APPALACHIAN COUNCIL OF GOVERNMENTS
REGIONAL FREIGHT MOBILITY PLAN

Appalachian Regional Freight Mobility Plan

Joint Steering Committee and Freight Advisory Committee Meeting

July 29, 2021

AGENDA

1. Welcome!
2. Freight Plan Work Products
3. Public Engagement Summary
4. Summary of Plan Recommendations
5. Implementation of the Freight Plan

Introduction to Speakers

Lance Estep, AICP

Appalachian Council of Governments
Project Manager
Greenville, SC

Jenny Humphreys, AICP

CDM Smith Consulting Team
Project Manager
Charleston, SC

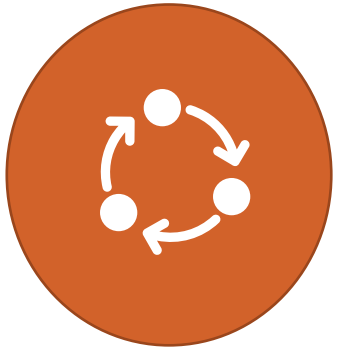
Freight Plan Stakeholders

Your Role on the Project

Learn

Provide Feedback

Connect with Colleagues to Raise Awareness



Maintain Momentum

Support the Implementation

Summary of Final Work Products

APPALACHIAN COUNCIL OF GOVERNMENTS
REGIONAL FREIGHT MOBILITY PLAN

Freight Plan Work Products

Freight Plan "Must Have" Components:

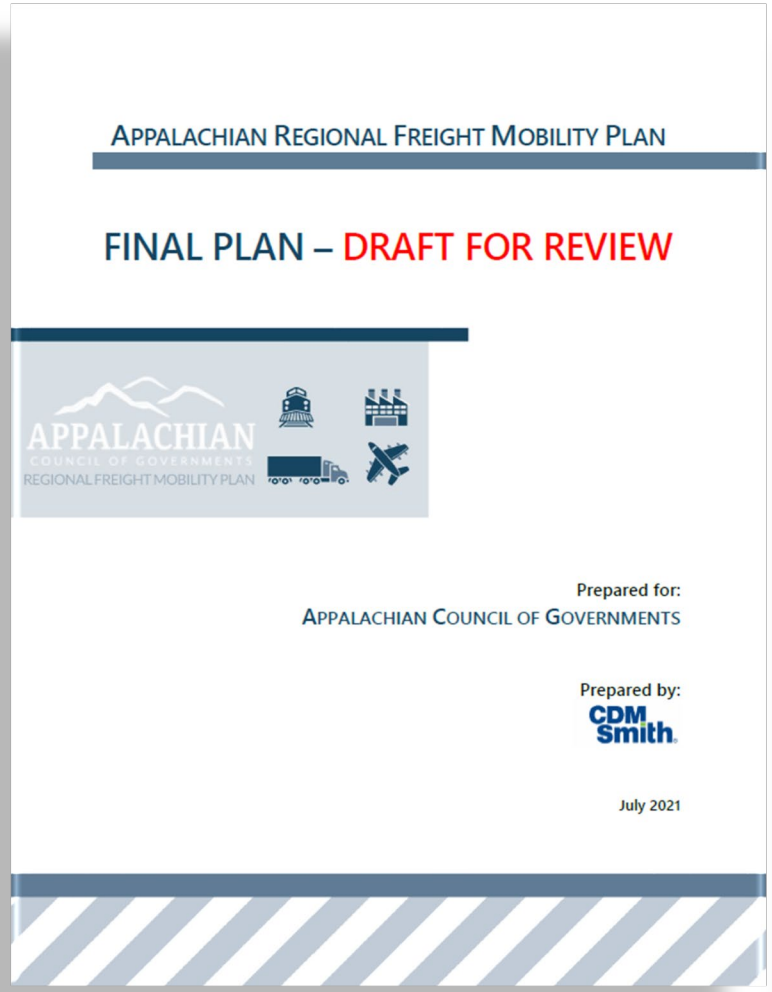
- Agency Coordination, especially SCDOT and FHWA
- Existing Freight Conditions
- Freight Needs Assessment
- Economic Context
- Integration with Land Use Planning
- Public Engagement
- Prioritized Freight Recommendations

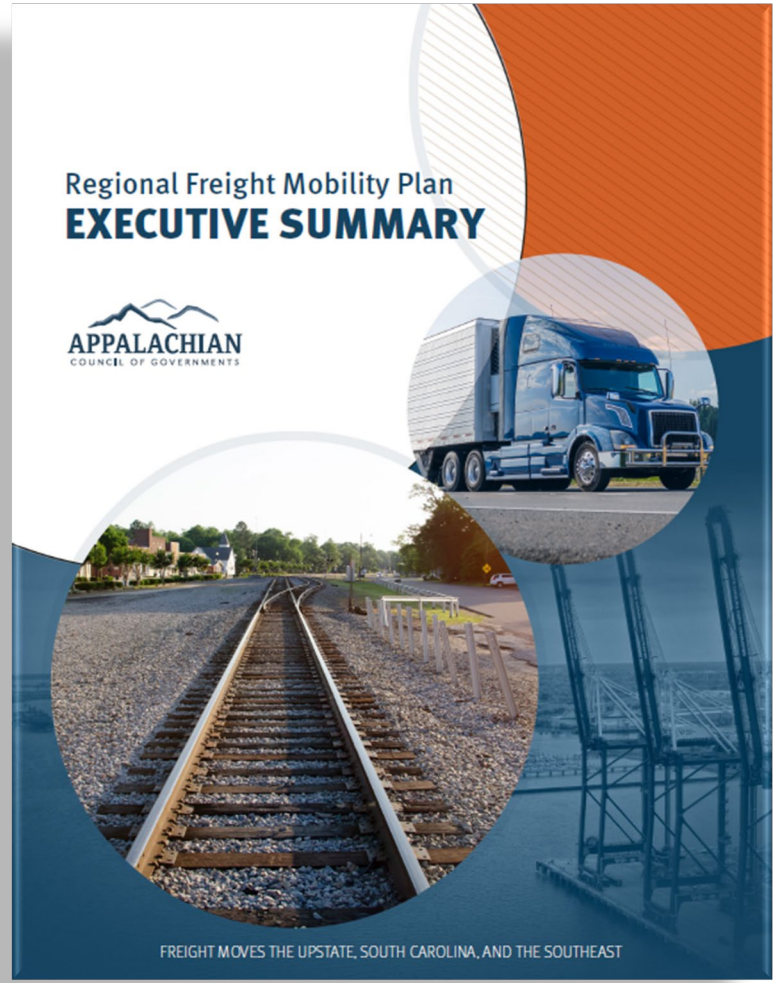
DELIVERABLES:

1. Regional Freight Mobility Plan
2. Freight Plan Appendices
   A. Public Engagement Summary
   B. Best Practices and Freight Technology
   C. Freight Network Assessment
   D. Land Use Analysis
   E. Freight and Economics Analysis
   F. Steering Committee Briefing Decks
3. Executive Summary Brochure
4. Freight and Economics Executive Summary Brochure
5. Archived Data

Freight Plan Work Products

ACOG REGIONAL FREIGHT MOBILITY PLAN





Technical Memoranda - Appendices

Briefing Decks

Program – Regional Traffic Operations

A Regional Traffic Operations Program is used to gather real-time information via traffic detectors, CCTV cameras, ramp meters, and other ITS elements to better manage traffic reliability and incidents. Utilizes ITS to monitor roadway conditions 24/7, which can include installing:

- Traffic Operations Center (TOC)
- Closed-Circuit Television Cameras (CCTV)
- Dynamic Message Signs (DMS)
- Public-Facing Performance Dashboard

Source: Seattle ITS

GOALS	Goal #1 Mobility System Reliability	Goal #2 Safety and Security	Goal #3 Infrastructure Condition	Goal #4 Economic and Community Vitality	Goal #5 Environmental	Goal #6 Equity

