



Upper Savannah Council of Governments Long Range Transportation Plan

2020 - 2040

ABBEVILLE, EDGEFIELD, GREENWOOD, LAURENS, MCCORMICK, SALUDA
COUNTIES

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Introduction

Upper Savannah Council of Governments (USCOG) is responsible for transportation planning activities within the rural portion of our six-county region while the urbanized areas are addressed by two Metropolitan Organizations (MPO's): Greenville Pickens Area Transportation Study (GPATS) for a small area of northern Laurens County and the Augusta Regional Transportation Study (ARTS) for a small area of southern Edgefield County. This arrangement is managed and funded by the South Carolina Department of Transportation (SCDOT) and the United States Department of Transportation (USDOT) through its components including the Federal Highway Administration (FHWA) and Federal Transit Administration (FTA). This layered approach provides financial and technical resources to ensure compliance with federal and state laws and policies regarding the transportation system. USCOG's 35-Member Board of Directors sets policy for the Council of Governments. Two-thirds of the members are local elected officials, including state legislators, county council members, and mayors or city council members. County councils appoint the remaining citizen and minority members, some of whom may also be elected officials. The USCOG Board acts as a Regional Transportation Committee that meets regularly to coordinate transportation projects and update various plans, including this Long Range Transportation Plan (LRTP). Public participation is accomplished in various ways as outlined the USCOG Public Participation Plan. USCOG also coordinates closely with our member jurisdictions and uses public comments made during their respective planning efforts to inform the rural transportation program. This is the LRTP for the rural area of the Upper Savannah Region which consists of the following six counties: Abbeville, Edgefield, Greenwood, Laurens, McCormick and Saluda. According to the 2010 Census, the total population for the six-county region is 218,000 of which all are located in the rural areas.

Planning Process

Federal Guidance

On December 4, 2015, President Obama signed into law the Fixing America's Surface Transportation Act, or "FAST Act." It is the first law enacted in over ten years that provides long-term funding certainty for surface transportation, meaning States and local governments can move forward with critical transportation projects, like new highways and transit lines, with the confidence that they will have a Federal partner over the long term. Overall, the FAST Act largely maintains current program structures and funding shares between highways and transit. It is a down-payment for building a 21st century transportation system. The law also makes changes and reforms to many Federal transportation programs, including streamlining the approval processes for new transportation projects, providing new safety tools, and establishing new programs to advance critical freight projects.

The FAST Act will continue MAP-21's emphasis on a performance-based approach to transportation decision-making to support the seven national goals of the federal-aid highway program. These seven national performance goals include:

<u>Goal area</u>	<u>National goal</u>
Safety	To achieve a significant reduction in traffic fatalities and serious injuries on all public roads
Infrastructure condition	To maintain the highway infrastructure asset system in a state of good repair
Congestion reduction	To achieve a significant reduction in congestion on the National Highway System
System reliability	To improve the efficiency of the surface transportation system
Freight movement and economic vitality	To improve the national freight network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development
Environmental sustainability	To enhance the performance of the transportation system while protecting and enhancing the natural environment
Reduced project delivery delays	To reduce project costs, promote jobs and the economy, and expedite the movement of people and goods by accelerating project completion through eliminating delays in the project development and delivery process, including reducing regulatory burdens and improving agencies' work practices

The previous transportation authorization, MAP-21, describes Federal Planning Factors issued by Congress to emphasize a national perspective. Under the FAST Act these existing planning factors remain unchanged. However, the FAST Act does add two additional factors to consider.

1. Support the economic vitality of the United States, the States, nonmetropolitan areas, and metropolitan areas, especially by enabling global competitiveness, productivity, and efficiency;
2. Increase the safety of the transportation system for motorized and nonmotorized users;
3. Increase the security of the transportation system for motorized and nonmotorized users;
4. Increase the accessibility and mobility of people and freight;
5. Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns;
6. Enhance the integration and connectivity of the transportation system, across and between modes throughout the State, for people and freight;
7. Promote efficient system management and operation;
8. Emphasize the preservation of the existing transportation system;
9. Improve the resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts of surface transportation; and
10. Enhance travel and tourism.

State Guidance

USCOG adheres to the SCDOT Statewide Transportation Planning Process.

South Carolina Act 114

Each project must be financially constrained in order to be identified in the Transportation Improvement Plan (TIP). Moreover, each road widening, functional intersection and new-location roadway improvement projects must be rated and ranked in accordance with South Carolina Act 114. SCDOT performs the ranking; however, each COG may add regional specific ranking criteria if approved by SCDOT.

State C-Fund Law

The law stipulates that counties spend at least 25% of their apportionment of C-funds based on a biennial averaging of expenditures, on the state highway system for construction, improvements and maintenance. Furthermore, counties are to spend no more than 75% of their apportionment each year on their local system. Also, the balance of uncommitted funds carried forward from one year into the next cannot exceed 300% of the county's total apportionment for the most recent year. Each COG, in partnership with SCDOT, is responsible for implementing a transportation planning process that fully complies with the federal planning requirements established by the FAST Act. Through this process, each COG establishes regional goals and objectives, identifies the current condition of the transportation system, provides research and data analysis, identifies and prioritizes transportation needs for input to the Statewide Multi-Modal Transportation Plan and STIP. The rural planning process is based on the development and maintenance of regional long range transportation plans, which is the foundation for this document.

The vision of a safe, multi-modal, and inter-connected transportation system for the Upper Savannah Region can become a reality. This plan is intended to serve as a tool and guide for the future success in the implementation of the region's transportation system.

USCOG Transportation Goals

As established by the Board of Directors, the long-range transportation goals for the USCOG region are listed below:

1. Identify the current condition of the transportation system.
2. Provide research and data analysis to state and local governments.
3. Assist local governments with transportation and land use planning.
4. Encourage transit cooperation among regional transit authorities and human service providers.
5. Identify and prioritize transportation needs for input to the Statewide Multi-Modal Transportation Plan and STIP.
6. Implement a transportation planning process that fully complies with the federal planning requirements established by the FAST Act.
7. Develop a Rural Planning Work Program (RPWP).

In accordance with the aforementioned goals, the USCOG Long Range Transportation Plan will focus on the following key elements:

- Demographic Trends and Projections
- Roadway Network
- Intersections and Safety
- Bridge Replacement
- Maintenance and Resurfacing
- Signalization
- Public Transit
- Bicycle and Pedestrian Facilities
- Environmental Screening

By focusing on these elements there will be a comprehensive plan in place that be built upon in the future and that addresses the needs for the next 25 years.

Demographic Trends and Projections

1.1 Population

The USCOG region is a rural area, and it is important to understand how the population is changing in order to better plan for future transportation needs. The six-county region has a population of 220,027. The primary population centers are in Greenwood and Laurens Counties with populations of 70,811 and 67,493 respectively. Their combined populations make up nearly 63 percent of all people living in the region, and they are also the most likely to be considered urbanized counties in the area. The remaining counties tend to be more rural. This makes the rural planning effort very important to create opportunities to complement residential and economic growth instead of reacting to growth after it has happened.

Population by County

	1990	2000	2010	2019	Change 2010-2019	% Change 2010-2019
Abbeville	23,862	26,167	25,328	24,527	-801	-3.2%
Edgefield	18,375	24,595	26,963	27,260	297	1.1%
Greenwood	59,567	66,271	69,766	70,811	1,046	1.5%
Laurens	58,092	69,567	66,505	67,493	988	1.5%
McCormick	8,868	9,958	10,209	9,463	-746	-7.3%
Saluda	16,357	19,181	19,907	20,473	566	2.8%
USCOG Region	185,121	215,739	218,678	220,027	1,350	0.6%

Source: US Bureau of the Census

Although parts of the USCOG region have seen some growth since 2010, some of the higher growth areas over the last 15 years are:

- Northern Laurens County. This is largely defined as the area between the City of Laurens and the City of Fountain Inn. Growth in this area is largely tied to development along I-385, which is a major impetus for growth in the Upstate.
- Central and northern Greenwood County. The area around the City of Greenwood is prime for residential and industrial growth. A strong manufacturing corridor has developed along SC Highway 246. Industrial parks and open land are available along US Highway 25 north of Greenwood.
- Southern Edgefield County. Adjacent to the growing Augusta (GA) and North Augusta (SC) area, the southern part of the county is also close to roads accessing nearby Interstate 20
- Clinton area, Laurens County. At the intersection of Interstate 385 and Interstate 26, Clinton is poised for growth as a mid-point between the Greenville/Spartanburg area and Columbia.

- Eastern Saluda County. The area around the Lake Murray and US Highway 378 is beginning to see residential development.

1.2 Households

As the population increases slowly and only in certain areas, the number of households follows the same pattern. Household size across the nation has been on the decline, and that trend is true in South Carolina and the USCOG region as well. The number of households can be indicative of the amount of traffic more so than the actual population. All households generate traffic of some kind, even though everyone in that household may not drive.

Households by County

	2010	Average Size	2018	Average Size
Abbeville	9,875	2.49	9,455	2.51
Edgefield	9,121	2.62	9,063	2.65
Greenwood	26,189	2.57	27,207	2.49
Laurens	25,583	2.51	25,373	2.54
McCormick	4,116	2.17	3,967	2.11
Saluda	6,827	2.85	7,211	2.77
USCOG Region	81,711	2.54	82,276	2.51

Source: US Bureau of the Census

The number of households in the USCOG region increased between 2010 and 2018 by approximately 565. Greenwood and Saluda Counties added the most households. Greenwood County has seen the largest increase in households, adding 1,018 during this period. Saluda County added 384 households.

1.3 Housing

As the population in the Upstate grows, so does the need for new housing. It is important to recognize the role of housing in transportation planning. As the number of housing units grows, the amount of traffic generated from new developments increases too. This, in turn, affects the travel and commute patterns of the region. As more development occurs in rural areas it will cause similar issues throughout the planning area. Additional investment will be needed to continue to meet the increasing needs.

Housing Units by County

	2010	2010 Occupied	2018	2018 Occupied	Unit Change
Abbeville	12,076	9,875	12,122	9,455	46
Edgefield	10,385	9,121	10,875	9,063	490
Greenwood	30,795	26,189	31,381	27,207	586
Laurens	30,816	25,583	31,182	25,373	366
McCormick	5,305	4,116	5,587	3,967	282
Saluda	9,194	6,827	9,384	7,211	190
USCOG Region	98,571	81,711	100,531	82,276	1,960

Source: US Bureau of the Census

Trends in the local housing market are relatively stable. The largest three counties (Greenwood, Laurens, and Edgefield) have maintained consistent new home starts over the eight-year period.

1.4 Population Projections

The USCOG region is expected to be the least populated region in South Carolina for the foreseeable future. Any new population will tend to be concentrated around Greenwood and in northern Laurens and southern Edgefield. The rural areas of the COG will increasingly feel the effects of the expanding influence of development and growth from surrounding metropolitan areas.

Population Projections by County

	2019	2025	2030	2035	2040
Abbeville	24,527	23,710	23,025	22,195	22,100
Edgefield	27,260	27,310	27,475	27,425	27,500
Greenwood	70,811	71,385	71,575	71,600	72,000
Laurens	67,493	67,415	67,500	67,550	68,000
McCormick	9,463	9,565	9,500	9,000	9,000
Saluda	20,473	20,905	21,055	21,110	21,200
USCOG Region	220,027	220,290	220,130	218,880	219,800

Source: US Bureau of the Census, SC Office of Research and Statistics, USCOG Estimates

According to projections incorporating several available sources, the USCOG region as a whole is expected to change very little in population and perhaps to decline in total population by 2040.

1.5 Identified Needs

There is a limited amount of growth forecasted for certain areas of the USCOG region over the next 20 years.

- The Laurens – Fountain Inn area has the potential for the largest area of projected growth in the COG region. Proximity to Greenville and Spartanburg with easy access to Interstate 385 makes this area attractive for residential and industrial uses.
- Central and northern Greenwood County could see the largest concentrated area of residential growth with the addition of new industries. Moving people and goods around the City of Greenwood will be an area of need.
- Southern Edgefield County will see mostly residential growth from North Augusta.
- Eastern Saluda County and the area around Lake Murray will see residential growth.
- Abbeville County along the Greenwood County line near Hodges has the potential for some residential growth.
- McCormick County has future needs improving road connections between the Savannah Lakes Village area and shopping and services in Augusta and Greenwood.

2 Roadway Network

2.1 Existing Conditions

The USCOG region is served directly by two primary interstates and a network of state and federal highways. Interstates provide access to and from neighboring cities, regions, and ports. They are essential to transportation and the economic vitality of the area.

