



**SOUTH CAROLINA** 

MULTIMODAL TRANSPORTATION PLAN

# SOUTH CAROLINA STRATEGIC CORRIDORS PLAN

Prepared for:



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### 1. INTRODUCTION

As a part of the 2040 South Carolina Multimodal Transportation Plan (2040 MTP), the existing Statewide Strategic Corridor Network Plan was updated. This updated plan focuses on maximizing South Carolina's limited funding resources, maintaining the State's position in the global marketplace and efficiently moving both people and goods.

The purpose of the Statewide Strategic Corridor Network is to provide a connected, continuous network that serves the traveling public and movement of freight. The benefit for having the Statewide Strategic Corridor Network is to develop a focused strategic system which will provide the needed connectivity to allow South Carolina to maintain and enhance its economic vitality.

The first step in the Statewide Strategic Corridor Network plan was to update the goals, objectives, and performance measures based on the work completed in the 2040 MTP. The identification of what the system is designed to accomplish is critical in the further development of implementation processes, procedures, corridor identification and ultimately the development of needs. The 2040 MTP vision, goals, objectives, and performance measures were coordinated and consistent with the overall strategic goals of SCDOT and were developed in conjunction with SCDOT management, staff and transportation partners and stakeholders.

As a part of the 2040 MTP, a system of roadways identified as Statewide Strategic Corridor Network has been updated to support the movement of people and goods throughout South Carolina. The methodology employed to develop these corridors updates the existing Statewide Strategic Corridor Network developed in the 2030 MTP.



# 2. VISION, GOALS, OBJECTIVES & PERFORMANCE MEASURES

This chapter summarizes the vision and goals as well as the objectives and performance measures that guided and directed the development of the Strategic Corridor Plan and the overall 2040 South Carolina Multimodal Transportation Plan.

#### 2.1 Vision

The development of 2040 South Carolina Multimodal Transportation Plan began with a Baseline Understanding task to examine the strategic direction that is currently guiding South Carolina Department of Transportation (SCDOT). As a part of this task, SCDOT's current plans were analyzed, input from stakeholders was reviewed, workshops with SCDOT executives were conducted, and the draft SCDOT Strategic Plan was analyzed. These activities provided the information needed for the development of the 2040 Multimodal Transportation Plan's vision and goals. Concurrent to this analysis, the MAP-21¹ performance goal language and supporting documentation was reviewed and analyzed to identify areas of consistency and inconsistency with the SCDOT plan analysis. The plan analysis and the MAP-21 comparison were critical inputs used to develop the 2040 Multimodal Transportation Plan goals.

The following vision for the 2040 Multimodal Transportation Plan was adopted by the Executive Team:

Safe, reliable surface transportation and infrastructure that effectively supports a healthy economy for South Carolina.

### 2.2 Goals

Upon adoption of the vision, a set of goals were developed to help achieve the vision. The Baseline Understanding task provided a strong foundation for the development of the 2040 Multimodal Transportation Plan goals. The over-arching principle in developing the goals was that they should not be just a trend on the past, but should reflect the new challenges the state is facing. The goals should also articulate SCDOT's support for a more multimodal transportation system as well as communicate SCDOT's responsibility of managing and maintaining the current state transportation system.

Using the information gathered during the baseline understanding task, a set of 2040 Multimodal Transportation Plan goals were developed. These preliminary goal statements were then compared to the 2030 Multimodal Transportation Plan goals and the national goal areas included in MAP-21; adjustments in both goal categories and content were made based on this initial cross-referencing.

<sup>&</sup>lt;sup>1</sup> Federal legislation: Moving Ahead for Progress in the 21<sup>st</sup> Century (July 6, 2012).



The goals identified for 2040 Multimodal Transportation Plan are:

- Mobility and System Reliability Provide surface transportation infrastructure and services
  that will advance the efficient and reliable movement of people and goods throughout the
  state.
  - Improved mobility and reliable travel times on South Carolina's transportation system are vital to the state's economic competitiveness and quality of life. National MAP-21 legislation makes highway system performance a national goal and requires states to report on system performance. SCDOT uses a combination of capital improvements and operations strategies to accommodate demand for travel. Data on congestion is rapidly becoming more sophisticated, but estimating needs based on this data and linking investment strategies to congestion outcomes remains a challenge.
- Safety and Security 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.
  - Safe travel conditions are essential to South Carolina's health, quality of life and economic prosperity. SCDOT partners with other safety on the state's transportation system. SCDOT maintains extensive data on safety; however, even state-of-the-art planning practices often cannot connect investment scenarios with safety outcomes.
- Infrastructure Condition Maintain surface transportation infrastructure assets in a state of good repair.
  - Preserving South Carolina's transportation infrastructure is a primary element of SCDOT's mission. This goal promotes public sector fiscal health by minimizing life-cycle infrastructure costs, while helping keep users' direct transportation costs low. Maintaining highway assets in a state of good repair is one of the national MAP-21 goals and requires states and transit agencies to report on asset conditions. SCDOT maintains fairly extensive data and analytical capabilities associated with monitoring and predicting infrastructure condition.
- **Economic and Community Vitality** Provide an efficient and effective interconnected transportation system that is coordinated with state and local planning efforts to support thriving communities and South Carolina's economic competitiveness in global markets.
  - Transportation infrastructure is vital to the economic prosperity of South Carolina. Good road, rail, transit and air connections across the state help businesses get goods and services to markets and workers get to jobs. Communities often cite desire for economic growth as a reason for seeking additional transportation improvements. In addition, public officials frequently justify transportation spending on a project's economic merits. State-of-the-art planning practices, however, offer limited potential for connecting investment scenarios with travel choices outcomes.
- **Environment** Partner to sustain South Carolina's natural and cultural resources by avoiding, minimizing and mitigating the impacts of state transportation improvements.



- Strengthening environment stewardship is consistent with SCDOT current environmental policies and procedures. MAP-21 includes an Environmental Sustainability goal which requires states "to enhance the performance of the transportation system while protecting and enhancing the environment." The environmental goal is inherent at the project level, with consideration of statewide mitigation activities that have the greatest opportunity to restore and maintain environmental functions potentially affected by the projects and programs included in the Statewide Multimodal Transportation Plan.
- Equity Manage a transportation system that recognizes the diversity of the state and strives to accommodate the mobility needs of all of South Carolina's citizens. Transportation is essential to support individual and community quality of life. As a public agency SCDOT has a public stewardship responsibility that requires it to evaluate needs and priorities in a way that recognizes the diversity of the state's geographic regions and traveling public. There are no quantitative measures identified to evaluate the Equity goal.

**Table 2-1** shows how the goals identified for 2040 Multimodal Transportation Plan compare to the MAP-21 national goals.

Table 2-1: 2040 Multimodal Transportation Plan Goals Compared to MAP-21 National Goals

	MAP-21 National Goals					
2040 MULTIMODAL TRANSPORTATION PLAN GOALS		System Reliability	Safety	Infrastructure Condition	Freight and Economic Vitality	Environmental Sustainability
<b>Mobility and System Reliability</b> - Provide surface transportation infrastructure and services that will advance the efficient and reliable movement of people and goods throughout the state.	✓	✓			✓	
<b>Safety and Security</b> - 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.			1			
Infrastructure Condition - Maintain surface transportation infrastructure assets in a state of good repair				✓		
<b>Economic and Community Vitality</b> - Provide an efficient and effective interconnected transportation system that is coordinated with state and local planning efforts to support thriving communities and South Carolina's economic competitiveness in global markets.					<b>√</b>	
<b>Environment</b> - Partner to sustain South Carolina's natural and cultural resources by minimizing and mitigating the impacts of state transportation improvements.						✓
<b>Equity</b> - Manage a transportation system that recognizes the diversity of the state and strives to accommodate the mobility needs of all of South Carolina's citizens.						



# 2.3 Objectives and Performance Measures

Objectives and performance measures are the foundation for tying the more conceptual elements of a long range plan, Vision and Goals, to program and project implementation. Objectives for the 2040 Multimodal Transportation Plan define the outcomes that SCDOT intends to achieve related to each goal. Performance measures "operationalize" that objective and define how that outcome will be measured, monitored, and reported. The objectives and performance measures for each goal of the 2040 Multimodal Transportation Plan are described in **Table 2-2** through **Table 2-5**.

Table 2-2: Objectives for Mobility and System Reliability Goal

Objective	Performance Measures
Reduce the number of system miles at unacceptable congestion levels	Annual hours of delay on the NHS and state Strategic Corridor Network
Improve travel time reliability (on priority corridors or congested corridors)	Travel time reliability Index
Reduce the time it takes to clear incident traffic	Average time to clear traffic incidents in urban areas

**Table 2-3: Objectives for Safety Goal** 

Objective	Performance Measures
Reduce highway fatalities and serious injuries.	Number or rate of fatalities and serious injuries (MAP-21 measure)
Reduce bicycle and pedestrian and other vulnerable roadway users' fatalities and serious injuries.	Number or rate of bike/pedestrian fatalities and serious injuries
Reduce roadway departure related fatality and serious injury crashes.	Number of roadway departure crashes involving fatality or serious injury
Reduce fatal and serious injury crashes within work zones.	Number of work zone fatal and serious injury crashes
Reduce fatal and serious injury crashes at intersections	# of crashes at intersections involving fatality or serious injury
Reduce fatal and serious injury crashes involving commercial motor vehicle	% of commercial motor vehicle crashes involving fatality or serious injury

**Table 2-4: Objectives for Infrastructure Condition Goal** 

Objective	Performance Measures
Maintain or improve the current state of good repair for the NHS.	Number of miles of interstate and NHS system rated at "good" or higher condition <sup>3</sup>
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 % of miles rated as "good".	% of miles moving from "fair" to "very poor" condition % of miles rated "good" condition
Improve the condition of the state highway system bridges	Percent of deficient bridge deck area (MAP-21 requirement)

<sup>&</sup>lt;sup>3</sup> MAP-21 and the South Carolina Strategic Plan both include a pavement condition goal. For consistency with this plan and MAP-21 requirements the pavement condition for this plan is divided into two tiers --- one for the NHS and one for all other roads. In keeping with MAP-21 the objective for the NHS system reflects maintaining or improving current condition while the objective for the remainder of the system is consistent with the Strategic Plan approach of "managing deterioration".

Table 2-5: Objectives for Economic and Community Vitality Goal

Objective	Performance Measures
Utilize the existing transportation system to facilitate	Truck travel time index on the freight corridor network
enhanced freight movement to support a growing economy.	Annual hours of truck delay, Freight Reliability



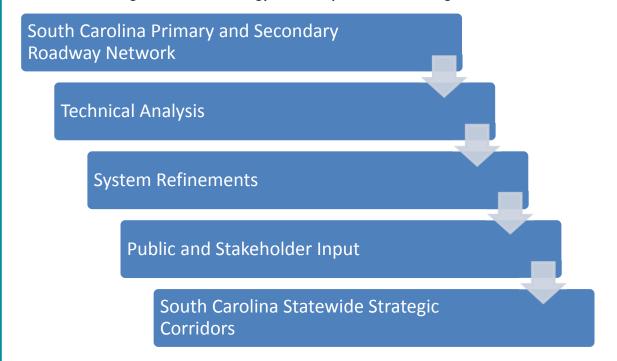
### 3. STRATEGIC CORRIDOR NETWORK UPDATE PROCESS

As a part of the 2040 MTP, a system of roadways identified as Statewide Strategic Corridor Network was updated. The methodology employed to develop these corridors updates the existing Statewide Strategic Corridors Network developed in the 2030 MTP. The Statewide Strategic Corridor Network enhances the economic vitality of the state by providing safe, timely, and efficient movement of goods and people. The corridors tie the state together by connecting people with jobs, distributors with manufacturers, shoppers with retailers and tourists with recreational opportunities.

# 3.1 Methodology

The methodology used to develop the Statewide Strategic Corridor Network is illustrated in **Figure 3-1**. The process consisted of three principal components: technical analysis, system refinements, and public and stakeholder input. These components are described in detail below.

Figure 3-1: Methodology to Develop Statewide Strategic Corridors



# 3.2 Technical Analysis

The purpose of the technical evaluation was to provide an objective, quantitative, and repeatable process for developing the Strategic Corridor Network. A tiered system approach was adopted to update the Strategic Corridor Network. Additionally, it was determined that interstate routes would



not be included in the technical analysis as they are part of the national transportation system and only the primary and secondary roadway network would be analyzed.

The technical evaluation of the South Carolina primary and secondary roadway network was conducted using a two-step process. In the first step, the roadway network was assessed using a set of evaluation criteria established in association with SCDOT staff. In the second step, a set of baseline criteria were established and roadways were categorized into three tiers using the baseline criteria and the rankings developed in the first step.

#### 3.2.1 Step 1: Assessing the Roadways

South Carolina primary and secondary roadway network was evaluated and ranked using a set of eleven (11) criteria grouped broadly into two groups: Intrastate Mobility Criteria and Economic and Community Vitality/Equity Criteria. These evaluation criteria were identified early in the study process and discussed with the SCDOT staff. These criteria were developed within the framework of the identified goals and guiding principles of the 2040 MTP and adhered to the following three guidelines:

- The criteria were developed to be appropriate to the study in terms of coverage, complexity, and public concern.
- The criteria are capable of being measured (quantitatively or qualitatively) with current technology, process limitations, and resources available.
- The evaluation process would result in producing objective and fair analyses and conclusions.

For each of the criteria, the roadways were categorized on a three scale rating – Low (1), Medium (2) and High (3). The thresholds for determining the three scale ratings for each of the criteria are summarized in **Table 3-1** and explained below. After assessing the roadway network for each criterion, a cumulative score for the roadway network was developed by adding the individual values of each criterion. This cumulative scoring is utilized in the second step and is explained in the subsequent section.

The following sections describe sources of the data for each criterion described in Table 3-1 and how the high, medium and low categories were determined.

Annual Average Daily Traffic (AADT): 2011 Annual Average Daily Traffic (AADT) was provided by SCDOT for each roadway within the primary and secondary network. Based on a review of statewide travel patterns, highest scoring is attributed to routes with over 10,000 AADT, medium scoring is provided for routes with AADT between 7,500 and 9,999, and low scoring to those routes with AADT between 5,000 and 7,499. This minimum AADT was established based on previous network evaluation processes for the state and represents areas with the greatest total traffic movements across the state.



Table 3-1: Criteria for Assessing South Carolina Roadway Network

Scoring Criteria	High	Medium	Low					
Intrastate Mobility Cri	Intrastate Mobility Criteria (Multimodal):							
Annual Average Daily Traffic (AADT)	Greater than 10,000	7,500 – 10,000	5,000 – 7,500					
Truck Annual Average Daily Traffic (AADT)	Truck percentage >= 10%	Truck percentage between 8 and 10%	Truck percentage less than 8% but facilities carrying greater than 1,000 AADT Truck Traffic					
Statewide and Regional Connectivity	Route directly connects with other states	Route directly connects at least two (2) regions	Directly connects one or more regions					
Parallel reliever to major interstate travel	Provides a viable parallel option to an interstate connecting one region to another	Partial reliever within at least one region	Connects to identified parallel routes					
Multimodal Connectivity	Connects four or more modal networks	Connects three or more modes	Connects two or more modes					
Economic and Commu	nity Vitality/Equity Criteria:							
Total Population (2010 Census)	Route located within top ten (10) counties in state in terms of population total	Route located within top twenty (20) counties in state in terms of population total	Route directly connects to top twenty (20) counties in state in terms of population total					
Population Growth Projections to 2040	Route located within top ten (10) growing counties in state	Route located within top twenty (20) growing counties in state	Route directly connects to top twenty (20) growing counties in state					
Urbanized Area Classification	Census designated Urban Areas	Census designated Urbanized Clusters	Census designated Rural areas					
Employment Origin and Destination Data	Routes connect to top twenty five (25) census tracts where workers live and where workers work	Routes connect to top fifty (50) census tracts where workers live and where workers work	Within top twenty (20) counties where workers live and work					
Connectivity with Major Employment Hubs	Directly connects to top twenty five (25) employment hubs	Directly Connects to top fifty (50) employment hubs	Provides connectivity to corridors that directly connect to top fifty (50) employment hubs					
Tourism Impacts	Total Accommodations Tax Collections >= 10% of state total	Total Accommodations Tax Collections between 5 and 10% of state total	Total Accommodations Tax Collections between 1 and 5% of state totals					

<u>Truck Annual Average Daily Traffic (AADT):</u> 2011 truck AADT percentages for each roadway within the primary and secondary network were provided by SCDOT. This criterion measures the amount of truck traffic traveling along particular routes within the statewide network. Those routes operating at or above the statewide average of approximately 8 percent truck AADT and less than 10 percent truck AADT was provided a medium score. The routes with a truck AADT percentage of more than 10 were given a high score. In addition, a lower score is provided to routes that do not meet the statewide average truck AADT percentage, but which carry above truck AADT of 1,000. This limit is based on previous South Carolina corridor development and a review of existing total truck AADT on the statewide network minimums and maximums.

<u>Statewide and Regional Connectivity:</u> Regional and statewide connectivity are important factors in establishing an interconnected network throughout the state. Routes connecting directly with other states are given highest scorings based on their ability to improve interstate connections and offer



viable alternatives to congested interstate corridors. In addition, those routes connecting multiple regions within the state are given medium scorings due to their ability to improve mobility within and throughout the state. Minimum criteria to be eligible for meeting statewide and regional connectivity needs require consideration to routes that connect to at least one other region within the statewide network. These connectivity scores assist in providing the greatest emphasis on routes that facilitate high capacity through movements within and outside of the state.

Parallel Reliever Potential: Given the substantial amount of rural and urban clusters within the state, local travel within and connecting to adjacent regions are often accomplished by utilizing the interstate network rather than other roadway networks. This can often result in premature degradation of the interstate roadway and increased capacity and maintenance costs to the state. Providing reliable parallel facilities to meet local and regional travel demands are therefore important to maintaining and enhancing the interstate and statewide mobility. Scoring was established to provide the highest scoring for potential parallel relievers to the interstate that could serve to better connect multiple regions and medium scores to those routes that provide parallel routes within one region or more. Additional, but lower scoring is provided to account for routes connecting to these identified potential relievers which could be used to enhance parallel reliever potential within and throughout regions.