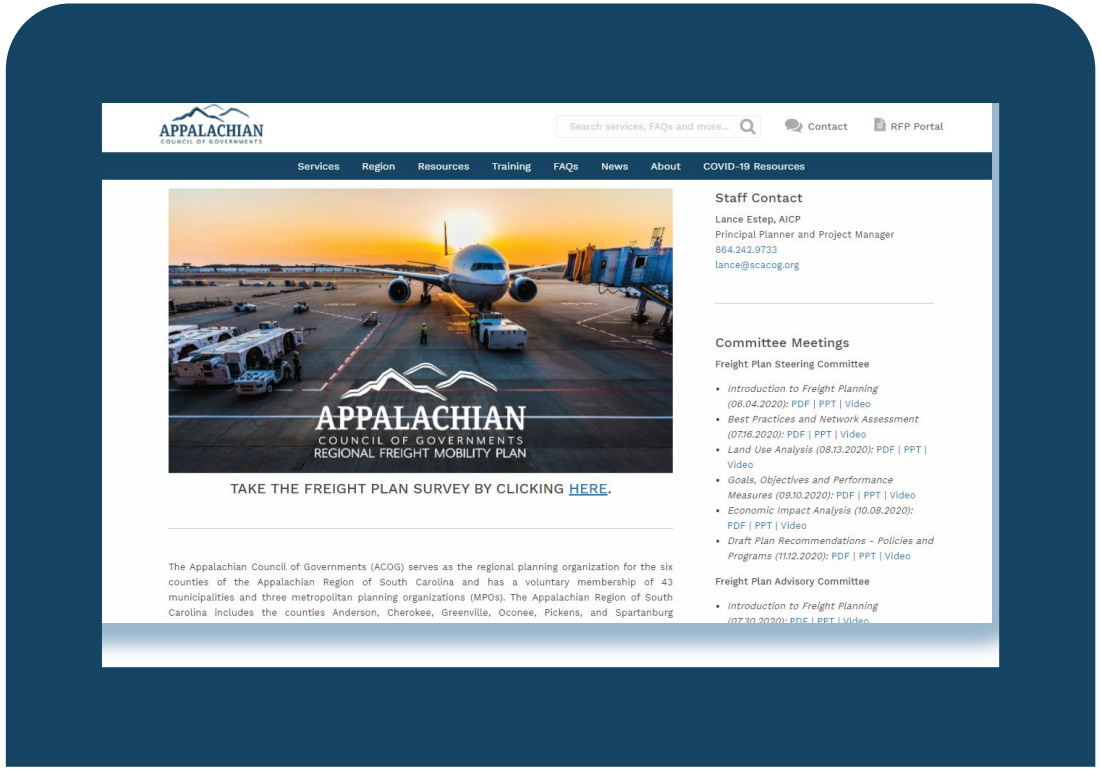
SCDOT

APPALACHIAN COUNCIL OF GOVERNMENTS

Local Municipalities

Meeting Content & Archived Recordings

- Plan documents
- Steering Committee Meeting Materials and Recordings
- Freight Advisory Committee Meeting Materials and Recordings
- Palmetto Freight Series Recordings
- Contact Info for More Information



Public Engagement Process

APPALACHIAN COUNCIL OF GOVERNMENTS
REGIONAL FREIGHT MOBILITY PLAN

Overview of Public Engagement

APPALACHIAN COUNCIL OF GOVERNMENTS

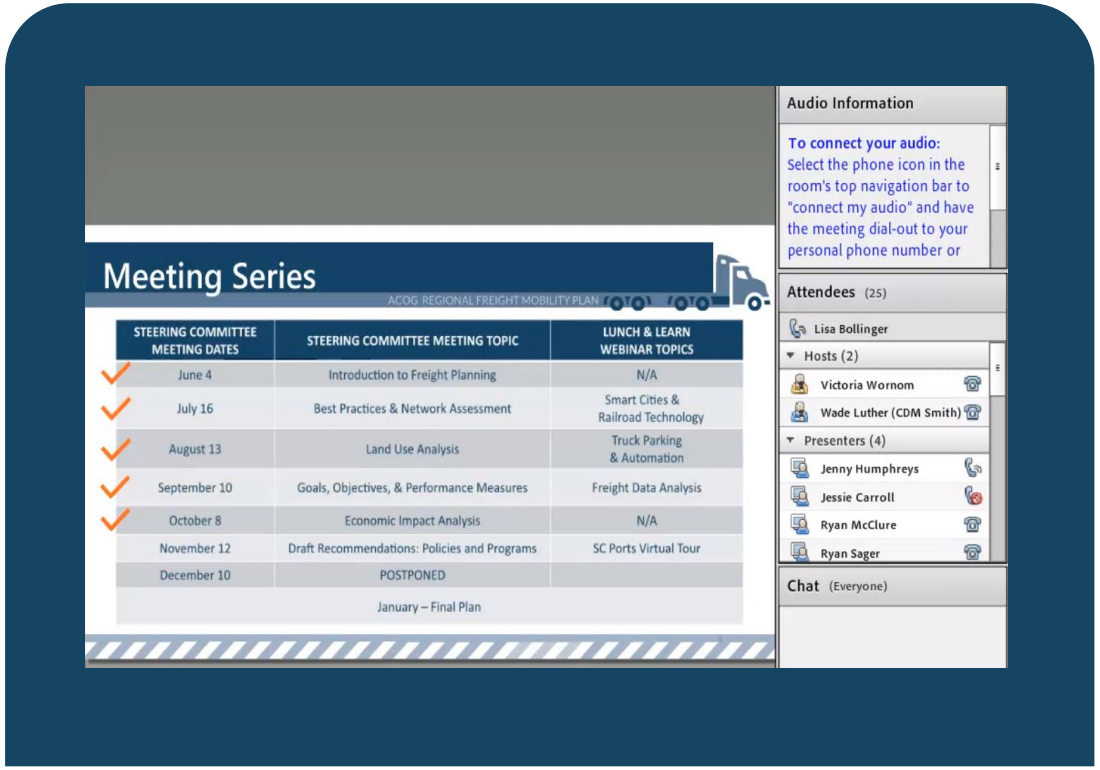
Stakeholder & Public Involvement *Approach*

Steering Committee	Regional Policymakers, Elected Officials, Staff	Status Meetings, Webinars
Freight Advisory Committee	Freight, Logistics, Economic Developers, Manufacturing	Status Meetings, Surveys, One-on-One Interviews
General Public	Citizens of the ACOG Region	Social Media
Agency Coordination	SCDOT, FHWA, Local Governments, MPOs	Work Sessions, Emails, Data Sharing, etc.

Meeting Series

STEERING COMMITTEE MEETING DATES (2020)	STEERING COMMITTEE MEETING TOPIC	LUNCH & LEARN WEBINAR TOPICS
June 4	Introduction to Freight Planning	N/A
July 16	Best Practices & Network Assessment	Smart Cities & Railroad Technology
August 13	Land Use Analysis	Truck Parking & Automation
September 10	Goals, Objectives, & Performance Measures	Freight Data Analysis
October 8	Economic Impact Analysis	N/A
November 12	Draft Recommendations: Policies and Programs	SC Ports Virtual Tour
December 10	Draft Recommendations: Projects	N/A
	Final Plan	

COVID Protocol



Emphasized Online Engagement:

- Online Steering Committee Meetings
- Palmetto Freight Series Webinars
- Online Surveys
- Phone Interviews

Agency Participation

U.S. Department of Transportation
Federal Highway Administration

SCDOT®
South Carolina Department of Transportation

APPALACHIAN COUNCIL OF GOVERNMENTS

GPATS

SPATS

ANDERSON
THE ELECTRIC CITY

Roster of Steering Committee

Agency	Representative
Anderson County Economic Development, Anderson County	Burriss Nelson
Cherokee County Development Board	Jim Cook
Cherokee County Development Board	Ken Moon
Greenville Area Development Corporation	Mark Ferris
Laurens County Development Corporation	Jonathan Coleman
Oconee Economic Alliance	Annie Caggiano
Alliance Pickens	Jeromy Arnett
Spartanburg Economic Futures Group	Kyle Sox
Cherokee County	Steve Bratton
Greenville County	Kurt Walters
Laurens County	Jon Caime
Oconee County	Adam Chapman
Pickens County	Chris Brink
Spartanburg County	Billy Martin
SCDOT - Intermodal	Diane Lackey
SCDOT - Planning	Christina Lewis
SCDOT - Production	Jim Walden
FHWA Community Planning	Mark Pleasant

Agency	Representative
Ten at the Top – Upstate Mobility Alliance	Michael Hildebrand
GSP Airport	Mike Forman
SC Ports Authority	Barbara Melvin
SC Ports Authority	Steve Kemp
SC Ports Authority	Hampton Lee
City of Gaffney	James Taylor
City of Greenville	Valerie Holmes
City of Greenville	Allen Reid
City of Greer	Ashley Kaade
City of Spartanburg	Chris Story
City of Woodruff	Lee Bailey
GPATS MPO	Keith Brockington
SPATS MPO	Lisa Bollinger
ANATS MPO and City of Anderson	Mike Gay
Upper Savannah Council of Governments	Rick Green
ACOG	Lance Estep