- Interstate 26 in Laurens County is the major interstate in the region. It links the region to the rest of South Carolina and to the Port of Charleston to the south. It also connects the area to Asheville, to the north. The interstate intersects I-85 in Spartanburg County near the city of Spartanburg. It serves as a major conduit for trucks to access the Port of Charleston, one of the largest ports on the East Coast. Sixty (60) percent of goods shipped through the port originate in the Upstate. I-26 in the region runs approximately 12 miles in eastern Laurens County, and it is a four-lane interstate throughout the county.
- Interstate 385 in Laurens County is an interstate spur that connects Greenville and the Upstate to the rest of South Carolina. The interstate connects to I-26 in Clinton and it provides access to Columbia and the Port of Charleston. It also serves as a major commuter corridor for the southern suburbs of Greenville.
- Other nearby interstates include Interstate 85 in the Upstate and Interstate 20 in the Midlands. Interstate 85 provides the impetus for much of the economic development in the Upstate, and provides a direct link to nearby Charlotte, NC and Atlanta, GA. The interstate is in urbanized areas that are not part of the USCOG area. Interstate 20 links Atlanta, GA to Columbia, SC and beyond. It is immediately south of the USCOG region.

United States Highways impact all the rural areas of the six-county region more directly. These roads provide access to many small cities and towns across the area and are the backbones of the rural areas.

U.S. Highway 25 enters the region from Greenville County, where it intersects Interstate 85 to the north and exits near Interstate 20 to the south.

U.S. Highway 76 is entirely in Laurens County within the region. Its path takes it to the southeast where it terminates in Charleston.

U.S. Highway 178 enters the region from Anderson County, where it intersects Interstate 85, and exits at Batesburg-Leesville in Saluda County.

U.S. Highway 221 enters the region from Spartanburg County in the north, crossing Laurens, Greenwood, and McCormick counties before moving into Georgia north of Augusta.

U.S. Highway 378 enters the region from Georgia near Savannah Lakes Village before crossing McCormick, Edgefield, and Saluda counties before leaving the region at the Lexington County line.

The South Carolina Department of Transportation (SCDOT) controls the majority of other roads in the state. There are numerous state designated highways in the rural COG area, and these routes are important to the rural economy, however, due to the large number of them it is impractical to list all of them.

State highways of note for transportation planning purposes:

- S.C. Highway 72 is a 125-mile (201 km) state highway, traversing interior portions of the South Carolina Piedmont region. The route connects many smaller communities outside major metropolitan areas and is roughly parallel with Interstate 85 (I-85) to the north. SC Highway 72 crosses the counties of Abbeville, Greenwood, and Laurens.
- S.C. Highway 28 runs north-south across Abbeville and McCormick counties. Once south of Anderson and Interstate 85, it switches into a two-lane rural road through Antreville, around Abbeville, and through McCormick. Along the banks of Lake Strom Thurmond, it eventually crosses over a non-dammed section of the Savannah River near Augusta, Georgia.
- S.C. Highway 121 runs north-south across Edgefield and Saluda counties. The route is concurrent with US Highway 25 north out of North Augusta and Interstate 20 to the intersection with SC Highway 19 at Trenton. Then it turns north through Johnston and Saluda before it crosses out of the region at the Newberry County line on its way to intersect with Interstate 26.

2.2 Strategic Corridor Network

As part of the 2040 South Carolina Multimodal Transportation Plan, the statewide Strategic Corridor Network was updated. These corridors provide connection both locally and regionally for the movement of goods and people for business and personal purposes.

The corridors are updated and determined through a quantitative process intended to both identify and differentiate these corridors. The roadways here categorized on a three scale rating: Low (1), Medium (2) and High (3). Below is a summary of the criterion used for this exercise:

1. Average Annual Daily Traffic
2. Truck Average Annual Daily Traffic
3. Statewide and Regional Connectivity
4. Parallel Reliever Potential
5. Multimodal Connectivity
6. Population Totals and Population Growth to 2040
7. Census Urbanized Area Classifications
8. Employment Impacts
9. Tourism Impacts

Once the roadways were scored and ranked, they were split into “Tiers,” intended to differentiate the corridors by means of their overall importance to the region and the state. The tier system is summarized as follows:

Tier 1: Roadways that are on the South Carolina primary and secondary network AND receive a high cumulative quantitative score.

Tier 2: Roadways that are on the South Carolina primary and secondary network AND receive a medium cumulative quantitative score.

Tier 3: Roadways that are on the South Carolina primary and secondary network AND receive a low cumulative quantitative score. Tier 3 also includes roadways that scored high on the quantitative factors, but are not classified as primary or secondary highways.

For the purposes of this plan, the Strategic Corridor Network roads in the Upper Savannah COG region include: Interstate 26 and Interstate 385 in Laurens County, SC Highway 72 across the region, US Highway 178 from Greenwood to Saluda, US Highway 378 from Saluda to the Lexington County Line, and SC Highway 121 from Saluda south to North Augusta.

2.3 Freight Network

The movement of goods is critical to the economic health of a state, particularly in one such as South Carolina that has access to major ocean ports, seven regional airports, inland ports, rail lines and highways. The purpose behind the development of South Carolina's first Statewide Freight Plan (SFP) is to satisfy the requirements of federal legislation and more importantly respond to the critical role of transportation infrastructure and freight movement to the economy of the state.

Similar to the national freight focus, a Strategic Freight Network is identified in the SFP. This system reflects the roadways, railroads, and other transportation infrastructure needed for the efficient movement of goods in to, out of, and through SC. The identification of a Strategic Freight Network in South Carolina assists the state in identifying its critical rural freight corridors and helps SCDOT justify the inclusion of significant corridors in the National Freight Network. The process of identifying this network in South Carolina can support SCDOT in making prioritization decisions regarding investments in transportation infrastructure across the state and can inform SCDOT of what roadway corridors, in addition to those included in the National Freight Network, need particular attention to support efficient and safe goods movement. The two major freight networks in the USCOG region are highways and rail.

2.3.1 Highway

Highway goods movement is a cornerstone to the national freight transportation system. Highway, or "trucking", transports 70 percent of all the tonnage in the U.S. This takes place as "over-the-road" or short to long distance truck trips and "final mile" or pick-up and delivery movements. The dominance of the mode is derived through access and availability. Except where shippers or receivers have constructed facilities with immediate access to rail, water, or air assets, trucks serve as a connector between the alternative mode and the user or as the single transport mode.

2.3.2 Rail

Railroad transport provides a relatively lower cost, higher capacity and low environmental impact landside solution to the long-distance movement of goods. Operating a variety of rail car configurations, (e.g. tanker, open top hopper, side load, closed boxcar, flatcar) and the ability to compile trains of over 100 units; rail provides shippers with a low-cost solution to moving goods. Due to the nature of the load-unload and overall train operations, rail typically reduces rates or costs to the shipper as the distance traveled increases. With a limited number of locomotives or power units required to transport the significant volume of goods, in comparison to other landside solutions (e.g. truck) the impact on air quality, noise pollution, and other environmental factors is significantly reduced.

2.4 Trends and Analysis

2.4.1 Mode Choice

The dominant mode of transportation in the Upstate continues to be the automobile. More than 85 percent of workers indicated that they drive to work alone; 9 percent carpool and approximately 2 percent walk. Public transit is not a popular option, but given the sprawling nature of the region and the relatively cheap cost of gasoline it is not a surprise. Abbeville County residents have the highest percentage of bike and pedestrian commuters at 3.5 percent, while Greenwood County residents have the highest percentage of single person auto commute trips at nearly 87 percent.

2.4.2 USCOG Travel Model Analysis: Current and Future Regional Traffic

The USCOG Regional Travel Demand Model was designed to support corridor planning, project-level travel forecasts, air quality conformity (cost-benefit measures), air quality analysis (pollution of HC, NOX, CO), environmental documents, freight planning, economic development studies, toll studies, public transportation planning, land use and zoning scenario planning, evacuation scenario planning, and many other land use and transportation planning activities. When simplified, the basic purpose of the USCOG Model is to replicate traffic conditions in the USCOG region on an average weekday, in base year 2010 and forecast year 2040.

2.5 Identified Needs

As the USCOG region continues to develop, roadway capacity projects will continue to be a staple in the more populated areas. However, as the travel model analysis indicates, capacity is not as important of an issue in the rural areas. The greatest needs identified consist of projects that mitigate intersection safety issues, roadway quality issues, and other function and safety issues.

2.5.1 Priority Projects

The USCOG Board of Directors began the process of updating the list of candidate projects in early 2020 by evaluating the condition of the existing transportation network.

Each county identified its highest priority projects based on field inspections, SCDOT priority lists, and interviews with key staff. To support this fieldwork, USCOG staff prepared maps and trend information discussed in the “Demographic Trends and Projections” and “Roadway Network” sections of this plan. Additionally, data from the Statewide Travel Demand Model was used to validate assumptions. Additionally, SCDOT’s 2040 Multimodal Transportation Plan was referenced as a policy guide and strategic tool for maximizing consistency and minimizing conflicts.

2.5.2 Financing and Fiscal Constraint

Guideshare is formula funding made available to each of the South Carolina Metropolitan Planning Organizations (MPOs) and Councils of Governments (COGs) for System Upgrade projects. The Guideshare dollar amount is calculated by taking the MPO’s and COG’s specific proportion of the state population and applying it to the total available funds for System Upgrade projects. Guideshare is the only revenue source that is taken into consideration in preparing the 2040 USCOG Fiscally Constrained Transportation Program. The most recent allocation of Guideshare funds for the USCOG region totals \$6,263,000 annually.

It is important to understand the different roles and relationship between the Long Range Transportation Plan (LRTP) and the Transportation Improvement Plan (TIP). The LRTP identifies critical transportation needs over 20 or more years and establishes a broad vision for meeting those needs. Conversely, the TIP is a short-range document that lists specific “programmed” projects that have actual committed funding (i.e. Guideshare) associated with them. Thus, it is accurate to characterize the LRTP as the “vision” document and the TIP as the “implementation” document. Currently, the USCOG RTIP identifies and programs projects from Fiscal Year (FY) 2019 through FY2024.

As stated, the current USCOG program projects through FY2024. Guideshare funding is currently “committed” to projects listed in the TIP through part of FY2022, leaving a balance of \$4,402,000 for FY2022 and the entire annual allocation of \$6,263,000 for FY 2023 that has not yet been committed to any projects. Adding these uncommitted funds to Guideshare revenue anticipated for FY2024 through FY2040, results in the following total anticipated Guideshare funds through FY2040 available for planning purposes;

FY2022 Uncommitted Guideshare Funds (partial year)	\$ 4,402,000
FY2023 through FY 2040 Guideshare Funds (18 full years)	\$112,734,000
Total Uncommitted Guideshare Funds through FY2040	\$117,136,000

Fiscal constraint is a demonstration of budgeting sufficient funds (Federal, State, local, and/or private) to implement proposed transportation system improvements, as well as to operate and maintain the entire system, through the comparison of revenues and costs. With respect to the 2040 USCOG LRTP Fiscally Constrained Transportation Program, this means restricting the list of proposed projects to be included in the transportation program to the amount of anticipated Guideshare revenue that is available through FY2040, or \$117,136,000.

Proposed projects were scored and ranked. If all projects were to be built based upon the preliminary project cost estimates calculated for each project, the sum total would be in excess of \$150 million dollars. However, as calculated above, there is only an available anticipated Guideshare revenue total through FY2040 of \$117,136,000. In order to prepare a fiscally constrained program, the total costs for all of the projects in the program must remain within the “constraint” of \$117,136,000. To stay consistent with the scoring and ranking process, the projects included must also be the highest ranked projects in their respective project types. The transportation program tables are followed by the list of potential but currently unfunded projects that represent transportation needs that cannot be addressed with anticipated Guideshare revenue before FY2040.

The priority for the 5-year lifecycle of the LRTP is to refocus our attention and resources, and to take a practical approach to addressing the needs of the transportation system by allocating future Guideshare funds towards intersection improvement projects that will help reduce congestion and system upgrades will improve safety measures.

2.5.3 Project Scoring and Ranking Methodology

With only minor variations, the 2040 USCOG LRTP Project Ranking Methodology is based upon SCDOT Act 114 of 2007, which established changes to the South Carolina Code of Laws, adding Sections 57-1-370 and 57-1-460 requiring the SCDOT to promulgate new regulations describing its project selection process. SCDOT released Engineering Directive Number 60 on May 17, 2010, detailing the COG and MPO project ranking process. The directive included commission-approved criteria with weightings recommended to be used by MPOs and COGs for road widening, functional intersection, and new-location roadway improvement projects.