<u>Multimodal Connectivity:</u> Multimodal connectivity is recognized as a way to enhance the efficiency of statewide and interregional travel by providing greater options for moving people and goods in an intermodal network. These routes are important to the state in terms of their ability to impact modal shifts for both people and freight movements. Multimodal criteria considered includes route connectivity to adjacent interstates, ports, airports, freight rail, passenger rail, interregional transit, and the statewide bicycle network. Greatest rankings for these criteria are given to corridors with the greatest number of connections to other modes. At a minimum, to qualify as a statewide strategic corridor, the corridor must provide connectivity between at least two modes.

Population Totals and Population Growth to 2040: One measure of equity in the statewide strategic corridor identification process is to provide the greatest mobility for the greatest number of people. As such, two separate population criteria have been provided. Population totals in counties with the largest number of people, based on 2010 Census data, is one factor to consider and has been scored based on how many people are served. In addition, population growth is equally important in understanding the top growing areas regardless of actual size of the population. These areas are expected to place increasing demands on statewide transportation resources over the 2040 horizon, and represent most recent population projection data provided by SCDOT. Connections to these routes that serve major population clusters and growing areas are also important to provide a complete network to serve people now and into the future, and are therefore attributed a smaller portion of scoring for these criteria.

<u>Census Urbanized Area Classifications:</u> Another measure of equity in serving the greatest number of people in the state are designated urban and rural boundaries. These are established by the U.S. Census Bureau every ten (10) years, with the most recent designations in 2010. Rankings of high, medium, and low rankings have been assigned to account for areas designated by the Census as



urbanized areas of 50,000 or more people, urban clusters consisting of at least 2,500 people but less than 50,000, and rural areas that encompass all population, housing and territory outside of an urban area. These boundaries are established without regard to local or regional boundaries and are instead based on urban density and growth patterns. Highest scores are provided to urban areas and urban clusters; however, rural areas have also been identified in this scoring system due to the large population within the state that is located in designated rural areas.

Employment Impacts: Providing greater connectivity to employment hubs in the state and areas where concentrations of workers live and work not only provides a way to measure and evaluate mobility, but is also an indicator for establishing strategic corridors that serve to improve the economic vitality of the state. Major employment hubs, measured in terms of total employment in 2012, were provided by the Department of Commerce. In addition, 2011 U.S. Census Longitudinal Employee-Household Dynamics (LEHD) data is used to evaluate locations with the greatest concentrations of employment in the state as well as the greatest concentrations of places where workers live. Scoring was attributed to routes directly connecting to the largest employers in the state or to routes connecting these direct routes, as well as to routes connecting to the greatest concentrations of worker origins and destinations.

<u>Tourism Impacts:</u> Tourism is a major source for economic development in the state. Developing a safe, connected and easily accessible transportation network is important for maintaining and enhancing economic development opportunities for tourism within the state. Ultimately, these transportation investments equate to a greater return on investment for the state in that they translate directly into the state's tax base. Total accommodations tax collections for 2011 for counties within the state obtained from SCDOT were used to score routes within concentrated tourism counties. The greatest number of points is attributed to routes within counties that contribute the greatest amount in these accommodations taxes.

#### **3.2.2** Step 2: Develop Tiered Corridors

In the second step, corridor baseline criteria which represent factors that are expected to provide the greatest benefit to statewide and national goals of safety, security and supporting interstate mobility were established. These criteria along with the ranking developed from step 1 were used to establish a three-tiered corridor system for the state. The baseline criteria included the following routes and connectors:

- Non-Interstate Designated National Highway System Route
- Designated South Carolina Strategic Freight Network
- Designated STRAHNET (Military) or STRAHNET Connector
- Designated Statewide Evacuation Route
- Federally Approved Intermodal Connector

A three-tiered Statewide Strategic Corridor Network was developed as a part of the 2040 MTP. The South Carolina primary and secondary roadway network is classified into three tiers using the following conditions:



- **Tier 1:** The Tier 1 Corridors include roadways that meet any of the baseline criteria AND receive a high cumulative score for the evaluation criteria in step 1.
- **Tier 2:** The Tier 2 Corridors include roadways that meet any of the baseline criteria AND receive a medium cumulative score for the evaluation criteria in step 1.
- Tier 3: The Tier 3 Corridors include roadways that meet any of the baseline criteria AND receive a low cumulative score for the evaluation criteria in step 1. In addition, the Tier 3 corridors also include roadways that do not meet any of the baseline criteria AND receive a high cumulative score for the evaluation criteria in step 1.

The clustering of the roadways into the three tiers was achieved through a Geographic Information System (GIS) feature called "natural breaks." The natural breaks function divided the segments into three groups by minimizing the variance in each of the groups. The technical analysis forms a solid basis from which refinements were made based on a number of supplementary factors and public and stakeholder input.

# 3.3 System Refinements and Stakeholder Input

The technical analysis identified high-activity highway segments; however, these individual segments required refinement into longer corridors. This was accomplished through an iterative process so as to ensure that the Statewide Strategic Corridor Network connects to an existing National or State Highway or terminate at the state border.

Public and stakeholder input were solicited on the Statewide Strategic Corridor Network during a series of meetings to be held in April 2013. The comments received from the representatives of Metropolitan Planning Organizations (MPOs) and Council of Governments (COGs) was addressed and a final version of the Statewide Strategic Corridor was developed as shown in **Figure 3-2**: South Carolina Statewide Strategic Corridor Network

**2**. The Statewide Strategic Corridor Network comprises of 3,568 centerline miles. **Table 3-2** summarizes the mileage and vehicle miles traveled for each of the Council of Governments (COG) in South Carolina.

COC Pagion	2010			
COG Region	VMT	Centerline Miles		
Appalachian	5,062,816	308.7		
Berkeley-Dorchester-Charleston	5,787,620	460.6		
Catawba	2,100,074	214.5		
Central Midlands	2,618,143	200.5		
Low Country	3,736,376	397.8		
Lower Savannah	3,465,269	646.7		
Pee Dee	3,687,602	444.0		
Rock Hill-Fort Mill Area Trans	-	-		
Santee-Lynches	1,786,013	222.5		
Upper Savannah	1,660,603	275.1		

**Table 3-2: Summary of Strategic Corridor Network** 



Strategic Corridor Network	36,315,957	3,568.1
Waccamaw	6,411,441	397.7



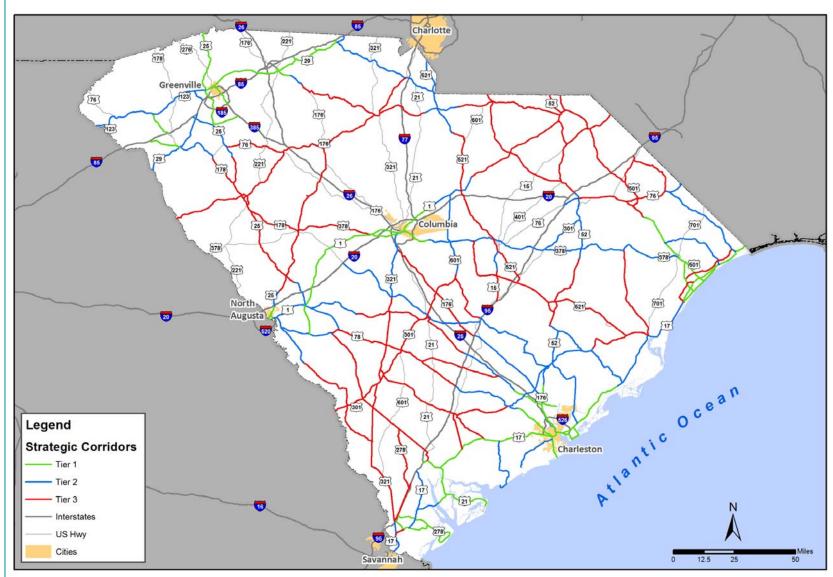


Figure 3-2: South Carolina Statewide Strategic Corridor Network



# 4. MULTIMODAL NEEDS IDENTIFIED BY MPOS AND COGS

This chapter identifies the multimodal needs on the Statewide Strategic Corridor Network.

# 4.1 Methodology

After the Statewide Strategic Corridor Network was updated, a methodology for identifying the multimodal needs on the corridors was developed. The following topics formed the basis for identifying the multimodal needs.

- Review of MPO/COG Plans: MPO/COG plans along the Statewide Strategic Corridors were reviewed to identify improvements that have already been identified to address corridor needs.
- Corridor Delay and Deficiencies: Corridor delay and deficiencies was identified using INRIX vehicle probe data.
- Level of Service (LOS): LOS for rural and urban sections is an output of the statewide travel demand model.
- Multimodal Criteria: Multimodal criteria detailing areas where shoulders, corridors with existing or planned public transit routes and other criteria to help capture other modes.

# 4.2 MPO/COG Needs

Local MPOs and COGs provided transportation needs and associated costs along the Statewide Strategic Corridor network within their jurisdictions. The transportation needs identified include intersection improvements, roadway widening, alternative transportation improvements, and other forms of enhancement projects. The transportation needs were used to develop the following map series (Figure 4-1 through Figure 4-11), presented statewide and by COG area. Table 4-1 through Table 4-10 provide a detailed list of the transportation needs identified by the MPOs and COGs on the Statewide Strategic Corridor Network, with needs organized by COG area.





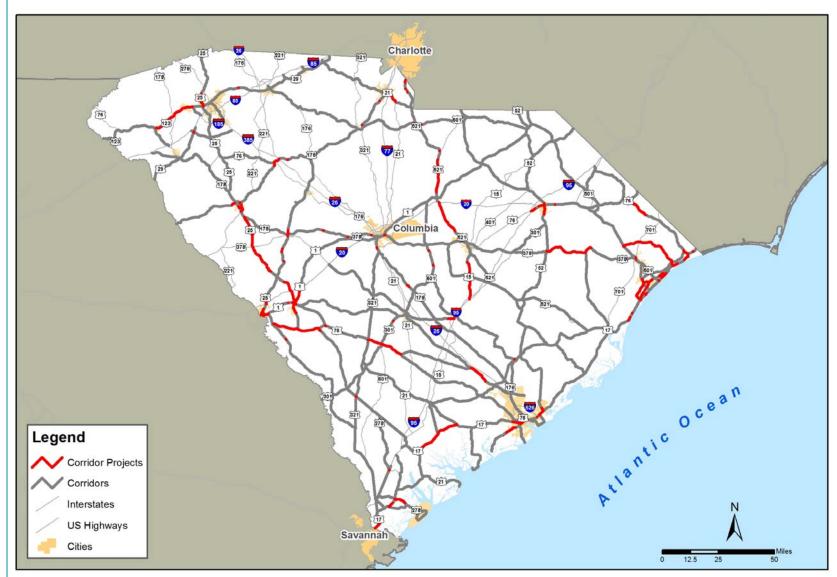


Figure 4-1: Statewide Multimodal Needs on the Strategic Highway Network



Table 4-1: Needs Identification: Berkeley-Dorchester-Charleston Council of Governments

Project Name	Facility Name	Project Description	Project Termini	Project Cost
US 17 ALT (Phase III)	US 17 ALT	Widen to 5 lanes	S-9 (Cypress Garden Rd) to Near SC 6 in Moncks Corner)	\$39,190,000
US 78	US 78	Resurfacing (Part 1) / Shoulder Widening (Part 2)	US 178 to West of Old Orangeburg Rd (S-18-22)	\$24,103,000
US 78 @ SC 27	US 78	Intersection Improvement	US 78 and SC 27	\$2,150,000
US 17A @ SC 6	US 17A and SC 6	Intersection Improvement	US 17A and SC 6	\$1,000,000
US 78 @ Four Hole Swamp	US 78	Bridge Replacement and Rehab	US 78 and Four Hole Swamp	\$4,550,000
US 17 (US Highway 17N)	US 17N	Widening	SC 517 (Isle of Palms Con) to near Darrell Creek	\$79,500,000
US 78 (W 5th North St)	US 78	Widening	W Richardson Ave (S 65) to Campbell Thicket Rd (S-630)	Not submitted
SC 700 (Maybank Highway with pitchfork collectors)	SC 700	Widening	Stono River Bridge to Bohicket Rd (S 20)	\$45,600,000
US 17 (Johnny Dodds Blvd)	US 17	Widening / Interchange Improvements	Ravenel Bridge to I 526 (Mark Clark Expy)	Not submitted
I 526/Hungry Neck Blvd	I-526	Interchange Improvements	I 526/Hungry Neck Blvd	Not submitted
Paul Cantrell/Glenn McConnell Pkwy at Mark Clark	Paul Cantrell/Glenn McConnell Pkwy	Widening / Interchange Improvements	North of Magwood Rd to Orleans Rd (S - 1373)	Not submitted
I 26/Jedburg Rd	I-26	Interchange Improvements	I 26/Jedburg Rd	Not submitted
S 662 (Old Fort Dr)	S-662	New Alignment	Existing to Ladson Rd (S 76)	Not submitted
West Ashley Circle at Bees Ferry/ Glenn McConnell	West Ashley Circle	New Alignment	West Ashley Circle at Bees Ferry/Glenn McConnell	Not submitted
US 52/ US 176	US 52 and US 176	Intersection Improvements	Intersection of US 176 and US 52	\$40,000,000
SC 41	SC 41	Not submitted	US 17 to Joe Rouse Rd	\$18,000,000
Commuter Rail Service	Not submitted	Rail Project on existing rail	Summerville to Downtown Charleston	\$40,000,000
US 78	US 78	Capacity improvement	Deerwood Rd (S-10-1226) to Ladson Rd (S-10-76)	\$25,000,000
US 78	US 78	Not submitted	Jedburg Rd to W Richardson Ave	\$5,000,000
US 17 / Septima Clark Parkway	US 17	Not submitted	End of I-26 to Ashley River Bridge	\$12,500,000
US 78	US 78	Not submitted	Berlin Myers to CHATS Boundary	\$20,000,000



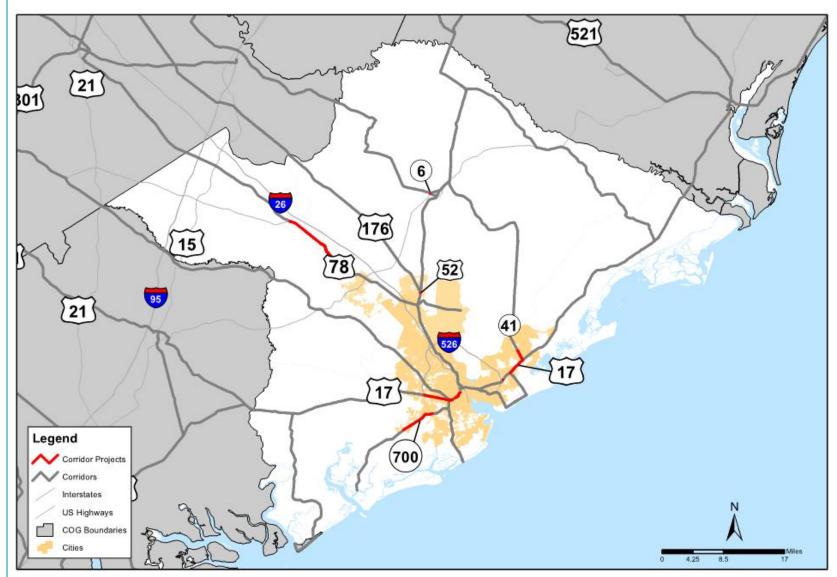


Figure 4-2: Multimodal Needs for Berkeley-Dorchester-Charleston COG



Table 4-2: Needs Identification: Catawba Council of Governments

Project Name	Facility Name	Project Description	Project Termini	Project Cost
SC 9 West & Crenshaw Parkway	SC 9	Intersection Improvement / Construct east bound and west bound offset left turn lanes to provide improved traffic flow on SC 9 at the I-77 west interchange. Existing left turn lane will be removed.	SC 9 West and Crenshaw Parkway	\$200-250,000
SC 9 East & Commerce Drive	SC 9	Intersection Improvement / Construct east bound offset left turn lane to provide improved traffic flow on SC 9 at the I-77 east interchange	SC 9 East and Commerce Drive	\$200-250,000
SC 72/121 & SC 97, S-12- 275	SC 72	Intersection Improvement / Construct west bound left turn lane on SC 72 and left turn lane on McCandless Rd to SC 72	SC 72/121 and SC 97, S-12-275	\$300-360,000
SC 9/ S-29-68 (Gillsbrook Road)	SC 9 and S-29-68	Intersection Improvement / Improving the intersection to provide improved turn movement for commercial and university related traffic	SC 9 and S-29-68 (Gillsbrook Road)	\$500-750,000
US 521 Business / US 601	US 521 Bus. and US 601	Intersection Improvement / Improve the intersection of US 521 and US 601 to provide improved turn movement for trucks and other traffic	US 521 Business and US 601	\$300-360,000
SC 9 / S-29-70 (Old Dixie Road)	SC 9 and S-29-70	Intersection Improvement / Improve the intersection of SC 9/S-29-70 to provide improved turn movement for buses and school related traffic	SC 9 and S-29-70 (Old Dixie Road)	\$300-360,000
SC 522/Buford School	SC 522	Safety Improvement / Improve the intersection of SC 522 and the entrance to Buford Schools to provide improved traffic movement along SC 522 with acceleration/deceleration lanes and pedestrian crossing control	SC 522 and Buford High and Middle School	\$300-360,000
S-29-67 (Hubbard Drive)	S-29-67	Safety Improvement / Traffic Calming / Utilize SCDOT approved traffic calming techniques to make USC-Lancaster area safer for students	S-29-67 (Hubbard Drive)	\$50-60,000
US 521 /Andrew Jackson School	US 521	Safety Improvement / Improve traffic movement along US 521 using acceleration/deceleration lanes	US 521 and Andrew Jackson School	\$300-360,000
SC 9 & SC 49	SC 9 and SC 49	Intersection Improvement / Correct the alignment of the intersection for improved traffic movement	SC 9 and SC 49	\$500-600,000
SC 215 (Beltline) and SC 49 Connector	SC 215 and SC 49	Intersection Improvement / Correct the alignment of the intersection for improved traffic movement	SC 215 (Beltline) and SC 49 Connector	\$300-360,000
SC 49 & S-44-194 (Industrial Park Drive)	SC 49 and S-44- 194	Intersection Improvement / Improve the intersection of SC 49 & S-44-194 to provide improved traffic movement along SC 49 using acceleration/deceleration lanes.	SC 49 and S-44-194 (Industrial Park Drive)	\$300-360,000



