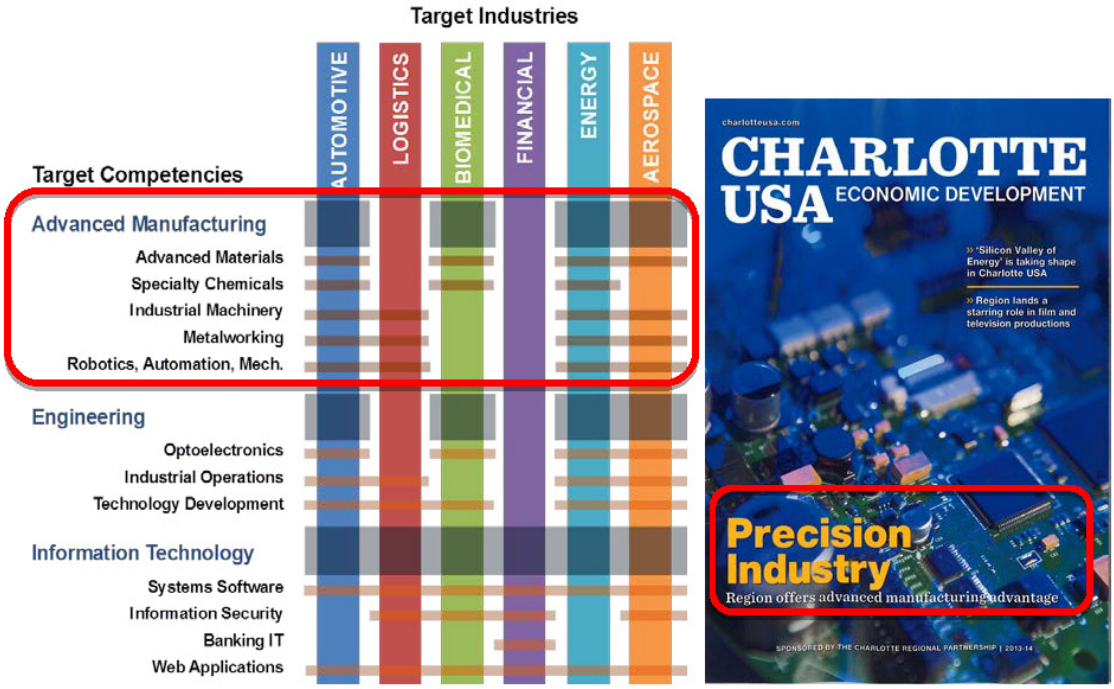
The Region was awarded a 2013 IMCP Strategic Planning grant to ensure that the Region's Advanced Manufacturing "Super-Cluster" continues to grow and mature to its full potential by:

- Expanding the use of Advanced Manufacturing technologies in the Region
- Stimulating investment in Advanced Manufacturing Training Centers in the community colleges network
- More efficiently connecting manufacturing firms with R&D and export assets for Advanced Manufacturing entrepreneurship and innovation
- More effectively bridging manufacturers' needs for highly skilled workers with Advanced Manufacturing training

Manufacturing Training and Experience

The planning efforts of the IMCP grant build on the Region's award-winning report entitled "Prosperity for Greater Charlotte" which innovatively incorporated the Comprehensive Economic Development Strategy ("CEDS") for the Region's two EDA-designated Economic Development Districts (in North Carolina and South Carolina) with a "Jobs, Workforce, Education Alignment Strategy". The report identified six primary targeted industry clusters in the Region — Financial Services, Logistics & Global Commerce, Aerospace and Defense, Automotive, Biomedical and Energy. Together, the latter five industry clusters, along with the Region's workforce competency in Advanced Manufacturing, form a "Manufacturing Super-cluster". The focus of this planning centers around the advancement of the Region's Advanced Industries sectors, where annualized job growth has approached 2,000 jobs per year. With an average manufacturing wage

of $63,457 in North Carolina, the direct economic impact of new manufacturing job compensation is estimated at $127 million annually into the local economy. In the next five years, the Region is estimating that the result of attracting new Advanced Industry sector employers will result in the development of approximately 25,000 new jobs within the Region.



Source: 2012 Centralina CEDS, "Prosperity for Greater Charlotte"; Charlotte USA 2013-2014 Annual Economic Development issue

In April 2014 the CCOG and Centralina Economic Development Commission (CEDC) jointly applied to the IMCP on behalf of the larger 16-county "Global Charlotte" region for designation as a Manufacturing Community. CCOG and CEDC are the founding members of the Global Charlotte Manufacturing Community Consortium, and its boundaries are contiguous with the boundaries of the Charlotte Regional Partnership, the marketing/recruitment arm of all economic development commissions within the Region.

A direct link to the "Prosperity for Greater Charlotte" report can be found at: http://www.ProsperityForGreaterCharlotte.com

Centralina Council of Governments (CCOG) Regional Freight Mobility Scoping Process (2011-2012)

In August 2011, CCOG staff met with NCDOT representatives to discuss how to proceed with a regional freight mobility study, an identified need based on previous governance study findings after a rigorous participation process was conducted with regional partners during 2009 and 2010. At this meeting, NCDOT stated it would be interested in participating in a freight mobility study plan for the Greater Charlotte bi-state region

based on two conditions — the first requiring the participation of all four of the area's Metropolitan Planning Organizations (MPOs) and the second requiring that the scope of work to be performed would not replicate previous planning work performed as part of the State's "Seven Portals Study" completed in early 2011. (see http://www.centralina.org/wp-content/uploads/2014/04/7PS-Charlotte-Region-Final-with-Cover-Page-February-2012.pdf)

CCOG staff determined that a comprehensive regional freight mobility plan would require a significant amount of participation and input from both private and public sector representatives to determine specific areas of focus and identification of key concerns. Taking the initiative to move forward, CCOG and the Catawba Regional Council of Governments in Rock Hill, NC met bi-weekly for five months with private sector and local government representatives between December 2011 and April 2012 to determine an appropriate scope of work for a future freight mobility plan. To capitalize on the prior work performed within the scoping process, CCOG relied upon the established group of regional stakeholders to review recommendations from each of the planning organizations and provide input at two freight planning sessions in November 2012 and October 2013. These stakeholders included representatives of Class I and short-line railroads, the North and South Carolina departments of transportation, municipalities, and the North Carolina Trucking Association. Two open houses were also held with the general public and interested participants for additional input.

