



SOUTH CAROLINA

Multimodal Transportation Plan

Freight and Rail Stakeholder Webinar

January 7, 2014

SOUTH CAROLINA | MULTIMODAL TRANSPORTATION PLAN

Charting a Course to 2040

Agenda

- **Modal Needs**
- **Baseline Revenue**
- **Modal Scenarios**
- **Website**
- **Statewide Freight Plan**
- **Statewide Rail Plan**

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Jeff Carroll

MULTIMODAL TRANSPORTATION NEEDS

2030 MTP vs. 2040 MTP Technical Changes

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FHWA has developed analytical tools to identify future needs

2030 MTP

- Databases
  - ✓ None
- Analysis Tools
  - ✓ Maintenance Assessment Tool
- Agency Coordination
  - ✓ Yes
- Modes
  - ✓ Highway
  - ✓ Bridges
  - ✓ Mass Transit
  - ✓ Premium Transit / Passenger Rail

2040 MTP

- Databases
  - ✓ 2011 HPMS
  - ✓ 2011 NBI
  - ✓ Transearch
- Analysis Tools
  - ✓ HERS-ST (Highways)
  - ✓ NBIAS (Bridges)
- Agency Coordination
  - ✓ Yes
- Modes
  - ✓ Highway
  - ✓ Bridges
  - ✓ Mass Transit
  - ✓ Premium Transit / Passenger Rail
  - ✓ **Freight Rail, Ports, Aviation, Bike/Ped**

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Assumptions and Engineering Analysis

- HERS-ST – Roadways
  - ✓ Highway Performance Monitoring System
  - ✓ SCDOT staff input and review
- NBIAS - Bridges
  - ✓ National Bridge Inventory
  - ✓ SCDOT staff input and review
- Non-highway Modes
  - ✓ Plans, reports, and studies
  - ✓ SCDOT and agency staff input and review
- Planning horizon
  - ✓ 2030 to 2033 linear growth estimate
  - ✓ Seven additional years (2033 to 2040)

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Modal Needs

- Highways
- Bridges

New Database driven tools in 2040 MTP

- Mass Transit
- Premium Transit / Passenger Rail
- Rail Freight
- Ports
- Aviation
- Bicycle and Pedestrian

New in 2040 MTP

QUESTIONS

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Amanda Spencer

BASELINE REVENUE PROJECTIONS

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Purpose

- Provides an estimate of revenues expected to be available for capital improvements to 2040
- Identifies the funding gap between revenues and modal needs

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Methodology

- Projection of baseline revenues by mode
  - No new revenues
  - Business as usual – conservative estimate
- Based on current year revenues and short-term budgeted revenues, grown annually at assumed rates
- Converted to “real” dollars to account for inflation

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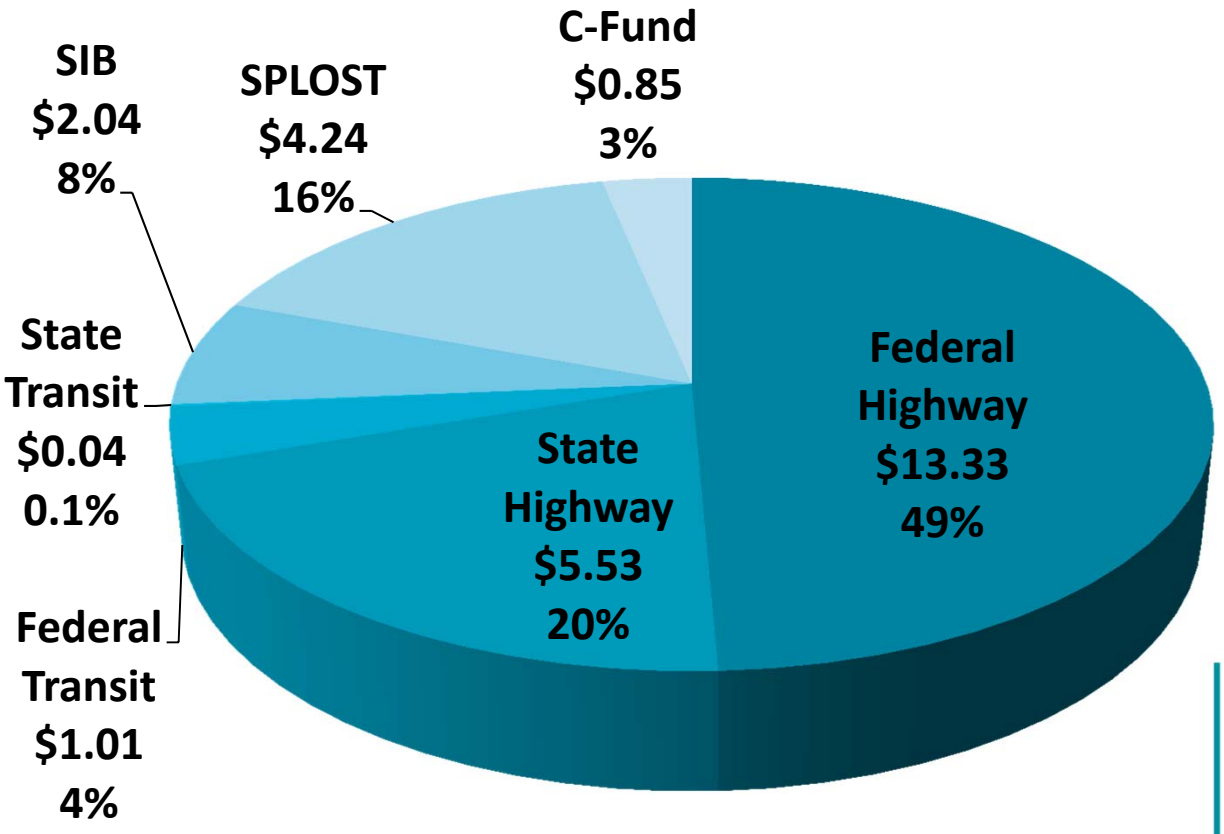
Baseline Revenue Forecast Results