Project Name	Facility Name	Project Description	Project Termini	Project Cost
US 176 & SC 215	US 176 and SC 215	Intersection Improvement / Improve the intersection of US 176 & SC 215 to provide improved traffic movement using acceleration/deceleration lanes and improved signalization	US 176 and SC 215	\$300-360,000
SC 161 & US 321	SC 161 and US 321	Intersection Improvement / Realign the legs of the intersection to reduce the number of points of conflict through creating a modified T intersection or roundabout	SC 161 and US 321	\$2,325,000
S-172 (Old Limestone Road) & SC 49/S-156 (Shiloh Road)	S-172 and SC 49/S-156	Intersection Improvement / Improve sight distance at the intersection of Shiloh Road and Highway 49, potentially through a reduction of the speed limit on Highway 49 and clearing of vegetation within the right-of-way on Highway 49. If a traffic study of	S-172 (Old Limestone Road) and SC 49/S-156 (Shiloh Road)	\$550,000
SC 160 (Phase II)	SC 160	Not submitted	Not submitted	\$13,300,000
SC 49	SC 49	Resurfacing	Not submitted	Not submitted
I-77 / US 21 / SC Interchange Area	US 21	This project involves ramp and turning movement improvements leading onto US 21	Exit 77 Ramp along US 21 to Paddock Pkwy	\$2,000,000
BUS RAPID TRANSIT (LPA ROUTE) / US 21	US 21	US 21 has been identified as the locally preferred alternative for the eventual incorporation of a rapid transit operation	Downtown Rock Hill to the LYNX Light Rail Station in Pineville, NC	\$515,000,000
US 21 at Dorchester Road	US 21	This project involves the recommended incorporation of a left turn lane onto Dorchester Road	US 21 and Dorchester Road	Not submitted
SC 160 East into Lancaster County	SC 160	This project will involve completion of the remaining 5- laning work on SC 160 between York and Lancaster counties	Rosemont / McMillan Intersection in Lancaster County to Springfield Pkwy in York County	\$15,000,000
SC 160 West of I-77	SC 160	This project will involve consideration of a new loop from the I-77; realignment with Market Street, as well as other supporting access management improvements along the corridor up to Pleasant Road	1-77 to Pleasant Road	\$15,000,000
SC 160 at Steele / Banks St / Doby's Bridge Road	SC 160	This project would involve upgrading the intersection to improve capacity and safety concerns	Banks Street and Dobys Bridge Road	Not submitted
SC 160 / Hensley Road	SC 160	This project will involve the incorporation of turn lanes	SC 160 and Hensley Road	Not submitted
SC 160 / Munn Road to Market Street	SC 160	This project involves the recommendation for a connection for Fort Mill trails with Baxter Village trails and SC 160 sidewalk network	Munn Road to Market Street	Not submitted
SC 160 / Barberville Road to Harrisburg Road	SC 160	This project would involve sidewalks and bike lanes	SC 160 from Barberville Road to Harrisburg Road	Not submitted
SC 161 / Interchange Area Improvements	SC 161	This project involves the consideration / incorporation of a diverging diamond structure	Exit 82C where Celanese Road (SC 161) and Cherry Road (US 21) intersect on the approach to I-77	\$15,000,000



Project Name	Facility Name	Project Description	Project Termini	Project Cost
SC 161 / Intersection Improvements	SC 161	This project will involve the incorporation of additional storage capacity and turn lanes	Celanese Road and India Hook Road	Not submitted
SC 901 / Herlong Avenue to Wade Hampton Road	SC901	This project would involve extension of area sidewalk improvements	SC 901 from Herlong Avenue to Wade Hampton Road	Not submitted
US 521 / Sandra Lane	US 521	This project would involve adjusting /upgrading the intersection to accommodate the likely conversion from residential to commercial given area growth pressures	US 521 and Sandra Lane	Not submitted
US 521 / Marvin Road / Blackhorse Run Road	US 521	This project would involve consideration of closing the crossover at Blackhorse Run Road & US 521	US 521 and Blackhorse Run Road	Not submitted
US 521 / River Road	US 521	This project would involve the addition of right turn lane onto us 521	US 521 and River Road Intersection	Not submitted
US 521 / Jim Wilson Road	US 521	This project involves consideration of turn lanes, addition of median as well as widening of Jim Wilson Road	US 521 and Jim Wilson Intersection	Not submitted
SC 5 (US 21 to Lancaster County Line)	SC 5	Recommendation to 3 lane this roadway	SC 5 (US 21 to Lancaster County Line)	Not submitted
Rambo Road / SC 72	SC 72	This project is an intersection re-alignment	Rambo Road and SC 72	Not submitted
SC 321 / Barrett Road to Flat Stone Drive	SC 321	This project would involve the incorporation of sidewalks	SC 321 from Barrett Road to Flat Stone Drive	Not submitted

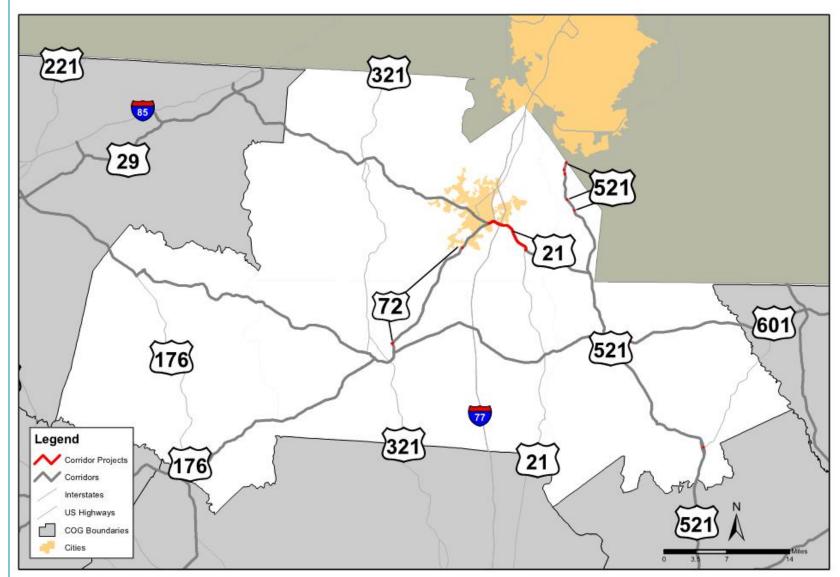


Figure 4-3: Multimodal Needs for Catawba COG



Table 4-3: Needs Identification: Central Midlands Council of Governments

Project Name	Facility Name	Project Description	Project Termini	Project Cost
Sunset Blvd US 378 @ Fairlane Dr S-1209	US 378 and S- 1209	Intersection Improvement / Provide right turn lane on Fairlane Rd and signal modification	Sunset Blvd US 378 and Fairlane Dr S- 1209	Not submitted
Gervais St US 1 @ Millwood Ave US 76/378	US 1 and US 76/378	Intersection Improvement	Gervais St US 1 and Millwood Ave US 76/378	Not submitted
Gervais St US 1 @ Harden St S-10	US 1 and S-10	Intersection Improvement	Gervais St US 1 and Harden St S-10	Not submitted
Garners Ferry Rd US 76/378 @ Woodlands Rd S-1100	US 76/378 and S- 1100	Intersection Improvement / Dedicated right turn lane on Old Woodlands Rd	Garners Ferry Rd US 76/378 and Woodlands Rd S-1100	Not submitted
Garners Ferry Rd US 76/378 @ Hazelwood Rd S-88	US 76/378 and S- 88	Intersection Improvement / Acceleration lane / Left turn acceleration lane	Garners Ferry Rd US 76/378 and Hazelwood Rd S-88	Not submitted
Columbia Ave US 378 @ Old Chapin Rd S-52-W Main St US 1	US 378 and S-52- W	Intersection Improvement / Right turn lanes on Old Chapin at US 378	Columbia Ave US 378 and Old Chapin Rd S-52-W Main St US 1	Not submitted
Columbia Ave US 378 @ Park Rd S-127	US 378 and S- 127	Intersection Improvement / Right turn lanes on Park Rd at US 378	Columbia Ave US 378 and Park Rd S-127	Not submitted
US 321 @ Recycle Center	US 321	Intersection Improvement / Left turn lane on US 321	US 321 at the Recycle Center	Not submitted
Columbia Ave US 378 @ Reed Ave S-638-W Butler St S-131	US 378 and S- 638-W	Intersection Improvement / Improve turning radius / possible right turn lanes on Reed Ave at US 378	Columbia Ave US 378 and Reed Ave S-638-W Butler St S-131	Not submitted
Bluff Rd SC 48 @ Bluff Industrial Blvd	SC 48	Intersection Improvement / Left turn lane / traffic signal	Bluff Rd SC 48 and Bluff Industrial Blvd	Not submitted
Sunset Blvd US 378 @ Mineral Springs Rd S-106	US 378 and S- 106	Intersection Improvement / New location	Sunset Blvd US 378 and Mineral Springs Rd S-106	Not submitted
US 378 @ St Peters Rd S- 204-Charter Oak Rd S-204	US 378 and S- 204	Intersection Improvement / Right turn lanes on Charter Oak Rd St Peter Rd	US 378 and St Peters Rd S-204-Charter Oak Rd S-204	Not submitted
Railroad Bridge over Assembly St SC 48 @ Whaley St	SC 48	Will eliminate 4 or 5 at grade crossing near USC	Assembly St SC 48 and Whaley St	Not submitted
Two Notch Rd US 1 Pontiac	US 1	Widening	Steven Campbell Road S-28-407 to Spears Creek Church Road S-53	\$17,208,719
Jefferson Davis Hwy US 1	US 1	Widening	Steven Campbell Road S-28-407 to Sessions Road S-28-47	\$16,225,072
Clemson Rd S-52	S-52	Widening	Quality Court to Sparkeberry Crossing	\$23,214,333



Project Name	Facility Name	Project Description	Project Termini	Project Cost
Jefferson Davis Hwy US 1 East	US 1	Widening	Sessions Road S-28-47 to Watts Hill Road S-28-757	\$14,644,167
McCords Ferry Rd US 601 @Van Boklen Rd SC 263	US 601 and SC 263	Intersection Improvement	McCords Ferry Rd US 601 and Van Boklen Rd SC 263	Not submitted
McCords Ferry Rd US 601 @Bluff Rd SC 48	US 601 and SC 48	Intersection Improvement	McCords Ferry Rd US 601 and Bluff Rd SC 48	Not submitted



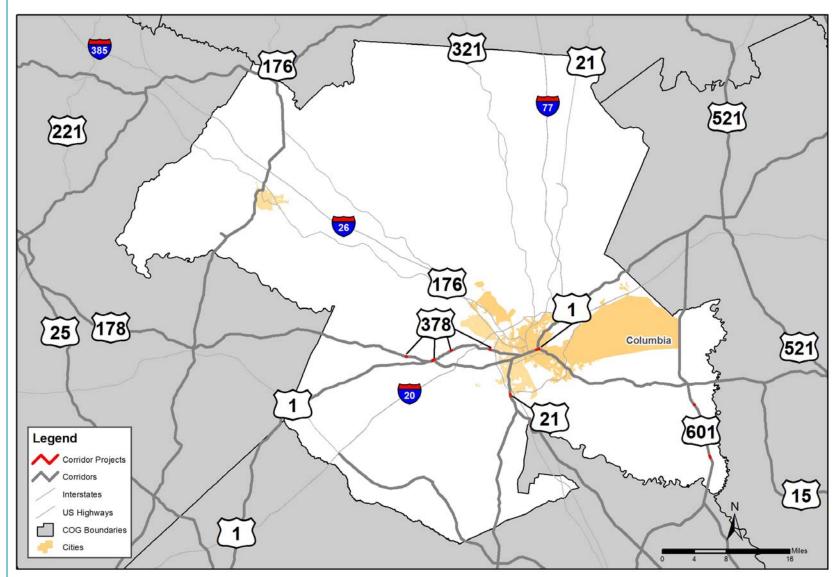


Figure 4-4: Multimodal Needs for Central Midlands COG



## **Table 4-4: Needs Identification: Lowcountry Council of Governments**

Project Name	Facility Name	Project Description	Project Termini	Project Cost
US 17 (Beaufort and Colleton Counties)	US 17	Widening to 4 or 5 lanes	Beaufort and Colleton Counties	\$99,000,000
US 278 (East of I-95)	US 278	Widening to 6 lanes	Simmonsville Rd to SC 170	\$30,163,000
SC 170	SC 170	Widening to 4 lanes	Bluffton Parkway to SC 46	\$31,000,000
US 17 (Jasper County)	US 17	Widening to 4 lanes	SC 315 to GA Border	\$21,500,000
US 17 (Jasper County – Ridgeland)	US 17	Intersection Improvement	US 17 at SC 336	\$350,000



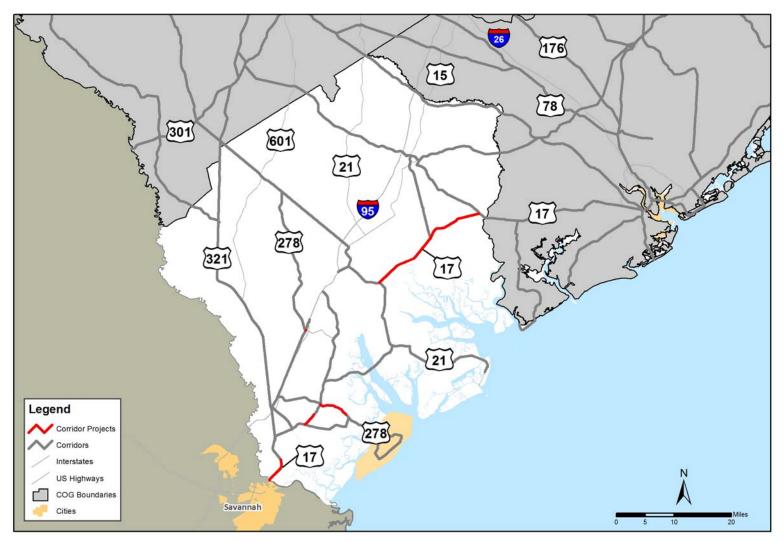


Figure 4-5: Multimodal Needs for Lowcountry COG



Table 4-5: Needs Identification: Lower Savannah Council of Governments

Project Name	Facility Name	Project Description	Project Termini	Project Cost
Whiskey Road (SC 19)	SC 19	Buffered Bike Lane through road widening / Length 2.82 miles	Kings Grant Drive to Powderhouse Rd	\$1,002,792
Richland Avenue (US 1, US 78)	US 1/78	Bike Lane through lane narrowing / Length 1.65 miles	Vaucluse Drive to Beaufort Street, NE	\$29,700
Silver Bluff Road (SC 302)	SC 302	Bike Lane through lane narrowing / Length 1.19 miles	Pine Log Road to Indian Creek Trail	\$21,420
Whiskey Road (SC 19)	SC 19	Bike Lane through lane narrowing / Length 1.52 miles	Boardman Road to Kings Grant Drive	\$27,360
Atomic Road (SC 125)	SC 125	Bike Lane through lane narrowing / Length 0.3 miles	E. Buena Vista Avenue to Martintown Road	\$5,400
Georgia Avenue (US 25)	US 25	Bike Lane / Length 2.99 miles	13th Street Bridge to Knox Avenue	\$114,816
Edgefield Hwy (SC 19)	SC 19	Bike Lane / Length 6.06 miles	Hampton Avenue to Shiloh Heights Road	\$323,704
Atomic Road (SC 125)	SC 125	Paved Shoulder / Length 11.47 miles	Martintown Road to ARTS Boundary	\$385,392
Charleston Highway (US 78)	US 78	Paved Shoulder / Length 3.19 miles	Old Wagener Road to Montmorenci Road	\$107,184
Jefferson Davis Hwy (US 1, US 78)	US 1/78	Paved Shoulder / Length 12.26 miles	Hitchcock Parkway to SC/GA State Line	\$411,936
Richland Avenue (US 78)	US 78	Paved Shoulder / Length 1.27 miles	Beaufort Street, NE to Old Wagener Road	\$42,672
Edgefield Hwy (SC 19)	SC 19	Paved Shoulder / Length 9.17 miles	Shiloh Heights Road to Aiken County Line	\$308,112
Silver Bluff Road (SC 302)	SC 302	Paved Shoulder / Length 12.13 miles	Indian Creek Trail to Atomic Road	\$407,568
US 1	US 1	Paved Shoulder / Length 24.35 miles	Abbeville Ave to Aiken County Line	\$818,160
US 1	US 1	Paved Shoulder / Length 9.68 miles	Old Aiken Road to Augusta Road	\$325,248
US 1	US 1	Paved Shoulder / Length 6.8 miles	Rutland Drive to ARTS Boundary	\$228,480
Wagener Road (SC 302)	SC 302	Paved Shoulder / Length 5.07 miles	Richland Ave, East to Montmorenci Road	\$170,352
Whiskey Road (SC 19)	SC 19	Paved Shoulder / Length 4.33 miles	Powderhouse Road to ARTS Boundary	\$145,488
Williston Road (US 278)	US 278	Paved Shoulder / Length 5.97 miles	Sand Bar Ferry Road to ARTS Boundary	\$200,592
Edgefield Road (US 25)	US 25	Paved Shoulder / Length 4.17 miles	Ascauga Lake Road to Aiken County Line	\$140,112
Jefferson Davis Hwy (US 1, US 78)	US 1/78	Greenway	Martintown Road to Revco Road	\$1,934,400
Silver Bluff Road Corridor Improvements (SC 302)	SC 302	Operational improvements and third lane added for turn lanes, center lane, and median, as well as signal improvements.	S-1849 (Indian Creek Trail) to S-81 (Richardson's Lake Road)	\$4,528,000
Atomic Road/ East Buena Vista	S-125	Corridor Improvements and Widening	Not submitted	\$6,250,000
Hitchcock Parkway (SC 118) - Phase 1	SC 118	Widen Hitchcock Parkway (SC 118) from 2 to 4 lanes between Huntsman Drive to SC 302 (Silver Bluff Road), with full landscaped median and turn lanes as needed and multiuse path along the entire project limits.	SC 302 to Huntsman Drive	\$19,200,000