CCOG sent NCDOT a proposed scope of work and described the process used to develop it with stakeholders. NCDOT saw value in the plan as described but due to a lack of funding by two of the four MPOs at that time, the plan was put on hold until funding could be identified. Additionally, the MPOs and NCDOT were still uncertain at that point about what potential freight-related performance measures would be mandated by pending MAP-21 requirements and what final recommendations may result as part of the CONNECT Our Future Regional Framework. With these potential considerations still unknown, the regional partners agreed to review the feasibility of a regional freight mobility study in 2014.

More information about the Region's previous freight mobility study scoping efforts can be found at: http://www.centralina.org/wp-content/uploads/2014/04/Freight-Mobility-Plan-Power-Point-April-2012.ppt.

Regional MPO/RPO Governance Study (2009-2010)

During 2009 and 2010, CCOG conducted a regional governance study, with partial funding from the North Carolina Department of Transportation, to evaluate the Region's current arrangement for conducting transportation planning activities, comparing it to other similarly-sized regions across the country. The result of the study was a regional

preference and concurrence for maintaining the current arrangement of multiple metropolitan and rural planning organizations within the Region, with recognition that some transportation issues were of importance to everyone and justified collaborative action at a regional level. The first issue identified in the spring of 2011 at a meeting of area business and community leaders for study and further development was a unified freight mobility plan.

Greater Charlotte Bi-State Regional Freight Mobility Plan

As described in the previous section, the Greater Charlotte Bi-State Region's stake–holders have agreed upon the need for a Regional Freight Mobility Plan through the course of a number of related planning processes and studies conducted since 2009. The deliverables expected to result from the Regional Freight Mobility Plan scope of work align with top priorities identified by the over 5,000 participants in the CONNECT public engagement process, and will provide the Region and its stakeholders with answers to such critical issues as:

- How land use patterns can be enhanced through the efficient movement of goods
- What policies and regulations affect state, regional and inter-regional freight mobility for rail, truck, air cargo and port modalities within the study area
- Where the most efficient placement and siting of employment centers should occur relative to regional transportation amenities and corridors
- How to balance regional housing development to provide affordable employee and employer options and balance mobility needs
- Identify existing and future desired freight technologies and methods that correlate with regional workforce capabilities and capitalize on other regional assets, including research and development of energy alternatives, emerging technologies and Advanced Manufacturing enhancements
- Identify improvements to mitigate air quality impacts and reduce transportation network congestion and delay.

Regional Freight Amenities and Considerations

Current Capacity. The Region sits at the intersection of three interstate highways and six rail lines, providing excellent rail and truck distribution access in all directions. Sixty-two percent (62%) of the U.S. national industrial base and over 52% of the U.S. population is accessible within 650 miles of Charlotte, giving the Region a logistical advantage for business, particularly manufacturing and shipping industries. Each day a wide variety of products designed and manufactured in the Region are shipped to markets nationwide and globally around the world, utilizing convenient intermodal facilities and networks.

The Region's interstate highway system is a desirable magnet for companies looking to ship goods quickly and easily. Interstate 77 runs north-south through Charlotte, connecting Miami to Cleveland, and Interstate 85 heads southwest to Atlanta and northeast to Washington, D.C. On the region's northern border, Interstate 40 links the eastern United States to the western states. CSX and Norfolk Southern are the primary rail service providers in the region, but regional rail lines are also maintained by Alexander, Winston Salem Southbound, Lancaster & Chester and Aberdeen Carolina & Western railways.

According to *Site Selection*, Charlotte ranks fifth in the nation for new and expanded distribution operations, with 192 facilities and serving as home base for distribution operations at such diverse companies as Family Dollar, Black & Decker, General Motors, Lucent Technologies and TJ Maxx. Charlotte is also the nation's 12th largest trucking center, with more than 339 firms operating here and employing over 8,000 workers. More than 817 transportation and warehousing companies call "Charlotte USA" home.

Charlotte Douglas International Airport (CLT) connects the Carolinas to the world with more daily flights per capita than any other airport nationwide, including 36 international destinations daily, and is the 6th busiest airport in the world in total operations with 700 daily flights. It has a full complement of international service support organizations including U.S. Customs & Border Protection. The Charlotte Air Cargo Center consists of approximately 570,000 square feet of facilities and more than 50 acres of aircraft ramp space, handling over 134,300 tons of domestic and international cargo in 2010. It is served by 20 cargo airlines and 60 freight forwarders. Not surprisingly, the airport also is a major employment center with nearly 18,000 workers on site.