Roster of Freight Advisory Committee

ACOG REGIONAL FREIGHT MOBILITY PLAN

Agency	Representative
BMW Manufacturing	Alfred Haas
SC Ports Authority	Hampton Lee
SC Ports Authority	Mike Hoffman
Carolina Piedmont Shortline RR	Billy Tucker
C.H. Robinson	Brandon Huell
Norfolk Southern	Brian Gwin
Michelin	Leesa Owens
G & P Trucking	Clifton Parker
Maritime Association of South Carolina	Heather Holmquest
Continental Tires	Corey Mabry
SCDOT	Doug Frate

Agency	Representative
SCDOT	Diane Lackey
SCDOT	David Gray
Sunland Logistics	Elijah Ray
NAI Earle Furman	Hal Johnson
Clemson University - ICAR	Jack Ellenberg
CSX Railroad	John Dillard
U of SC - Operations and Supply Chain Center at the Darla Moore School of Business	Linda Oldham
SC Trucking Association	Rick Todd
GSP Airport	Scott Carr
SC Logistics	Taylor Jackson

Interviews & Online Surveys

Stakeholder Interviews: Oct. – Nov. 2020

WHAT DID WE HEAR?

FREIGHT INDUSTRY INTERVIEWS

MAJOR INTERVIEW THEMES:

COVID-19 IMPACTS:
- Production/freight volume declines
- Supply chain vulnerabilities
- Truck parking
- Driver shortages
- Changes in shoring options

TRAFFIC CHALLENGES AND OPPORTUNITIES
- Increased traffic
- Highway maintenance
- Traffic signalization
- Safety

MULTIMODAL TRANSPORTATION
- Demand for rail
- Port of Charleston

ISSUES FACING TRUCKING AND LOGISTICS
- Overnight and short-term parking concerns
- Increased driver shortages
- Signal technologies

Online Survey: Oct. 6 – 25, 2020

27 Respondents

WHAT DID WE HEAR?

FREIGHT INDUSTRY SURVEY

THE MAJORITY OF RESPONDENTS …

DO NOT USE TRAFFIC APPS TO HELP ASSIT IN THEIR COMMUTE OR DELIVERY

ARE MOST CONCERNED WITH TRAFFIC CONGESTION/ VOLUMES WHEN DRIVING

DO NOT THINK TRUCK PARKING FACILITES ARE ADEQUATE IN OUR REGION

WOULD LIKE TO SEE ADDED CAPACITY TO IMPROVE FREIGHT MOBILITY

Palmetto Freight Series

ACOG REGIONAL FREIGHT MOBILITY PLAN

STEERING COMMITTEE MEETING DATES (2020)	LUNCH & LEARN WEBINAR TOPICS
June 4	N/A
July 16	Smart Cities & Railroad Technology
August 13	Truck Parking & Automation
September 10	Freight Data Analysis
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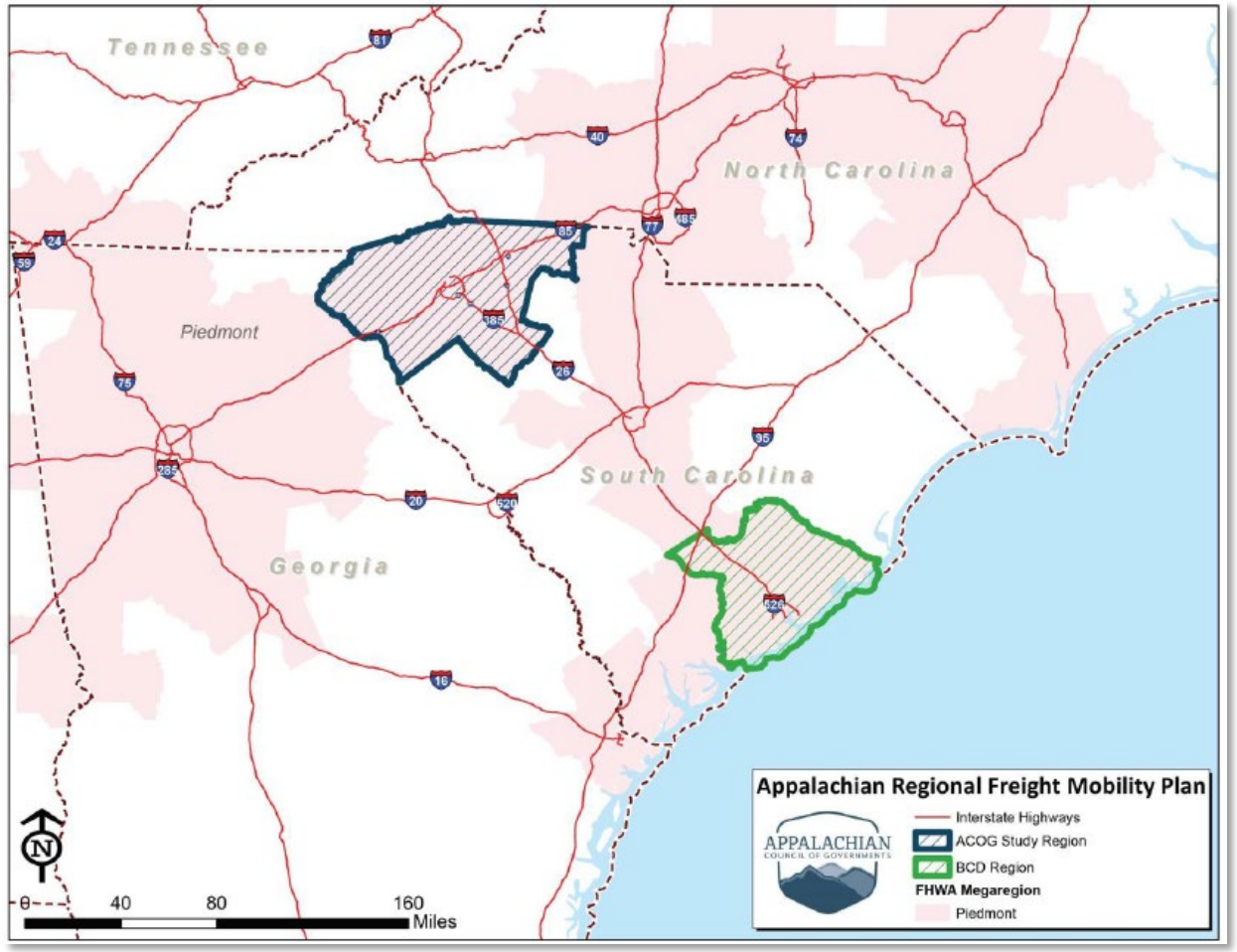
November 12	SC Ports Virtual Tour
December 10	N/A



Summary of Plan Recommendations

Types of Freight Recommendations

- **Projects** – proposed freight infrastructure improvements that meet identified freight needs and deficiencies PRIORITIZED
- **Policies** – recommendations that provide guidance in the maintenance and investment of the freight infrastructure and movement of goods LISTED
- **Programs** – recommendations for short term interventions to improve the regional freight mobility system LISTED

Project Prioritization Process

Goal 1: Mobility and System Reliability		
Objectives	Reduce congestion on the freight transportation system	
	Improve average speed on congested corridors	
Performance Measures	Truck travel time reliability index	Data: SCDOT
	Proportion of the ACOG's regional interstate mileage that operates at less than a Level of Service (LOS) E for urban areas and LOS C for rural areas	Data: SCDOT
Goal 2: Safety and Security		
Objectives	Reduce the number of high crash locations that involve trucks and at-grade rail crossings	
	Improve the incident response rate to crashes on the freight system and hazardous materials incidents	
	Implement enhanced intelligent transportation system improvements	
Goal 2: Safety and Security (continued)		
Performance Measures	Number of large trucks reported in crashes (fatal, nonfatal, injury reported, hazardous materials) 5-year trends	Data: SCDOT
	Number of public/private truck parking spaces available	Data: SCDOT
	Number of at-grade crossing crashes	Data: Federal Railroad Administration