Project Name	Facility Name	Project Description	Project Termini	Project Cost
US 25 (Edgefield Road) and Walnut Lane intersection improvements	US 25	Improve Edgefield Road (US 25) from four to six lanes with center turn lanes (7th lane) between Sweetwater Boulevard to past Walnut Lane	US 25 (Edgefield Road) and Walnut Lane	\$4,600,000
Aiken-Augusta Highway (US 1)	US 1	Widen Aiken-Augusta Highway (US 1) with improved median between Savannah River to I-520 (Palmetto Pkwy), including Martintown Road interchange improvements.	Savannah River to I-520 (Palmetto Pkwy)	\$9,575,540
Edgefield Highway (SC 19)	SC 19	Widen Edgefield Highway (SC 19) from 2 to 4 lanes between SC 118 (University Pkwy) and S-153 Shiloh Church Road, with full landscaped median and turn lanes as needed. Add median between University and Hampton	Hampton Avenue to S-153 Shiloh Church Road	\$30,901,440
Georgia/Knox Avenue (US 25) and Five Notch/ Bradleyville Road (S-45)	US 25 and S-45	Georgia Avenue - add turning lanes and realign. Close one curb cut.	US 25 (Georgia/Knox Avenue) and S-45 (Five Notch/ Bradleyville Road)	\$1,712,867
Richland Avenue West (US 1/US 78) and University Parkway (S- 2131)	US 1/78 and S- 2131	Lengthen and add dual left turn lanes east bound on Richland Ave. Rewarrant signal.	US 1/US 78 (Richland Avenue West) and S- 2131 (University Parkway)	\$811,997
Silver Bluff Road (SC 302) and Hitchcock Parkway (SC 118)	SC 302 and SC 118	Bicycle and pedestrian crossing safety median, signal functions reassesses and add turn lanes	SC 302 (Silver Bluff Road) and SC 118 (Hitchcock Parkway)	\$1,477,466
I-20 and US 25 (Edgefield Road) Park and Ride in Aiken County (Exit 5)	I- 20 and US 25	Construct Park and Ride facility	I-20 and US 25 (Edgefield Road)	\$1,240,000
Hitchcock Parkway (SC 118)- Phase 2	SC 118	Widening to 4 Lanes	Huntsman Drive to US 1	\$22,113,000
Rudy Mason Parkway (SC 118)	SC 118	Road widening to two lanes to four lanes, with full landscaped median and turn lanes as needed.	S-912 (North of Willow Run Rd) to S-783 (North of Old Wagener Road)	\$11,340,000
Atomic Road (SC 125)	SC-125	Widen to 4 through lanes, with full landscaped median and turn lanes as needed. Project include multiuse path along portions of the study limits.	S-197 (Old Edgefield Road) to US 1 (Jefferson Davis Highway)	\$14,354,301
Knox Avenue (US 25) and Martintown Road (SC 230)	US 25 and SC 230	Realign intersection and pedestrian improvements	US 25 (Knox Avenue) and SC 230 (Martintown Road)	\$2,408,642
York Street/Columbia Hwy (US 1) and Rutland Ave and Aldrich (SC 118)	US 1 and SC 118	The two intersections are separated by 440 ft. Operational and signal improvements.	US 1 (York Street/Columbia Hwy) and SC 118 (Rutland Ave and Aldrich)	\$677,376
Pine Log Road (SC 302) and Collier Street	SC 302	Realign and add double left turn lanes from westbound Pine Log to Collier and adjust signals.	SC 302 (Pine Log Road) and Collier Street	\$1,212,898



Project Name	Facility Name	Project Description	Project Termini	Project Cost
SC 4 (Salley Rd) at SC 302 (Wagener Rd)	SC 4 and SC 302	Intersection Improvements / Recent improvements made, may require signal (Kitchings Mill)	SC 4 (Salley Rd) and SC 302 (Wagener Rd)	\$500,000
SC 125 (Atomic Rd) and State Hwy 62 (N Silverton St)	SC 125 and State Hwy 62	Intersection Improvements / Skewed intersection, low traffic on S-62 (Jackson)	SC 125 (Atomic Rd) and State Hwy 62 (N Silverton St)	\$750,000
SC 125 (W Railroad Ave) and Bluff Rd (S-03-22)	SC 125 and S-03- 22	Intersection Improvements / Alignment OK, may need radii improvements (Allendale)	SC 125 (W Railroad Ave) and Bluff Rd (S-03 22)	\$1,500,000
SC 125 (Augusta Hwy) and SC 3 (River Rd)	SC 125 and SC 3	Intersection Improvements / Alignment OK, moderate AADT (E of Martin)	SC 125 (Augusta Hwy) and SC 3 (River Rd)	\$750,000
US 278 (Barnwell Rd) and Bluff Rd (S-03-22)	US 278 and S-03- 22	Intersection Improvements / Skewed intersection, moderate AADT (N of Allendale)	US 278 (Barnwell Rd) and Bluff Rd (S-03 22)	\$500,000
US 278 (Allendale-Fairfax Hwy) and US 321 (Hampton Ave)	US 278 and US 321	Intersection Improvements / Skewed intersection, R/R crossing, traffic, multiple. Intersections in close proximity (Fairfax)	US 278 (Allendale-Fairfax Hwy) and US 321 (Hampton Ave)	\$2,000,000
US 278 (Williston Rd) and SC 781 (Tinker Creek Rd)	US 278 and SC 781	Intersection Improvements / Sight distance bad, in curve of US route, realignment of main line? (W of Williston)	US 278 (Williston Rd) and SC 781 (Tinker Creek Rd)	\$1,500,000
US 278 and SC 300	US 278 and SC 300	Intersection Improvements / Badly skewed, sight distance bad, high AADT (S of Barnwell)	US 278 and SC 300	\$1,500,000
US 278 (Barnwell Rd)	US 278	6-ft bike lane/paved shoulder / Length 6.02 miles	Jennings Rd to Barnwell/Allendale Co line	\$3,600,000
US 78 (Dorange Rd)	US 78	4-ft bike lane/paved shoulder / Length 1.94 miles	Freedom Rd to Sub Rd	\$1,200,000
US 78 and SC 781	US 78 and SC 781	Redesign intersection	US 78 and SC 781	\$1,300,000
US 78 / US 321	US 78 and US 321	Reconfigure intersection	US 78 and US 321	\$2,000,000
US 78 Phase I and II	US 78	Corridor Improvements	US 78 (within Bamberg County)	\$5,400,000
US 78 at Calhoun St	US 78	Reconfigure intersection	US 78 and Calhoun St	\$1,000,000
US 78 at SC 39	US 78 and SC 39	Redesign intersection	US 78 and SC 39	\$1,050,000
US 176 at SC 6	US 176 and SC 6	Redesign intersections East and West	US 176 and SC 6	\$1,600,000
US 301 Extension	US 301	New construction extends US 301 from I-95 to SC 6	I-95 to SC 6	\$9,800,00
US 301 at SC 33	US 301 and SC 33	Geometric improvements	US 301 and SC 33	\$1,000,000

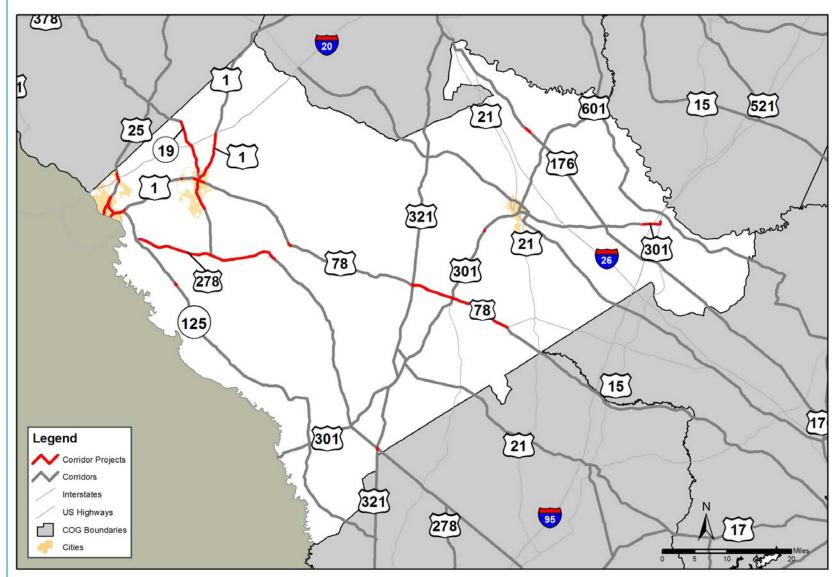


Figure 4-6: Multimodal Needs for Lower Savannah COG



#### Table 4-6: Needs Identification: Pee Dee Council of Governments

Project Name	Facility Name	Project Description	Project Termini	Project Cost
US 76 W. Palmetto St.	US 76	Capital Sales Tax Widening	I-95/Meadors Rd. to E. Smith Street	\$28,425,621
US 378 E. Myrtle Beach Hwy.	US 378	Capital Sales Tax Widening	US 52 near Lake City to SC 41 in Kingsburg	\$136,364,420
US 52 Irby Street	US 52	Access Management	W. Lucas (US 52) to Alligator Rd (S 107)	\$9,163,000
US 76 Palmetto Street	US 76	Access Management	Second Loop Rd. (S-51) to Freedom Blvd. (US 301)	\$7,775,000



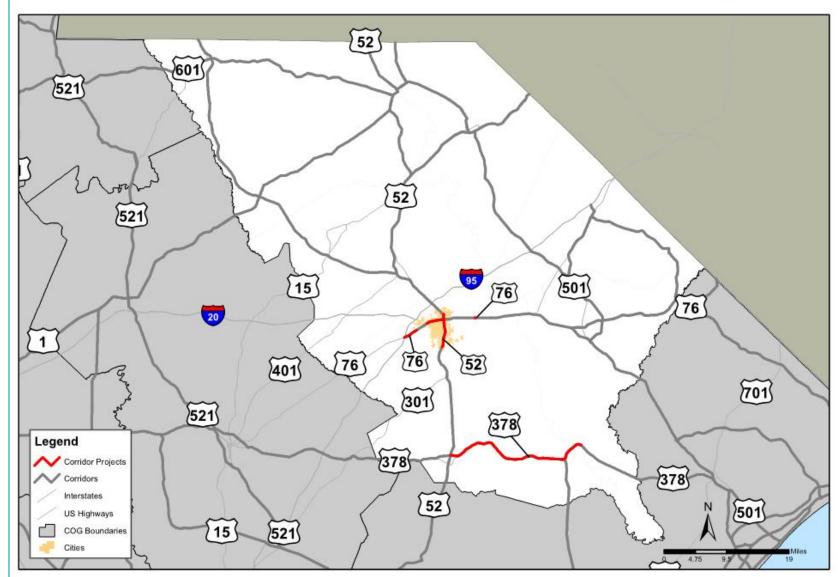


Figure 4-7: Multimodal Needs for Pee Dee COG



## Table 4-7: Needs Identification: Santee-Lynches Council of Governments

Project Name	Facility Name	Project Description	Project Cost		
US 521 Widening	US 521	Widening for 6.86 miles Sumter County Line to I-20		\$44,590,000	
US 521 Widening	US 521	Widening for 8.05 miles	\$52,325,000		
US 15 Widening	US 15	Widening for 4.14 miles	S-251 to Clarendon County Line	\$26,910,000	
US 15 Widening	US 15	Widening for 15.20 miles	Sumter County Line to I-95 \$98,800,00		
US 521/601 Widening	US 521/601	Widening for 13.74 miles  Camden City Limits to Lancaster County Line		\$89,310,000	
US 15 Widening	US 15	Widening for 3.77 miles	Nettles Rd (S-43-251) to Pearson Rd (S-43-131)	\$31,000,000	

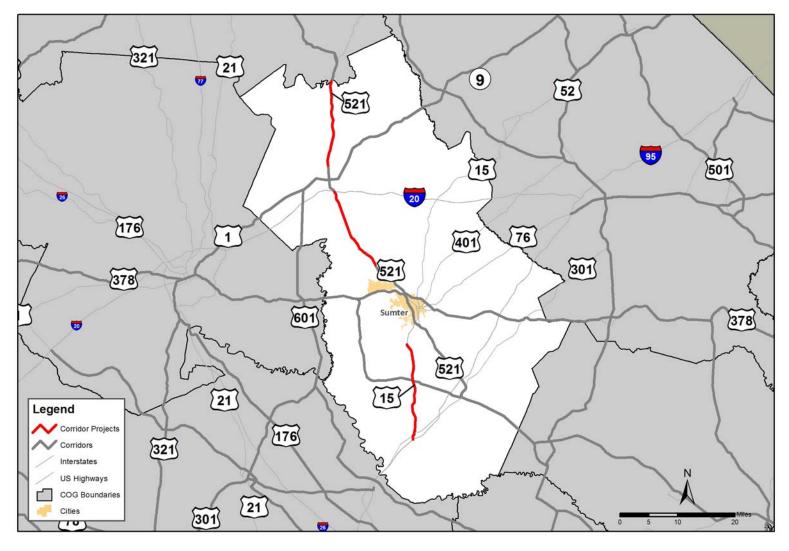


Figure 4-8: Multimodal Needs for Santee-Lynches COG



Table 4-8: Needs Identification: South Carolina Appalachian Council of Governments

Project Name	Facility Name	Project Description	Project Termini	Project Cost
US 29 / Suber	US 29	Intersection Improvements	US 29 and Suber	Not submitted
US 29 / Gap Creek Rd	US 29	Intersection Improvements	US 29 and Gap Creek Rd	Not submitted
US 25	US 25	Rehabilitation	White Horse Rd / Length 1.97 miles	Not submitted
US 123 (SC 135 to SC 93)	US 123	Widen to 6 lanes with raised median and turn lanes at intersections	SC 135 to SC 93	\$100,000
US 123 (SC 93 to SC 8)	US 123	Widen to 6 lanes with median	SC 93 to SC 8	Not submitted
US 123 (SC 153 to SC 93)	US 123	Widen to 6 lanes, add 4' shoulder, sidewalks West of Prince Perry	SC 153 to SC 93	Not submitted
US 276	US 276	Road Diet 3 lanes, bike lanes, curb ramps	McElhaney to US 25	Not submitted
SC 14 (Five Forks Rd to Bethel Rd)	SC 14	Widen to 5 lanes, bike lanes, sidewalks and future greenway access	Five Forks Rd to Bethel Rd	\$2,500,000
SC 14 (SC 418 to Quillen Dr)	SC 14	SC14/Main St Fountain Inn Road Diet to 3 lanes, bike lanes, curb ramps	SC 418 to Quillen Dr	Not submitted
SC 14 /Loma St	SC 14	Intersection Improvements	SC 14 and Loma St	Not submitted
SC 14/ Taylor	SC 14	Intersection Improvements	SC 14 and Taylor	Not submitted
SC 183 Intersection Improvements (ROW and C)	SC 183	Intersection Improvements	SC 183 and Alex Rd / SC 183 and Jim Hunt Rd / SC 183 and Jameson Rd	\$4,260,000
SC 183 / Hunts Bridge / Sulphur Springs	SC 183	Intersection Improvements	SC 183 and Hunts Bridge / Sulphur Springs	Not submitted
SC 183 / Blue Flame	SC 183	Intersection Improvements	SC 183 and Blue Flame	Not submitted
SC 183 / Jones	SC 183	Intersection Improvements	SC 183 and Jones	Not submitted
SC 183 / Hamburg	SC 183	Intersection Improvements	SC 183 and Hamburg	Not submitted
SC 183 Widening	SC 183	Widen to 4 lanes with median	SC 135 to Groce Road	\$45,300,000
SC 291	SC 291	Intersection Improvement	SC 291 and S-23-7	Not submitted
SC 20 Bridge over US 29	US 29	Bridge deficiency / Bridge currently has low clearance (13' 7") which can affect freight movement along this corridor	SC 20 Bridge over US 29	Not submitted
SC 8 Bridge over US 29	US 29	Bridge deficiency / Bridge currently has low clearance (13' 0") which can affect freight movement along this corridor	SC 8 Bridge over US 29	Not submitted