Co-located at the CLT airport, the Region's new $92 million Charlotte Intermodal Facility, privately built and operated by Norfolk-Southern Railway, is expected to generate over $7 billion in regional economic impacts and create more than 7,000 jobs in the Region by 2030. The 200-acre facility has the capability to move 200,000 TEU per year, with parking for up to 1,331 trucks and potential for future expansion capacity on-site. The facility significantly expands capacity for distribution and the transfer of goods between rail, highways, air and connected seaports in Charleston, Savannah and Norfolk. The Region is the center of the country's largest consolidated rail system--Norfolk Southern and CSX link 43,200 miles of rail between Charlotte and 23 Eastern states.

Collaboration. The City of Charlotte, in partnership with Norfolk Southern and the Region's development community, has targeted 4,000 acres around the CLT International Airport for future development in support of intermodal and logistics development activities. This land banking has the potential of focusing literally thousands of new, well-paying jobs to an area with convenient access to major interstate highways, Class I railroads, international airport facilities, and the intermodal center, all located within 10 miles of the largest central business district between Atlanta and Washington. The regional MPO/RPO agency partners, in concert with NCDOT, SCDOT and the regional counties, have collaborated on a number of unified transportation plans over the past decade, agreeing on needs and system deficiencies that must be addressed for future regional growth and sustained regional vitality. Regional planning organizations have pooled significant resources, both human and financial, to ensure that all stakeholders, including large and small communities, various planning organizations, NCDOT and SCDOT, private providers and the general public, understand and participate within the development of a framework for the future. They have also secured and leveraged millions of dollars for regional transportation improvements to increase regional mobility for both people and goods and maintain vital regional modal networks.

2. Project Description

Based on collaborative regional planning outcomes and the extended stakeholder outreach process resulting from the Regional Freight Plan Scoping Process during 2011 and 2012, the Region has already defined a comprehensive scope of work for a Freight Mobility Plan specifically targeted to well-defined and regionally-accepted set of goals and objectives. Study goals will:

- **Identify Specific Recommendations –** Identify recommendations in the areas of coordination, transportation, land use, economic development, and explore options for environment and energy.
- **Develop No New Organizations –** The recommendations should not require the development of any new organizations or mandates. Instead, the recommendations should provide guidance to transportation, land use, economic development, environmental and private organizations and agencies.
- **Provide Collective Benefit –** When implemented, the recommendations should provide for a safer and more efficient network for freight movement, improved land use planning and more integrated regional economic development strategies.

Greater Charlotte Bi-State Regional Freight Mobility Plan
Project Goals and Objectives

GOAL 1 – Coordination

The region has a range of existing plans and programs that separately address a portion of the regional issue of freight mobility. Improved regular communication with an emphasis on cross-communication is key to advancing mutual supporting initiatives.

Objective 1.1 – Establish a Regional Forum: Establish a regular public/private regional forum for information sharing on freight issues.
Benefit: Increased coordination and dialogue.
Objective 1.2 – Private Industry Participation: Invite freight providers and private industry representatives to area transportation planning agency meetings.
Benefit: Increased awareness of, and input on legislative, policy, plan and project updates.

GOAL 2 – Transportation

A reliable transportation network is the backbone of freight planning and economic activity, yet funding does not exist to address all congestion, accessibility and safety concerns in the region. Accommodating freight movement and improving network operations should be fully incorporated in the transportation planning and congestion management processes.

Objective 2.1 – Project Prioritization: Increased consideration of freight in project prioritization at the local level.
Benefit: Improve status of freight-relevant projects in transportation plans and programs.
Objective 2.2 – Intermodal Linkages: Improve linkages and movement time to intermodal facilities.
Benefit: Facilitate traffic to and from facilities and increase accessibility for rail traffic.
Objective 2.3 – Safety: Decrease impact of accidents and other incidents on arterial road and rail operations.
Benefit: Provide more reliable and predictable travel times for freight movers.
Objective 2.4 – Short-Range Strategies: Increase emphasis on short-range strategies to improve freight movement.
Benefit: Implement high-value, low-cost projects to improve freight traffic.

GOAL 3 – Land Use

Transportation plans help implement the land use vision for a community and facilitate travel based on existing uses. Local communities should work to aid reuse of existing commercial and industrial land for similar uses.

Objective 3.1 – Redevelopment: Identify best practices for facilitating land redevelopment for freight intensive land uses.

Benefit: Encourage reuse of existing industrial and commercial land where infrastructure exists.

Objective 3.2 – Zoning: Identify best practices for zoning complementary land uses near freight intensive areas.

Benefit: Minimize negative effects of freight intensive land uses.

Objective 3.3 – Rest Areas: Identify strategies for accommodating rest area parking for drivers.

Benefit: Improve quality of life for drivers and reduce incidence of trucks parking overnight in unsafe or otherwise conflicting locations.

Objective 3.4 – Rail Siding Access: Establish best practices for preserving and identifying where to build rail siding access for freight users, particularly in rural areas.

Benefit: Increased predictability for land owners and rail lines, and economic opportunity for communities and rail lines.

GOAL 4 – Economic Development

A successful freight mobility plan will strengthen the economic prosperity of the region and support its position as a major distribution center. Areas of emphasis for economic development agencies will focus on meeting the needs of businesses throughout the supply chain in the transportation system.

Objective 4.1 – Freight-Oriented Property Development: Identify and market current and future freight-oriented property located near appropriate transportation infrastructure.

Benefit: Reduced demand for transportation improvements in undeveloped areas

Objective 4.2 – Intermodal Efficiency: Regularly communicate with vested industries and organizations to improve the efficient transfer of goods between modes at intermodal terminals, ports, and distribution hubs.

Benefit: Reduced costs and congestion, and increased capacity, at existing locations

Objective 4.3 – Technology and Trends: Incorporate current freight analysis and intermodal coordination and technology trends into transportation planning processes.