Total Available 2011-2040: $27.04 Billion (in 2011 Dollars)



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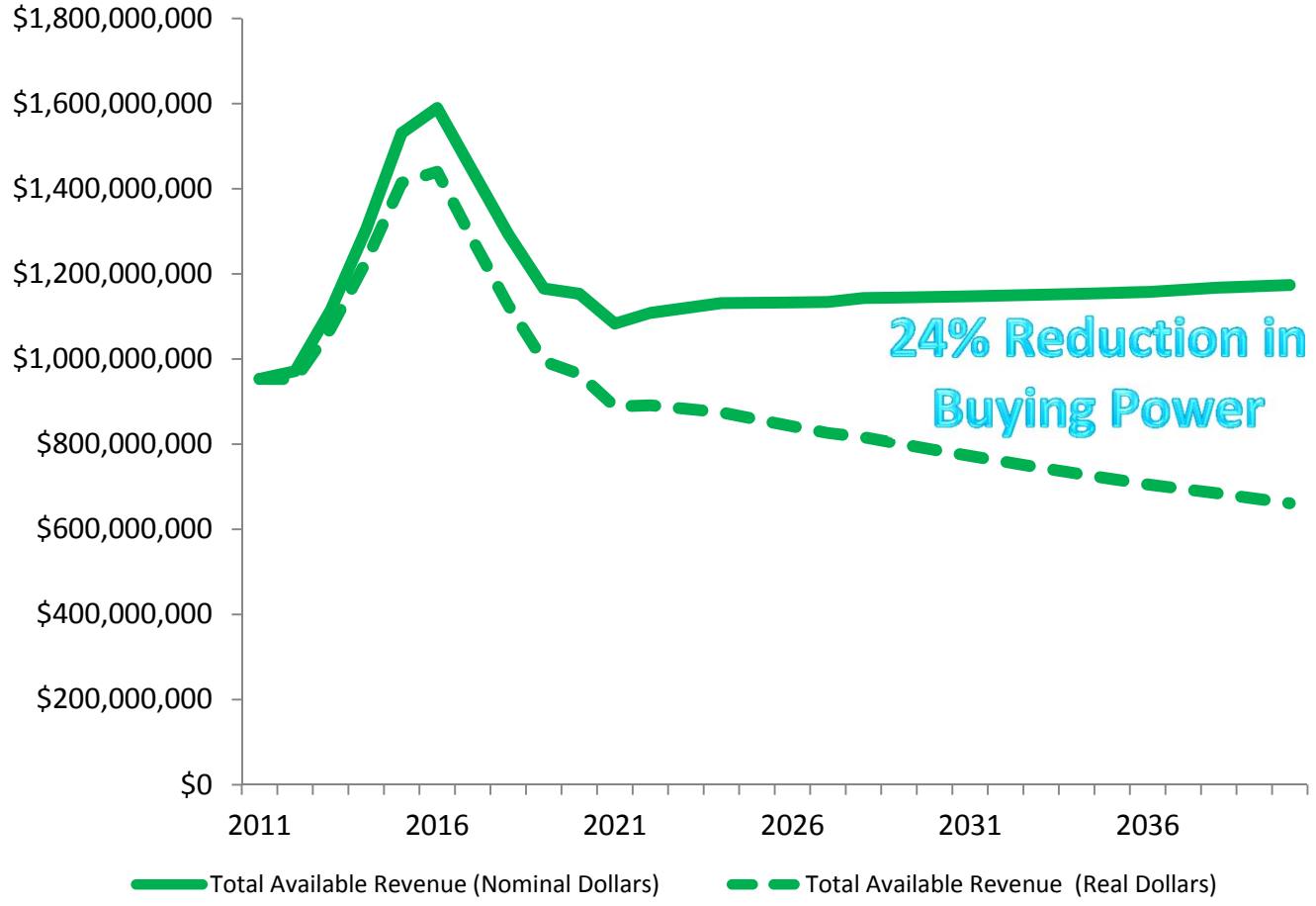
Total Available Revenue



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Don Vary

Developing and Evaluating Modal Scenarios – Status Update

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Modal Scenarios

- Develop different allocations of long-range plan transportation revenue
  - Revenue levels, investment types
- Evaluate according to quantitative and qualitative criteria
- Develop implementation strategies

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Inputs

- Uses plan outputs
  - Vision, goals, objectives
  - Plan performance measures
  - Needs, gap
  - Baseline revenue forecast
- …And creates new inputs
  - Allocate fixed revenue levels into investment categories
  - Measures of effectiveness