As per SCDOT Offices of Planning and Environmental Management recommendations, USCOG has adopted ACT 114 ranking methodology with only minor variations. These minor variations include making some modifications to the weighting of the scoring criteria to give greater weight to projects that promote economic development. The complete 2040 USCOG LRTP Project Ranking Methodology is included in this document. SCDOT also recommended that proposed projects be divided into three distinct categories: intersection projects, new location projects, and widening projects. As explained by the SCDOT Offices of Planning and Environmental Management, this separation by project type allows for all projects to be scored and ranked against only projects of the same type; i.e. widening projects scored and ranked against other widening projects. For the purposes of this LRTP, projects were separated by project type as recommended by SCDOT and limited to intersections and widenings.

INTERSECTIONS

Scoring:

Traffic Volume	25%
Public Safety	20%
Truck Traffic	15%
Economic Development	8%
Environmental Impact	2%
Traffic Status	20%
Priority Network	<u>10%</u>
	100%

Criteria: Traffic Volume

Weight: 25% of overall score (25 points maximum)

Basis: Quantifiable based on current traffic volumes

Methodology: Intersections to be scored based upon current traffic volumes: A total of 30 points shall be awarded to intersections with the highest traffic volumes. Remaining intersections receive points proportional to their current traffic volumes

Criteria: Public Safety

Weight: 20% of overall score (20 points maximum)

Basis: Quantifiable based on collision data.

Methodology: Intersections to be scored based upon a Safety Score provided by SCDOT Traffic Engineering: The safety score is derived based on an adjusted accident rate calculated by the number of crashes within given location divided by the volume and multiplied by the number of years. The adjusted accident rate incorporates an ADT factor to give greater consideration to higher volume roads. Safety scores range from 0 to 5 points. The higher the safety score, the higher the concern for safety. Therefore, safety scores will be multiplied by five; so that projects receiving the highest safety score (highest safety concern) will score the maximum 25 points.

Criteria: Truck Traffic

Weight: 15% of overall score (15 points maximum)

Basis: Quantifiable based on current volume and average daily truck traffic estimates.

Methodology: Intersections to be scored based upon data provided by SCDOT Road Data Service. The SCDOT Truck Traffic percentages are based on around the state. This then yields an average percent of trucks which SCDOT uses for all major collectors. Truck percentage is converted to a truck ADT to give greater consideration to higher volume roads. A total of 20 points shall be awarded for the road segment with highest Truck Traffic Percentage. Remaining segments shall receive points proportional to their Truck Traffic Percentage.

Criteria: Economic Development

Weight: 8% of overall score (8 points maximum)

Basis: Quantifiable based on specific impact to local economic development.

Methodology: Intersections to be scored based upon the following 4 economic development criteria:

2 points Accessibility to large employers/employment areas

2 points Reduces congestion or directly benefits regional freight mobility

2 points In vicinity or directly serving existing/proposed regional industrial areas

2 points Project facilitates regional transportation of the workforce

Criteria: Environmental Impact

Weight: 2% of overall score (2 points maximum)

Basis: Quantifiable based on an assessment of potential impacts to natural, social, and cultural resources.

Methodology: Road segments to be scored based upon their impact in the following criteria categories:

No negative impact on areas with over 50% Low and Moderate Income majority Census tract: 1 point

No negative impact on Natural Resources: 1 point

Criteria: Traffic Status

Weight: 20% of overall score (20 points maximum)

Basis: Quantifiable based on current traffic movement timing

Methodology: *Traffic status* presents the basic knowledge of road traffic. Here the traffic status is preliminarily divided into three classes, namely *free*, *jam*, and *accident*. By *free*, we mean that the drivers do not have to slow down due to external factors. Note that *free* and *jam* cannot occur simultaneously in the same road segment. Thus in order to confirm the status automatically in the management system, there must be criteria for *free*. The attribute can be defined on the basis of average speed or flow. *Jam* can be graded according to its severity. The jam grade an one important attribute of *jam*. *Accident* has general attributes such as location, grade, etc. The *accident* class can be further divided according to type or object if necessary in applications.

Criteria: Priority Network

Weight: 10% of overall score (10 points maximum)

Basis: Quantifiable based on location or proximity

Methodology: For the purposes of this plan, the Strategic Corridor Network roads in the Upper Savannah COG region include: Interstate 26 and Interstate 385 in Laurens County, SC Highway 72 across the region, US Highway 178 from Greenwood to Saluda, US Highway 378 from Saluda to the Lexington County Line, and SC Highway 121 from Saluda south to North Augusta.

WIDENINGS

Scoring:

Traffic Volume and Congestion	35%
Public Safety	10%
Pavement Quality Index	3%
Truck Traffic	10%
Economic Development	10%
Environmental Impact	2%
Financial Viability	5%
Priority Network	<u>25%</u>
	100%

Criteria: Traffic Volume and Congestion

Weight: 35% of overall score (35 Points maximum)

Basis: Quantifiable based on current traffic volumes and the associated level of service (LOS) condition.

Methodology: Road segments to be scored based upon calculated LOS:

0 points LOS A

5 points LOS B

10 points LOS C

15 points LOS D

20 points LOS E

25 points LOS F

The SCDOT LOS are determined using the daily volume-capacity ratio (V/C) and are based on LOS C capacities. The SCDOT V/C LOS criteria are:

LOS A V/C less than 0.50

LOS B V/C 0.50 and less than 0.75

LOS C V/C 0.75 and less than 1.00

LOS D V/C 1.00 and less than 1.15

LOS E V/C 1.15 and less than 1.35

LOS F Greater than 1.35 V/C

Criteria: Public Safety

Weight: 10% of overall score (10 points maximum)

Basis: Quantifiable based on collision data.

Methodology: Road segments to be scored based upon a Safety Score provided by SCDOT Traffic

Engineering: The safety score is derived based on an adjusted accident rate calculated by the number of crashes within given location divided by the volume and multiplied by the number of years. The adjusted accident rate incorporates an ADT factor to give greater consideration to higher volume roads. Safety scores range from 0 to 5 points. The higher the safety score, the higher the concern for safety.

Therefore, safety scores will be multiplied by three; so that projects receiving the highest safety score (highest concern) will score the maximum 15 points.

Criteria: Pavement Quality Index (PQI)

Weight: 3% of overall score (3 points maximum)

Basis: Quantifiable based on SCDOT Road Data Services most current pavement evaluation assessment.

Methodology: Road segments to be scored based on PQI provided by SCDOT Road Data Services: A total of 10 points will be awarded for the road segment with lowest PQI Score. Remaining segments receive points proportional to their PQI Score.

Grade for pavement condition is called a Pavement Quality Index (PQI). PQI is made up of two components—one that measures rutting and roughness and one that measures pavement distress (cracking, raveling). PQI range is from 0.0 to 5.0 where 0.0 – 2.6 is “poor” condition, 2.7–3.3 is “fair” condition, and 3.4–5.0 is “good” condition.

Reconstruction range is 0.0 to 2.4 and usually involves the complete replacement of the pavement structure.

Rehabilitation range is 2.4 to 3.2 and requires structural enhancements to improve a pavement’s load carrying capability—i.e.; adding additional layers of asphalt. Preservation range is 3.2 to 5.0 and involves low cost treatments such as chip seals, crack sealing, or ultrathin asphalt overlays placed at the right time to slow pavement deterioration.

Criteria: Truck Traffic

Weight: 10 % of overall score (10 points maximum)

Basis: Quantifiable based on current volume and average daily truck traffic estimates.

Methodology: Road segments to be scored based upon data provided by SCDOT Road Data Service. In some instances, the SCDOT Truck Traffic percentages are based on functional classification averages. This is because SCDOT can only do actual vehicle classification counts on a small percentage of the roads it maintains around the state. This then yields an average percent of trucks which SCDOT may use for a specific road classification. Truck percentage is converted to a truck ADT to give greater consideration to higher volume roads. A total of 10 points shall be awarded for the road segment with highest Truck Traffic Percentage. Remaining segments shall receive points proportional to their Truck Traffic Percentage.

Criteria: Economic Development

Weight: 10% of overall score (10 points maximum)

Basis: Quantifiable based on specific impact to local economic development.

Methodology: Intersections to be scored based upon the following 4 economic development criteria:

5 points Accessibility to large employers/employment areas

5 points Reduces congestion or directly benefits regional freight mobility

5 points In vicinity or directly serving existing/proposed regional industrial areas

5 points Project facilitates regional transportation of the workforce

Criteria: Environmental Impact

Weight: 2% of overall score (2 points maximum)

Basis: Quantifiable based on an assessment of potential impacts to natural, social, and cultural resources.

Methodology: Road segments to be scored based upon their impact in the following criteria categories:

No negative impact on areas with over 50% Low and Moderate Income majority Census tract: 1 point

No negative impact on Natural Resources: 1 point

Criteria: Financial Viability

Weight: 5% of overall score (5 points maximum)

Basis: Quantifiable based on project cost estimates and 20-year maintenance cost.

Methodology: Calculate total capital plus 20-year maintenance cost per mile:

Road segment with lowest Total 20-year cost per mile 5 pts

Road segment with highest Total 20-year cost per mile 0pts

Remaining segments receive points proportional to their Total 20-year cost per mile

Criteria: Priority Network

Weight: 25% of overall score (25 points maximum)

Basis: Quantifiable based on location or proximity

Methodology: For the purposes of this plan, the Strategic Corridor Network roads in the Upper Savannah COG region include: Interstate 26 and Interstate 385 in Laurens County, SC Highway 72 across the region, US Highway 178 from Greenwood to Saluda, US Highway 378 from Saluda to the Lexington County Line, and SC Highway 121 from Saluda south to North Augusta.

2.5.4 Project Recommendations

All transportation improvement projects will be evaluated and ranked. Those projects that are required to be rated and ranked in accordance with Act 114 will be done by SCDOT and all other projects that fall outside of Act 114 will be rated and ranked by guidelines established by the USCOG Board of Directors.

The transportation improvement recommendations within this plan will be broken out in two categories: **Priority Projects (fiscally constrained)** and **Potential Projects (unfunded)**. Priority Projects listed in the LRTP will be eligible for programming in the Transportation Improvement Program (TIP) when Guideshare funds are available. Once approved by the USCOG Board, the project will move to the SCDOT Commission to become part of the State Transportation Improvement Program (STIP). Unfunded projects can be shifted onto the priority projects list if the ranking of a project changes and funding is available. The LRTP is meant to be a living document. Therefore, prior to the next update of the plan (5 years from the approval date), identification of additional transportation projects can be submitted by letter to the USCOG. The identified transportation improvement project(s) will be provided to the USCOG Board of Directors to determine the appropriate action needed to ensure proper consideration is given to the new project.

The intent of this plan is to move down the list of prioritized intersections in a fiscally constrained manner. Widening projects are ranked in case funding becomes available from another resource. Widening projects that will require multi-year amounts of Guideshare funding will be considered on an as-needed basis and if funding is available.

Intersections and Safety

3.1 Existing Conditions

A safe and efficient transportation system is critical to the livelihood of a community. The transportation network facilitates the internal day-to-day functioning of the community and provides access to and from the outside world whereby goods and services are exported and imported. Safety concerns are a major issue on roads in rural areas. Low traffic volumes encourage speeding along some routes and narrow, two-lane roads without paved shoulders can leave little room for error. Furthermore, many rural roads are simply paved dirt roads, and the resulting intersections are often angled in ways that are dangerous due to limited visibility of oncoming traffic. The need for safety and intersection improvements in rural areas is so widespread, that it is not practical to attempt to address all shortcomings at once. Careful review and prioritization of projects is needed to ensure that resources are used most effectively. An important part of prioritizing improvement projects is identifying opportunities when road widening occurs in a rural area. The new design can often be adjusted to upgrade the safety of the road and its intersections at the same time. However, many rural roads have safety issues but do not need to be or cannot be widened. Fortunately there are a number of options for addressing safety concerns on rural roads. These include:

- Widening and paving shoulders. Many rural roads are narrow and have very narrow or no paved shoulders, and frequently grassed shoulders slope steeply down into drainage ditches. This means that drivers veering even slightly out of a lane may lose control. Stabilizing and paving shoulders can provide a needed buffer for travelers on the road. As an added benefit, these can be designed into bike/pedestrian facilities. Rural accidents involving non-motorists have extremely high fatality rates due to increased speeds and limited visibility. Providing them facilities outside of the travel lanes can be very beneficial in preventing these accidents.
- Realigning intersections and curves. Rural roads are frequently winding and feature dangerous intersections. This can lead to drivers losing control of their vehicle, or failing to yield to oncoming traffic. Redesigning and straightening curves, as well as realigning intersections, can address problem locations.
- Traffic calming. Traffic calming can be defined as a combination of mainly physical measures that reduce the negative effects of motor vehicle use, alter driver behavior and improve conditions for non-motorized street users. The SCDOT outlines a range of options for traffic calming in their “Traffic Calming Guidelines” publication, including but not limited to speed humps, raised crosswalks and landscaped medians, traffic circles, physically reducing lane widths, and road closures. These guidelines are generally applied to low volume streets with a low amount of through traffic.
- Other intersection improvements. Review of the situation at key intersections can result in other suggested improvements, based on the problems that exist there. This can frequently overlap with other types of improvements, as described in the other chapters about signalization and maintenance.
- Lowering speed limits. This low-cost measure can help reduce speeding, and therefore reduce the number of severe accidents on the road. However, enforcement is key in ensuring speed limits are obeyed.