Prioritization Process

Goal 3: Infrastructure Condition		
Objective	Maintain regional freight network roadways and bridges in a state of good repair	
Performance Measures	Percent of miles of interstate and National Highway System rated at "good" or higher condition	Data: SCDOT
	Percent of miles of non-interstate on regional freight network rated at "good" or higher condition	Data: SCDOT
	Percent of deficient bridge deck area	Data: SCDOT
Goal 4: Economic and Community Vitality		
Objectives	Improve access and interconnectivity of the freight transportation system to major intermodal facilities	
	Maintain or improve truck travel speed and time reliability	
	Improve the freight transportation system to accommodate supply chain immunity	
	Participate in statewide and regional freight coordination efforts	
Performance Measures	Truck travel time reliability index	Data: SCDOT
	Annual hours of truck delay on freight corridors	Data: SCDOT
Goal 5: Environmental		
Objective	Encourage land use planning that supports and promotes the efficient movement of freight	
Performance Measure	Annual hours of truck delay on freight corridors	Data: SCDOT
Goal 6: Equity		
Objectives	Improve or maintain broad based public participation into all planning and project development processes	
	Incorporate freight mobility needs of all modes into prioritization processes	
Performance Measure	Number of freight-beneficial projects programmed into MPO's Transportation Improvement Program	

Project Prioritization Process

ACOG REGIONAL FREIGHT MOBILITY PLAN

Main Menu

Project ID	Project Type	Project Name	Total Weighted Score: Mobility and Reliabili	Safety and Securit	Infrastructure Condition	Economic and Communit Vitality	Environmental	Equity	Total Score - Weighte	Ranking and Score Cost: Total Ranking
8	Interchange Improvements	I-85 Interchange Improvements Study at Exits 58 (Brockman McClimon Road) and 60 (SC 101)	6.67	2.08	11.11	16.67	16.67	12.50	65.69	1
6	Smart Corridor Study/TSMO	Dynamic Messaging System Installation along I-85 from Georgia state line to North Carolina state line	5.00	10.42	0.00	16.67	16.67	4.17	52.92	2
13	Corridor Study	Corridor Study of U.S. 29	10.00	0.00	0.00	11.11	16.67	12.50	50.28	3
5	Smart Corridor Study/ Transp	Smart Corridor, TSMO of I-85 Corridor from Georgia state line to North Carolina state line	5.00	6.25	0.00	16.67	16.67	4.17	48.75	4
18	Corridor Study	Analysis of Traffic Operations in the Woodruff Road Corridor within the I-85/I-385 Interchange Area	10.00	8.33	0.00	0.00	16.67	12.50	47.50	5
14	Corridor Study	Corridor Study for Pine Street Alternatives	10.00	0.00	0.00	5.56	16.67	12.50	44.72	6
7	Smart Corridor Study/TSMO	Blinders installed on Jersey Barriers of I-85 (Gossett Road to E Cherokee Street)	5.00	2.08	0.00	16.67	16.67	4.17	44.58	7
9	Corridor Study	Safety Study of I-85 Business (N Blackstock Road to Sun N Sand Road)	3.33	2.08	0.00	13.89	8.33	16.67	44.31	8
15	Corridor Study	U.S. 29 Corridor Study from East Gaffney to Blacksburg	11.67	0.00	0.00	2.78	16.67	12.50	43.61	9
17	Corridor Study	U.S. 29 Subarea Study for Downtown Spartanburg from Blackstock Road to U.S. 176	3.33	0.00	0.00	11.11	16.67	12.50	43.61	10
11	Signal Optimization	Signal Optimization at I-85 Interchange at SC 14	6.67	6.25	0.00	8.33	16.67	4.17	42.08	11
3	Bridge Rehabilitation	Downtown Greenville bridge rehabilitation projects: Camperdown Way/Church Street and Academy Street/Broad S	10.00	0.00	16.67	5.56	0.00	8.33	40.56	12
10	Signal Optimization	Signal Optimization at I-85 Interchange at Pelham Road Interchange to I-385	5.00	8.33	0.00	5.56	16.67	4.17	39.72	13
4	Corridor Study	Greenville Signal timing improvements on U.S. 276 from I-85 to SC 253	6.67	4.17	0.00	11.11	8.33	8.33	38.61	14
26	Intersection Improvement	U.S. 123 at SC 93 in Easley Intersection Improvement	10.00	0.00	0.00	5.56	8.33	12.50	36.39	15
16	Corridor Study	U.S. 29 Wayfinding Analysis from East Gaffney to Blacksburg	11.67	0.00	0.00	2.78	16.67	4.17	35.28	16
28	At-Grade Crossing	North Line Street (Greer) Rail Crossing Improvement	0.00	4.17	5.56	0.00	16.67	8.33	34.72	17
19	Corridor Study	Access Management Study SC 101 south of I-85 East of Greenville	6.67	0.00	0.00	11.11	8.33	8.33	34.44	18
2	Corridor Study	Anderson Area Corridor Study for Mobility Improvements (N Murray Avenue, E North Ave, N Main Street to U.S. 28)	10.00	0.00	0.00	5.56	0.00	16.67	32.22	19
24	Corridor Study	Corridor Study for SC 8 from I-85 to Pelzer	6.67	6.25	0.00	16.67	0.00	0.00	29.58	20
31	Corridor Study	U.S. 29 in Anderson County Corridor Study	6.67	6.25	0.00	16.67	0.00	0.00	29.58	20
25	Corridor Study	U.S. 123 Corridor Study	6.67	4.17	0.00	5.56	8.33	4.17	28.89	22
32	Corridor Study	U.S. 25 Corridor Study	6.67	4.17	0.00	5.56	8.33	4.17	28.89	22
29	At-Grade Crossing	Hamrick Street (Gaffney) Rail Crossing Improvement	0.00	4.17	11.11	0.00	8.33	4.17	27.78	24
1	Corridor Study	U.S. 29 (Southwest of Anderson) Corridor Study for New Weigh in Motion Station	0.00	4.17	0.00	5.56	8.33	8.33	26.39	25
21	Bridge Rehabilitation	Bridge Rehabilitation for Andrews Pickens Scenic Highway and Whitfield Road	3.33	6.25	16.67	0.00	0.00	0.00	26.25	26
30	At-Grade Crossing	Island Ford Street Rail Crossing Improvement	3.33	8.33	5.56	0.00	8.33	0.00	25.56	27
20	Truck Parking Site	Truck Parking Site Selection Study of I-85 Corridor from Georgia State Line to Clemson Highway interchange	5.00	6.25	0.00	5.56	0.00	8.33	25.14	28
27	At-Grade Crossing	Cleveland Street (Spartanburg) Rail Crossing Improvement	6.67	0.00	0.00	5.56	8.33	4.17	24.72	29