Benefit: Transportation planning agencies are kept abreast of trends in economic development and private sector data, operations, and technology.

GOAL 5 – Environment and Energy

Freight movement requires a significant amount of energy. Therefore, greater efficiencies in the system that reduce congestion can in turn reduce emissions and fuel consumption along with the corresponding expense. These outcomes are a priority for the nation and private industries alike. Organizations, firms and communities should

therefore work together to identify strategies to increase freight system efficiencies and improve air quality.

Objective 5.1 – Idling Reduction: Increase availability of infrastructure to reduce engine idling.
Benefit: Reduce energy consumption and air pollution, increase ability to meet air quality standards, as well as improve quality of life for drivers.

Greater Charlotte Bi-State Regional Freight Mobility Plan
Scope of Work

A scope of work identifying the major components of the Greater Charlotte Bi-State Regional Freight Mobility Plan is outlined below. The phases and tasks of this scope were identified and approved by regional partner organizations during a rigorous project scoping process led by CCOG in 2011 and 2012. A map displaying the FLOW study area boundaries is located on page 2.

In a significant enhancement to the previously-developed scope, CCOG is partnering with the Texas Transportation Institute (TTI) to integrate an innovative applied research component. This work is described in more detail following the scope outline below.

Project Launch
January - March 2015

- **Project Management:** Initial protocols for funds management and grant requirements compliance, internal team coordination, project website development, etc.
- **Steering Committee:** Confirm Steering Committee membership, conduct inaugural Steering Committee meeting. This Committee will include members of transportation, land use, economic development, private sector, and workforce development agencies. This committee will serve as the core group that will review and recommend specific products and the overall plan for comment, endorsement and approval as appropriate.
- **Consulting Services:** Develop RFP(s), select one or more professional transportation consultants for Freight Mobility Plan Consulting Services through a competitive procurement process.

Plan Development/Phase I: Freight System Assessment
April - August 2015

- **Consulting Services:**
  - *Needs Assessment:* Current Conditions and Projected Needs for highway, rail, air cargo, and intermodal freight systems (Re: transportation, land use, workforce, and economic development).

- *Data Analysis:* As described on the previous page, a thorough analysis of existing congestion, accessibility, and reliability for the transportation network will be conducted under the leadership of the Texas Transportation Institute. This will be in addition to evaluation of land use development regulations, as well as requirements of private sector developers to bring such freight-oriented land uses to market. This private sector input will be the focus of a series of target interviews to elicit strengths and weaknesses of the current development environment throughout the 14 county Region.
- *Stakeholder/Public Input:* General and sector-level input will be solicited at specified points in the process, using both public forums and targeted interviews, to raise awareness of the plan, as well as to attract additional community and business leaders to participate in the process.
- *Public Opinion Survey:* partnering with a local university, the Project will conduct an opinion survey of a statistically valid representative sample of the Region's residents on congestion, land use, and general economy issues. Results will be used to inform the Plan development process.
- *Gap Analysis Report:* including mobility, travel time, and accessibility analyses for key freight activity centers and corridors throughout the region based on findings from Needs Assessment data analysis and public outreach activities.

- **Steering Committee:** The steering committee will review/confirm consultant findings and initial work products before moving to Phase 2.

Plan Development/Phase 2: Explore Strategic Options
September 2015 - March 2016

- **Consulting Services:** Research/identify strategic options and best practices for individual sectors (re: transportation, land use, economic development, and workforce development).
- **Steering Committee:** Review strategic options and recommended best practices.
- **Consulting Services:** Research/ identify strategic options and best practices for coordination between sectors.
- **Steering Committee:** Review strategic options and recommended best practices.

Plan Development/Phase 3: Finalize Strategic Recommendations
April - September 2016

- **Consultant Services:** Present integrated strategic options for individual sector and inter-sector coordination.
- **Steering Committee:** Confirm preferred strategic option(s) and recommended best practices
- **Consulting Services:** Prepare draft Freight Mobility Plan, incorporating Committee-identified preferred strategic option(s) and recommended best practices, along with Freight Systems Assessment findings.
- **Project Management/Consulting Services:** Conduct targeted individual and organization feedback meetings on proposed options and best practices, revise draft Plan as needed.
- **Steering Committee:** Review/confirm draft Freight Mobility Plan before moving on to plan endorsement and adoption phase.

Plan Endorsement and Adoption
October - November 2016

- Proposed Freight Mobility Plan formally presented to local government and other partner organizations' governing boards for endorsement/adoption (as applicable) .
- Public Open House: Informational session and targeted individual briefings.

Project and Grant Close Out
December 2016

- Final reports required under the grant submitted to USDOT.

Texas Transportation Institute. TTI is planning on providing the following deliverables for the Greater Charlotte Bi-State Region Freight Mobility Study:

1. Along freeway and arterial roadways where INRIX speed data are available, and combining the most recent year of INRIX speed data and FHWA Highway Performance Monitoring System (HPMS) volume data, produce "top 10" roadways for congestion (delay per mile), unreliability, and congestion cost (wasted time and fuel) based on desired roadway segmentation (for analysis) provided by stakeholders committee.
   - Produce these lists for specific roads, county-wide, urban/rural areas, and region wide
   - Use INRIX truck-specific speed dataset for truck delay and INRIX "mixed-vehicle" speed data for other performance measure estimates

2. Using 12-20 origin-destination "trips" provided by stakeholders committee for freeway and arterials of up to 20 miles (where INRIX speed data are available), in order to estimate travel time and reliability to address consideration of "accessibility" to activity centers of interest by trucks.
3. Process Freight Analysis Framework (FAF3) data from FHWA to show multi-modal freight flows—direction and major commodities—into, within, and out of the 14 counties in the region.
4. Determine freight, congestion, and safety metrics to support MAP-21 requirements for performance-based planning in support of state and national performance metrics.
5. Document and formalize process to allow integration into the work plans for the area transportation planning organizations to inform project identification, evaluation, and ranking to ensure compliance with performance-based planning as a part of short-range and long-range transportation planning.