- Median barriers. Most prominently, this can be seen in the SCDOT's interstate cable barriers initiative. In general, the purpose of this is to prevent head-on collisions resulting from vehicles crossing over a median.
- Lane and road restrictions. This is also primarily used on interstates. Truck lane restrictions can result in fewer fatal accidents involving heavy trucks. A similar concept is designating certain roads as truck routes, while limiting truck access to others.
- Traffic law enforcement. Since driver error is a substantial contributing factor to rural accidents, law enforcement can be an important partner in addressing safety concerns in certain target areas. Additionally, law enforcement personnel can be very effective in identifying trouble spots that need to be addressed in some manner.

3.2 Identified Needs

SCDOT, through their safety program, already evaluates and prioritizes safety projects statewide.

Bridges

4.1 Existing Conditions

The Upstate has variable terrain that is typical of the piedmont region. Rivers and streams flowing down from the mountains create obstacles for human traffic. Many bridges exist as a result of this need. In the past, fording or ferrying was the primary method of crossing these waters. Over time technology advanced to the point that bridges were an effective and economical solution to crossing rivers and streams. Because the terrain ridges tend to run from the northwest to the southeast, the roads running perpendicular to the ridges tend to require bridges. This generally translates to an east-west traffic flow. The major cities and I-85 each line up in this way, making the need to the presence and maintenance of adequate bridges that much more important to the future of the Upstate.

The USCOG area has 2,000 SCDOT-maintained bridges; of which 350 bridges are considered substandard by SCDOT. There are two main categories of bridges which are considered substandard and eligible for rehabilitation or replacement. Structurally deficient bridges are either restricted to light vehicles only, closed, or require immediate rehabilitation to remain open. Functionally obsolete bridges, however, are not necessarily structurally deficient. A functionally obsolete bridge has deck geometry, load carrying capacity, clearance, or approach roadway alignment that no longer meets the criterion for the system in which it is part. There are 000 structurally deficient bridges and 000 functionally obsolete bridges in the region as of December 2019.

Maintaining all of the regions bridges in good, functional condition is a major task. Currently, bridge repair and replacement projects are prioritized by SCDOT. Similar to the pavement management used to prioritize road maintenance projects, SCDOT uses a Bridge Management System (BMS) to prioritize bridges. The development, implementation, and data collection of the BMS began in the early 1990's, with full scale operations starting in 1998. The system provides detailed analyses of South Carolina's bridge needs and prioritizes recommendations. Although replacement projects have been the primary focus, improvements such as widening and raisings, maintenance repairs, and rehabilitations are now being considered.

Statewide bridge inspection continues to be a critical component for federal Bridge Program Funds. SCDOT inspects approximately 6,500 bridges per year and contracts underwater inspections for another 60 each year. The data collected is an integral part of the BMS.

Statewide the number of substandard bridges continues to rise. Current bridge funding levels are far below what is required to make significant improvements to the system. The primary factors that affect this trend are the overall construction history and age of the bridge infrastructure, a historical lack of emphasis on bridge maintenance, and inadequate funding levels. Inadequate funding and the growing transportation needs of our state will prevent a major reduction in the percentage of substandard bridges.

4.2 Identified Needs

The SCDOT has designated 20 bridge projects for funding in the USCOG region (per the latest STIP).

Maintenance and Resurfacing

5.1 Existing Conditions

Maintenance is an essential part of any transportation network. Proper maintenance keeps a system functioning properly and safely. Improper or deferred maintenance can create hazards, as well as requiring a much larger expense for rebuilding of facilities at a later date. Regular maintenance activities include repaving and resurfacing, chip seal, slope and shoulder maintenance, pavement marking, mowing, drainage system improvements, maintenance of rest areas and other roadside facilities, and related activities.

As the road network grows, so does the maintenance burden for those responsible for the facilities. More than 60% of the USCOG's rural roads are SCDOT maintained. However, since most of these roads serve as local roads they are ineligible for federal aid dollars. Roads classified as a collector, with annualized average daily traffic (AADT) volume of 1,000 or greater are eligible for federal aid dollars. The remaining roads must be maintained with state or local funds. As funding for road maintenance has decreased many roads have not been maintained properly. To this end, counties in the region have begun to allocate funding for road maintenance.

The condition of the state maintained route system is assessed by the SCDOT Pavement management office. One third of the system is assessed annually to determine the surface conditions of the driving lanes. The condition of the pavement is expressed in terms of the Pavement Quality Index (PQI) and is based on pavement surface distress and roughness. The condition categories range from Very poor to Very Good. The PQI scale ranges from 0 to 5, with Poor ranging from 0 to 2.6 and Good ranging from 3.4 to 5. This information is used to prioritize maintenance projects.

Primary roads, US or SC routes, have a higher percentage of facilities that are ranked in the lowest categories of pavement quality, possibly due to heavy use. Table 13 lists all federal aid eligible primary roads in the USCOG region with PQI scores of less than 2.6. The road segments are categorized by milepost, the system used by the SCDOT. Note that some roads may be within MPO jurisdictions.

Signalization

6.1 Existing Conditions

Signalization is an integral part of a transportation system. Properly used, it can ensure safe and orderly progression of traffic. If improperly installed and maintained, however, it can result in unnecessary delays in traffic flows.

In the USCOG region all rural traffic signals are generally maintained by SCDOT. Maintenance and repair of traffic signals is a regular function of SCDOT's maintenance staff. The SCDOT frequently conducts traffic studies at intersections to determine whether new traffic signals are needed. The factors considered in determining whether a signal is warranted include the number of vehicles approaching the intersection, frequency and type of accidents, physical layout of the intersection, average speed, and future road construction plans.

In order to assure that signals are efficiently handling traffic flows, the timing of the light cycles for signals are periodically revisited by the maintaining authority. When there are a series of signals along a road, they are frequently connected in a system, which simplifies the process of coordinated signal timing along the road. This can help travelers avoid repeatedly hitting red lights, and can actually improve overall traffic flow on a road. There are more than 400 traffic signals in the USCOG region. They tend to be located at major intersections along primary routes in the region.

At-grade railroad crossings are another location where signalization is important. SCDOT staff also performs the function of inspecting and maintaining these crossings, and a pool of funding is available to upgrade these crossings as needed. These funds are extremely limited which means that only a few crossings are can be completed on a yearly basis statewide. Prioritization is based on similar criteria to other safety projects.

Intelligent Transportation System (ITS) strategies are increasingly used to manage traffic flow. ITS can be defined as electronics, communications, and information processing that are integrated to improve the efficiency or safety of surface transportation. SCDOT has developed and deployed ITS across the state. These systems include the latest transportation technologies, such as closed circuit television cameras, highway advisory radios, changeable message signs, local Traffic Control Centers (TCC) and a central Traffic Command Center (TMC). A key application for ITS in rural areas is notification of nonroutine traffic events, such as major delays due to accidents or construction.

6.2 Identified Needs

Here is a summary of identified signal needs for the USCOG region. These projects are not so much about installing new signals where there were none, but upgrading equipment and improving signal timing to increase traffic flow efficiency.

Public Transit

7.1 Existing Conditions

Rural public transportation presents a unique challenge. Long trips and low population densities mean that it is a challenge to get sufficient ridership to support transit routes. However, the lack of transportation options combined with the prevalence of elderly and low-income people in many rural communities means that there is a need for such a service.

7.2 Transit

7.2.1 McCormick Area Transit - Low cost public transportation in McCormick County. Areas served are McCormick, Greenwood, Abbeville, Edgefield, Aiken, and Augusta, GA.

7.2.2 Edgefield County Senior Center Peach Blossom Express provides public transportation to anywhere in the Central Savannah River Area (CSRA).

7.2.3 Disabilities and Special Needs Boards

The USCOG region has two Disabilities and Special Needs Boards that provide Title IX transportation services for eligible clients in their own service area respectively. Laurens County Disabilities and Special Needs serves Laurens County, and the other five counties in the region are served by the Burton Center. Both use agency- operated vehicles but may contract out for services as needed.

7.2.4 Private Providers

A number of private transportation companies, including taxicab and shuttle companies operate in the USCOG region. These companies provide specialized services for individuals and groups.

7.3 Regional Transportation

7.3.1 Bus

Greyhound has locations in the cities of Anderson, Greenville, Spartanburg, Columbia, Aiken, and Augusta. These locations are not in the USCOG region but should be noted. They are within driving distance if a connecting ride can be found.

7.3.2 Train

Amtrak does not have a stop in the region. There is a stop in Columbia, Clemson, Greenville, and Spartanburg if a connecting ride can be found.

7.4 Identified Needs

As previously mentioned, population and employment density are determining factors when looking at the viability of fixed route service. There are very few moderate density areas in the region: Greenwood, Laurens, Clinton, Abbeville, and Saluda. However, the majority of the rural area is low density.

Another key indicator of transit need is the percentage of households without access to a vehicle. Often these individuals depend on others to provide them transportation, particularly in rural areas where destinations are too far to reach by foot or pedal. There are particularly high concentrations of these households in the most rural areas.

The distribution of senior citizens and people with disabilities can also be an indicator of transit need, since many of these individuals may be unable or unwilling to drive an automobile. The USCOG region is becoming older on average. Overall, seniors aged 65 and up, account for 15 % of the region population.

Bicycle and Pedestrian Facilities

8.1 Existing Facilities

The facilities available to walkers and bikers are varied in the rural USCOG area. Walking and biking are, by their nature, localized modes of transportation. So, they tend to be focused around nodes of activity. These nodes are typically existing communities and other places with a relatively dense built environment. The parts of these towns that were constructed before the 1940s, before the widespread use of the automobile, tend to be more pedestrian friendly. However, many business centers and places of employment are no longer located in the historic cores. They tend to locate near major highways or in urban areas. As a result, the demand for pedestrian and bicycle facilities is low.

Historically, roads were designed for pedestrian and equine travel. It is only within the last century that the automobile has replaced the pedestrian as the primary mode of travel. Facilities accommodating pedestrians and bicycles tend to be separate from automobile traffic. Sidewalks and bicycle lanes are the most common modes for each mode, respectively and are becoming more prolific through the nation. Because of the historical connection with pedestrians, and the universal accessibility to walking, it can be assumed that all roads will be used for pedestrian traffic at some point.

Fatality rates for bicycle/ pedestrian traffic are higher in rural areas than in urban areas. Speed is a contributing factor to this problem. According to the National Highway Traffic Safety Administration, a pedestrian hit by a car traveling 20 miles per hour has a 95 percent chance of surviving. At 40 miles per hour the chance of survival drops to 15 percent.

Currently, the USCOG does not fund any bicycle/ pedestrian facilities the region. These are funded on the state or county level.

8.1.1 Pedestrian Facilities

The many small towns in the region each have their own pedestrian friendly zones that tend to be focused on the historic core of each community. These zones typically connect downtown areas to adjacent, historic neighborhoods. In many cases the infrastructure may exist but maintenance of these facilities has largely been ignored or deferred in favor of higher priority projects in recent times. A key issue to consider for pedestrians is safety. This typically comes in the form of crosswalks. Pedestrians tend to not like to cross large, busy highways. They prefer the more compact environment that the urban cores offer. There are some communities that have significant pedestrian facilities and other that have recently taken steps to enhance the quality of their pedestrian facilities:

- Greenwood recently completed several phases of sidewalk enhancements in the Uptown District. The projects created additional parking and worked to enhance the appearance of the historic core of the city.
- Edgefield recently renovated and enhanced its square downtown. The process changed traffic patterns from two-way around the square to one-way to add parking and promote safety.
- Abbeville and Laurens both have historic courthouse squares that have benefitted from grants to improve sidewalk quality and pedestrian safety.