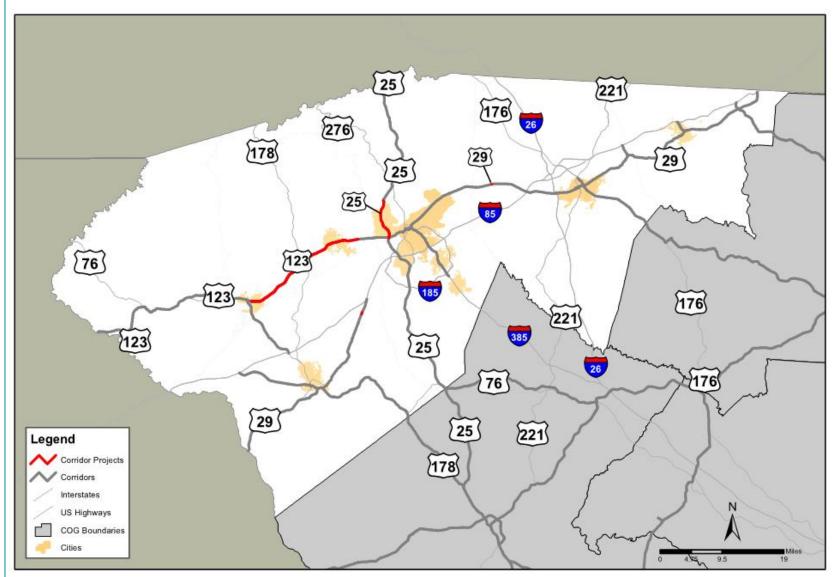


Figure 4-9: Multimodal Needs for South Carolina Appalachian COG



Table 4-9: Needs Identification: Upper Savannah Council of Governments

Project Name	Facility Name	Project Description	Project Termini	Project Cost
US 25 (S-429/ SC 19)	US 25	Widen to 4 lane divided	SC-429 to SC 19	\$30,000,000
US 221	US 221	Widen to 5 lane from existing 5 lane section to existing 5 lane section	One mile section to be widened between existing 5 lane sections	\$7,000,000
SC 56	SC 56	Widen to three lane	SC 72 to I-26	\$20,000,000
US 25	US 25	Widen to four lane	S-10 to SC 19	\$26,000,000
US 178	US 178	Widen to three lane	SC 121 to S-152	\$4,000,000
SC 121	SC 121	Widen to three lane	S-140 to S-51	\$8,000,000
US 178	US 178	Realign for 90-degree crossing and LT lanes	US 178 and S-37	\$2,000,000
SC 121	SC 121	LT lanes on SC 121 and reconfigure	SC 121 and S-41 / S-104	\$2,500,000
US 25	US 25	Remove passing-lane configuration and construct normal LT lane	US 25 and S-257	\$2,000,000
SC 19	SC 19	LT lane on SC 19 at S-458 Intersection	SC 19 and S-458	\$2,000,000
US 25	US 25	Widen to four lane from Edgefield to Greenwood / Length 28 miles S-10 to US 178		\$225,000,000
US 25	US 25	Driveway issues and potential TS Bypass in K-Mart area		\$3,000,000
US 25 /221	US 25 / 221	RT lane WB US 221	Bypass 221 and Reynolds Ave	\$2,500,000
SC 72	SC 72	Widen for RT lane on WB SC 72 Bus.	SC 72 Bus. to S-108	\$2,000,000
US 25 / 178	US 25 / 178	Radii improvements	US 25 / 178 Bus. to S-201 / 625	\$1,500,000
US 221	US 221	Intersection and LT Lane	US 221 to SC 10	\$2,000,000
US 25	US 25	LT lanes on Bypass	US 25 Bypass to S-101	\$2,500,000
US 221 / SC 72	US 221 / SC 72	Radii Improvements and widen for LT and RT on S-99	US 221 / SC 72 to S-99	\$2,000,000
US 25	US 25	Realign Carolina Ave as entrance to Genetic Park	S-212 to S-135	\$15,000,000
US 178	US 178	Relocate Scotts Ferry for 90-degree X-intersection	US 178 to S-131	\$3,000,000
US 25 / 178	US 25 / 178	Remove DY Median and apply LT Pocket	US 25 / 178 to S-40 / 50	\$2,000,000
US 178	US 178	LT lane on NB US 178	US 178 to S-31	\$2,000,000
US 178	US 178	Rebuild scissor to and remove bridge	US 178 to SC 246	\$4,500,000
SC 56 / 72	SC 56 / 72	Reconfigure and LT lanes on Broad Street	SC 56 / 72 Bus. to S-162	\$2,500,000
US 221	US 221	Widen slightly to accomplish 5-lane markings US 76 to SC 49		\$2,000,000
US 221	US 221	LT lanes on US 221 at SC 49 US 221 to SC 49		\$2,500,000
US 76	US 76	Realign S-312 to at crest	US 76 to S-312	\$2,500,000
SC 56	SC 56	Reconfigure Channelized	SC 56 to SC 66	\$3,000,000



Project Name	Facility Name	Project Description	Project Termini	Project Cost
SC 72	SC 72	Relocate and elevate S-26	SC 72 to S-26	\$3,000,000
US 76	US 76	LT lane on US 76 and Radii	SC 76 to SC 101 / S-54	\$2,000,000
US 76	US 76	Widen US 76 for LT lanes and widen S-46 south approach/radii	\$3,000,000	
SC 56	SC 56	Reconstruct channelized SC 56 / 72 Bus. To SC 308		\$2,000,000
SC 56	SC 56	Reconstruct channelized	SC 56 to S-50	\$2,000,000
SC 121	SC 121	Intersection and LT Lane	SC 121 to S-37	\$2,000,000
SC 121	SC 121	Intersection and LT Lane SC 121 to S-21		\$2,000,000
US 378	US 378	LT lanes on US 378 US 378 to S-40		\$2,000,000
US 178	US 178	LT and RT lanes for intersection adjacent to King Academy		\$2,000,000

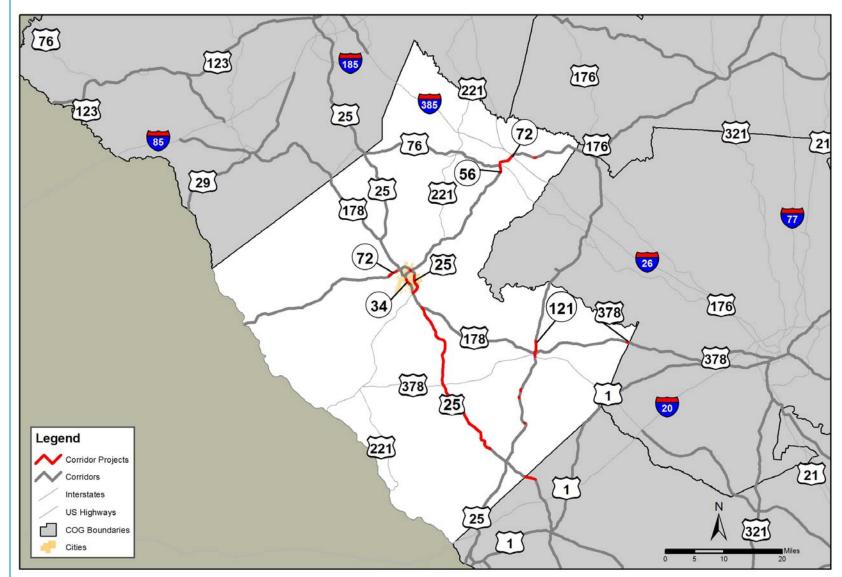


Figure 4-10: Multimodal Needs for Upper Savannah COG



**Table 4-10: Needs Identification: Waccamaw Council of Governments** 

Project Name	Facility Name	Project Description	Project Termini	Project Cost	
Carolina Bays Pkwy - SC 9 to S-57	Carolina Bays Pkwy	Not submitted	SC 9 to S-57	\$8,000,000	
Carolina Bays Pkwy/Phase III - SC 544 to SC 707	Carolina Bays Pkwy	Not submitted SC 544 to SC 707		\$235,000,000	
US 17 & GLENNS BAY RD- HORRY COUNTY RIDE	US 17 and Glenns Bay Rd	ot submitted  US 17 and Glenns Bay Rd-Horry County Ride			
SC 707 Enterprise to Co. Line - Horry County Ride	SC 707	Not submitted	SC 707 Enterprise TO County Line - Horry County Ride	\$116,000,000	
Backgate Interchange		Intersection Improvements	Backgate Interchange	\$90,000,000	
US 17 & Inlet Square Drive - Horry County	US 17	Intersection Improvements	US 17 and Inlet Square Drive	\$2,300,000	
US 17 Bypass & Glenns Bay Road - Horry County	US 17 Bypass	Intersection Improvements	US 17 Bypass and Glenns Bay Road	Not submitted	
US 17 & Mineola Ave Horry County	US 17	Intersection Improvements	Intersection Improvements US 17 and Mineola Ave		
US 17 & Waverly Road - Georgetown County	US 17	Intersection Improvements US 17 and Waverly Road		\$21,000	
US 17 & 48th Ave. South - North Myrtle Beach	US 17	Intersection Improvements US 17 and 48th Ave South		\$500,000	
US 17 & 6th Ave. South - North Myrtle Beach	US 17	Intersection Improvements US 17 and 6th Ave South		\$720,000	
US 17 Bypass & Indigo Club Dr Horry Co.	US 17 Bypass	Intersection Improvements US 17 Bypass & Indigo Club Dr		\$500,000	
US 17 Bus. & Glenns Bay Road - Surfside Beach	US 17 Bus.	Intersection Improvements	US 17 Business Route and Glenns Bay Road	\$500,000	
US 17 & Willbrook - Georgetown County	US 17	Intersection Improvements	US 17 and Willbrook	\$225,000	
US 17 & US 701 (5 Points) - Georgetown	US 17 and US 701	Intersection Improvements	US 17 and US 701 (5 POINTS)	\$550,000	
US 501 (Church St) & US 378 (Wright Blvd) - Conway	US 501 and US 378	Intersection Improvements	US 501 (Church St) and US 378 (Wright Blvd)		
SC 9 RAMP to SC 90 - North Myrtle Beach	SC 9 and SC 90	Intersection Improvements SC 9 Ramp to SC 90		\$150,000	
US 501 (Church St) & 16th Avenue - Conway	US 501	Intersection Improvements US 501 (Church St) and 16th Avenue		\$250,000	
US 17 Near Flea Mkt/N Bnd Lt - North Myrtle Beach	US 17	Intersection Improvements	US 17 at Near Flea Market/North bound LT	\$150,000	



Project Name	Facility Name	Project Description	Project Termini	Project Cost	
US 17 & Litchfield Country Club Dr - Georgetown Co.	US 17	Intersection Improvements	US 17 & Litchfield Country Culb Dr	\$764,000	
US 17 & New Location (14th-16th Ave N)- Surfside Beach	US 17	Intersection Improvements	US 17 and new location (14th-16th Ave N)	\$500,000	
US 17 @ Flea Mkt/Lt Turn Nbd - North Myrtle Beach	US 17	Intersection Improvements  US 17 at Flea Market/LT TURN Northbound			
US 17 & SC 521 (Highmarket St) - Georgetown	US 17 and SC 521	Intersection Improvements	US 17 and SC 521 (Highmarket ST)	\$500,000	
US 17 & 46th South - North Myrtle Beach	US 17	Intersection Improvements	US 17 and 46th South	\$650,000	
US 17 @ Flea Mkt/Lt Turn Sbd - North Myrtle Beach	US 17	Intersection Improvements	US 17 at Flea Market /LT TURN Southbound	\$150,000	
US 501 & Broadway - Myrtle Beach	US 501	Intersection Improvements	US 501 and Broadway	\$500,000	
US 17 & Ocean Creek - North Myrtle Beach	US 17	Intersection Improvements	US 17 and Ocean Creek	\$500,000	
US 17 Business @ US 501 - Myrtle Beach	US 17 Bus.	Intersection Improvements	US 17 Business Route at US 501	\$550,000	
US 17 & 10th Avenue S Surfside Beach	US 17	Intersection Improvements	US 17 and 10th Avenue South	\$500,000	
US 17 & Deerfield Links Dr Horry County	US 17	Intersection Improvements	US 17 and Deerfield Links Dr	\$250,000	
US 17 & US 701 Intersection White Topping	US 17 and US 701	Intersection Improvements - Whitetopping	US 17 and US 701	\$1,000,000	
US 17: 2nd Ave North to Sea Mountain Hwy	US 17		2nd Ave North to Sea Mountain Hwy	\$460,000	
US 501 N. Widening - Factory Stores To Gardner Lacy	US 501	Widening	Factory Stores to Gardner Lacy	\$4,900,000	
US 17 & US 521 Drainage Project	US 17 and US 521	Drainage project	US 17 and US 521	\$1,000,000	
US 17 Median Consolidation - N. Causeway to MLK	US 17	Median Consolidation	N. Causeway to MLK	\$3,750,000	
Wayfinding	Not submitted	Not submitted	Not submitted	\$2,500,000	
SIGNAL SYSTEM TIMING	Not submitted	Not submitted	Not submitted	\$600,000	
US 501 S. Widening From Gardner Lacy to SC 31	US 501	Widening	Gardner Lacy to SC 31	\$5,000,000	



Project Name	Facility Name	Project Description	Project Termini	Project Cost		
US 17 Bypass Widening From Shetland to Backgate	US 17 Bypass	Widening Shetland to Backgate		\$4,000,000		
Surfside Frontage Roads	Not submitted	Not submitted	Not submitted	\$2,500,000		
US 17 Sidewalks (Briarcliffe to Kings) Horry County [RND 5]	US 17	Enhancement Projects - Sidewalks	\$40,000			
US 17 & Surfside Drive Landscaping Surfside Beach [RND 5]	US 17	Enhancement Projects - Landscaping	US 17 and Surfside Drive	\$40,000		
ECG Meeting Street Extension and Bike Lanes City of Georgetown [RND 5]	Not submitted	Enhancement Projects - Street extension and bike lanes	hancement Projects - Street extension and bike lanes Not submitted			
Regional Wayfinding	Not submitted	Regional signage directing drivers to SC 31 and SC 22	Not submitted	\$2,500,000		
US 501 from Conway to Forestbrook Drive	US 501	US 501 widening to 6 lanes between SC 31 and Conway with Transit. Intersection Improvements at Factory Stores, Gardner Lacey, Singleton Ridge, CCU, and other signalized intersections.	Conway to Forestbrook Drive	\$12,900,000		
US 17 Business Median C (in Garden City)	US 17 Bus.	Close US 17 Business Median Breaks, modify intersections for U-turns, and coordinate signals in Garden City	US 17 Business Median C (in Garden City)	\$1,000,000		
US 17 Business Median B (in Surfside Beach)	US 17 Bus.	Close US 17 Business Median Breaks, modify intersections for U-turns, and coordinate signals in Surfside Beach	US 17 Business Median B (in Surfside Beach)	\$2,000,000		
US 17 Business Median A (between Myrtle Beach and Surfside Beach)	US 17 Bus.	Close Median Breaks, modify intersections for U-turns, and coordinate signals on US 17 Business between Myrtle Beach and Surfside Beach	US 17 Business Median A (between Myrtle Beach and Surfside Beach)	\$2,000,000		
Kings Highway C (31st N to 67th N)	Kings Hwy	Improve Kings Highway (31st N to 67th N), including pedestrian, bicycle and transit improvements	31st N to 67th N	\$9,100,000		
US 17 Bypass A (from Airport to 544)	US 17 Bypass	Widen US 17 Bypass to 6 lanes divided: Airport to Murrells Inlet	from Airport to 544 (Murrells Inlet)	\$13,400,000		
US 17 Bypass A (from 29 Ave N to Grissom Interchange).	US 17 Bypass	Widen US 17 Bypass to 6 lanes from 29th Avenue N. northwards to Grissom and interchange improvements.	29 Ave N to Grissom Interchange	\$6,000,000		
US 17 Bypass B (from SC 544 to Garden City)	US 17 Bypass	Widen US 17 Bypass to 6 lanes divided: Airport to Murrells Inlet SC 544 to Garden City		\$13,200,000		
US 17 Business B (Surfside Beach)	US 17 Bus.	Install Additional Lanes on Bus 17/Eliminate Frontage Roads in Surfside Beach	US 17 Business B (Surfside Beach)			
US 17 Business C (in Garden City)	US 17 Bus.	Install Additional Lanes on Bus 17 in Garden City	US 17 Business C (in Garden City)	\$6,000,000		



Project Name	Facility Name	Project Description	Project Termini	Project Cost	
SC 9 from S-26-57 to US 17 interchange	SC 9	Implement access management improvements along SC 9 from SC 57 to US 17 interchange in Horry County, including construction of plantable median with appropriate median opening spacing between intersections	S-26-57 to US 17 interchange	\$2,000,000	
US 521	US 521	New cross section for the portion of US 521 (Highmarket and St. James Streets) from N. Fraser Street to Church Street in the City of Georgetown	N. Fraser Street to Church Street	\$2,500,000	
US 17 Bypass C (from Garden City to Murrells Inlet)	US 17 Bypass	Widen US 17 Bypass to 6 lanes divided: Airport to Murrells Inlet	Airport to Murrells Inlet	\$6,700,000	
US 501 at Carolina Forest	US 501	New Interchange on US 501 at Carolina Forest Boulevard	US 501 at Carolina Forest Boulevard	\$59,800,000	
Medlin Parkway Extension	Not submitted	Medlin Parkway Extension: Realign western terminus at US 501 to continue straight to US 378	US 501 to continue straight to US 378	\$5,200,000	
US 501 / SC 544 / SC 90	US 501 / SC 544 / SC 90	US 501 / SC 544 / SC 90 Interchange improvements	US 501 / SC 544 / SC 90	\$42,000,000	
US 17 Bridges in North Myrtle Beach	US 17	Widen US 17 Bridges in North Myrtle Beach and Little River; Interchange and bridge improvements at SC 9, SC 90, and Sea Mountain Highway; and additional grade separation at SC 9.	US 17 Bridges in North Myrtle Beach and Little River	\$21,000,000	
I-73 (not in GSATS)	SC-22 / I-73	Upgrade SC-22 to become I-73	SC-22/I-73	\$11,600,000	
Augusta Plantation Extension	Not submitted	Extend Augusta Plantation to Carolina Forest Blvd., with an interchange at SC 31	See Project Description	\$47,000,000	
US 17 Business A (between Myrtle Beach and Surfside Beach)	US 17 Bus.	Install Additional Lanes on Bus 17/Eliminate Frontage Roads Between Myrtle Beach and Surfside	US 17 Business A (between Myrtle Beach and Surfside Beach)	\$9,100,000	
Carolina Bays Parkway Extension	Carolina Bays Pkwy	Extension of SC 31 (Carolina Bays Parkway) to US 17 in N. Carolina (Hwy 57 / NC1303 improvements)	SC 31 (Carolina Bays Parkway) to US 17 in N. Carolina	\$95,200,000	
SC 90 Extension from US 501 Business to US 501	SC 90	Extend SC 90 from US 501 Bus. to intersect US 501, east of Conway	US 501 Business Route to US 501	\$6,000,000	
US 17 from Murrells Inlet to Pawleys Island	US 17	Widen US 17 from Murrells Inlet to Pawleys Island (S. Causeway Rd)	Murrells Inlet to Pawleys Island (S. Causeway Rd)	\$27,500,000	
SELL to SC 31 Connector	SC 31 and SELL	Connection between southern termini of SC 31 to eastern termini of SELL to relieve SC 707	SC 31 to eastern termini of SELL	\$153,500,000	
Southern Evacuation Lifeline (SELL) in the GSATS area	SELL	The portion of the Southern Evacuation Lifeline (SELL) in the GSATS area between US 701 and US17	US 701 to US17	\$304,000,000	
Parallel road - west side of US 501	Not submitted	Parallel road on the west side of US 501 between West Perry Road and Singleton Ridge Road	West Perry Road to Singleton Ridge Road	\$25,900,000	
Andrews Bypass Phase 1	Andrews Bypass	Not submitted	Andrews Bypass		
Andrews Bypass Phase 2	Andrews Bypass	Not submitted	Andrews Bypass	\$38,600,000	