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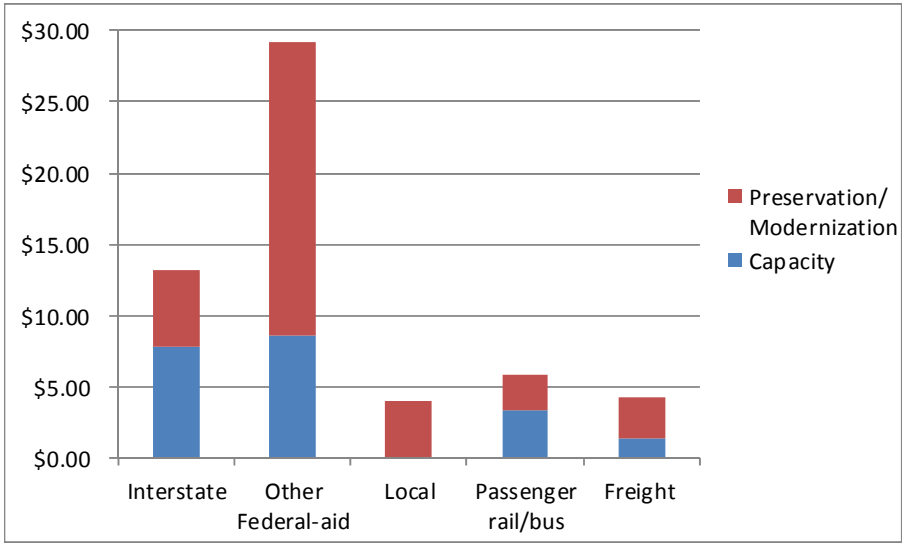
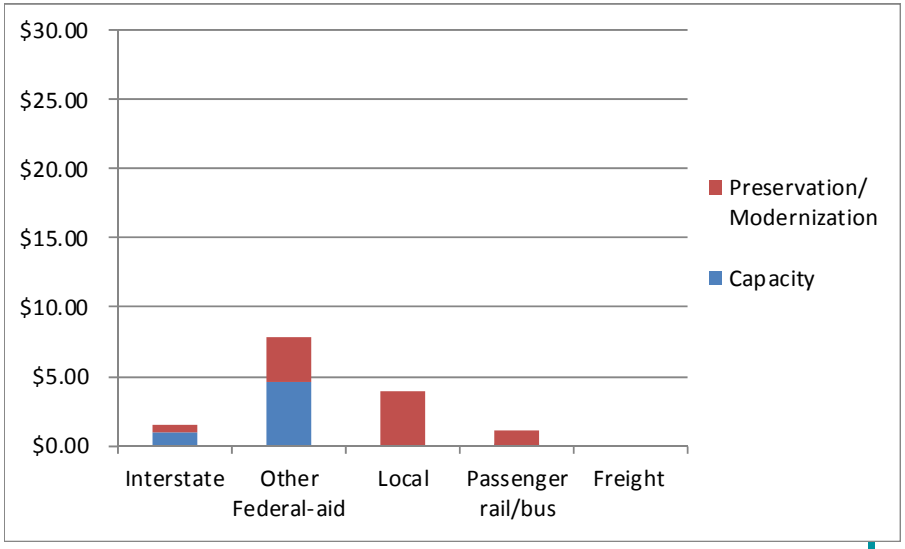
SCMTP Scenarios

- About $14.3B of $27.04B in available revenues is dedicated to current programs
- Remainder ($12.7B) treated as discretionary

Total Needs by Category ($billions)



Program Dedications by Category ($billions)



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SCMTP Scenario Themes

1. Keep the Highway Core (Baseline) – emphasis on primary (core) system
   - Well maintained, congestion addressed, high access to key areas and within cities
2. Multi-modal Core System
   - Maintain and expand highway, transit, rail and non-motorized system linking cities and towns

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SCMTP Scenario Themes

3. Serve the Drivers – investments to spur business attraction and retention
   - Ports, distribution facilities, airports, leisure destinations
4. Right Size System
   - What size system will future revenue support?

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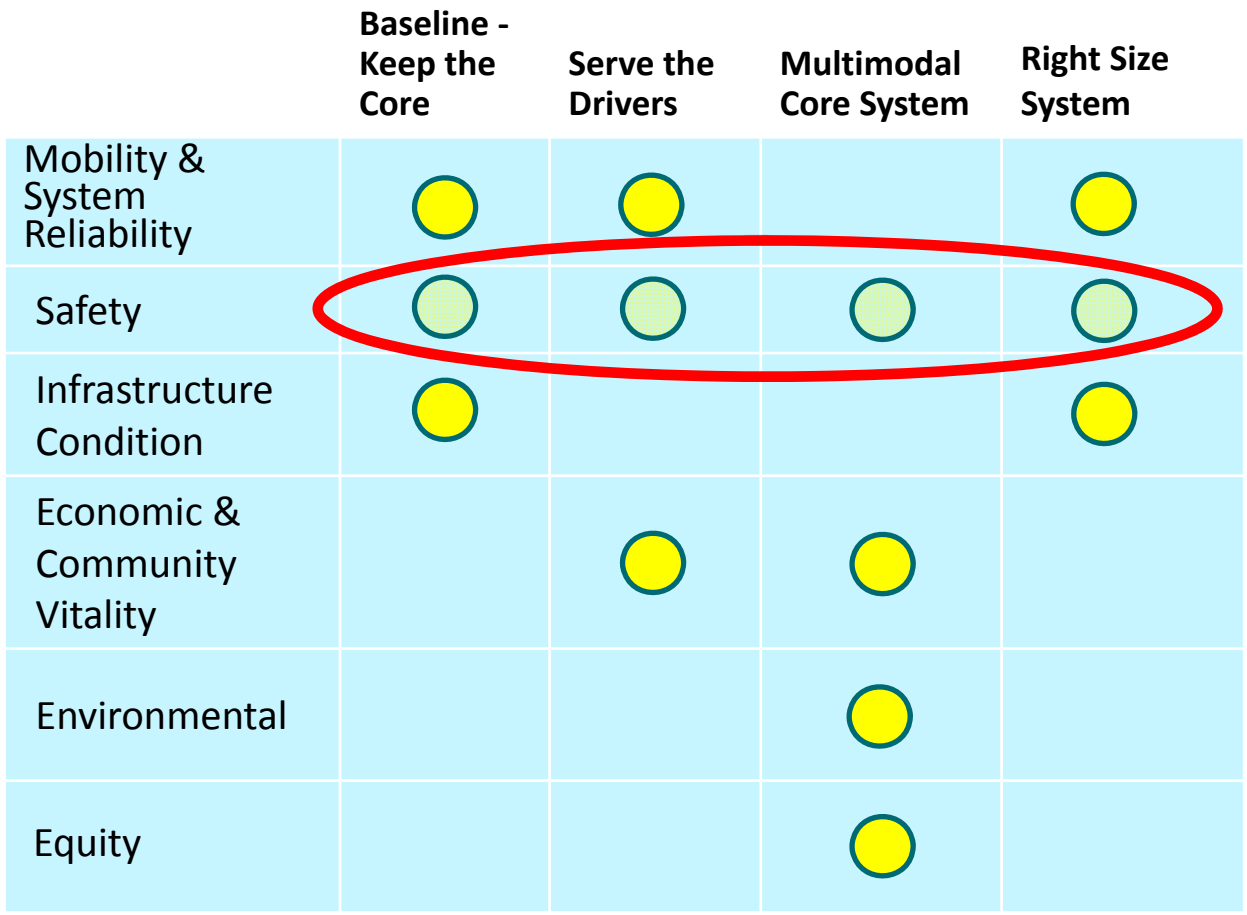
Scenarios – Themes