Rural areas can present conditions that are threatening to pedestrian travel. In the remainder of the region, the pedestrian and bicycle traffic takes place on rural roads without any specific accommodations made for this type of traffic. Most rural roads are narrow and lack a paved shoulder, bike lanes, and sidewalks. Combined with low visibility and high speeds, these roads can be very dangerous for non-motorized traffic. The volume of this type of traffic is low.

8.1.2 Bicycle Facilities

Bicycling is becoming a more popular mode of transportation. Like pedestrians, bicycles have similar range restrictions. Bicycles have a more extended range than pedestrians, but prefer a similar dedication of facilities. Ultimately most non-recreational travel will have origins and destinations within the same community. Dedicated bike lanes paralleling traffic are the most frequent way of accommodating bikers, but share-the-lane demarcations are also common. Bike paths are another facility. They are completely separate from roadways and offer alternate connections to various destinations. Bike paths tend to be for recreational purposes and always include pedestrians. Bikers are more likely to occupy the same traffic lanes as automobiles, and are required by law to follow the same rules as larger motorized forms of transportation.

One important aspect of biking is the need for racks. Bicycles need bike-racks just like cars need parking lots. Bike racks can become in many forms, and the objects used for such can even be forms of public art. Transit can also enhance bikers' options by adding bike racks such as those recently added in the City of Clinton.

8.2 Facilities for Recreation

There are many parks and recreational trails in the USCOG region. These facilities are typically designed for leisure activities such as mountain biking or hiking. Users will usually drive to these facilities first, so their presence should be viewed within the context of destinations for vehicles, rather than pedestrian and bicycle traffic alone.

The region has many recreational facilities. Some of the larger facilities include state parks, national forests, and locally designated parks trails:

8.2.1 Trails

8.2.1.1 Palmetto Trail

Palmetto Trail was originally conceived in 1994 and will have over 425 miles of bicycling and walking paths through South Carolina once completed. It crosses only a small section of the region in Laurens County, but provides access to the larger trail system. It will go from the mountains to the sea, passing through large cities and small towns, and along lakes and rivers. South Carolina's Palmetto Trail is the state's largest bicycle and pedestrian project. This federally designated Millennium Legacy Trail is a project of the Palmetto Conservation Foundation. It will be one of only 13 cross-state trails in the United States.

8.2.1.2 Rails to Trails

The idea was to convert abandoned or unused rail corridors into public trails. The concept embraces many ideas that community leaders want to promote including: recycling, land conservation, wildlife habitat preservation and non-automobile transportation, historical preservation, physical fitness, and recreation access for wheelchair users.

8.2.2 Parks

There are a number of parks available to residents of the region. These parks offer numerous recreational hiking and biking opportunities. The area is fortunate to have a variety of parks to choose from, including two Revolutionary War battlefields.

8.2.2.1 State Parks

- Hickory Knob State Resort Park is a state park located on the shores of Lake Strom Thurmond near the Town of McCormick . It is the only resort park in the South Carolina State Park system.
- Baker Creek State Park is located south of the Town of McCormick along Lake Thurmond.
- Hamilton Branch State Park is located south of the towns of McCormick and Plum Branch along Lake Thurmond.
- Calhoun Falls State Park is located on the shores of Lake Russell at the Town of Calhoun Falls in Abbeville County.
- Lake Greenwood State Park is located on the shores of Lake Greenwood in Greenwood County.
- Musgrove Mill State Historic Site marks the location of an American Revolutionary War site in Laurens County along the Enoree River.

8.2.2.2 National Parks

- Ninety Six National Historic Site marks the location of an important battle of the American Revolution near the Town of Ninety Six in Greenwood County.

8.2.3 Identified Needs

Both bicycles and pedestrians are localized modes of transportation. Because of their limited range it is important to recognize that travel using each of these modes will tend to be restricted to short distances typically with origins and destinations in the same community for non-recreational travel. It will be important to enhance existing facilities in communities that are already recognized as urban centers while expanding from those areas at the same time. Recreational travel must also be accommodated. Safety is an important concern for bikers and hikers. The shoulders of roads should be assessed and widened appropriately to create a safer environment.

Environmental Screening

In an effort to streamline the project development process, the SCDOT, in partnership with the COG's statewide, are doing early environmental screening by clearly defining the project, purpose and need, design expectations, public concerns, and potential environmental, cultural, and social impacts. The SCDOT process now requires that all new projects in the STIP, as well as high priority long-range plan projects have Advance Planning Project Reports (APPR). The contents of the APPR will include several elements. An introduction will define the purpose of the document and the project sponsor (SCDOT, COG, Other). A description of the existing facility will illustrate the roadway characteristics and existing features such as utilities, railroad crossings, mass transit, bridges, etc. The purpose and need section will give background information with project goals, current roadway deficiencies, traffic data, socioeconomic projections, level of service, accident data, and funding priority. The proposed facility element defines what the requirements are to meet the need of the project, such as design criteria, potential cross sections, bicycle and pedestrian facilities, mass transit accommodations, design techniques, and projected project cost.

A summary of public involvement is included in the APPR, highlighting public meetings, comments, and public involvement activities. Also in the report is a corridor assessment of social, economic, and environmental concerns. This section discusses the environmental screenings and site information, potential cultural resources, public parks and recreational areas, wetlands and water bodies, endangered species, potential displacements, hazardous materials, and community impacts of the project. The final section of the APPR contains recommendations and preliminary plans for the project.

Elements of an Advanced Project Planning Report can include existing and proposed typical cross section information that can be represented using "before" and "after" computer-generated visualizations for select locations throughout the length of the project. Projected traffic volumes are generated using the travel demand model and provide projected average daily traffic volumes for the proposed facility and the no-build scenario. Social, cultural, natural resources, and environmental concerns are identified using GIS database information for the environmental screening process. The total number of crashes at particular locations is summarized by providing statistics on accidents involving fatalities, injuries, and property damage. Cost estimates are also provided for one or more typical cross sections and may prove to be a key variable in the decision-making process.

Advanced Project Planning Reports are conducted in close coordination between SCDOT, MPO's, and COG's for projects identified in the STIP and constrained projects included in long range plans. Planning reports typically involve transportation improvement projects, such as a widening and new location alignments.

Performance Management

10.1 Introduction

Performance management is a strategic approach that uses system information to make investment and policy decisions to achieve goals set for the multimodal transportation systems in the USCOG area. This process provides key information to decision makers allowing them to understand the consequences of investment decisions across transportation assets and modes. It is also credited with improving project and program delivery and providing greater transparency and accountability to the public.

Performance-Based Planning and Programming (PBPP) refers to the transportation agencies' application of performance management as standard state of the practice in the planning and programming processes. USCOG's Long Range Transportation Plan and Transportation Improvement Program are now required to incorporate a performance-driven, outcome-based approach to planning. The goal of PBPP is to ensure that transportation investment decisions – both long-term planning and short-term programming – depend on the ability to meet established goals. In addition to meeting the federal PBPP requirements, PBPP will help the USCOG better communicate the Upper Savannah Region specific performance story.

10.2 National Goal Areas

Through the federal rulemaking process, the Federal Highway Administration (FHWA) is requiring state DOT's, MPO's and COG's to monitor the transportation system using specific performance measures. These measures are associated with national goal areas prescribed in MAP-21 and the FAST Act. The following list describes these national goal areas for highway performance as well as performance measures.

National Goal Area Performance Area Performance Measure

Safety: To achieve a significant reduction in traffic fatalities and serious injuries on all public roads.

Injuries and Fatalities

- Number of Fatalities
- Fatality rate (per 100 million VMT)
- Number of serious injuries
- Number of non-motorized fatalities and non-motorized serious injuries

Infrastructure Condition: To maintain the highway infrastructure asset system in a state of goods repair.

Pavement Condition

- Percent of pavements on the Interstate System in Good Condition
- Percent of pavements on the Interstate System in Poor Condition
- Percent of pavements on the Non-Interstate System in Good Condition
- Percent of pavements on the Non-Interstate System in Poor Condition

Bridge Condition

Percent of NHS bridges classified as in Good Condition
Percent of NHS bridges classified as in Poor Condition

System Reliability: To improve the efficiency of the surface transportation system.

Performance of the National Highway System

Percent of person miles traveled on the Interstate System that are reliable
Percent of person miles traveled on the non-Interstate NHS that are reliable

Freight Movement and Economic Vitality: To improve the National Highway Freight Network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development.

Freight Movement on the Interstate System

Truck Travel Time Reliability

Congestion Reduction: To achieve a significant reduction in congestion on the Nation Highway System.

Traffic Congestion

Annual hours of peak-hour excessive delay per capita
Percent of non-single-occupant vehicle traffic

Environmental Sustainability: To enhance the performance of the transportation system while protecting and enhancing the natural environment.

On-Road Mobile Source Emissions

Total emissions reduction

Reduced project delivery delays: To reduce project costs, promote jobs and the economy, and expedite the movement of people and goods by accelerating project completion

Reduce delays in the project development and delivery process

Time spent on project development and planning
Time spent on project construction

10.3 Federal Requirements

10.3.1 Targets

- All MPO's are required to establish performance targets no later than 180 days after SCDOT or a public transportation operator sets performance targets.
- For each performance measure, the Policy Committee or Board of Directors will decide to commit to support a statewide target, or to establish a quantifiable target specific to the planning area.
- SCDOT, MPO's, and public transit operators must coordinate targets for performance measures to ensure consistency to the maximum extent practicable.
 - Per SCDOT PL Agreements, all COG's shall comply with the same requirements of the MPO's beginning fiscal year 2019.

10.3.2 Reporting

- The LRTP must describe the performance measures and targets, evaluating the performance of the transportation system, and report on progress made.
- The TIP must link investment priorities to the targets in the LRTP's and describe, to the maximum extent practicable, the anticipated effect of the program toward achieving established targets.
 - The MPO must also report baseline roadway transportation system condition and performance data and progress toward the achievement of targets to SCDOT.

10.3.3 Assessments

- FHWA and FTA will not directly evaluate the MPO/COG progress towards meeting targets for required performance measures. The MPO's and COG's performance will be assessed as part of regular cyclical transportation planning process reviews, including Transportation Management Area certification reviews, small MPO self-certification reviews, and the Federal Planning Finding associated with approval of the STIP.
 - FHWA will determine if SCDOT has met or made significant progress towards attaining the selected targets for the highway system.

10.4 Performance Measure 1 (PM1) – Safety

South Carolina has the highest traffic fatality rate in the nation. It is 67% higher than the national rate and 40% higher than the states in the Southeast. Reducing the number of transportation-related collisions, injuries, and fatalities is SCDOT's highest priority and makes safety everyone's business. In 2011, the Director of the South Carolina Department of Public Safety (SCDPS), who also serves as the Governor's Representative for Highway Safety in South Carolina, announced the Agency's goal of zero traffic-related deaths in the State. This goal, also strongly supported by SCDOT and the South Carolina Department of Motor Vehicles, became the starting point for the State's update of the strategic highway safety plan (SHSP), entitled Target Zero. Target Zero is an aspirational goal for South Carolina and is based on the philosophy that no fatalities are acceptable. The state will set targets advancing this goal during the next twenty years.

10.4.1 Safety Needs

The information below summarizes the relevant 2014-2018 safety statistics in the USCOG region:

SCDOT provided a summary of USCOG region safety data, which provides perspective on what safety problems the region is experiencing. The graph below depicts the factors that were involved in vehicular crashes in the region from 2013 – 2017:

Based on analysis by the SCDOT safety office, roadway departures and fixed objects are significant factors involved in fatal and serious injury crashes. Countermeasures that can be applied to reduce roadway departures include: paved shoulders, rumble strips, adequate clear zones, cable guardrails, enhanced signalization, pavement friction and horizontal curve improvements.

10.4.2 Safety Targets

SCDOT evaluated and was required to first report on safety targets for the five measures on August 31, 2017. SCDOT recently issued their third annual report on safety targets for the five measures on August 31, 2019. This action started the 180-day clock for USCOG to take action to either set region-specific targets or accept and support the state’s targets. When setting safety performance targets for the state, statisticians performed extensive analysis of the data related to each measure (i.e. traffic fatalities and severe injuries and vehicle miles traveled). South Carolina used a seven data-point graphical analysis with a five-year rolling average. After the data points were plotted and graphical representations of the data were created, trend lines were added to predict future values. The trend lines were based on linear and non-linear equations with R-squared (i.e. best fit measure) values. Using the models, statisticians predicted the values for the current year. Examining the current and planned education and engineering safety initiatives, they estimated reductions in fatalities and severe injuries to calculate the state’s safety performance targets. Staff from the SCDOT Traffic Engineering Office also met with representatives from the MPO’s and COG’s to deliver a presentation on the state’s target-setting methods.