Project Name	Facility Name	Project Description	Project Termini	Project Cost
US 17A & Powell - Georgetown Co.	US 17A	Not submitted	US 17A and Powell	\$815,000
SC 9 & SC 905 - Horry Co.	SC 9 and SC 905	Not submitted	SC 9 and SC 905	\$650,000
SC 41/51 & Browns Ferry - Gtown/Wmb	SC 41/51	Not submitted	nitted SC 41/51 and Browns Ferry	
County Line & S-16 - Andrews	S-16	Not submitted	County Line and S-16	\$850,000
Longstreet & Main - Kingstree	Longstreet and Main	Not submitted	Longstreet and Main	\$330,000
US 378 & S-134 - Horry Co.	US 378 and S- 134	Not submitted	US 378 and S-134	\$570,000
US 521	US 521	Widened to 4 lanes	Andrews to I-95	\$275,000,000
US 378	US 378	Widened to 4 lanes	I-95 to Conway	\$275,000,000
SC 9	SC 9	Widened to 4 lanes	Marion County to S-441 at Green Sea	\$72,000,000



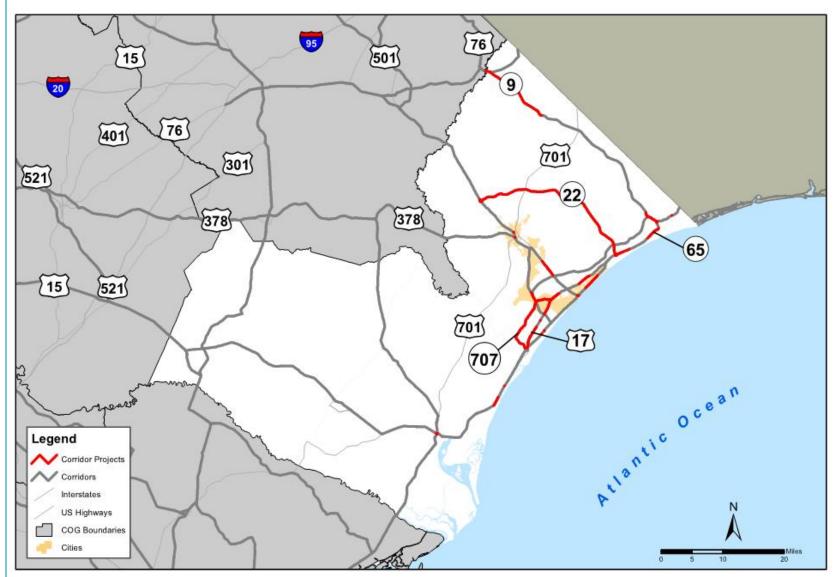


Figure 4-11: Multimodal Needs for Waccamaw COG



In general, the majority of transportation needs are located along US 123, US 17, US 25, US 78, and US 378. Transportation needs located along the identified corridors include intersection and widening improvements with some enhancement and alternative transportation designations. There were some new facility projects identified by the MPOs and COGs but these corridors are not part of the Statewide Strategic Corridor Network. By COG area, Lower Savannah and Waccamaw identified the largest amount of transportation needs on the Statewide Strategic Corridor Network. Overall, as displayed in **Table 4-11**, the combined costs for those transportation needs identified by the MPOs and COGs total to almost \$4 billion. The COG areas needing the highest share include Catawba and Waccamaw.

Table 4-11: MPO and COG Transportation Needs Costs

cog	Project Costs*
Berkeley-Charleston-Dorchester	\$356,593,000
Catawba	\$582,965,000
Central Midlands	\$71,292,291
Lowcountry	\$182,013,000
Lower Savannah	\$176,504,415
Pee Dee	\$181,728,041
Santee-Lynches	\$342,935,000
S.C. Appalachian	\$52,160,000
Upper Savannah	\$403,000,000
Waccamaw	\$2,129,357,000
TOTAL	\$3,953,599,747

<sup>\*</sup>Please note that the costs represented in this table are those costs associated with the transportation needs as submitted by the MPOs and COGs within a specific COG area. Not all needs were submitted with associated costs.

# **4.3 Strategic Corridor Congestion Analysis**

This section describes the methodology used for analyzing the congestion on the Statewide Strategic Corridor Network and the results of the analysis.

#### 4.3.1 Methodology

The 2010 Highway Capacity Manual (HCM) provides different methodologies for analyzing multi-lane and two-lane highways based upon the cross section and character of the roadway. For example, the Level of Service (LOS) criteria for multi-lane highways with two or more miles between traffic signals is based upon density, while criteria for two-lane highways with two or more miles between traffic signals is based upon average travel speed, percent time spent following (HCM Exhibit 15-3), or percent free-flow speed. Due to the varying nature of HCM methodologies relating to the identified Strategic Corridors, a single analysis metric was defined to provide a direct comparison between Strategic Corridors. The metric used in the analysis of the Strategic Corridors was "adjusted vehicle-hours lost per mile," and is defined as follows:



- Total vehicle-hours lost on the segment (for Strategic Corridor segments of less than one mile in length)
- Vehicle-hours lost on the segment divided by the segment length (for Strategic Corridor segments of one mile or greater)

Vehicle-hours lost (VHL) is defined as the total time lost by all drivers traveling a roadway segment between the hours of 7 AM and 7 PM on the average day, and is calculated by the following formula:

$$VHL = \left(\frac{Segment\ Length}{Average\ Speed\ 7AM\ to\ 7PM} - \frac{Segment\ Length}{Free\ Flow\ Speed}\right)x\ AADT\ x\ 0.8$$

The data utilized and calculations implemented to determine the vehicle-hours lost are discussed in detail below.

#### 4.3.2 Data and Calculations

#### 4.3.2.1 Probe Speed Data

The speed information on South Carolina's Strategic Corridors was obtained from historical probe speed data. Probe speed data sources collect speed information along roadway segments in South Carolina every few seconds from millions of anonymous GPS-enabled vehicles and mobile devices, as well as traditional road sensors, which provide SCDOT with accurate real-time and historical traffic speed information. For roadways where probe speed data was not available, a constant was determined for urban and rural segments representing the average hours lost.

The average speed variable for each Strategic Corridor segment was derived from the probe speed information averaged over all Tuesdays, Wednesdays, and Thursdays from September 2012 to September 2013 for the 12 study hours. The Free-Flow Speed (FFS) for each Strategic Corridor segment was derived from the maximum average speed on the segment over all Tuesdays, Wednesdays, and Thursdays from September 2012 to September 2013.

In addition to the speed data, the Strategic Corridor segment length, in miles, was derived from the probe speed data.

### 4.3.2.2 Average Annual Daily Traffic (AADT)

The AADT used in the VHL calculation was determined from the SCDOT count stations along the Strategic Corridors in 2012. For Strategic Corridor segments without SCDOT count stations, substitute traffic volume data was derived from adjacent count stations.

Because the time period being analyzed to determine VHL was between 7 AM and 7 PM, a factor of 0.8 was used to represent the percentage of AADT on the roadway segment between 7 AM and 7 PM.

#### 4.3.2.3 Adjusted Vehicle-Hours Lost per Mile

An adjusted VHL per mile metric was used to compare and rank the respective levels of congestion for the individual Strategic Corridor segments. The raw VHL value was adjusted based upon segment length, as previously discussed, because some Strategic Corridor segments with extremely short



lengths were artificially being represented as causing exceedingly high VHL per mile. Therefore, Strategic Corridors with a segment length of less than one mile were not analyzed on a per-mile basis.

#### 4.3.3 Results

Using the above described methodology and the data sources, the congestion analysis for Strategic Corridor network was conducted. **Table 4-12** summarizes the top 20 congested Strategic Corridor Network segments. Detailed segment summaries for the entire Strategic Corridor Network are provided in **Appendix B**. **Figure 4-12** through **Figure 4-16** illustrate the top 100 congested Strategic Corridor segments. As can be observed from these figures, majority of the top congested Strategic Corridor segments are located in the vicinity of major cities such as Columbia, Charleston, Greenville/Spartanburg and Myrtle Beach.

**Table 4-12: Top 20 Congested Strategic Corridor Segments** 

Road	Segment Between			Length	Adjusted VHL Per Mile	Rank	County
US 17A	US-78/5th North St/E 5th St N	&	I-26	1.55	295.8	1	Dorchester
US 501	US-501/SC-544	&	SC-31/Carolina Bays Pkwy	6.15	245.8	2	Horry
US 17	SC-171/Wesley Dr	&	W Oak Forest Dr	1.40	213.0	3	Charleston
US 17	W Oak Forest Dr	&	I-526 (Charleston)	2.09	201.6	4	Charleston
US 378	SC-6/N Lake Dr	&	US-1/Main St/Old Chapin Rd/Augusta Hwy	0.99	200.2	5	Lexington
US 378	Pineview Rd/Hallbrook Dr	&	I-77/Veterans Rd	2.20	189.5	6	Richland
US 378	I-77/Veterans Rd	&	US-76/SC-760/SC-16	1.78	186.2	7	Richland
US 378	Mineral Springs Rd	&	SC-6/N Lake Dr	1.65	172.1	8	Lexington
SC 171	SC-30/James Island Expy	&	Camp Rd	1.19	162.3	9	Charleston
US 17	I-526/Chuck Dawley Blvd	&	S Shelmore Blvd	1.71	159.2	10	Charleston
US 378	US-76/Bull St	&	US-321/US-21/US-176/Huger St	0.99	141.6	11	Lexington
US 1	Rabon Rd	&	I-77	0.97	140.5	12	Richland
US 123	Prince Perry Rd/Rock Springs Rd	&	SC-93/E Main St	0.91	139.4	13	Pickens
US 78	US-52/Rivers Ave	&	I-26 (Charleston) (West)	1.84	133.8	14	Charleston
US 17	SC-517/Isle of Palms Conn	&	I-526 (Mount Pleasant)	1.96	133.5	15	Charleston
SC 171	US-17/Savannah Hwy	&	SC-700/Country Club Dr/Maybank Hwy	1.06	133.2	16	Charleston
US 123	SC-93/E Main St	&	S B St/Brushy Creek Rd	1.15	131.0	17	Pickens
US 17	SC-41	&	Long Point Rd	1.34	129.9	18	Charleston
US 378	US-1/Gervais St/Millwood Ave	&	US-76/Bull St	0.94	129.5	19	Richland
US 17	Garden City Conn/Indigo Club Dr	&	SC-17 Bus	2.07	126.5	20	Horry



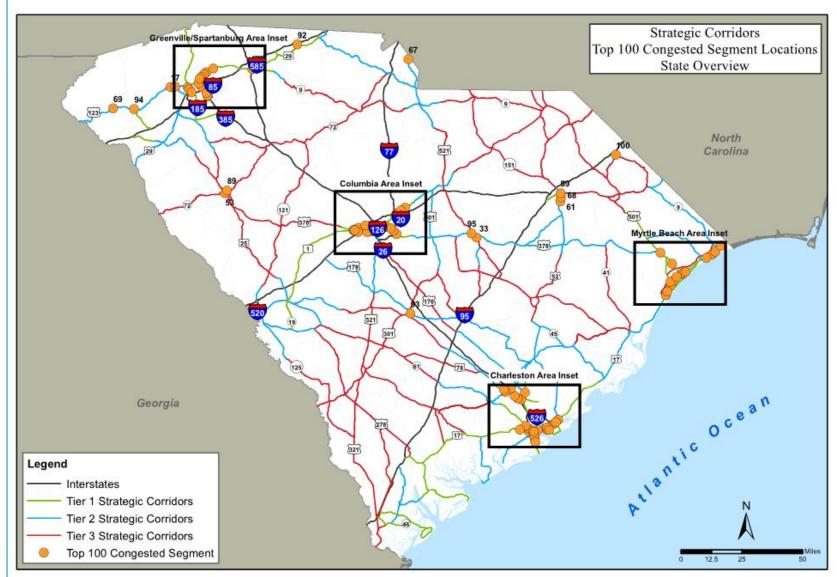


Figure 4-12: Top 100 Congested Strategic Corridor Segment Locations



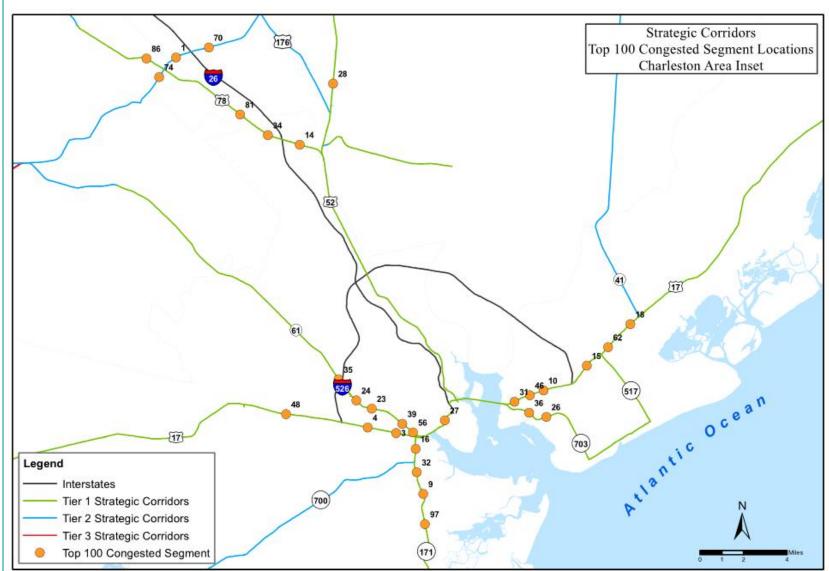


Figure 4-13: Top 100 Congested Strategic Corridor Segments – Charleston Area



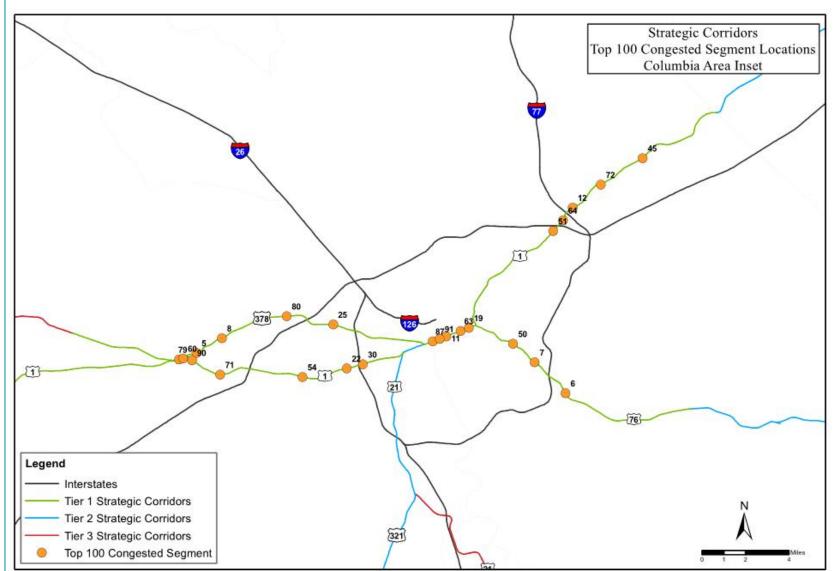


Figure 4-14: Top 100 Congested Strategic Corridor Segments – Columbia Area



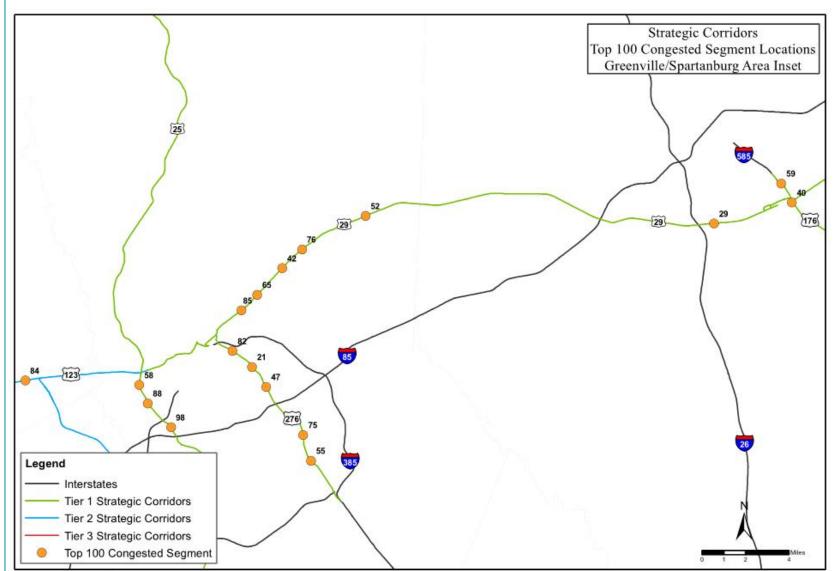


Figure 4-15: Top 100 Congested Strategic Corridor Segments – Greenville/Spartanburg Area



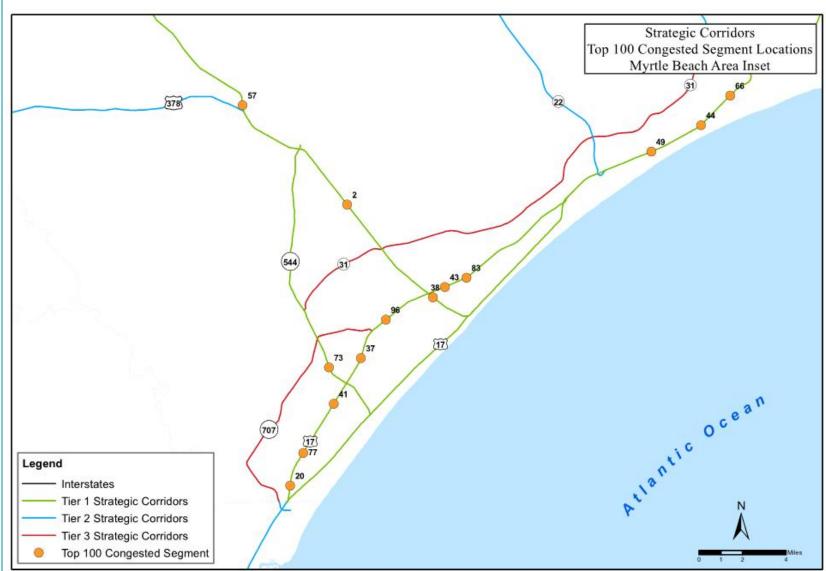


Figure 4-16: Top 100 Congested Strategic Corridor Segments – Myrtle Beach Area



## 4.4 Existing and Future Strategic Corridor Level of Service (LOS)

The South Carolina Statewide Travel Demand Model (SWM) was developed for the SCDOT as part of the 2040 MTP. The SWM is a "state of the practice" model and follows the format of a traditional four-step modeling process of trip generation, trip distribution, vehicle trips, and traffic assignment. The SWM also included a truck model. The model was constructed in July of 2014 in the TransCAD 6 modeling software with a customized and user friendly graphical user interface for managing, running, and producing output analysis of model scenarios.