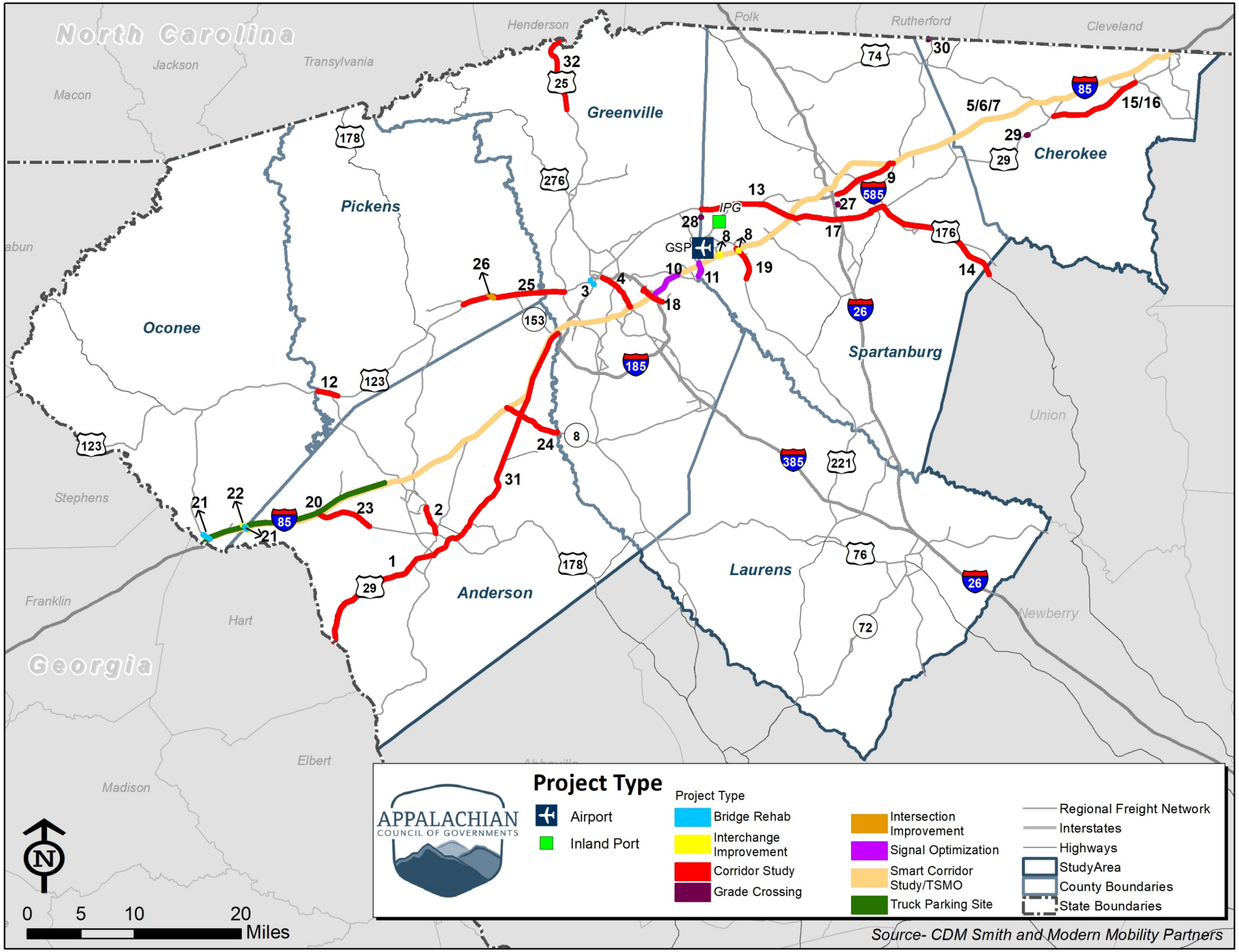
Freight Plan Work Products

Projects:

- Bridge Rehabs
- Interchange Improvements
- Corridor Studies
- At-Grade Crossings
- Intersection Improvements
- Signal Optimization
- Smart Corridor and TSMO Studies
- Truck Parking Locations

Policies & Programs:

- Technology Projects
- Roadway Design Guidelines
- Educational Partnerships
- Land Use Recommendations
- Economic Development
- Funding Programs


North Carolina
Georgia
Henderson
Polk
Rutherford
Cleveland
Jackson
Transylvania
Macon
Greenville
Pickens
Oconee
Cherokee
Spartanburg
Union
Laurens
Anderson
Newberry
Stephens
Franklin
Hart
Elbert
Madison
Abbeville
GSP
IPG
0 5 10 20 Miles
Project Type
Airport
Inland Port
Project Type
Bridge Rehab
Interchange Improvement
Corridor Study
Grade Crossing
Intersection Improvement
Signal Optimization
Smart Corridor Study/TSMO
Truck Parking Site
Regional Freight Network
Interstates
Highways
StudyArea
County Boundaries
State Boundaries
Source- CDM Smith and Modern Mobility Partners

PROJECT INFORMATION			TOTAL WEIGHTED SCORE							
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5	Smart Corridor Study/ Transportation System Management and Operations (TSMO)	Smart Corridor, TSMO of I-85 Corridor from Georgia state line to North Carolina state line	5.00	6.25	0.00	16.67	16.67	4.17	48.75	4
18	Corridor Study	Analysis of Traffic Operations in the Woodruff Road Corridor within the I-85/I-385 Interchange Area	10.00	8.33	0.00	0.00	16.67	12.50	47.50	5
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22	Interchange Improvements	I-85 at Whitfield Road Interchange Area Improvements	6.67	2.08	0.00	0.00	8.33	0.00	17.08	30
12	Corridor Study	Access Management and Safety Subarea Study for Tiger Boulevard	3.33	0.00	0.00	0.00	0.00	8.33	11.67	31
23	Corridor Study	SC 24 Corridor from I-85 Southeast to Westgate	6.67	4.17	0.00	0.00	0.00	0.00	10.83	32

ID	Type	Name	Recommendation	Plan Goals Addressed (in bold)	Potential Implementation Ownership
POL-1	Policy	Retirement or Retrofit of Aging Heavy-Duty Vehicles and Rail Equipment	Support the accelerated retirement of older model year heavy duty vehicles and rail equipment focusing on idle reduction and low emissions technology. The ACOG can partner with federal and state funding sources to promote participation in grant programs to improve fuel efficiency of vehicles or other related efforts to improve the freight fleet. Possible funding sources: • **Federal – the Environmental Protection Agency's (EPA) Diesel Emissions Reduction Act (DERA) Program.**[17] • **State - South Carolina Diesel Emissions Reduction Act (DERA) Grants**[18] Consider for FHWA's Alternative Fuel Corridors Designation.[19]	**1. Mobility & Reliability** **2. Safety & Security** 3. Infrastructure Condition **4. Economic Vitality** **5. Environmental** 6. Equity	✓ ACOG ✓ Inland Port Greer ✓ Study Area Counties ✓ Municipal Partners ✓ SCDOT ✓ Truck Owners ✓ Rail Operators
POL-2	Policy	Inspection and Maintenance of Vehicles	Support improved inspection and maintenance of vehicles to minimize emissions.	**1. Mobility & Reliability** **2. Safety & Security** 3. Infrastructure Condition **4. Economic Vitality** **5. Environmental** 6. Equity	✓ SCDOT ✓ SCDPS ✓ SCDMV ✓ SCDHEC ✓ Truck Owners
POL-3	Policy	Actively Seek and Grow Public-Private Partnerships	Leverage public-private partnerships for funding non-highway improvements. This may include partnerships for the development of parking facilities with private travel centers, manufacturing or distribution focused facilities, or alternative fuels distribution centers. It also includes public-private partnerships between railroad and governmental entities to address institutional and infrastructure issues.	**1. Mobility & Reliability** 2. Safety & Security **3. Infrastructure Condition** **4. Economic Vitality** 5. Environmental 6. Equity	✓ ACOG ✓ SCDOT ✓ Study Area Counties ✓ Municipal Partners ✓ Truck Owners ✓ Rail Operators ✓ Freight Businesses
POL-4	Policy	Integration of Truck Parking into Land Use Plans	Incorporate truck parking needs into land use planning activities. Regional planning agencies may consider incentivizing or requiring truck parking if proposed land uses are expected to generate truck traffic. Using the freight corridors in the ACOG Freight Mobility Plan, locations are identified for site evaluations for additional truck parking resources within those corridors. Upon completion of the SCDOT Truck Parking Study, further truck parking recommendations can be made	1. Mobility & Reliability **2. Safety & Security** 3. Infrastructure Condition **4. Economic Vitality** 5. Environmental **6. Equity**	✓ ACOG ✓ Study Area Counties ✓ Municipal Partners ✓ SCDOT
POL-5	Policy	Increase Interagency Coordination at the State Level	The SCDOT Statewide Freight Plan identifies I-85, which traverses the Upstate, and I-385, located near Greenville, as priority corridors for future freight improvements. Regional partners should continue to coordinate with the state as these improvements become necessary and opportunities for these projects become available, and include freight stakeholders in the public engagement process to support design elements, safety, and maintenance of traffic issues. This is reinforced in the GPATS Horizon 2040 LRTP	**1. Mobility & Reliability** **2. Safety & Security** **3. Infrastructure Condition** **4. Economic Vitality** **5. Environmental** **6. Equity**	✓ ACOG ✓ SCDOT ✓ GPATS ✓ Study Area Counties ✓ Municipal Partners
POL-6	Policy	Subarea and Neighborhood Freight Plan Program	Develop strategies and design standards to reduce conflicts between freight, auto, transit, bicycles, and pedestrians for small towns and neighborhoods. This includes establishing "logistics villages" based on the development clusters identified in the land use analysis to help increase economic activity and transportation efficiency at these sites, such as access between intermodal and private distribution centers, rest and parking areas for drivers, and fixing choke points and bottlenecks. This is particularly viable in areas of highly concentrated rural freight generators.	**1. Mobility & Reliability** **2. Safety & Security** **3. Infrastructure Condition** **4. Economic Vitality** **5. Environmental** **6. Equity**	✓ ACOG ✓ Study Area Counties ✓ Municipal Partners