Performance Measure 2018-2022 Statewide Targets

Total Number of Fatalities	1,061
Fatality Rate per 100 Million Vehicle Miles Traveled	1.820
Total Number of Serious Injuries	2,850
Serious Injury Rate per 100 Million Vehicle Miles Traveled	4.892
Total Number of Non-motorized Fatalities and Serious Injuries	500

For the 2020 performance period, the USCOG has elected to accept and support the State of South Carolina's safety targets for all five safety performance measures. This means the USCOG will:

- Address areas of concern for fatalities and serious injuries within the rural planning area through coordination with SCDOT and incorporation of safety considerations on all projects;
- Integrate safety goals, objectives, performance measures, and targets into the planning process; and
- Include the anticipated effect toward achieving the targets noted above within the TIP, effectively linking investment priorities to safety target achievement.

10.5 Performance Measure 2 (PM2) – Pavement and Bridge Condition

10.5.1 Bridge Condition

The initial National Bridge Inspection Standards (NBIS) were established as part of the Federal Aid Highway Act of 1970 that were limited to bridges on the Federal-aid highway system. Currently, the NBIS regulations apply to all publicly owned highway bridges longer than twenty feet located on public roads. NBIS are federal regulations (23 CFR 650) establishing requirements for bridge inspection procedures, frequency of inspections, qualifications of personnel, inspection reports, and maintenance of bridge inventory. Information from these inspections is stored in the National Bridge Inventory (NBI) database, created in 1972. The NBI is the aggregation of structure inventory and appraisal data collected by each state to fulfill the requirements of NBIS. The NBI database contains condition information on five aggregate structural units (deck, superstructure, substructure, channel, and culvert) by assigning a condition rating to each of these components of a bridge on a scale from 9 (perfect) to 1 (severe deterioration/failure).

SCDOT's bridge inspection program started in the 1970's. The SCDOT Bridge Maintenance Office manages the bridge inspection program. As required by NBIS, SCDOT performs inspection on non-load restricted bridges biennially and annually on load restricted bridges. SCDOT's bridge inspection data are stored in the Roadway Information Management System (RIMS) and in the SCDOT Bridge Management System (BrM).

10.5.1.1 Bridge Needs

In the Upper Savannah Region, there are a total of 55 bridges in Poor Condition according to the NBI. USCOG has elected to accept and support the State of South Carolina's NHS Bridge condition target recommendations.

10.5.1.2 Bridge Targets

SCDOT is faced with significant challenges in addressing the highway bridge preservation and replacement needs. Approximately 40% percent of NHS bridges by count are approaching or have exceeded their theoretical design life and may need various levels of repairs, rehabilitation, or replacement. With limited resources and increasing travel demands, these circumstances require SCDOT to become more strategic by adopting and implementing performance and risk-based approaches to address the bridge program needs.

To set targets for future bridge conditions, it is important to understand bridge deterioration. Deterioration is a long-term process of decline in bridge conditions due to environmental factors, degradation of material, and vehicular loading. Different structural types of bridges, such as concrete slab, steel, and prestressed concrete, may have similar response and loading mechanisms; however, no two bridges are the same in all respects, especially in their deterioration and aging characteristics.

Most bridge deterioration models are based on statistical regression and/or stochastic modeling. A Markovian process, which has been adopted in many bridge management systems, is a stochastic process that takes the uncertainties involved in the bridge deterioration process into consideration. SCDOT ultimately decided to develop individual probability matrices based on ten-year deck, superstructure, substructure, and culvert ratings for each structure type. Whole bridge ratings were calculated based on the lowest element rating. The table below shows the NHS Bridge condition target recommendations.

The chosen targets are based on the projected conditions using Markovian process for the respective structure type and assumptions that planned construction projects will be finished and inspected within the first performance period as outlined in the methodology above. The 4-year percent poor target for NHS bridges meets the FHWA's 10.0% maximum threshold requirement.

For the 2019 performance period, USCOG has elected to accept and support the State of South Carolina's NHS Bridge condition target recommendations.

10.5.2 Pavement Condition

Since its inception in 1978, FHWA's Highway Performance Monitoring System (HPMS) has evolved into a robust national repository of data on the extent, condition, performance, use, and operating characteristics of the nation's highways. States report a variety of pavement condition statistics to HPMS each year for roads on the NHS, including, but not limited to, International Roughness Index (IRI) information, cracking, rutting and faulting data. Prior to MAP-21, each State decided its own index on pavement quality measurement.

SCDOT started collecting pavement condition data in 2000. In the early 2000s, SCDOT began measuring its pavement condition using PQI, which is a unique pavement index developed for SCDOT.

SCDOT chooses pavement preservation candidates based on the PQI of the roadway section. Once PQI is calculated, a candidate list of potential pavement preservation projects is developed. The type of treatment selected depends on several factors, including traffic condition, cost and location. A set of trigger values used for selecting pavement preservation projects for each route system in South Carolina are as follows:

- US and SC Routes: PQI greater than or equal to 3.2 but less than 4.0
- Federal-aid Secondary Routes: PQI greater than or equal to 3.2 but less than 4.0
- Secondary Routes: PQI greater than or equal to 3.0

10.5.2.1 Pavement Needs

10.5.2.2 Pavement Targets

Due to environmental conditions and traffic loading, pavements deteriorate with age. Well designed, constructed, and maintained roadways are a vital component of any transportation system. One of the main goals of performance-based planning is to apply the right preservation/rehabilitation method to the right pavement at the right time. Proper preventive maintenance treatments are a cost-effective means of obtaining the maximum life and performance from the pavement. Treatments applied too soon add little benefit and treatments applied too late are ineffective, failing to prolong the life of the pavement. The potential savings from following a cost-effective approach to meeting performance objectives for pavements could be significant. The table below shows the Interstate and Non-Interstate NHS pavement condition target recommendations:

The chosen targets are the median projected conditions using average deterioration rates for the respective systems and planned completed construction projects that will be finished in time to be rated by the Department’s pavement condition collection contractor. The 4-year percent poor target for interstate pavements meets the FHWA 5.0% minimum threshold requirement.

For the 2020 performance period, USCOG has elected to accept and support the State of South Carolina’s Interstate and non-Interstate NHS Pavement Condition target recommendations.

10.6 Performance Measure 3 (PM3) – System Performance and Freight

10.6.1 System Reliability

Transportation system users desire travel time reliability – consistent and predictable travel times. Travel time reliability is a reflection of the variability of travel time. Travelers and shippers like to know what to expect and travel time reliability gives them greater certainty when using the transportation system. Unreliable travel is caused by non-recurring events, such as weather conditions, work zones, special events, and traffic incidents, as well as fluctuations in traffic volumes.

10.6.1.1 System Reliability Needs

Given the rural nature of the USCOG study area, it is not surprising that both Interstate and Non-Interstate NHS reliability is high. There is very little congestion along the rural sections of Interstate 26, and most NHS roadways are serving small population centers. The table below shows the travel time reliability percentages for each facility:

10.6.1.2 System Reliability Targets

Planning practitioners are increasingly using vehicle probe data to obtain information on travel time reliability. FHWA has acquired a national data set of average travel times for use in performance measurement. This data set is being made available to States and metropolitan planning organizations (MPOs) as a tool for performance measurement. The National Performance Management Research Data Set (NPMRDS) is a vehicle probe-based travel time data set and consists of average travel times reported every 5 minutes on the National Highway System (NHS) as defined in MAP-21 and the FAST Act and on the five-mile radius of arterials at border crossings. The table below shows the Travel Time Reliability target recommendations:

All Travel Time based measures will be computed using the “Travel Time Metric Dataset” in HPMS for the reporting segments. Beginning in 2018, the State DOTs are required to submit travel time-related metric data and the data necessary for measure computation for reporting segments on NHS into HPMS (i.e., “Travel Time Metric Dataset” in HPMS) by June 15th of each year, 56 and the travel time based metrics are:

- Level of Travel Time Reliability (LOTTR) metrics, corresponding 80th and 50th percentile travel times, directional Average Annual Daily Traffic (DIR_AADT), and vehicle occupancy factor for each of the reporting segments on NHS, as required in 23 CFR 490.511(e).

10.6.2 Freight Movement and Economic Vitality

Understanding performance of the freight transportation system and the challenges that come with increasing demand for freight transportation is important to improving mobility and productivity and establishing goods movement goals in the transportation plan.

10.6.2.1 Freight Reliability Needs

As was the case with System Reliability, Freight Reliability in the rural study area is not a significant issue. According to 2017 data from SCDOT, the truck travel time reliability (TTTR) index for the USCOG study area is 0.00. The TTTR is the ratio of longer travel times (85th percentile) to a “normal” travel time (50 percentile). If the index equals 1, the corridor is 100% reliable because the longer travel times equal the normal travel times.

10.6.2.2 Freight Reliability Targets

The Travel Time Reliability (TTR) measure assesses the reliability of roadways on the Interstate and Non-Interstate (NHS) systems. TTR is defined by the FHWA as the percent of person-miles on the (Interstate/NHS) that are reliable. Concerning freight, reliability is the ratio of the Interstate System Mileage providing for reliable Truck Travel Time Reliability (TTTR). Data are derived from the travel time data set found in the National Performance Management Research Data Set (NPMRDS). The metrics to be used are Level of Travel Time Reliability (LOTTR) and the TTTR Index. The table below shows the Truck Travel Time Reliability target recommendations:

All Travel Time based measures will be computed using the “Travel Time Metric Dataset” in HPMS for the reporting segments. Beginning in 2018, the State DOTs are required to submit travel time-related

metric data and the data necessary for measure computation for reporting segments on NHS into HPMS (i.e., “Travel Time Metric Dataset” in HPMS) by June 15th of each year, 56 and the travel time based metrics are:

- Truck Travel Time Reliability (TTTR) metrics, corresponding 95th and 50th percentile truck travel times for each of the reporting segments on Interstate System, as required in 23 CFR 490.611(b).

10.7 Performance Measure 4 (PM4) – Public Transit Performance Measures

Recipients of public transit funds—which can include states, local authorities, and public transportation operators—are required to establish performance targets for safety and state of good repair; to develop transit asset management and transit safety plans; and to report on their progress toward achieving targets. Public transportation operators are directed to share information with COGs and states so that all plans and performance reports are coordinated. Information below identifies performance measures outlined in the National Public Safety Transportation Plan, released by the Federal Transit Administration (FTA), and in the final rule for transit asset management. USCOG will coordinate with public transit providers to set targets for these measures.

National Goal Areas and Performance Measures for Transit

Safety

Fatalities

Total number of reportable fatalities and rate per total vehicle revenue miles by mode

Injuries

Total number of reportable injuries and rate per total vehicle revenue miles by mode

Safety Events

Total number of reportable events and rate per total vehicle revenue miles by mode

System Reliability

Mean distance between major mechanical failures by mode

Infrastructure Condition (State of Good Repair: Transit Asset Management)

Equipment

Percent of vehicles that have met or exceeded their Useful Life Benchmark (ULB)

Rolling Stock

Percent of revenue vehicles within a particular asset class that have met or exceeded their ULB

Facilities

Percent of facilities within an asset class rated below 3.0 on the FTA Transit Economic Requirement Model scale

Priority Projects

Important intersections that will be completed in order and added to the Transportation Improvement Plan (TIP) and State Transportation Improvement Plan (STIP) in a fiscally constrained manner based on the amount of Guideshare funds allocated by SCDOT to be spent in the region per year.

Project Ranking	Major Route	Major Route Name	Minor Route	Minor Route Name	County
1	US 25	Edgefield Road	S-494	Trailside Dr and Short Cut Rd	Edgefield
2	US 221	Hwy 72/221 E	S-99	Kateway	Greenwood
3	SC 14	Hwy 14	SC 101	Hwy 101	Laurens
4	US 25	Bypass 25 SE	S-101	Sweetwater Rd	Greenwood
5	US 25	Augusta Rd	S-10	Bauskett St	Edgefield
6	SC 121	Lee St	S-41	Edisto St	Edgefield
7	SC 72 BUS	W Cambridge Ave	S-108	Mathis Rd	Greenwood
8	SC 121	Johnston Hwy	S-21	Fruit Hill Rd	Saluda
9	US 221	Hwy 221 South	S-49	Lisbon Rd	Laurens
10	SC 49	Hwy 49	SC 308	Hwy 308	Laurens
11	SC 121	Johnston Hwy	S-37	Rocky Creek Rd	Saluda
12	S-178	Murrah Rd	S-339	Springhaven Dr	Edgefield
13	US 76	Hwy 76 W	S-312	Wilsontown Rd	Laurens
14	SC 14	Hwy 14	Owings Parkway	Owings Parkway (County)	Laurens
15	SC 20	Hwy 20	SC 201	Hwy 201	Abbeville
16	SC 28	Hwy 28 N	SC 10	Hwy 10	McCormick
17	SC 418	Gulliver St	S-67	Durbin Rd	Laurens
18	US 221	Hwy 221 South of Bradley	SC 10	McCormick Hwy	Greenwood
19	SC 20	Hwy 20 South of Due West	SC 185	Hwy 185	Abbeville
20	S-136	Ivory Key Rd	Saluda MS Drive	Middle School Drive	Saluda
21	SC 252	Hwy 252	SC 184	Hwy 184	Abbeville
22	SC 20	Hwy 20 North of Due West	SC 185	Hwy 185	Abbeville
23	SC 28	Hwy 28 N	S-25 & S-37	Richey Rd & Foster Rd	McCormick

Red = Not state maintained roads, on MPO Boundary

Potential Projects

Widening projects that are ranked according to SCDOT standards but with no Guidesshare funding attached.