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Scenario Fulfillment of Full Capacity Needs

	Baseline	Multimodal	Drivers	Right-Size
Interstate	Low+	Low	Low	Low+
Other Federal-aid	Moderate-High+	Moderate	Moderate	Moderate-High+
Local	Low	Low	Low	Low
Passenger Rail/Bus	Low	Moderate	Low-Moderate	Low
Freight Rail	Low	Low	Low-Moderate	Low

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Scenario Fulfillment of Full Modernization and Preservation Needs

	Baseline	Multimodal	Drivers	Right-Size
Interstate	Moderate+	Moderate+	Moderate	Moderate
Other Federal-aid	Low-Moderate+	Low-Moderate+	Low-Moderate	Low-Moderate
Local	High	High	High	High
Passenger Rail/Bus	Low-Moderate	Low-Moderate+	Low-Moderate+	Low-Moderate
Freight Rail	Low	Low+	Low+	Low

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Scenario Next Steps

- Analyze scenario performance according to goal areas
- Summarize trade-offs and policy implementation implications

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Measures of Effectiveness

- Estimated pavement and bridge condition
- Estimated travel time and vehicle operating costs
- User costs
- Goal needs met based on funding

QUESTIONS

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Karen Hadley

WEBSITE

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Live Website

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Jenny Humphreys

STATEWIDE FREIGHT PLAN

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Agenda

- Goals of the Freight Plan
- Strategic Freight Network
- Performance Measures
- Next Steps

Freight Plan Goals

SC Multimodal Plan Goals

- **MOBILITY AND SYSTEM RELIABILITY GOAL: Provide surface transportation infrastructure and services that will advance the efficient and reliable movement of people and goods throughout the state.**
- **SAFETY GOAL: Improve the safety and security of the transportation system by implementing transportation improvements that reduce fatalities and serious injuries as well as enabling effective emergency management operations.**
- **INFRASTRUCTURE CONDITION GOAL: Maintain surface transportation infrastructure assets in a state of good repair.**
- **ECONOMIC AND COMMUNITY VITALITY GOAL: Provide an efficient and effective interconnected transportation system that is coordinated with the state and local planning efforts to support thriving communities and South Carolina's economic competitiveness in global markets.**
- **ENVIRONMENTAL GOAL: Partner to sustain South Carolina's natural and cultural resources by minimizing and mitigating the impacts of state transportation improvements.**

Goals in the National Freight Policy established in 23 U.S.C. 167

- **Improving the contribution of the freight transportation system to economic efficiency, productivity, and competitiveness.**
- **Reducing congestion on the freight transportation system.**
- **Improving the safety, security, and resilience of the freight transportation system.**
- **Improving the state of good repair of the freight transportation system.**
- **Using advanced technology, performance management, innovation, competition, and accountability in operating and maintaining the freight transportation system .**
- **Reducing adverse environmental and community impacts of the freight transportation system.**

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Freight Plan Goals

Mobility and System Reliability Goal

Proposed Objective	Potential Measure
Reduce the number of system miles at unacceptable congestion levels*	Miles of National Highway System (NHS) and state Strategic Corridor System above acceptable levels
Utilize the existing transportation system to facilitate modal options for a growing population and economy	**Change in mode share for goods movement**
Improve the average speed on congested corridors*	Annual change in average speed
Improve travel time reliability (on priority corridors or congested corridors)*	Average or weighted buffer index or travel time on priority corridors
Reduce congestion on the freight transportation system.**	**Miles of Strategic Freight Network above acceptable levels**
Using advanced technology, performance management, innovation, competition, and accountability in operating and maintaining the freight transportation system.**	
Potential Guiding Principles (not measurable)	
Improve cost efficiency of intermodal goods movement, increasing diversity in modal choice.	
Encourage availability of both rail and truck modes to major freight hubs (ports, airports, intermodal facilities)	**Prioritize connector projects into ports, airports, rail facilities, etc.**

**Included in MTP Goals and Performance Measures*

***Included in National Freight Planning goals established under 23 U.S.C. 167*

Freight Plan Goals

Safety Goal

Proposed Objective	Potential Measure
Improving the safety, security, and resilience of the freight transportation system.**	
Improve substandard roadways*	% of substandard roadway improved
Potential Guiding Principles (not measurable)	
Better integrate safety improvements for all users of roadways in preservation programs by identifying opportunities to better accommodate vulnerable users when improvements are included in adopted local or state plan	

**Included in MTP Goals and Performance Measures*

***Included in National Freight Planning goals established under 23 U.S.C. 167*

Freight Plan Goals

Infrastructure Condition Goal

Proposed Objective	Potential Measure
Maintain or improve the current state of good repair for the NHS*, **	Number of Miles of Interstate and NHS rated at "good" or higher
Improve the condition of the state highway system bridges*	% of deficient bridge deck area
Reduce the number of deficient bridges on the Statewide Freight Network	**Number of deficient bridge deck area within Strategic Freight Network**
Potential Guiding Principles (not measurable)	
Improve prioritization of "last mile" infrastructure.	