This information will play a significant role in the transportation, land use, and economic development components of this plan, as the data will help guide objective analysis of where issues and opportunities exist for serving existing movements, and where opportunities exist to recruit and site new facilities.

3. Project Schedule

The Greater Charlotte Bi-State Regional Freight Mobility Plan will take two years (24 months) to complete assuming a USDOT TIGER award in the late summer or early fall of 2014. The estimated project completion date would be December 31, 2016. A graphic which displays study phases and key target dates is shown on page 20.

4. Project Budget

The majority of the $600,000 in funding for this project will be used to procure consultant services to assist in the technical writing, analysis and final Plan deliverables for the Greater Charlotte Bi-State Regional Freight Mobility Plan. Project phases are described below, along with phase cost and task responsibilities.

1. **Administration and coordination**, to include consultant oversight, is expected to cost $75,000 over two years, with these costs and responsibility assigned to Centralina Council of Governments.
2. **FLOW Stakeholder Committee** ("Freight Forum"): The freight forum will be the stakeholders committee for periodic review of the phases and milestones for this process. This phase will cost $25,000, with costs and responsibility shared between a consultant and the Centralina Council of Governments.

3. **Needs Assessment & Gap Analysis**: The work to identify existing conditions, as well as gaps between existing and ideal conditions, will be identified during this phase. This phase will be the largest and most complex part of the project, with $325,000 assigned pay for work by consultant(s), UNC Charlotte, and TTI.

4. **Strategy Development**

    a. *Sector Strategies:* Based on the work performed in the Gap Analysis, consultant(s) will develop recommendations and best practices to address identified gaps. The cost for this section is $75,000.

    b. *Inter-sector Strategies:* Based on the gap analysis and specific sector strategies, consultant(s) will develop recommendations for how the individual sectors can better support each other in order to develop a more competitive region for freight mobility and related activities. The cost for this section is $75,000.

5. **Plan Writing and Adoption**: The writing, presentation and adoption of the Plan will be performed using a combination of Centralina and consultant staff. The cost for this section is $25,000.

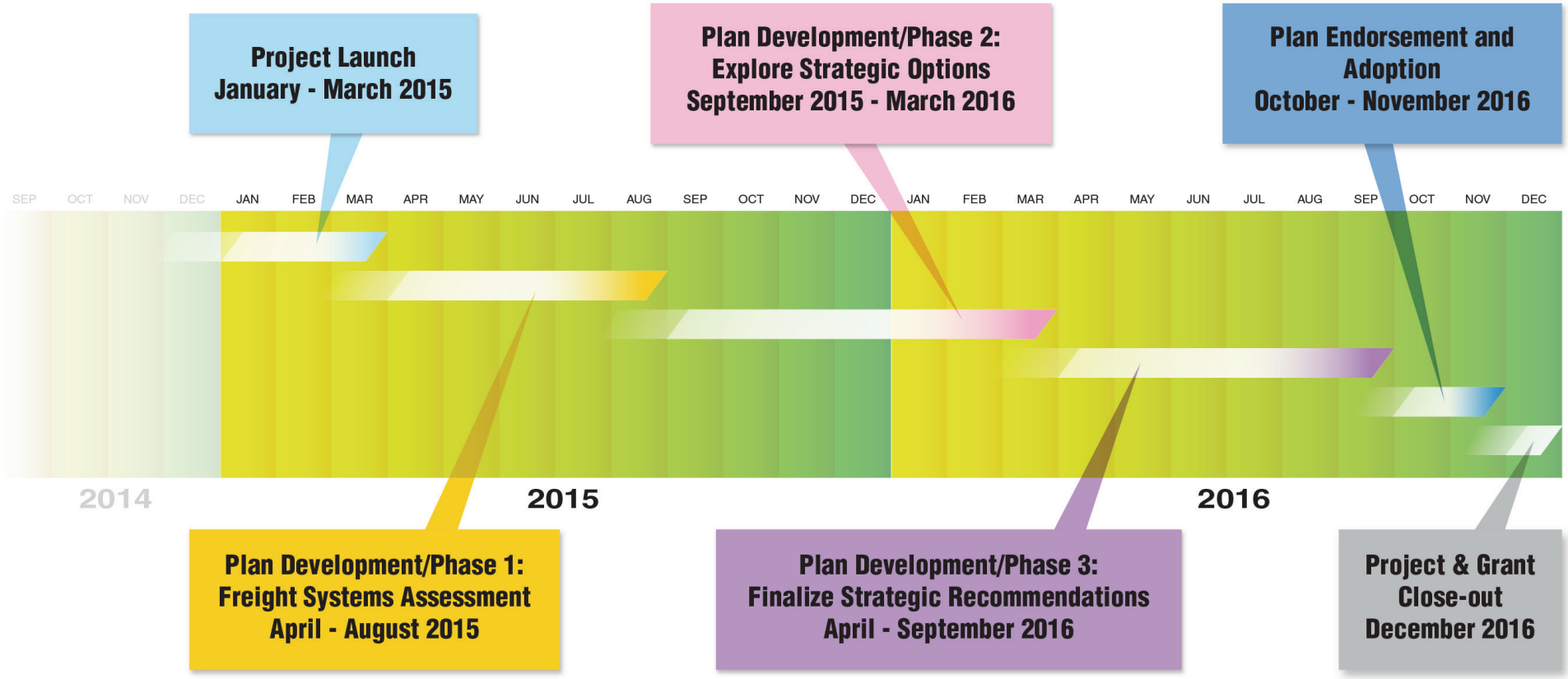
Freight Mobility Plan
BUDGET

EXPENSES	$
Administration and Coordination	75,000
Stakeholder Committee / Freight Forum	25,000
Assessment and Gap Analysis (includes TTI research)	325,000
Strategy Development (Intra- & Inter-Sector)	150,000
Plan Writing and Adoption	25,000
Total	**$600,000**