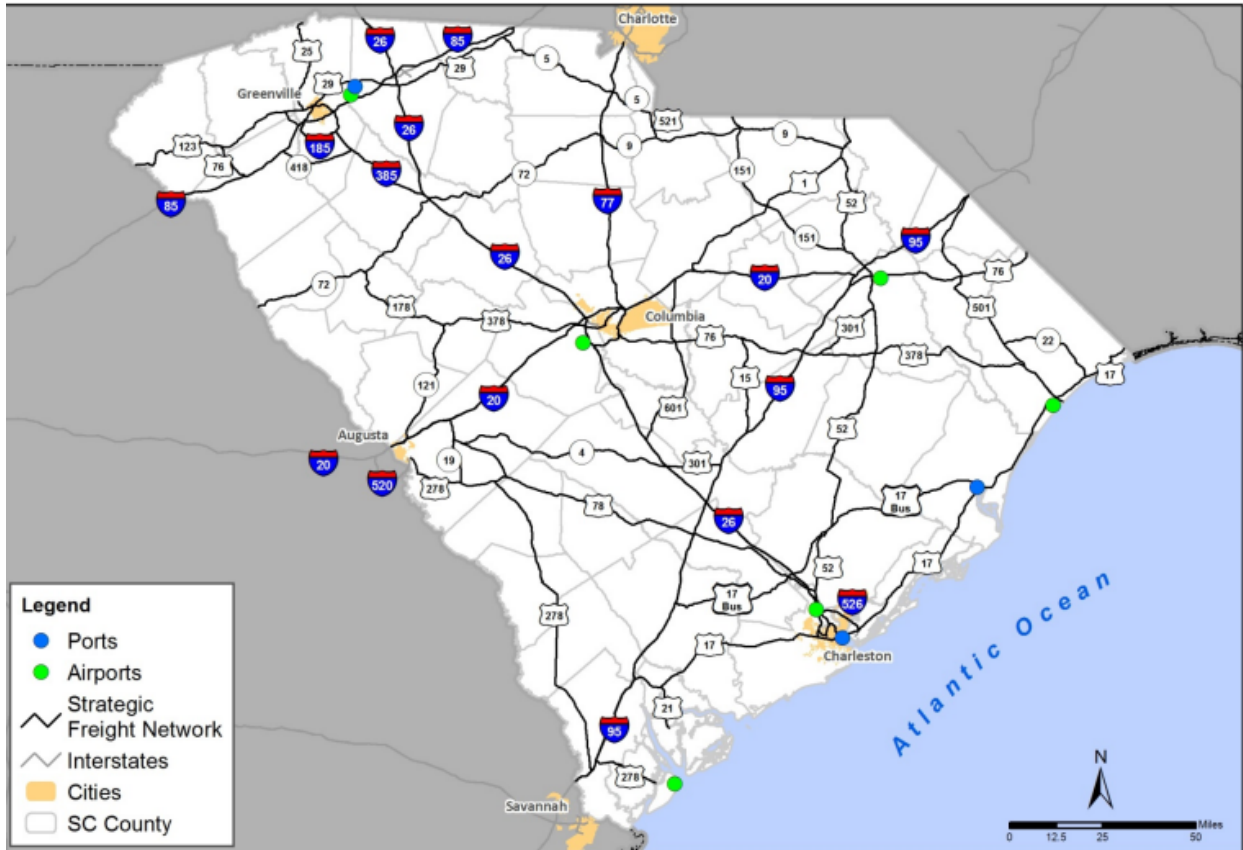
<u>Rank</u>	<u>County</u>	<u>Road</u>	<u>From</u>	<u>To</u>	<u>Improvement</u>	<u>2020 Cost Estimate</u>
1	Greenwood	SC 246	SC 72/US 221	S-100 Emerald Rd	2-lane to 5-lane	\$ 58,191,617.00
2	Greenwood	US 25 Bypass	US 178 BUS	S-29 E Cambridge Ave	2-lane to 5-lane	\$ 72,836,000.00
3	Edgefield	SC 121	S-104 McQueen St	SC 191 (turn lanes)	2-lane to 3-lane	\$ 16,485,031.00
4	Laurens	SC 14	S-183 Spring St	S-24 Lynn Ave	2-lane to 5-lane	\$ 31,762,501.00
5	Laurens	SC 56	Springdale Dr	S-98 Barrel Stave Rd	2-lane to 3-lane	\$ 37,715,786.00
6	Greenwood	Emerald Road Phase II	S-100 Evans Pond Rd	SC 246	2-lane to 5-lane	\$ 79,506,040.00
7	Saluda	US 178	SC 121	SC 39 Ridge Spring Rd (turn lane)	2-lane to 3-lane	\$ 38,386,812.00
8	Saluda	SC 121	S-140 Wheeler Cir	S-51 Butler Rd (turn lane at med facility)	2-lane to 3-lane	\$ 30,515,087.00
9	Abbeville	SC 28 Bypass	SC 72	S-32 Old Calhoun Falls Rd	2-lane to 3-lane	\$ 24,268,448.00
10	Laurens	SC 101	I-385	SC 14	2-lane to 3-lane	\$ 37,694,931.00
11	McCormick	SC 28	S-401 Cedar Rd	State Park Rd (Hamilton Branch St Park)	2-lane to 3-lane	\$ 18,636,444.00
12	Edgefield	S-37 Bettis Academy Rd	US 25	Aiken County line	2-lane to 5-lane	\$ 31,951,975.00

These widening projects are ranked, but unfunded and not included in the TIP.

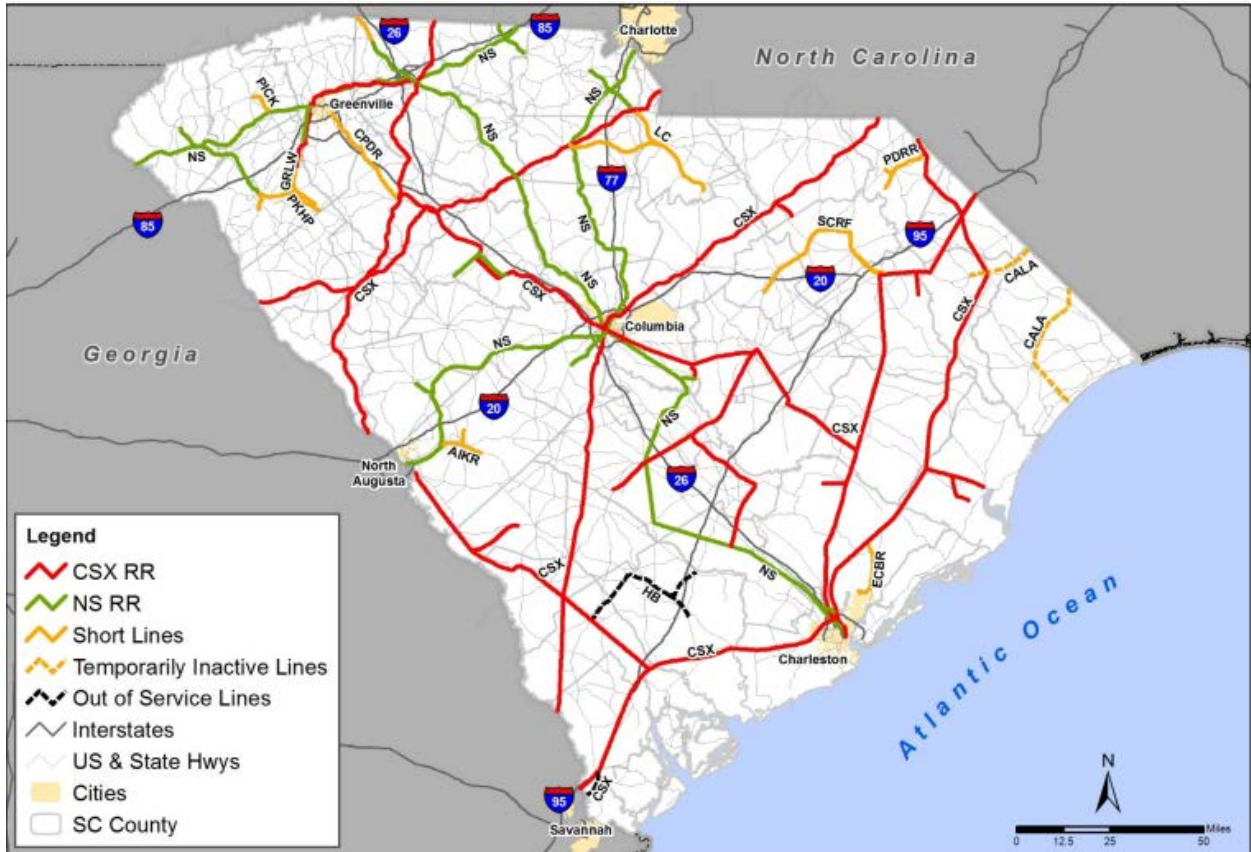
At the present time, the region is allocated \$6,263,000 in Guideshare funding from SCDOT per year.