**Included in MTP Goals and Performance Measures*

***Included in National Freight Planning goals established under 23 U.S.C. 167*

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Freight Plan Goals

Economic and Community Vitality Goal

Potential Objective	Potential Measure
Improve access and interconnectivity of the state highway system to major freight hubs (road, rail, marine and air)*	% of freight bottlenecks addressed
Utilize the existing transportation system to facilitate enhanced freight movement to support a growing economy.*	Travel time index on the Strategic Freight Network
Maintain, or improve upon, current truck travel speed and/or travel time reliability performance.*	Average truck speed on the Strategic Freight Network
Improve the contribution of the freight transportation system to economic efficiency, productivity, and competitiveness.**	**Economic Impact to S.C. of the Strategic Freight Network**
Potential Guiding Principles (not measurable)	
Encourage availability of both rail and truck modes to major freight hubs (ports, airports, and intermodal facilities).*	
Partner with public and private sectors to identify and implement transportation projects and services that facilitate freight movements.*	% funding of improvements on the Strategic Freight Network with private investment
Encourage rail improvements that will improve connectivity and reliability of freight movement to global markets.*	Value of public investment in rail improvements
Increase public awareness of the significance of goods movement and freight infrastructure on S.C. economic sustainability and growth.	
Partner with communities to improve "last mile" planning efforts in urban communities to minimize the impact of goods movement and improve efficiencies.	
Raise profile of multi-agency, state level freight planning.	
Support private investment in freight infrastructure.	

**Included in MTP Goals and Performance Measures*

***Included in National Freight Planning goals established under 23 U.S.C. 167*

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Freight Plan Goals

Environmental Goal

Proposed Objective	Potential Measure
Reduce adverse environmental and community impacts of the freight transportation system.**	**Transportation related greenhouse gas emissions (model run by DHEC)**
Potential Guiding Principles (not measurable)	
Support development of modal choice (road, rail, ship, air).*	
Partner to be more proactive and collaborative in avoiding versus mitigating environmental impacts.*	

**Included in MTP Goals and Performance Measures*

***Included in National Freight Planning goals established under 23 U.S.C. 167*

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Freight Plan Goals

Equity Goal

Proposed Objective	Potential Measure
Identify a Strategic Statewide Freight Network that supports all modes (road, rail, ship, air) and all users (owners, operators, users).	**Yes/No**
Incorporate valuation of economic impact into project prioritization.	**Yes/No**
Potential Guiding Principles (not measurable)	
Ensure planning and project selection processes adequately consider rural accessibility and the unique mobility needs of specific groups.*	**Designate Critical Rural Freight Corridors per MAP-21.**
Ensure broad based public participation is incorporated into all planning and project development processes.*	

**Included in MTP Goals and Performance Measures*

***Included in National Freight Planning goals established under 23 U.S.C. 167*

Strategic Freight Network

- **Supports federal goals**
- **Funding implications**
- **All modes of transporting freight (highway, rail, air, water)**
- **Connections between modes**
- **Urban and Rural**
- **Next Steps**

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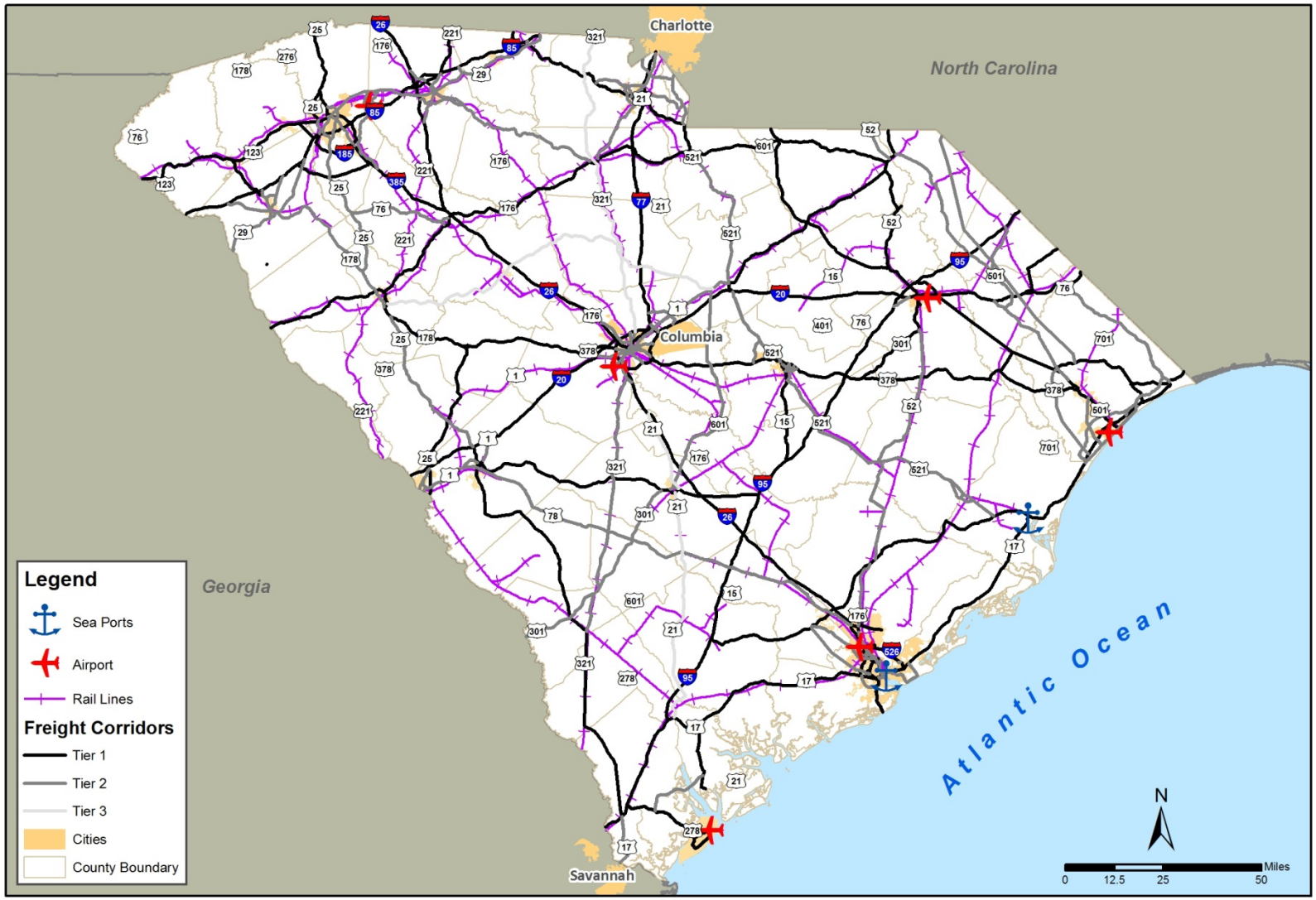
Strategic Freight Network