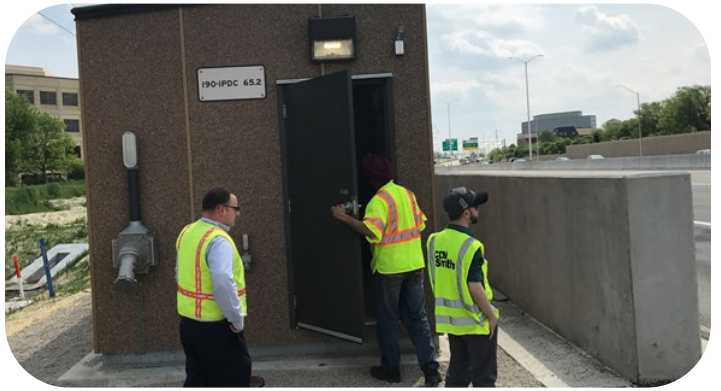
ID	Type	Name	Recommendation	Plan Goals Addressed (in bold)	Potential Implementation Ownership
POL-7	Policy	Develop Context-Sensitive Design Guidelines	Develop detailed, context-sensitive design guidelines for freight movement along the U.S. 29 corridor. This should include considerations of the SCDOT Roadway Design Guidelines and incorporate local land uses as part of the planning and conceptual design process. In addition to observed traffic and safety issues, adjacent land uses should be used to identify preferred typical sections to design or redesign roadways safety for freight vehicles. Refer to the BCDCOG Neck Area Master Plan for detailed design guidelines.	**1. Mobility & Reliability** **2. Safety & Security** **3. Infrastructure Condition** **4. Economic Vitality** 5. Environmental **6. Equity**	✓ ACOG ✓ SCDOT ✓ Study Area Counties ✓ Municipal Partners
POL-8	Policy	Mauldin/Clemson University International Center for Automotive Research (CU-ICAR) Subarea Plan	Mauldin/CU-ICAR Subarea Plan to incorporate the development at ICAR and the industrial land uses and determine how this will impact freight movement within the subarea. CU-ICAR expansion can be rolled into a subarea plan to evaluate how freight fits into this area.	**1. Mobility & Reliability** 2. Safety & Security 3. Infrastructure Condition **4. Economic Vitality** 5. Environmental 6. Equity	✓ Mauldin ✓ CU-ICAR ✓ Greenville County ✓ ACOG
POL-9	Policy	Automotive and Transportation Industry Collaborations	Collaborations with the automotive and transportation industry in the area to develop ITS strategies to address freight movement issues and the safety issues. Opportunity to showcase SC's automotive industry knowledge with a smart corridor/city area that uses enhanced ITS and other technological measures - CU-ICAR has received $2 Million in funds for another building development that incorporates V2I (Vehicle to Infrastructure) technology, which may include antennas, sensors, and cameras to amplify the smart development.	**1. Mobility & Reliability** **2. Safety & Security** 3. Infrastructure Condition **4. Economic Vitality** **5. Environmental** 6. Equity	✓ ACOG ✓ Automotive and Transportation Industry Representatives ✓ CU-ICAR ✓ SCDOT
POL-10	Policy	Regional Freight-Related Economic Development Study	Build upon the data collection effort of the ACOG Regional Freight Mobility Plan to determine freight-related planned acreage and future industry cluster recruitment and marketing strategies. This effort should include a review of available utilities and transportation infrastructure as well as ways to provide workforce transportation to these locations. Opportunities to expand freight related industry within the region through marketing and recruiting of new industries the region may want to expand into.	1. Mobility & Reliability 2. Safety & Security 3. Infrastructure Condition **4. Economic Vitality** 5. Environmental **6. Equity**	✓ ACOG ✓ SC Department of Commerce ✓ Economic Development Partners ✓ Truck Owners ✓ Rail Operators ✓ Other Freight Businesses
POL-11	Policy	Regional Supply Chain Resiliency Strategy	Develop a strategy to create immunity to local and global impacts to the network supply chain. From the impacts of COVID-19, examine ways to ensure the supply chain can be resilient to multiple effects.	1. Mobility & Reliability **2. Safety & Security** 3. Infrastructure Condition **4. Economic Vitality** 5. Environmental **6. Equity**	✓ ACOG ✓ SC Department of Commerce ✓ Economic Development Partners ✓ Truck Owners ✓ Rail Operators ✓ Freight Businesses
POL-12	Policy	Develop Interstate Megaregional Freight Plan	Building upon the efforts of the ACOG Regional Freight Mobility Plan and the Berkeley, Charleston, Dorchester Regional Freight Mobility Plan, a megaregional freight plan focusing on the I-85 corridor through the ACOG, connecting with the Charlotte, North Carolina and Atlanta, Georgia regions would provide a multistate element to larger mobility and development concepts. This should focus on an enhanced Smart I-85 Corridor that connects regional freight traffic.	**1. Mobility & Reliability** 2. Safety & Security 3. Infrastructure Condition **4. Economic Vitality** **5. Environmental** **6. Equity**	✓ ACOG ✓ BCDCOG ✓ Cherokee, Spartanburg, Greenville, Anderson, Oconee Counties ✓ SCDOT ✓ GDOT ✓ NCDOT ✓ Municipal Partners

ID	Type	Name	Recommendation	Plan Goals Addressed (in bold)	Potential Implementation Ownership
POL-13	Policy	Regional Freight Security Program	Continue to support the development of an effective working relationship with planning officials, law enforcement, emergency response personnel, and freight providers to improve freight security. Communication with agencies and stakeholders is essential to a proactive approach to security issues. This is reinforced in the GPATS Horizon 2040 LRTP.	1. **Mobility & Reliability** 2. **Safety & Security** 3. Infrastructure Condition 4. **Economic Vitality** 5. Environmental 6. Equity	✓ GPATS ✓ Study Area Counties ✓ Municipal Partners ✓ SCDOT ✓ Law enforcement and emergency response departments ✓ Freight Businesses
POL-14	Policy	Comprehensive Inventory and Assessment of Rail Crossings	Continue to identify and fund improvements, such as highway-rail grade separations, at rail crossings throughout the region to reduce risks associated with these locations. The region's numerous active rail lines make railroad crossings more frequent and increases the potential for conflicts. This is reinforced in the GPATS Horizon 2040 LRTP.	1. **Mobility & Reliability** 2. **Safety & Security** 3. **Infrastructure Condition** 4. **Economic Vitality** 5. Environmental 6. **Equity**	✓ Class I Railroads ✓ Other Railroad Owners ✓ SC Department of Commerce ✓ Municipal Partners ✓ SCDOT ✓ GPATS
POL-15	Policy	Highway Rail Crossing Closures	Continue to monitor highway-rail at-grade crossings and explore opportunities to close these crossings in close coordination with stakeholders and the community. A strategy aimed at increasing public safety and promoting economic development through selective closure of identified rail crossings. Crossing consolidation can help reduce traffic congestion, noise, and other effects of railroad crossings.	1. **Mobility & Reliability** 2. **Safety & Security** 3. Infrastructure Condition 4. **Economic Vitality** 5. **Environmental** 6. **Equity**	✓ Class I Railroads ✓ Other Railroad Owners ✓ SC Department of Commerce ✓ Municipal Partners ✓ SCDOT
POL-16	Policy	Quiet Zone Designations	Assess areas disproportionately impacted by train horn noise for potential quiet zone designation. A section of track at least one-half mile long, comprised of one or more consecutive crossings where train horns are not routinely sounded. Quiet zones are established to reduce noise and promote/improve quality of life for residents and businesses.	1. Mobility & Reliability 2. Safety & Security 3. Infrastructure Condition 4. **Economic Vitality** 5. **Environmental** 6. **Equity**	✓ Class I Railroads ✓ Other Railroad Owners ✓ Municipal Partners ✓ SCDOT
POL-17	Policy	Identify Trespassing Hot Spots	Identify trespassing "hot spots" and implement technology to aid in the monitoring of these areas in coordination with local law enforcement. Rail right-of-way trespassing often stems from a lack of education/knowledge about the dangers of trespassing, lack of enforcement, and poor community planning decisions. Technology is improving the ability of enforcement agencies to monitor right-of-way and dispatch personnel.	1. Mobility & Reliability 2. **Safety & Security** 3. Infrastructure Condition 4. **Economic Vitality** 5. Environmental 6. **Equity**	✓ Law enforcement departments ✓ Freight Businesses ✓ SCDOT ✓ Municipal Partners
POL-18	Policy	Noise and Vibration Impacts	Assess areas disproportionately impacted by the effects of noise and vibration resulting from nearby rail operations. Noise and vibration from passing trains can be extremely detrimental to the public health and economic development of a community. The impacts range from lower land values, creating resident complaints, deteriorating structures, limitations on the type of development that can occur in the vicinity of a rail line.	1. Mobility & Reliability 2. Safety & Security 3. Infrastructure Condition 4. **Economic Vitality** 5. **Environmental** 6. **Equity**	✓ Class I Railroads ✓ Other Railroad Owners ✓ Municipal Partners ✓ SCDOT
POL-19	Policy	Regional ITS Master Plan	Develop a Regional ITS Master Plan. Coordinate with state, regional, and local agencies for ITS improvements throughout the region. Based on the Best Practices review, it is suggested that this include applications for Dynamic Truck Parking Signage System, providing information on available parking for drivers.	1. **Mobility & Reliability** 2. **Safety & Security** 3. **Infrastructure Condition** 4. Economic Vitality 5. Environmental 6. **Equity**	✓ ACOG ✓ SCDOT ✓ GPATS ✓ ANATS ✓ SPATS