The model study area encompasses all of South Carolina and is built upon the existing MPO and COG models of the state. The highway networks and the traffic analysis zone systems of the existing travel demand models within South Carolina were used directly in the SC SWM. These model areas include AIKEN, APCOG, BCDCOG, CATCOG, CMCOG, FLATS, GSATS, LCOG, Metrolina, SLCOG, and USCOG. The non-MPO/COG areas were developed using HPMS data for roadway data and Census data for the zones and socio-economic data. The model provides outputs of daily traffic data on the highway network for analysis years of base year 2010 and forecast year 2040. The SC SWM provides information on traffic data by trip purpose including auto and truck vehicle types. The auto volumes can be further defined by urban and rural and by home-based work, home-based other, non-home-based, and external trips. The truck volumes can be further defined by local trucks, long distance trucks, and external trucks.

The outputs from the SC SWM were utilized to analyze the existing and future year Level of Service (LOS) on the Strategic Corridor Network. **Figure 4-17** and **Figure 4-18** summarize the existing and future year LOS on the network respectively. **Table 4-13** shows the centerline miles in each LOS classification. With no improvements to the Strategic Corridor Network, beyond those already considered committed, LOS will deteriorate with fewer lane miles (74 percent) having LOS A and B in 2040 than in 2010 (88 percent). **Figure 4-19** provides a composite view of the Strategic Corridor Network showing the current top 100 congested segments based on probe data, segments with a projected 2040 LOS of C or higher, and the locations of MPO and COG identified projects.

LOS **Existing Year 2010** Future Year 2040 E+C Percent **Percent** Α 2,497 70% 1,735 49% В 651 18% 882 25% C 320 9% 575 16% D 56 2% 157 4% Ε 132 26 1% 4% F 18 87 0% 2% **TOTAL** 100% 3,568 100% 3,568

**Table 4-13: Strategic Corridor Lane Miles with LOS Information** 



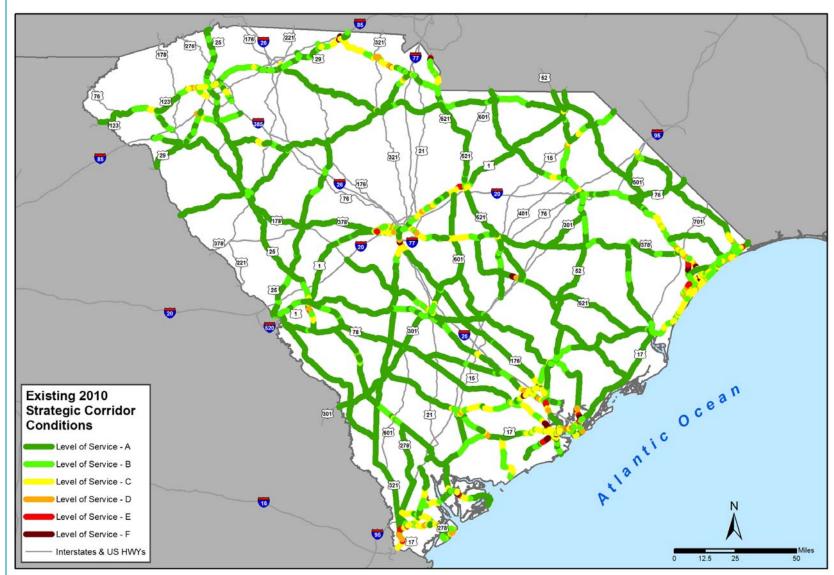


Figure 4-17: Existing 2010 Conditions – Strategic Corridors



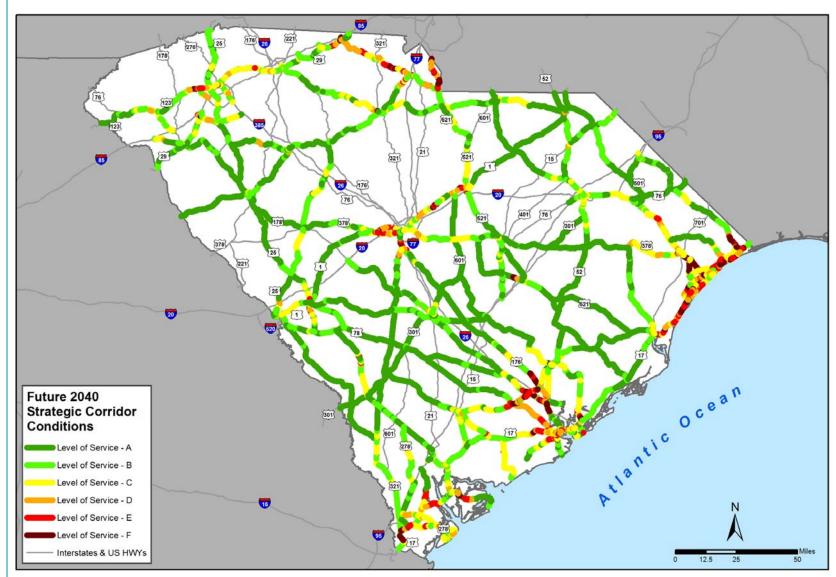


Figure 4-18: Future 2040 Conditions – Strategic Corridors



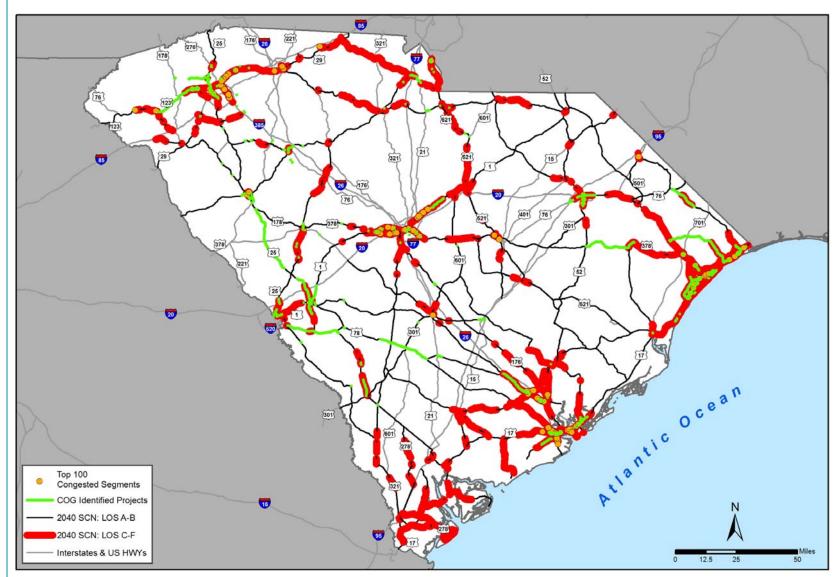


Figure 4-19: Current Congestion, 2040 V/C and Identified Projects – Strategic Corridors



## 4.5 Congestion Management Strategies

In addition to developing the Statewide Strategic Corridors Network, SCDOT recognizes the importance of identifying potential congestion management strategies currently being promoted or which can be implemented throughout the state especially on the Statewide Strategic Corridors Network.

The continued growth in travel along with limited funding for roadway expansion and improvement projects is exceeding South Carolina's ability to provide sufficient roadway capacity in critical areas. In addition, high construction costs, constrained right-of-way, and environmental factors are leading to context-sensitive solutions to mitigate the detrimental effects of congestion while optimizing the use of limited public funding.

"Congestion management is the application of strategies to improve transportation system performance and reliability by reducing the adverse impacts of congestion on the movement of people and goods."

Federal Highway Administration, Congestion Management Process: A Guidebook, 2011

According to Federal Highway Administration (FHWA), congestion management is a primary strategy agencies use to operate facilities. **Figure 4-20** illustrates a variety of factors, both recurring and nonrecurring, which cause congestion. Nationally, non-recurrent congestion totals 55 percent and includes traffic incidents, bad weather, work zones, and special events. Recurrent congestion totals 45 percent and includes bottlenecks, and poor signal timing.

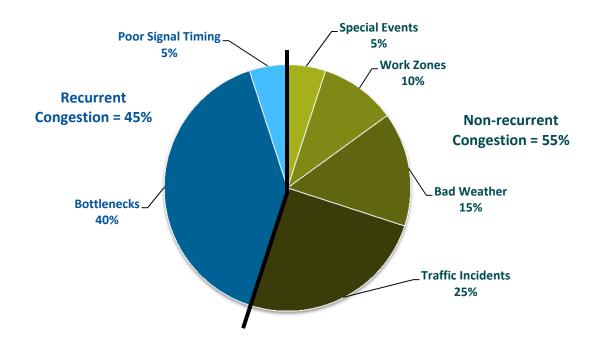


Figure 4-20: Causes of Congestion in the United States

Source: FHWA, Office of Operations



FHWA has designated congestion mitigation as one of its "vital few" priorities and is targeting resources to develop and sustain regional partnerships to address all aspects of congestion. Various operational and management strategies and methods exist for mitigating congestion and its impact on roadway users. For example, to combat recurring congestion in the freeway environment, SCDOT undertakes freeway management and traffic operations through policies, strategies, and actions to enhance mobility. These strategies include roadway improvements such as widening and bottleneck

removal, operational improvements, ramp management and control, and managed lanes. Mitigation techniques for nonrecurring congestion include management of incidents, work zones, road weather, and planned special events. All of these strategies center on promoting efficiency, streamlining the movement of people and goods, and "getting more out of facilities already in place."2

SCDOT, MPOs and COGs can use a "toolbox" of many congestion management strategies. Listed below are a few potential Congestion Management strategies that will help alleviate congestion on the Strategic Corridor network. These sample strategies have been organized into three categories including: Roadway Operational

Improvements; Alternative Mode Support Strategies; and Demand Management Strategies. Each

### **Example Projects**

**COG:** Waccamaw

Location: SC 9 from S-26-57 to the US 17 Interchange

**Description:** Construct plantable median with appropriate median opening spacing between full movement signalized intersections and partial movement left turns

## 4.5.1 Roadway Operational Improvements

These strategies focus on improving traffic operation by getting more out of South Carolina's current infrastructure rather than building new infrastructure. Many of these operations-based strategies are supported by the use of enhanced technologies or Intelligent Transportation Systems (ITS).

#### 4.5.1.1 Access Management

strategy includes a brief description.

Access management is the planning and coordination of the location, number, spacing, and design of access points such as driveways and street connections, medians and median openings, traffic signals, and intersections. It includes policies, design criteria, and facilities that minimize the number of driveways and intersecting roads accessing a main road.

<u>Impact on Congestion</u> — Access management results in fewer crashes, higher average vehicle speeds, and more vehicle throughput. In addition, access management strategies complement the needs of pedestrians and bicyclists, such as reducing the number of driveways across a sidewalk. In other situations, access management could have negative consequences for these modes by reducing the number of signalized crossings and increasing exposure to higher-speed traffic, so analysis is required to understand the impacts. Conventional access management strategies do nothing to encourage higher vehicle occupancy or to discourage peak-hour vehicle use. The ability to effectively manage

<sup>&</sup>lt;sup>2</sup> "Congestion Mitigation." Federal Highway Administration Web site, http://ops.fhwa.dot.gov/congestionmitigation/congestionmitigation.cfm.



access on and off the Strategic Corridor network could increase roadway capacity, improve safety by reducing crashes, and decrease travel times.

#### 4.5.1.2 Improving Traffic Signalization

Optimizing traffic signal timing can improve travel times along congested corridors. However, control systems vary in the extent which they adapt to current conditions and in the extent that they synchronize with a larger signalized network. For instance, signals may be pre-timed and isolated, pre-timed and synchronized, actuated by events such as the arrival of a vehicle, pedestrian, bus, or emergency vehicle. Signals may also be set to adopt one of several pre-defined phasing plans based on current traffic conditions, or set to calculate an optimal phasing plan based on current conditions. Traffic signalization or Transportation Systems Management (TSM) offers lower cost techniques and encourages coordination of transportation improvements, and represent another performance-driven approach for addressing congestion and safety issues.

<u>Impact on Congestion</u> — Good signal timing can greatly reduce delay at intersections, travel time, and stop time. However, more complex systems do not always produce better results. Systems with transit signal priority have reduced transit travel times although sometimes at the expense of other vehicles.

Signals can also be used to better accommodate pedestrian and cyclists at intersections, but signal phasing that maximizes vehicle throughput may do so at the expense of these other modes. In general, signal phasing that reduces vehicle delay does nothing to discourage peakhour vehicle use.

#### 4.5.1.3 One-Way Streets

Converting streets to one-way operations establishes or removes pairs of one-way streets in place of a standard two-way street. This could

include modifying the one-way or two-way nature of side streets in order to impact traffic patterns on a mainline corridor. Systems of one-way streets facilitate signal synchronization and can reduce the

need for disruptive right- and left-hand turns, thus enabling higher speeds and more capacity along arterials.

<u>Impact on Congestion</u> —While there are generally fewer crashes on one-way streets (including those involving pedestrians), seemingly due to simpler intersection designs, it is also possible that higher volumes of faster traffic make streets more dangerous for pedestrians and cyclists. In addition, one-way streets do nothing to encourage higher vehicle occupancy and to discourage peak-hour vehicle use.

#### 4.5.1.4 Geometric Improvements to Roads and Intersections

Such strategies include the addition or reconfiguration of turning lanes, lane widening, realignment of intersecting streets, and improved acceleration or deceleration lanes at interchange ramps. Removal of a physical constriction that delays travel, such as widening an underpass, providing lane continuity (i.e., replacing a two-lane bridge that connects pieces of four-lane roadway), or eliminating a sight barrier. Such strategies may be applied to highways, arterials, or local streets.

#### **Example Projects**

**COG:** Lower Savannah

Location: US 25 and S-45

**Description:** Addition of turn lanes and intersection

realignment

#### **Example Projects**

**COG:** Waccamaw

**Location: US 17** 

**Description:** Improved coordination of traffic signals within Garden City, Myrtle Beach and Surfside Beach



<u>Impact on Congestion</u> — These strategies are most able to make a difference for congestion caused by physical bottlenecks. Remedying these problem situations can help make the most of existing road capacity and improve overall traffic flow. However, geometric changes to promote vehicle flow on arterials and local streets can potentially have negative consequences for alternative modes competing for the same space. Furthermore, none of these sorts of strategies encourage higher vehicle occupancy nor discourage peak-hour vehicle use.

#### 4.5.1.5 Advanced Parking Systems

Advanced parking systems help drivers find or reserve parking, automatically store cars within the facility, enable wireless and/or electronic payment, and/or convey real-time information regarding the status of a lot or metered space. Such systems are thought to decrease congestion both on local streets, by reducing the need to circle in search of parking, and within parking facilities, by helping motorists find and pay for parking more quickly. In some situations, real-time information about downstream parking sites can also help motorists make more informed mode-choice or route decisions.

<u>Impact on Congestion</u> — Traffic flow impacts in a downtown urban area with real-time parking availability signs include reduction in travel time, vehicle delay, and provide an intersection volume increase.

#### 4.5.1.6 Dynamic Messaging

Traveler information systems, such as dynamic messaging uses changeable message signs to warn motorists of downstream queues, directs through-traffic to alternate lanes, provides travel time estimates, provides alternate route information, or provides information about special events, weather conditions, or other incidents. This particularly refers to messaging that is highly responsive to current conditions, such as using automated detection systems and remote surveillance. Such systems are thought to mitigate congestion by diverting traffic to alternate routes and by helping to prevent new incidents by diminishing speed differentials and collisions related to queuing or other temporary conditions.

<u>Impact on Congestion</u> — Dynamic messaging has been found to significantly reduce non-recurrent congestion, but users stress the need for dynamic messaging to be current and responsive to changing driving environments.

#### 4.5.1.7 Incident Management Systems

Faster responses to traffic incidents are another operational strategy. Incident management systems are technical and procedural systems which assist in the efficient handling of incidents, such as emergency response, highway service patrol, highway advisory radio, and incident detection. In addition, identifying weather and road surface problems and rapidly targeting responses increases operations.

<u>Impact on Congestion</u> — Incident management systems have been shown to significantly reduce nonrecurring congestion, improving incident clearance time and reduce the rate of secondary crashes.



#### 4.5.1.8 Special Events and Work-Zone Planning

Anticipating and addressing special events, including emergency evacuations, which cause surges in traffic is an important operational strategy. This area focuses on procedures and systems for managing the impact on traffic of construction projects, disasters, or irregular events drawing large crowds.

<u>Impact on Congestion</u> — Successful planning can significantly reduce nonrecurring congestion associated with special events.

#### 4.5.2 Alternative Mode Support Strategies

Improving transit operations, improving access to transit, and expanding transit service can help reduce the number of vehicles on the road by making transit more attractive or accessible. These strategies may be closely linked to the other strategies. As with traffic operations, transit operations are often enhanced by ITS.

#### 4.5.2.1 Public Education and Promotion

A lack of understanding of available transportation options has been identified as a major barrier to alternative mode use. Marketing and public education programs can help overcome that barrier, effectively making the use of those alternative modes more convenient.

#### **Example Projects**

**COG:** Catawba

Location: LPA Route on US 21

Description: US 21 has been identified to be the locally preferred alternative for the eventual incorporation of a bus rapid transit operation

<u>Impact on Congestion</u> — While the impact of mass marketing campaigns on ridership is inconclusive, targeted marketing to specific groups has proven more successful.