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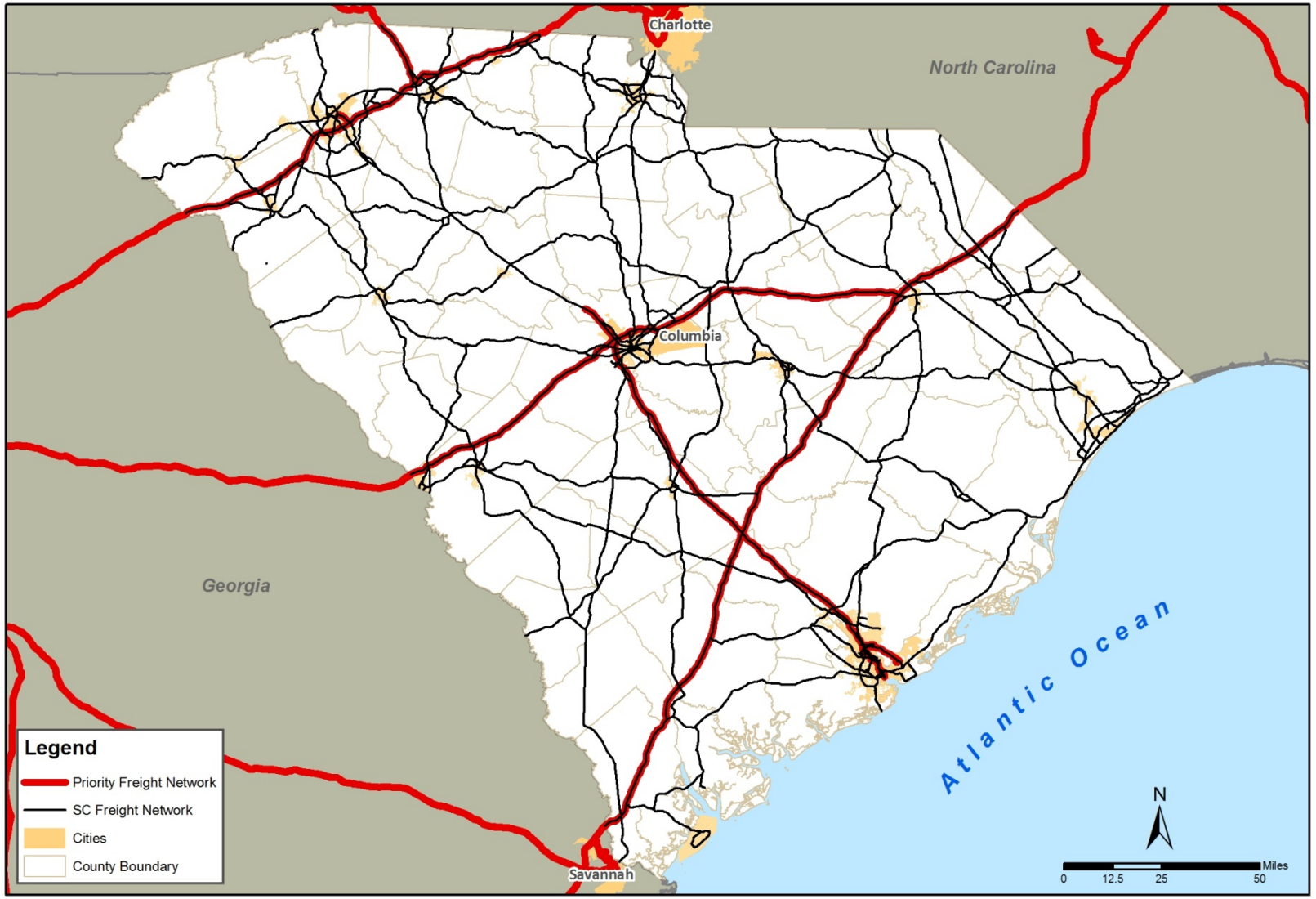
Strategic Freight Network