ID	Type	Name	Recommendation	Plan Goals Addressed (in bold)	Potential Implementation Ownership
POL-20	Policy	Rail Inland Port Study	Conduct a Inland Port Greer Study. A freight focus group for SPATS 2040 LRTP held on 10-15-15 found that growth at the inland port is constrained, and longer train sets and more trains will become increasingly noticeable in more communities. Study needed to determine how to grow inland ports and accommodate train traffic. This should include existing and forecast land uses in the subarea to guide decision making for transportation and mobility needs for continued growth.	**1. Mobility & Reliability** **2. Safety & Security** **3. Infrastructure Condition** **4. Economic Vitality** **5. Environmental** **6. Equity**	✓ Inland Port Greer ✓ Class I Railroads ✓ SPATS
POL-21	**Policy**	**Transportation Delivery and Logistics Workforce Action Plan**	**Based on the Best Practices review, the benefit of a TDL Workforce Action Plan would be realized by the various needs for employees and TDL related training in the region. This should include a review of available workers in the region, available training for TDL jobs in the region, and ways to reduce the gap between demand and available skilled workers.**	1. Reliability 2. Safety & Security 3. Infrastructure Condition **4. Economic Vitality** 5. Environmental **6. Equity**	✓ **ACOG** ✓ **Technical Colleges** ✓ **Freight Advisory Committee** ✓ **Economic Development Partners**
PRG-1	Program	Urban Delivery Pilot Program/Wayfinding	Limit deliveries to Anderson subarea between specified hours. Truck prohibition for the downtown corridor. Urban delivery hours for the area. No through trucks signage where appropriate.	1. Mobility & Reliability 2. Safety & Security 3. Infrastructure Condition **4. Economic Vitality** 5. Environmental 6. Equity	✓ ACOG ✓ Anderson County ✓ Municipal Partners ✓ Urban Delivery Businesses
PRG-2	Program	Incident Management Performance Measure	Reduce the average time to clear travel lanes for traffic incidents along Incident Management Zone is 20 minutes or less. Incident management program in urbanized areas should match SCDOT performance measure.	**1. Mobility & Reliability** **2. Safety & Security** 3. Infrastructure Condition 4. Economic Vitality 5. Environmental 6. Equity	✓ SCDOT ✓ ACOG ✓ GPATS ✓ ANATS ✓ SPATS
PRG-3	Program	Greenville Regional Traffic Operations Program	Develop the Greenville Regional Traffic Operations Program. This program would integrate ITS tools for improving driver information, vehicle technology integration, and other multimodal improvements to inform and manage traffic operations.	**1. Mobility & Reliability** 2. Safety & Security 3. Infrastructure Condition **4. Economic Vitality** 5. Environmental **6. Equity**	✓ Greenville County ✓ City of Greenville ✓ SCDOT
PRG-4	Program	Ramp Metering Pilot Program	Conduct the Ramp Metering Pilot for I-85/I-385 for the urban areas of Anderson, Greenville, Spartanburg. Conduct a pilot for ramp metering Pleasantburg Drive/ I-385 on Eastbound Lane.	**1. Mobility & Reliability** **2. Safety & Security** 3. Infrastructure Condition 4. Economic Vitality 5. Environmental 6. Equity	✓ Anderson, Greenville, and Spartanburg Counties ✓ Cities of Anderson, Greenville, Spartanburg ✓ SCDOT
PRG-5	Program	FAST ACT Alternative Fuel Corridors Program	Participate in the FAST Act Alternative Fuel Corridors program. This is a federal program for expanding alternative fuels.	1. Mobility & Reliability 2. Safety & Security 3. Infrastructure Condition 4. Economic Vitality **5. Environmental** 6. Equity	✓ FHWA ✓ SCDOT ✓ ACOG ✓ Municipal Partners ✓ Study Area Counties

Smart Corridor Planning

A comprehensive approach to integrating existing transportation infrastructure with physical, operational, and technological improvements to provide users accurate, real-time information and to actively manage traffic.



Photos: Illinois Tollway

Smart Corridor Components

- Physical improvements
  - Extend ramp lengths, add emergency pull-offs, install ramp meters, maintain roadsides, pavement markings, signage
- Operational improvements
  - Managed or dedicated lanes, congestion pricing, traffic signal coordination, transit signal priority, safety patrols
- Technology improvements
  - Dynamic messaging signs, closed-circuit television, roadside sensing equipment, real-time data sharing, data storage

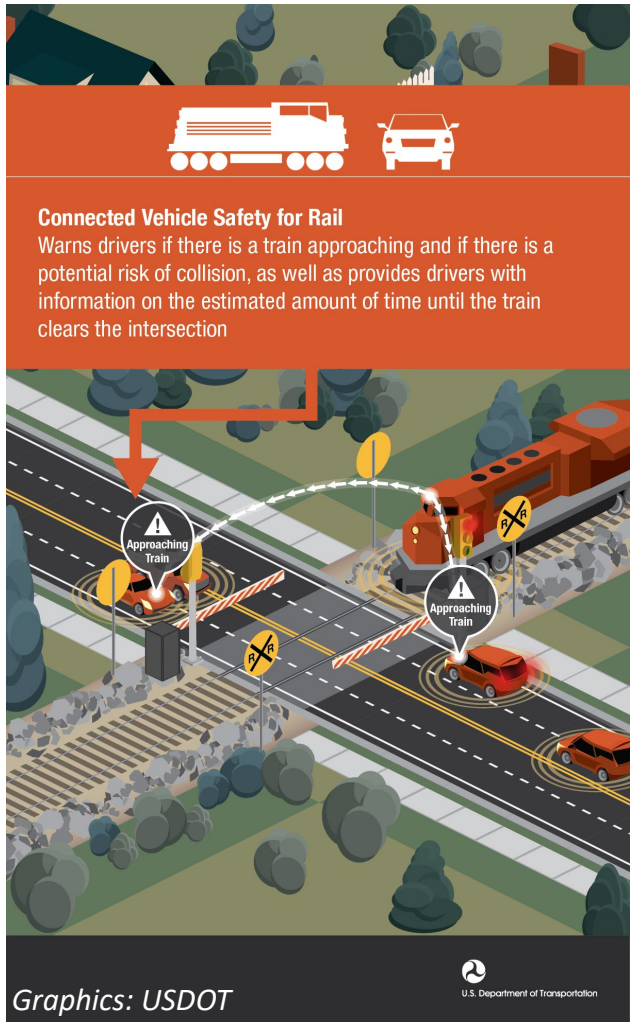
Appalachian Region Smart Corridor

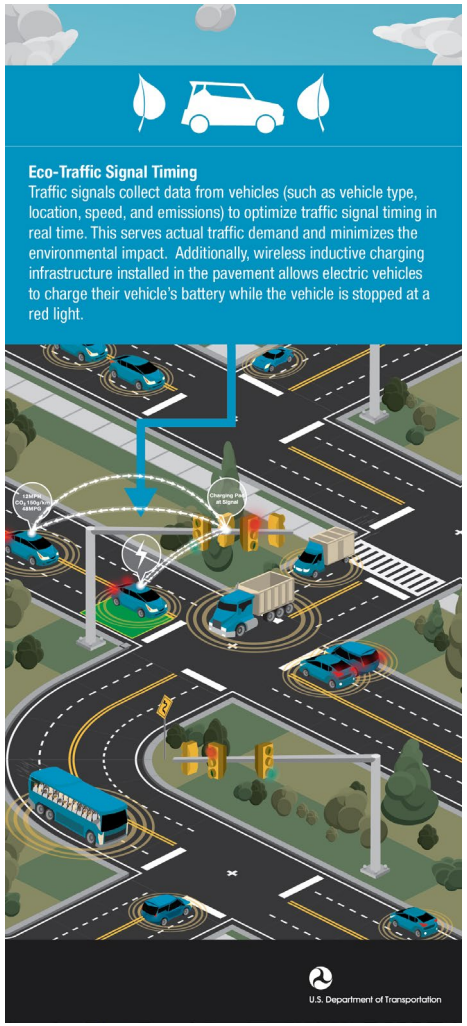
Create a Smart Corridor Coalition with the purpose of:

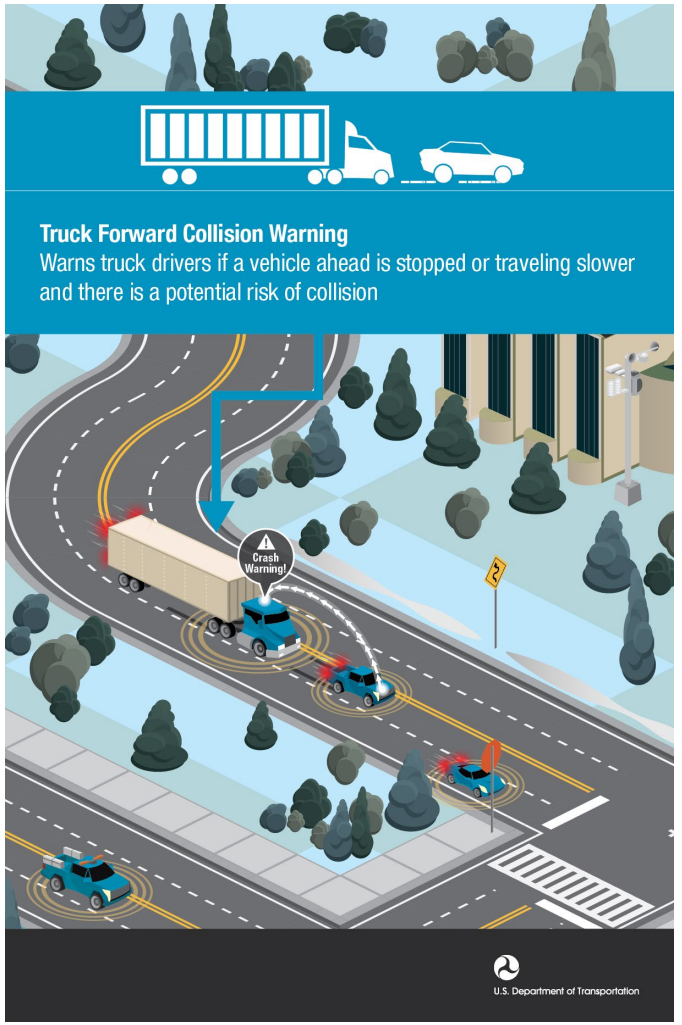
- Facilitating regional public/private/institutional partnerships and collaboration
- Creating a roadmap for advancing strategies across the region
- Communicating the vision, goals and objectives to stakeholders and the public
- Identify gaps and industry user needs
- Assessing the current infrastructure and readiness of the system
- Identifying candidate corridors throughout the region
- Building a coalition for the pursuit of public-private partnership funding opportunities
- Clearing the path for implementation

Emerging Technologies & ITS Strategies

- Connected and automated vehicles
- Collision warning systems
- Traffic signal prioritization (transit, freight)



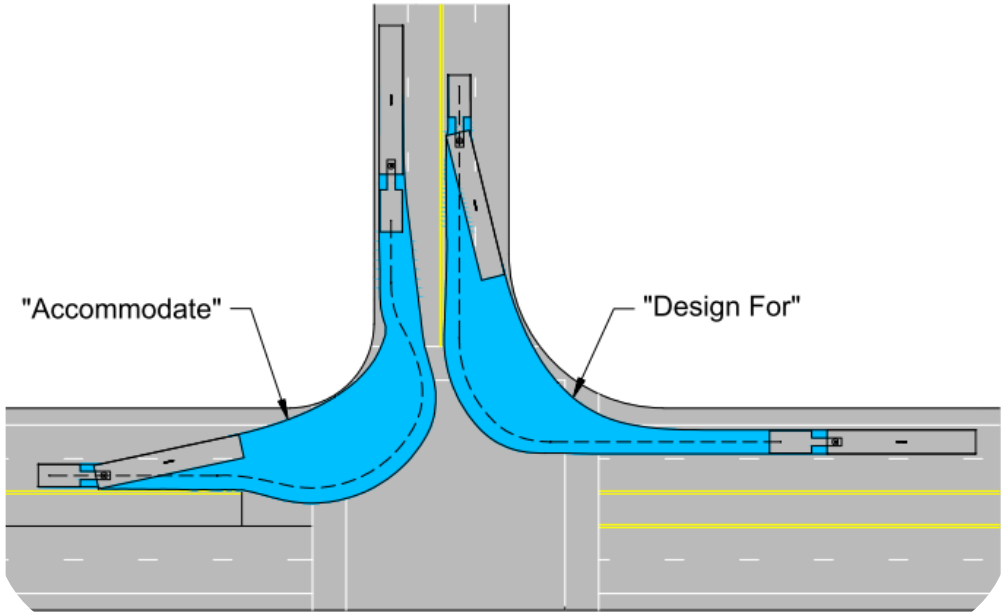




Graphics: USDOT

Freight Design Criteria

- Freight design criteria are guidelines that are made to ensure the movement of freight across urban, suburban and rural areas
- Typically involves construction improvements to accommodate freight in multi-modal corridors
- Adopt standards for lane width, speed limits, marked facilities for bikes & pedestrians, ITS facilities, etc.



Source: City of Seattle

SCDOT

APPALACHIAN COUNCIL OF GOVERNMENTS

Local Municipalities

Implementation of the Freight Plan

How to Use The Freight Plan

- State and Federal Agency Partners
- Metropolitan Transportation Planners
- Councils of Governments and Municipal Planners
- Private Sector Interests

Funding Options

- Rebuilding American Infrastructure with Sustainability and Equity **(RAISE)** Grant Program
- Infrastructure for Rebuilding America **(INFRA)** Grant Program
- Railroad Rehabilitation & Improvement Financing **(RRIF)** Loan Program
- Transportation Infrastructure Finance and Innovation Act **(TIFIA)** Grant Program
- Local Planning Partners (Counties, Municipalities)

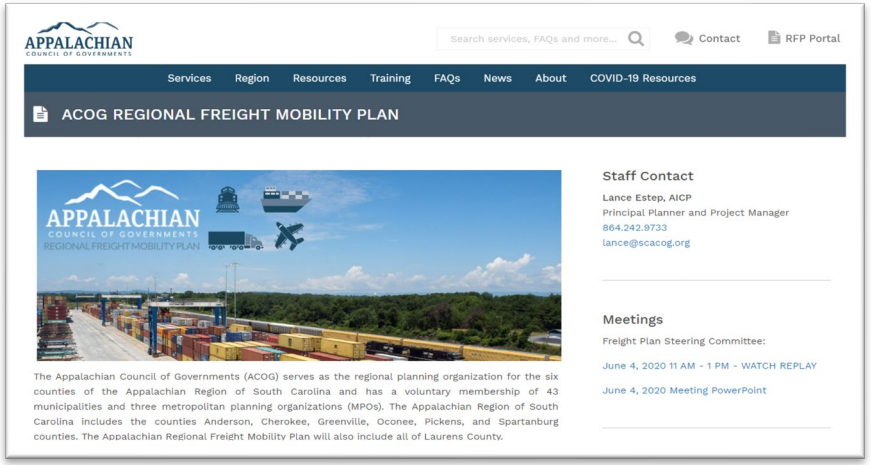
Next Steps

- Stakeholder review and comment on the DRAFT Regional Freight Mobility Plan and supporting materials
- Presentation to Appalachian Council of Governments
  - GPATS Study Team and Policy Committee
  - SPATS Study Team and Policy Committee
  - ANATS Study Team and Policy Committee
- Ongoing activities for these Committees

Thank You

Stay Connected!

SCACOG.org/acog-freight-plan



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