#### 4.5.2.2 Interregional Transit and Commuter Services

A coordinated effort to provide transit and commuter service alternatives in communities, using existing or low cost resources, can be beneficial to the development of public transit statewide, and also can assist in efforts to relieve traffic congestion, improve air quality and assure energy conservation. For example, shuttle services are a subset of public transportation using vans, shuttles, or small buses to fill gaps in the transportation system, often serving very small or particular market segments. They may follow either fixed or variable routes, and may operate either according to a fixed schedule or only by demand, including demand-response paratransit, circulator shuttles, night shuttles on college campuses, airport shuttles, and business-specific.

<u>Impact on Congestion</u> — While commuter services, such as shuttle services, are likely to have a negligible impact on overall congestion these services may enable some motorists to replace or shorten vehicle trips. This strategy may complement other strategies and work together towards reducing VMT and vehicle usage. In addition, shuttle users themselves may encounter less congestion delay if shuttle vehicles are able to utilize HOV facilities, bus only lanes, or signal preemption along their routes.

#### 4.5.2.3 Ridesharing Programs

These programs facilitate carpool formation, including ride-matching services, group taxi services and vanpool programs. While ride-matching usually implies the use of passenger-owned vehicles,



vanpooling may utilize van fleets owned by an implementing agency or private company, differing from shuttle services in their reliance on passengers to act as volunteer drivers.

<u>Impact on Congestion</u> – Rideshare programs are most effective when combined with financial incentives such as parking cash-out or subsidies. Thus, although the impact of isolated rideshare programs on regional congestion may be negligible in most areas, such programs reduce VMT and complement other strategies designed to reduce peak-hour vehicle use. In addition rideshare participants may themselves experience less congestion delay if they are able to utilize HOV lanes and priority parking.

### 4.5.3 Demand Management Strategies

Travel Demand Management (TDM), nonautomotive travel modes, and land use management can all help to provide travelers with more options and reduce the number of vehicles or trips during congested periods on the Strategic Corridor network. These include strategies that substitute communication for travel, or encourage regional cooperation to change development patterns and/or reduce sprawl.

#### 4.5.3.1 Traveler Information, Public Relations, and Marketing

Traveler information can be used to notify travelers of transportation options, to promote particular options, and to tailor options to traveler needs and preferences. All of these types of traveler information can be used to help travelers avoid congested conditions and to opt for alternatives which contribute less to congestion. Information may be disseminated to the public via broadcast media, written materials, signage, websites, hotlines, handheld devices, or in-vehicle devices. Marketing activities may additionally include surveys, user feedback, and market-based planning to better tailor transportation alternatives to users' needs and preferences.

<u>Impact on Congestion</u> — Information about traffic conditions and special events has been shown to influence travel choices and help users avoid and reduce congestion. Transit route, fare, and schedule information are essential aspects of mode choice decisions and their distribution may influence ridership.

#### 4.5.3.2 Parking Management and Pricing

These are strategies which reduce the availability of free parking places, especially in locations served by congested routes. Parking management may be in the form of area-wide policies or may be specific to particular sites. Policies might include lowering the maximum or reducing the minimum number of spaces permitted per employee, household, or 1,000 square-feet of office space; increasing the share of spaces reserved for HOV vehicles; introducing or raising parking fees; providing cash-out options for employees not utilizing subsidized parking spaces; and expanding parking at transit stations and parkand-ride lots.

<u>Impact on Congestion</u> — Because parking is a necessary component of most vehicle use, parking management has been shown to have a dramatic effect on travel choices, increasing transit use and vehicle occupancy. However, such policies have generally not been implemented widely enough to document significant reductions in Vehicle Miles Traveled (VMT) or congestion.



#### 4.5.3.3 Telecommuting Programs

Telecommuting programs enable employees to telecommute to substitute for physical travel to a worksite. Such programs may include employer policies enabling employees to work at home, or the establishment of telework centers to serve as alternate worksites for telecommuters, or regional campaigns to promote telecommuting, such as through education, technical assistance, and financial incentives such as tradable credits.

Impact on Congestion — Telecommuting has the potential to reduce peak-hour VMT substantially by doing away with the commute trip. However, few employees actually do telecommute, and among those that do, there is wide variation in how often and in what way, making VMT and congestion impacts variable and difficult to estimate. For instance, employees telecommuting only for part of the day would not reduce their VMT, but may shift one half of their commutes to an off-peak time, and therefore decreasing their contributions to congestion. In addition, there is evidence that telecommuting enables some employees to live farther from work, that employees working at home may increase other trip-making during the day, and that the growth in telecommunications in general has stimulated more and not less travel overall, all of which may undermine some of the benefits of telecommuting.

#### 4.5.3.4 Flexible Work Schedules

Flexible work schedules allow flextime, a compressed work week, or staggered shifts that enable employees to reduce peak-hour trip-making.

<u>Impact on Congestion</u> — Commute VMT has been shown to diminish among employees on flexible work schedules. However, the overall Impact on congestion has been negligible, since such a small share of the work force uses flexible schedules. There may be more of an effect observed if more employees were able to adopt flexible schedules. Furthermore, those who do adopt flexible schedules are able to reduce their personal exposure to congestion.



## 5. CONCLUSIONS

The purpose of the Statewide Strategic Corridors Network (SSCN) is to develop a focused strategic system of roadways. After the interstate system, the SSCN represents the second most significant network of corridors that are critical to interregional mobility for the state. To enhance the future performance of the SSCN, the following strategies should be pursued:

- Work with stakeholders to advocate the importance of the SSCN to statewide mobility and economic competitiveness
- Coordinate with MPOs, COGs, and transit providers to integrate the SSCN into their transportation planning processes
- Update Act 114 ranking processes to determine statewide prioritization of needs on the SSCN
- As appropriate, develop Corridor Management Plans for deficient SSCN segments to identify specific strategies and improvements

# 5.1 Implementation

The Strategic Corridor Network is a critical component of the state's highway system and provides regional mobility to residents and tourists, as well as both small and large companies that do business and provide employment opportunities in South Carolina. Recently developed tools will allow SCDOT and their MPO and COG planning partners to better analyze and optimize future investments in these roadways.

The recently developed tools include:

- A comprehensive database of current speed information provided by probe vehicles for all
  roads in the Interstate and Strategic Corridor networks, 24-hours a day, seven days and week
  to identify congested locations, as well as the severity and duration of congestion.
- A Statewide Travel Demand Model (SWM) designed to project future traffic volumes, including truck volumes, and Level of Service (LOS) on the existing road network and on alternative networks with potential improvements and additions.
- A Prioritization Tool designed to meet the requirements of South Carolina's Act 114 legislation, which includes capabilities to rank segments of the Strategic Corridor Network with projected capacity needs using Act 114 criteria, namely Congestion, Safety, Truck Traffic, Environmental, Economic Development, Financial Viability, and Pavement Condition.



The overlaying of information from these new data sources with project locations identified by MPOs and COGs, as shown previously in Figure 4-17, is a preliminary example of the output from these tools that can guide and support future SCDOT planning efforts to implement needed improvements on the Strategic Corridor Network in a systematic, objective manner, consistent with the requirements of Act 114.



## APPENDIX A: ENVIRONMENTAL SCREENING

Under the provisions of MAP-21 as codified in 23 U.S.C § 150(b), the federal government has established seven (7) national goals for the federal-aid highway program. One of those goals is "Environmental Sustainability", which requires the enhancement of the transportation system "while protecting and enhancing the natural environment". At the state level, under Section 57-1-370(B)(8) as revised by the passage of Act 114 in 2007, South Carolina has established a set of criteria to be used for project identification and prioritization of transportation projects to be included in the Statewide Transportation Improvement Program (STIP) and receive federal funding.

The criteria set forth by Act 114 impact transportation projects identified by not only COGs and MPOs within the state but the SCDOT as well. For COGs and MPOs, this set of criteria includes the requirement for an assessment of environmental impact for new facility, widening, and intersection projects. For SCDOT, the revisions to Sections 57-1-370 and 57-1-460 under Act 114 required SCDOT to revise regulations for project selection process for bridge replacement, Interstate rehabilitation, non-Interstate road resurfacing, safety, interstate mainline capacity, and other forms of interstate projects. Transportation projects identified by the SCDOT that must include an assessment of environmental impact include those for bridge replacement and interstate and interchange facility capacity and upgrades in addition to those projects identified for COGs and MPOs.

In order for projects to be identified, prioritized, and funded on the Statewide Strategic Corridor Network, a baseline of potential environmental impacts must be established. The environmental impact assessment determines the potential impacts to cultural, natural, and social resources in association with a particular transportation project and of those areas, which may be impacted by implementation of the said project. SCDOT conducted an environmental impact assessment for the use of establishing a baseline impact analysis for the Statewide Strategic Corridor Network. Further discussion below describes the methodology and results of the environmental assessment.

# Methodology

The environmental assessment conducted to establish the potential baseline of environmental impacts was completed for each tier of the Statewide Strategic Corridor Network. Roadway segments for each corridor were analyzed. This assessment reviewed multiple resource areas to determine impacts to cultural, natural, and social resources for those roadway segments located within the Statewide Strategic Corridors Network. Those resource areas include:

- Wetlands,
- Threatened and endangered species, and
- Cultural resources.

SCDOT established a scoring system to rank each resource area. Wetlands and cultural resources were scored by the amount of acres and threatened and endangered species by the amount of



species identified in the area. Each resource area received a score between 0 to 2, with 0 indicating low to no observations of the identified resources within the area of a roadway segment and 2 indicating significant amount of observations. After assessment of each area, the scores are averaged to develop a total resource ranking for the roadway segments along the corridors and arrange them into a three-class ranking system.

This three-class ranking is displayed in **Figure A-1** as Low, Medium, and High. Roadway segments ranked Low will have little to no impact to environmental resources in relation to the weak presence of these resources around a particular segment. However, roadway segments ranked High will have significant impacts due to the strong presence of environmental resources within the area of the segment. Percentages were calculated using the amount of roadway segment assessed with a specific ranking (Low, Medium, and High) divided by the total amount of roadway segments within a specific tier (Tier 1, Tier 2, and Tier 3). **Figure A-1** illustrates the environmental impact of the Statewide Strategic Corridor Network.

**Table A-1** displays the results of the environmental analysis as organized by rank and tier to provide a general illustration of the corridors within each tier and how they may impact the identified resources. Overall, the majority of the roadway segments on Statewide Strategic Corridor Network are ranked Medium with approximately 16 percent of roadway segments ranked as High. Roadway segments ranked High are generally found in the coastal plain and inner coastal plain with a significant amount of water bodies such as around Lake Marion and Lynches River. Further inland shows a prominence in roadway segments being ranked Low and Medium.

Table A-1: Enivronmental Impact of Statewide Strategic Corridors

Tier	Environmental Impact Ranking				
Hei	Low	Medium	High		
1	29%	48%	23%		
2	16%	64%	20%		
3	13%	77%	10%		
Overall	17%	68%	15%		

Tier 1 corridors have the highest amount of roadway segments ranked Medium as shown in **Figure A-2**. Tier 1 roadways with High environmental impact are observed in the coastal region and near Charleston.



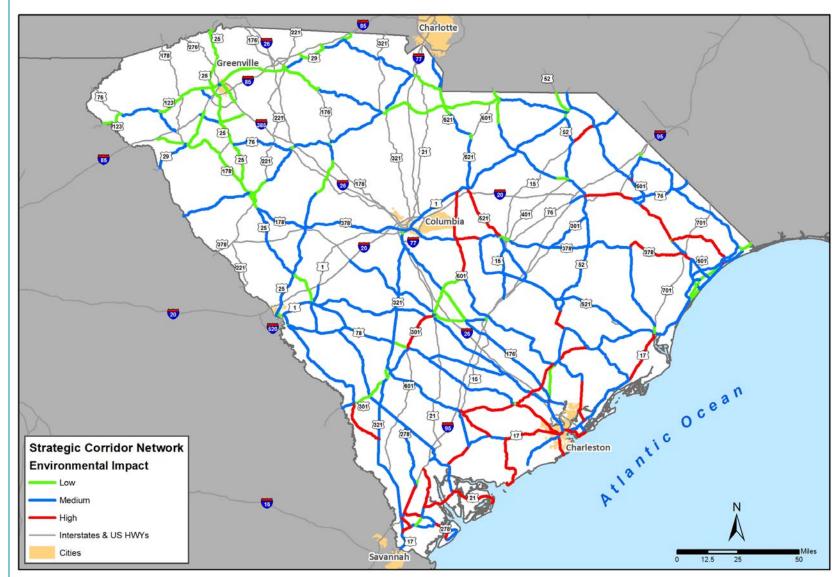


Figure A-1: Environmental Impact of Statewide Strategic Corridor Network



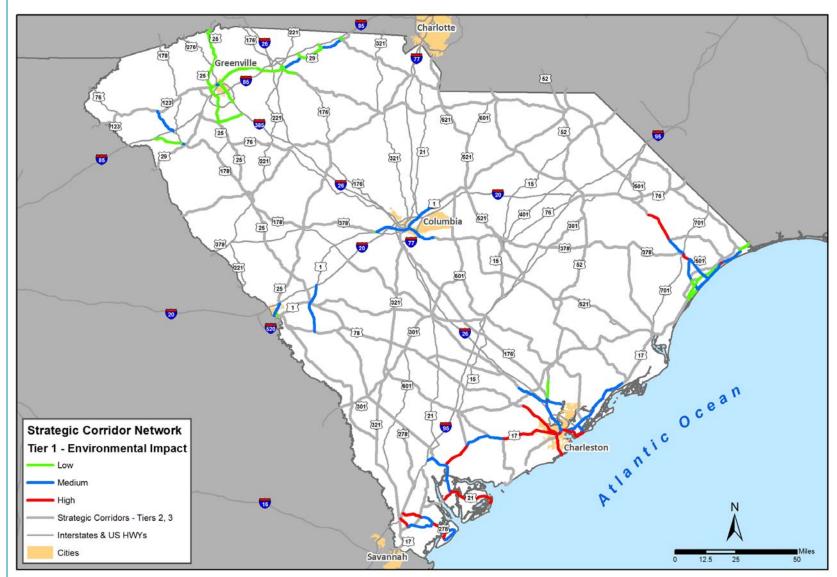


Figure A-2: Environmental Impact of Tier I Statewide Strategic Corridors



For corridors identified as Tier 2 in **Figure A-3**, the majority of the roadway segments are ranked Medium with the next highest concentration ranked Low. Those roadway segments ranked High are associated with areas with significant amounts of water bodies and wetlands, with some instances of high amounts of identified species and/or cultural resources.

Tier 3 corridors had the lowest amount of roadway segments ranked High as shown in **Figure A-4**. These Tier 3 corridors also have the largest amount of roadway segments ranked Medium. Tier 3 corridors are typically located more inland though areas of concern are typically water bodies and wetlands with some roadway segments have significant amounts of cultural resources impacts.



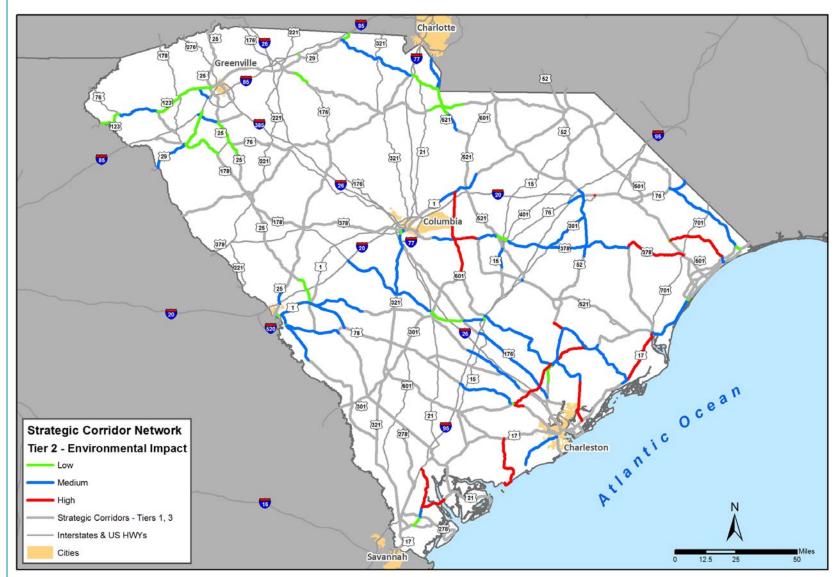


Figure A-3: Environmental Impact of Tier II Statewide Strategic Corridors



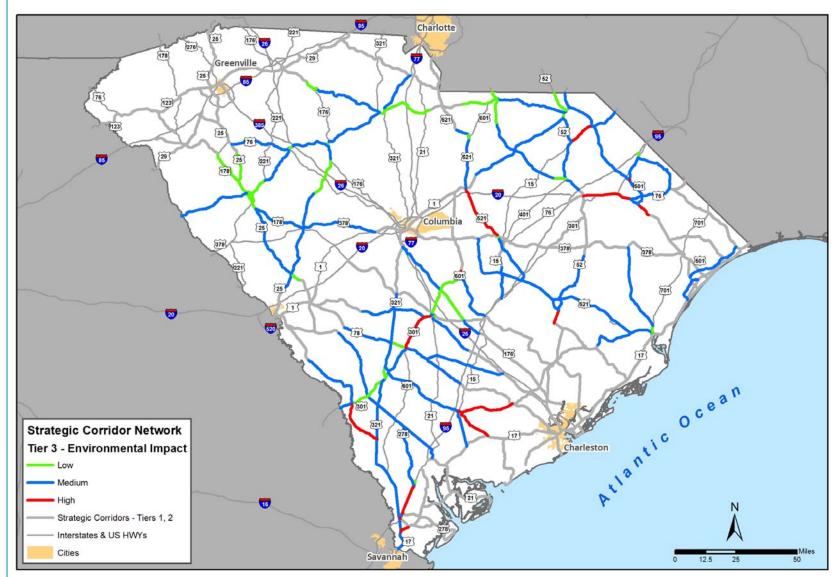


Figure A-4: Environmental Impact of Tier III Statewide Strategic Corridors



APPENDIX B: DETAILED RESULTS OF CONGESTION ANALYSIS ON STRATEGIC CORRIDORS