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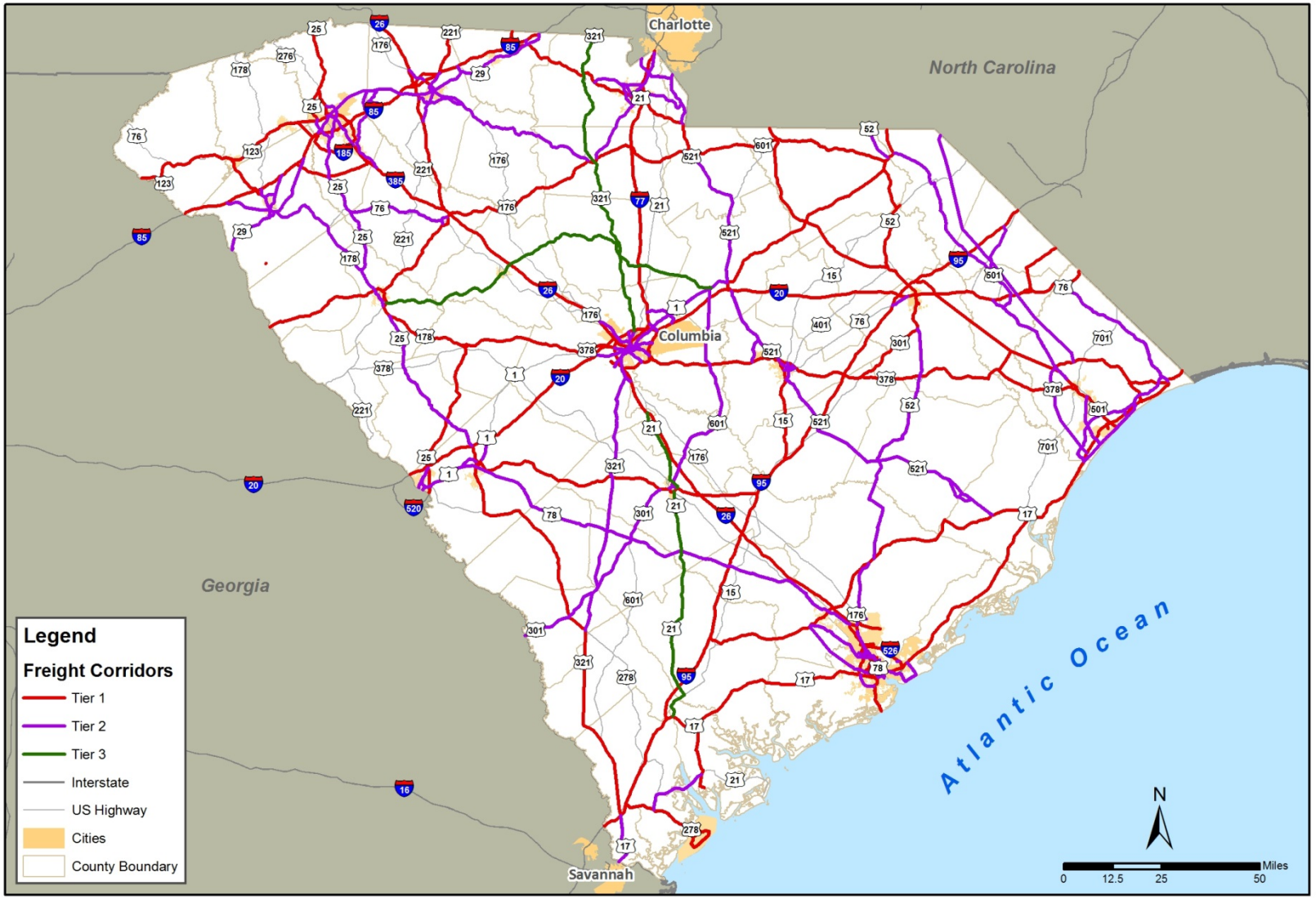
Strategic Freight Network



Freight Performance Measures

- **PLANNING**: *A tool used to evaluate proposed plan elements and scenarios to gauge their effectiveness in achieving the plan's goals and objectives. These high-level metrics are created to evaluate trade-offs and are projected over the 25 year planning horizon.*
- **IMPLEMENTATION**: *A tool to emphasize agency goals and objectives within the policy development, budgeting, programming, and project selection processes. For example, the measures might assist decision makers in the project selection process by providing metrics about their potential effectiveness in meeting the plan's goals and objectives.*
- **ACCOUNTABILITY**: *A tool to facilitate tracking and reporting towards South Carolina's progress in achieving the plan's goals and objectives to support accountability for plan implementation and results.*

Freight Performance Measures

- **SC Multimodal Transportation Plan Goals**
- **MAP-21 National Freight Goals**
- **National Cooperative Freight Research Program – NCFRP Report 10**
- **Comparable states: Minnesota, Florida, Iowa and Oregon**

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Performance Measures

Mobility and System Reliability Goal

Objective	Measures Considered	Selected Measures
Reduce the number of system miles at unacceptable congestion levels (1)	Reduction of South Carolina's Strategic Freight Network mileage that at less than a LOS E for urban areas and LOS C for rural areas	Reduction of South Carolina's Strategic Freight Network mileage that **are** less than a LOS E for urban areas and LOS C for rural areas Improvement of travel time reliability on Strategic Freight Network
Improve the average speed on congested corridors (1)	Number of targeted interstate and strategic corridor miles with average peak hour speeds more than 10 MPH below posted speeds	
Improve travel time reliability (on priority corridors or congested corridors) (1)	Average or weighted buffer index or travel time index on priority corridors	
Reduce congestion on the freight transportation system. (2)	Miles of Strategic Freight Network above acceptable congestion levels	

Notes: (1) Included in MTP Goals and Performance Measures
(2) Included in National Freight Planning goals established under 23 U.S.C. 167

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Performance Measures

Safety and Infrastructure Condition Goals

Safety Goal

Objective	Potential Measures	Selected Measure
Improve the safety, security, and resilience of the freight transportation system. (2)	Number of large trucks reported in crashes (fatal, non-fatal, injury reported, hazardous materials) Five year trends	Number of large trucks reported in crashes (fatal, non-fatal, injury reported, hazardous materials) Five year trends
Improve substandard roadways (1)	Percent of substandard roadway improved	

Notes: (1) Included in MTP Goals and Performance Measures
(2) Included in National Freight Planning goals established under 23 U.S.C. 167