FLOW: A Freight Mobility Plan for the Greater Charlotte Bi-State Region

PROJECT TIMELINE

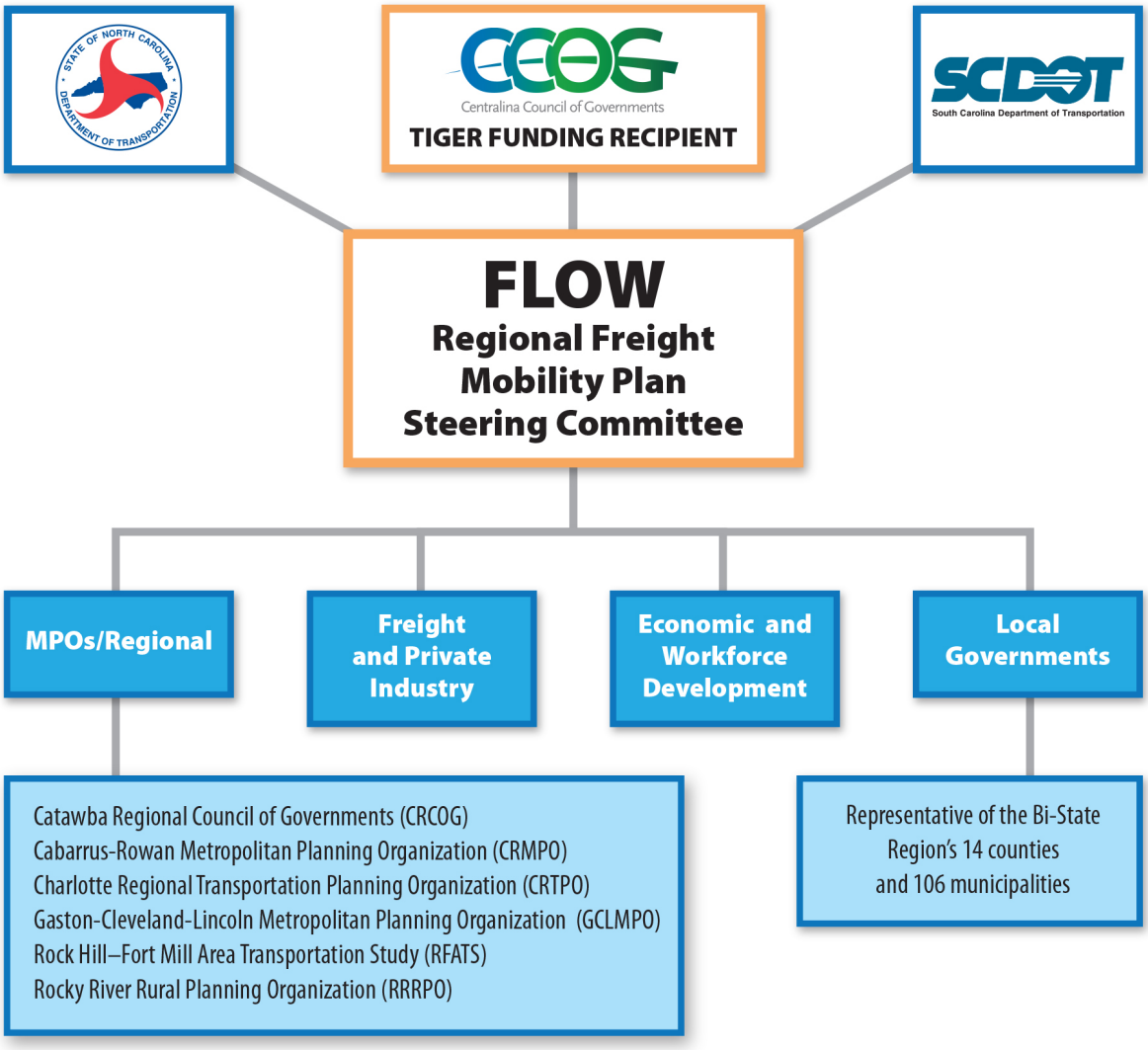
(Assumes grant award contract executed by end of 2014)



II. PROJECT PARTIES

The Greater Charlotte Bi-State Regional Freight Mobility Plan partners include four (4) regional Metropolitan Planning Organizations (MPOs), one Rural Planning Organization (RPO) and local governments from 14 counties, four of which are located within the state of South Carolina. These units of government have responsibility for planning activities that represent a total of 106 urban and rural communities, including cities and towns, in both North and South Carolina. Designated representatives from these groups will hold seats on the Project Steering Committee.

In addition to agency and government partners, the two major regional railroads, Norfolk-Southern and CSX, a variety of private freight providers, private industry sectors and regional nonprofit organizations focused on economic and workforce development are also represented as stakeholders providing input to on the Steering Committee, as shown on the Project organizational chart displayed below.