Infrastructure Condition Goal

Objective	Potential Measure	
Maintain or improve the current state of good repair for the NHS* (2)	Number of Miles of Interstate and NHS rated at "good" or higher condition	Percentage of miles of Interstate and NHS rated at "good" or higher condition Percent of deficient bridge deck area
Reduce the percentage of remaining state highway miles (non-interstate/strategic corridors) moving from a "fair" to a "very poor" rating while maintaining or increasing the percentage of miles rated as "good".	Reduction in the percentage of remaining state highway miles (non-interstate/ strategic corridors) moving from a "fair" to a "very poor" rating while maintaining or increasing the percentage of miles rated as "good".	
Improve the condition of the state highway system bridges (1)	Percent of deficient bridge deck area	

Notes: (1) Included in MTP Goals and Performance Measures
(2) Included in National Freight Planning goals established under 23 U.S.C. 167

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Performance Measures

Economic and Equity Goals

Economic and Community Vitality Goal

Objective	Potential Measures	Selected Measures
Improve access and interconnectivity of the state highway system to major freight hubs (road, rail, marine and air) (1)	Annual hours delay experience at the State's top 10 freight bottlenecks	Annual delay experience at the State's top 10 freight bottlenecks Relative costs of logistics to overall statewide productivity
Utilize the existing transportation system to facilitate enhanced freight movement to support a growing economy. (1)	Truck travel time index on the Strategic Freight Network Relative costs of logistics to overall statewide productivity	
Maintain, or improve upon, current truck travel speed and/or travel time reliability performance. (1)	Average truck speed on the Strategic Freight Network	

Notes: (1) Included in MTP Goals and Performance Measures
(2) Included in National Freight Planning goals established under 23 U.S.C. 167

Equity Goal

Objective	Potential Measures	Selected Measure
Identify a Strategic Statewide Freight Network that supports all modes (road, rail, ship, air) and all users (owners, operators, users).	Percentage of relative investment in the Strategic Freight Network	Percentage of relative investment in the Strategic Freight Network
Incorporate valuation of economic impact into project prioritization.	Yes/No	

Notes: (1) Included in MTP Goals and Performance Measures
(2) Included in National Freight Planning goals established under 23 U.S.C. 167

Freight Plan Next Steps

- **Incorporate feedback on draft elements**
- **Statewide Travel Demand Model – forecast conditions**
- **Bottleneck analysis and project level recommendations**

QUESTIONS

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David Castle

STATEWIDE RAIL PLAN

Rail Plan Update

- **Rail Plan Goals**
- **FRA State Rail Plan Guidance**
- **Rail Plan Chapters**
- **Next Steps**

Goals and Performance Measures Specific to Rail Plan

- **Most Rail Plan Goals mirror those in the Freight Plan**
- **Rail Plan specific performance measures include:**

Safety Goal

Objective	Potential Measure
Improve the safety, security, and resilience of the freight transportation system [2]	FRA Reportable Railroad Incidents
Reduce rail grade crossing accidents [1]	Fatalities and injuries in rail grade crossing accidents. Percent of crossings with active safety warning devices installed

Notes:
[1] Included in MTP Goals and Performance Measures
[2] Included in National Freight Planning goals established under 23 U.S.C. 167

Infrastructure Condition Goal

Objective	Potential Measure
Maintain or improve the current state of good repair of rail components of the freight transportation system. [2]	Miles of active rail lines in South Carolina

Notes:
[1] Included in MTP Goals and Performance Measures
[2] Included in National Freight Planning goals established under 23 U.S.C. 167

State Rail Plan Legislative Requirements

- **PRIIA Established Requirements**
  - **Must develop State Rail Plans (SRPs) based on FRA guidelines to be eligible for HSIPR funding:**
    - **Section 301 grants for corridor capital assistance**
    - **Section 302 grants for congestion reduction**
    - **Section 501 grants for high-speed rail corridors**
  - **FRA must establish minimum standards and format for the preparation and revision of SRPs**
- **FRA encourages all States to develop SRPs, even if they do not intend to pursue PRIIA grant funding**

FRA's Vision for State Rail Plans

- **Reflect States' visions for passenger and freight rail networks**
- **Harmonize individual studies, plans and projects**
- **Define rail's role in multimodal network**
  - **Process by which States can develop strategies and policies for rail service**
  - **Opportunity to show the full extent of State's rail programs – including costs and benefits**
  - **Signal to lawmakers and FRA about State's goals**

Development of State Rail Plan Guidance

- **Draft Guidance Released for Comment in August 2012**
  - **90-day public review and comment period**
  - **121 comments received from stakeholders**
- **Key Themes from Public Comments**
  - **Broad support for SRPs as part of existing statewide and metropolitan transportation planning processes**
  - **Concerns about procedural aspects – data collection; assessment of benefits and costs**
  - **Desire to involve public and private stakeholders in meaningful ways**
- **Final Guidance Published in September 2013**
  - **Responds to comments on draft guidance**
  - **Does not require immediate revision of existing or in-process plans**

Role in State, Regional, and National Rail Planning

- **States Have Four Primary SRP Responsibilities:**
  - **A. Establish a State authority to develop the SRP**
  - **B. Coordinate with other planning activities in the State**
  - **C. Involve the public and key stakeholders in the planning process**
  - **D. Coordinate with neighboring States, especially for multi-state corridors and transportation systems**

By Legislative Action in 2010, SCDOT is the rail planning authority for the state

Where are we?
Next Steps

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Plan Contents

Executive Summary

1. **The Role of Rail in Statewide Transportation (Overview)**
2. **The State's Existing Rail System**
3. **Proposed Passenger Rail Improvements and Investments**
4. **Proposed Freight Rail Improvements and Investments**
5. The State's Rail Service and Investment Program
6. Coordination and Review

Draft versions of Chapters 1 thru 4 are being reviewed by SCDOT

QUESTIONS