III. GRANT FUNDS AND SOURCES / USES OF PROJECT FUNDS

The total budget for the Greater Charlotte Bi-State Regional Freight Mobility Plan effort is $600,000. The TIGER funding request is for $315,000, or 52.5% of the expected project total. Regional partner contributions total $285,000 (47.5%), including $165,000 in local match (27.5%) required for TIGER funding and $120,000 in other funds. A breakdown of the project funding sources is shown in **Figure 3.**

The Region's MPOs and RPO have committed a total of $150,000 to the Project. For these organizations, 20%, or $30,000 of that total, comes from local sources within agency operating budgets. Commitments are summarized below:

Charlotte Regional TPO	$100,000
Gaston-Cleveland-Lincoln MPO	$30,000
Rock Hill-Fort Mill Area Transportation Study	$15,000
Rocky River RPO	$5,000

Figure 3.
Great Charlotte Bi-State Regional Freight Mobility Plan Funding Sources

Agency/Organization	Contribution Amount	Source and Type of Funds
Regional Planning Organizations (MPOs and RPOs)	$30,000	Local TIGER Match from Organization Budgets
Regional Planning Organizations (MPOs and RPOs)	$120,000	Other Agency Funds (not counted as match)
CCOG	$135,000	Local TIGER Match from Operating Budget & In-Kind Services
USDOT/FHWA	$315,000	TIGER Grant Request

CCOG is standing as guarantor for $135,000 in local match from its local government partners and private sector businesses. As the lead local government partner, the City of Charlotte has already committed (through its letter of support attached to this Proposal) to match each dollar committed by the other local government partners, up to $30,000. As the Region's leading economic development agencies, the Centralina Economic Development Commission and the Charlotte Regional Partnership are assisting with private sector commitments.

IV. SELECTION CRITERIA: PROJECT ALIGNMENT

We believe the Greater Charlotte Bi-State Regional Freight Mobility Plan elements and process are strongly aligned with a number of the primary and secondary TIGER grant selection criteria detailed within the NOFA. As described previously within this application, the collaborative regional planning process developed in coordination with regional partners and planning organizations across the Region is already well underway, systematically moving toward a shared vision of increasing regional economic development, job growth and linkages to affordable housing. Previous efforts, including long-range plans, private sector development and identification of manufacturing and technology opportunities within the Region are aligned and supportive of the need for collaborative development of a Regional Freight Mobility Plan at this time.

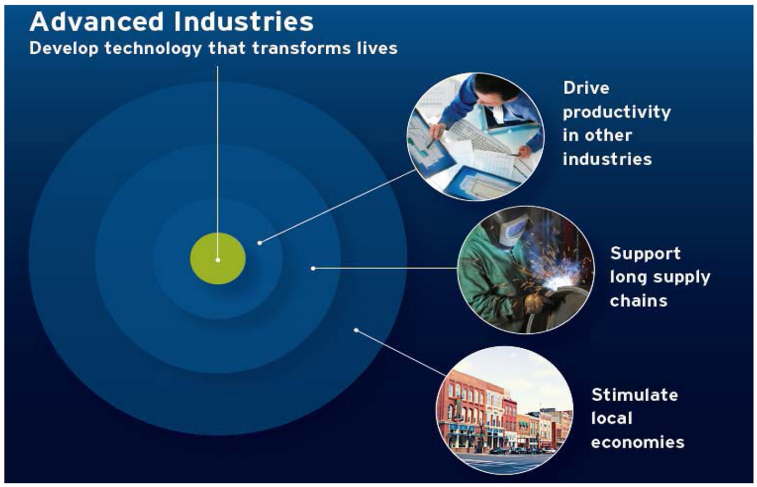
The following information explains in more detail the relationship between TIGER selection criteria and the efforts to enhance the flow and mobility of regional freight throughout the Greater Charlotte bi-state area.

1. Primary Selection Criteria

State of Good Repair. One of the expected outcomes of the Regional Freight Mobility Plan is the assessment of existing transportation system deficiencies for freight mobility as well as identification of highest priority freight bottlenecks in the Greater Charlotte Bi-State region. The Plan's collaborative stakeholder-driven process and comprehensive representation of the Region ensures that the Plan deliverables will include critical needs as defined by state and regional government and planning organizations as well as those of users of the system, freight suppliers, private sector companies and economic development agencies. Once the assessment of deficiencies is refined, prioritized and accepted by stakeholders, regional planning agencies and both DOTs can utilize the findings in prioritizing future regional and inter-regional project and budget planning purposes. A benefit/cost analysis of prioritized investments within and through the region will allow state, regional and local agencies to prioritize system investments in the short and long term and determine the level of investment necessary to maintain a state of good repair.

Economic Competitiveness. The Greater Charlotte Region is already recognized as one of the top regional Advanced Manufacturing and major distribution centers in the U.S. Its geographic location and proximity to national, state and regional road and rail networks are integral factors in attracting key industries to the area. Newly-developed regional amenities such as the new Charlotte Intermodal Center provide for current and future system capacity demands.

The Region's public/private partnerships and higher education opportunities are strategically linked to targeting and developing a regional work force that is trained for emerging technologies and industries in a global marketplace. Improving the mobility and efficiency of freight operations, developing new linkages and promoting the intermodal transfer of goods will further develop and strengthen the Greater Charlotte Region's economic base and increase its global competitiveness.



Source: Brookings - Feb 2014

The Plan will identify and market opportunities for freight-oriented development throughout the region, and review local governance requirements for impediments to the needs of the private sector supply chain. Recommendations resulting from the development of the Plan will provide crucial freight analytic information for use by regional agencies in planning intermodal connections in the region.

Quality of Life. Congestion is a key concern within the Greater Charlotte Bi-State Region. The data collection process in Phase I of the Greater Charlotte Bi-State Plan focuses upon identification of key system mobility metrics and where investment in the regional system is warranted to better manage system demand. Another aspect of the study is the linking of land uses to mobility needs, both on the freight side as well as on the economic development/workforce and jobs growth side. Defined land uses resulting from the Plan's development will ensure that companies and employers have the ability to site facilities where there is sufficient system access, both for freight mobility and for workforce mobility and retention. Good jobs, a strong business marketplace and convenient access to housing, employment centers and an expansive logistics network are all indicators of a growing region with a high quality of life.

Environmental Sustainability. The Greater Charlotte Bi-State Region is already focused on a sustainable growth plan for 2050 through its work on the CONNECT Our Future project. Regional stakeholders have agreed that development must be planned carefully to ensure that impacts from a high rate of expected regional growth will be mitigated. Encouraging reuse of commercial and industrial property for mitigating impacts in other areas of the region is smart, sustainable planning. Smoothing congestion and improving the regional transportation network will reduce fuel emissions.

Defining truck idling policies and quantifying demand on the system for layover locations will lead to improved air quality. Significant developments in the research of alternative fuel sources and other technologies to reduce power consumption are underway in the private sector and university research centers within the Region at the present time. The Plan includes the identification of these regional partners and resources for inclusion in the stakeholder outreach and participation effort.

Safety. A key Freight Mobility Plan objective is the facilitation of traffic flow in the region by identifying system bottlenecks. Another outlined strategy is the increase access for the regional rail network points. These objectives and others that are expected to be identified in greater detail based on the Plan's scope of work and deliverables will result in strategic recommendations that decrease the impact of accidents and other incidents on the regional traffic system and at heavily-utilized at-grade railroad crossings throughout the Region.

Consideration of the potential technologies that can improve and facilitate freight flow and improve system efficiency can also result in improving system network safety. Many new and emerging intelligent vehicle technologies reduce vehicle miles traveled and track owner and individual operator metrics by monitoring behavior and determining real-time efficiencies in freight tracking, behind-the-wheel time and better trip planning. Decreasing the amount of time the operator spends on the road or behind the controls through the use of technology increases safety of transportation systems and provides additional system efficiencies for companies.

2. Secondary Selection Criteria

Innovation. The Greater Charlotte Bi-State Freight Mobility Plan partners include participation from staff researchers at the Texas Transportation Institute (TTI) of the Texas A & M University System. TTI researchers slated to participate in this effort also analyze national urban and rural transportation data used in the annual Urban Mobility Report. TTI is currently researching methods of improving freight mobility nationally, and work performed by TTI staff as part of the Plan's development will provide TTI researchers and the national transportation community with a base of knowledge formed through the participation of Greater Charlotte urban and rural stakeholders in a vibrant, growing regional freight network that is one of the busiest in the nation.

Other Plan regional stakeholders include private sector businesses and research institutions focused on the development of alternative energy resources and advanced manufacturing technologies. Participation from these sector representatives will enhance Plan findings and set a course for the Region in terms of attracting future businesses and research partners to the area.

***Partnership*.**

Jurisdictional and Stakeholder Collaboration. The Greater Charlotte Bi-State Region has a rich history of collaboration, particularly in regional planning efforts of benefit to both North and South Carolina communities. The Plan identifies a robust Project Steering Committee, with many agency representatives that have a long history of working cooperatively with each other to achieve regional goals and objectives. They know each other, have successfully collaborated on a variety of previous efforts, and there is an existing level of trust and partnership already in place that will greatly assist the Plan to successfully progress through the study process.

Disciplinary Integration. **FLOW** stands for **F**reight, **L**ogistics, **O**pportunities and **W**orkforce. As demonstrated in the scope of work outlined for the Greater Charlotte Bi-State Freight Mobility Plan, the outcomes from this project will affect regional transportation planning, land use planning, economic development opportunities and workforce development. These outcomes were developed and specifically approved by the regional partners, including the North Carolina and South Carolina DOTs, based on previous regional initiatives that have occurred within the past decade. This integrated approach has been carefully planned so that results derived from the Plan development process can be seamlessly integrated into a diverse set of stakeholder planning efforts in the Greater Charlotte Bi-State Region.

V. PROJECT READINESS

The Greater Charlotte Bi-State Freight Mobility Study is a proposal for TIGER planning funds rather than capital funding and the term "project readiness" normally applies to shovel-ready construction projects rather than planning projects. However, it is important to reinforce the fact that the Region is ready to launch this Project as soon as possible. The Region has identified the critical need for a Freight Mobility Plan based on earlier regional study recommendations since 2009. The 2011-2012 Freight Mobility Plan scoping process developed specific Plan goals and objectives through a collaborative stakeholder process. If TIGER funding is awarded to the Greater Charlotte Region for the Regional Freight Mobility Plan, the Project Steering Committee is easily and quickly able to be reconvened. The members of the Steering Committee are also committed to a thorough effort and are up-to-date with the history, background studies and findings and, most importantly, in agreement in their desire to undertake this project as soon as possible.

Thank you for the opportunity to present this proposal. Please see also the following supporting documentation provided through grants.gov:

- *Applicant's Federal Wage Rate Certification & Cost-Match Commitment Letter*
- *Applicant's HUD/DOT/EPA Partnership for Sustainable Communities Regional Planning Grant Recipient Documentation*
- *Letters of Support – Congressional Delegation*
- *Letters of Support – Partner Organizations*