Maps

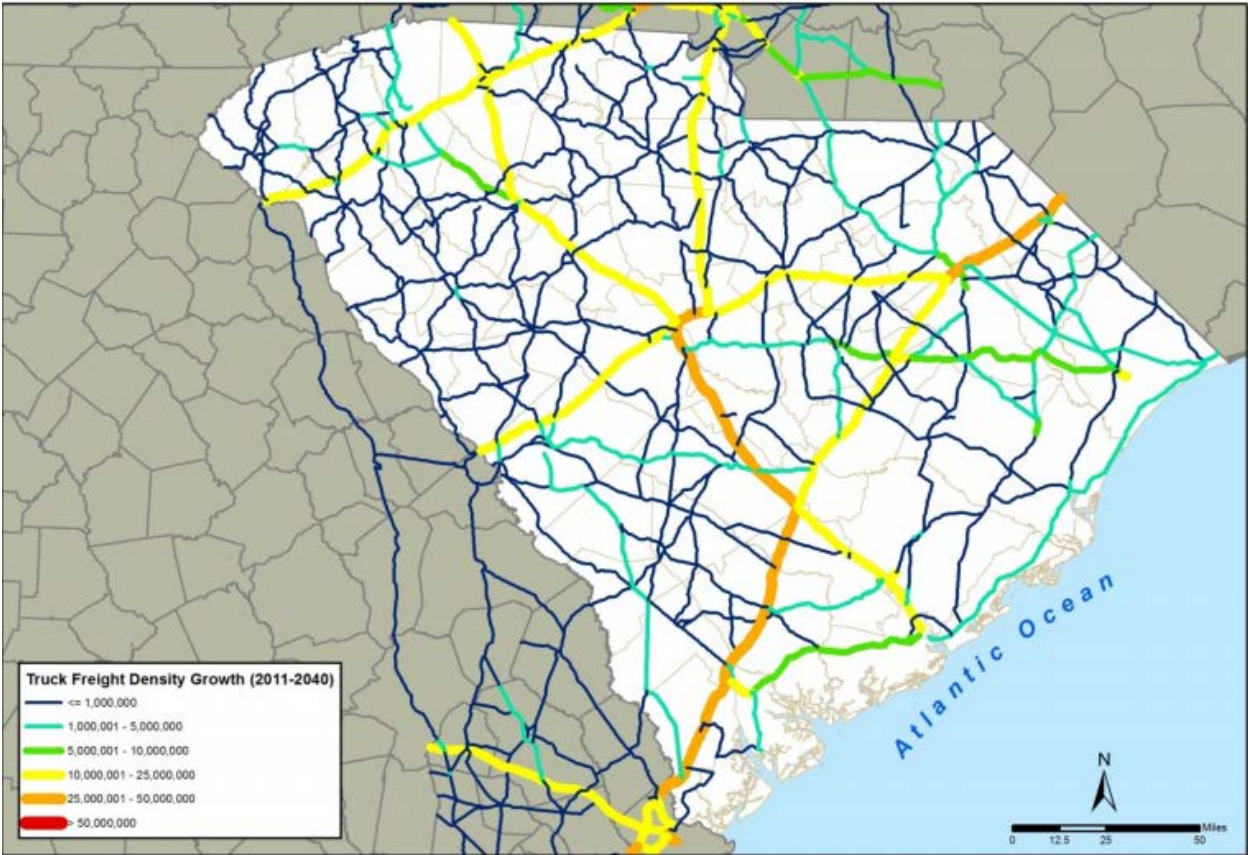
Statewide Freight Roadway Network



Statewide Railroad Infrastructure

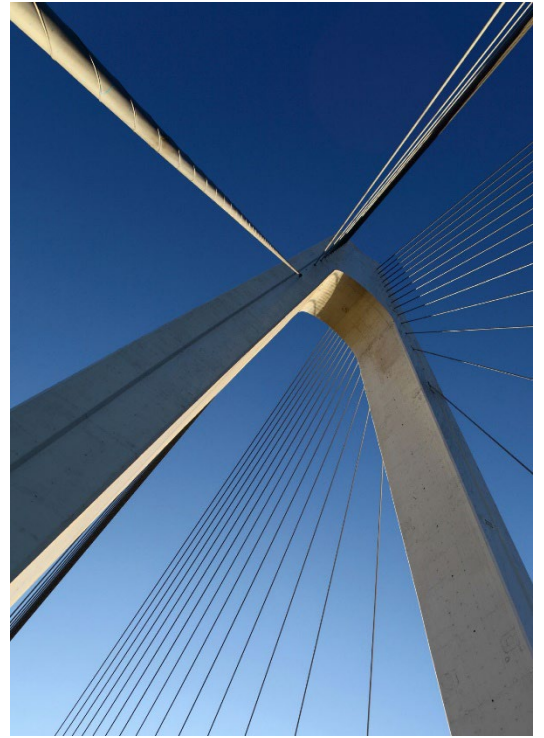


State Truck Freight Density Growth from 2010 - 2040



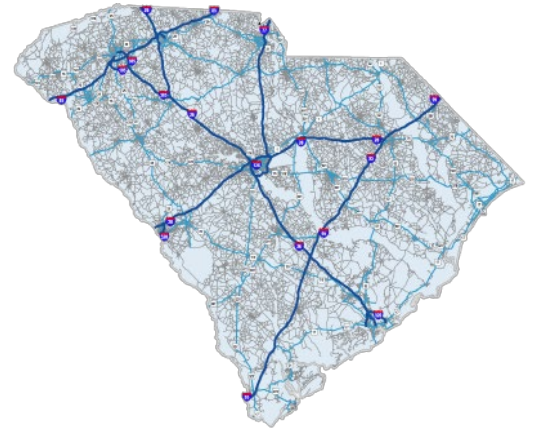
Source: prepared by CDM Smith, based on TRANSEARCH data for 2011 and 2040

Amendments



2024 STAMP System Performance Report

Date: November 2024
23 CFR 450.324 (f)(3-4)



Produced by:
South Carolina Department of
Transportation



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EXECUTIVE SUMMARY

Transportation Performance Management (TPM) requires agencies to use a coordinated, data-driven approach to make transportation investment decisions that support national goals established in federal surface transportation authorizations for the Nation’s federal-aid highway and public transportation programs.

The Office of Planning, South Carolina Department of Transportation (SCDOT), South Carolina Department of Public Safety (SCDPS), 11 Metropolitan Planning Organizations (MPOs) and 10 Council of Government (COGs) have worked together to incorporate the Federal TPM requirements into planning and programming activities. SCDOT adopts and reports on targets for the Federal Highway Administration (FHWA) required performance measures. This report summarizes the progress of the mid-point (end of year 2023) of the second performance period of 2022-2025.

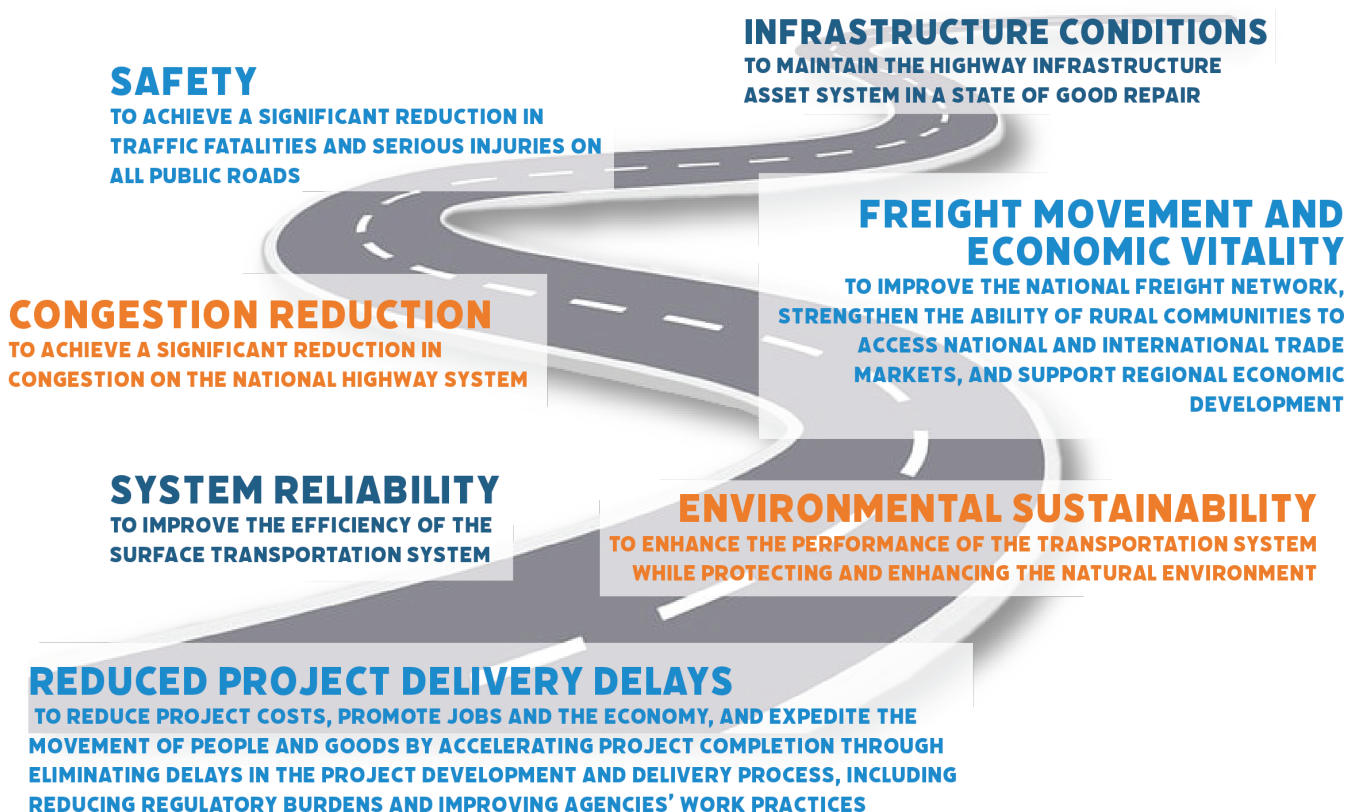
TPM Category	Performance Area	Performance Metric	Where the Metric Measured
PM1	Safety	Fatalities and Serious Injuries for motorized vehicles, bicyclist and pedestrians	Public roads
PM2	Infrastructure	Condition of pavement and bridges	National Highway System (NHS)
PM3	System Performance	Reliability of passenger travel	Interstate and Non-Interstate NHS System
PM3	System Performance	Reliability of truck travel	Interstate System
PM3	System Performance	Congestion and emissions	NHS in air quality non-attainment and maintenance areas

South Carolina set targets for the second performance period (2022-2025) based on planning investments and forecasted performance through the use of data driven metrics. A snapshot of progress towards those targets is shown in the table below. This document also includes the first performance period (2018-2021) for historical comparison in the sections that follow, along with safety measures, and regional measures for MPOs and COGs.

Performance Measure	Baseline (2021)	2023 Target	2023 Actual	Progress from 2023 Target	2025 Target
Interstate Pavement in Good Condition	75.8%	77.0%	70.7%		78.0%
Interstate Pavement in Poor Condition	0.2%	2.5%	0.6%		2.5%
Non-Interstate NHS Pavement in Good Condition	38.8%	36.0%	38.6%		38.0%
Non-Interstate NHS Pavement in Poor Condition	1.6%	10.0%	1.9%		10.0%
NHS Bridge Deck Area in Good Condition	38.5%	35.0%	33.6%		34.0%
NHS Bridge Deck Area in Poor Condition	4.3%	6.0%	4.4%		6.0%
Interstate Travel Time Reliability	95.9%	89.1%	94.4%		89.1%
Non-Interstate NHS Travel Time Reliability	95.0%	85.0%	93.1%		85.0%
Interstate Truck Travel Time Reliability	1.31	1.45	1.37		1.45

PURPOSE OF REPORT

The United States Congress' Moving Ahead for Progress in the 21st Century (MAP-21), enacted in 2012, and the subsequent Fixing America's Surface Transportation Act (FAST Act), enacted in 2015, required state Department of Transportations (DOTs) to establish and use a performance based approach in planning and programming to provide in the transportation process and funding transportation investments. The performance based approach must be used to support the seven national goals established in MAP-21. The national goals are as follows:



The new federal surface transportation authorization, Bipartisan Infrastructure Law (BIL), was signed in November 2021, and provides funding through 2027. Performance management provisions associated with the new BIL, continue the previous transportation acts. To implement the performance management provisions, United States Department of Transportation (USDOT) established performance measures that transportation agencies are required to use across three broad areas of responsibility below:

SAFETY (PM1)
FATALITIES AND SERIOUS INJURY

INFRASTRUCTURE CONDITION (PM2)
NATIONAL HIGHWAY SYSTEM
BRIDGES AND PAVEMENTS

SYSTEM PERFORMANCE (PM3)
TRAFFIC CONGESTION, ON-ROAD MOBILE SOURCE EMISSIONS, AND FREIGHT MOVEMENT

In conjunction with the PM2 rule, FHWA also finalized a Transportation Asset Management Plan (TAMP) rule that requires states to develop and implement an asset management plan for National Highway System (NHS) roads and bridges within a state to improve and maintain those facilities. While the TAMP is not a performance measure rule, it does require states develop investment strategies that will lead to a program of projects that would make progress toward achieving desired performance levels for pavement and bridge condition. A link to SCDOT's Strategic 10-Year Asset Management Plan (STAMP) is below:

<https://www.scdot.org/content/dam/scdot-legacy/performance/pdf/reports/STAMP.pdf>

The focus of this *System Performance Report* is to highlight South Carolina’s reporting and target setting approach, and performance within the current performance period of 2022-2025 for the measures listed below in Figure 1.

Figure 1. FHWA Required Performance Measures

Safety Measures	Bridge/Pavement Measures	System Performance Measures
<ul style="list-style-type: none"> •Number of Fatalities •Fatality rate (per 100 million VMT) •Number of Serious Injuries •Serious injury rate (per 100 million VMT) •Number of non-motorized fatalities and serious injuries 	<ul style="list-style-type: none"> •% of pavements on the Interstate system in good condition •% of pavements on the Interstate system in poor condition •% of pavements on the non-Interstate NHS in good condition •% of pavements on the non-Interstate NHS in poor condition •NHS bridges in good condition by % of deck area •NHS bridges in poor condition by % of deck area 	<ul style="list-style-type: none"> •% of person miles traveled on the Interstate system that are reliable •% of person miles traveled on the Non-Interstate NHS system that are reliable •Truck travel time reliability index on the Interstate system •Annual hours of peak-hour excessive delay per capital (RFATS) •Percent of non-single occupant vehicle travel (RFATS) •Total emissions reduction (CMAQ projects)

This *System Performance Report* presents the baseline, performance/condition measures, targets and the progress made towards achieving those targets within the current performance period (January 1, 2022 – December 31, 2025) and also inclusive of the historical measures from the previous performance period (January 1, 2018 - December 31, 2021). The specific code locations for these federal rules are available here:

- Bridge and Pavement Performance Measures detailing definitions, methodology, and target setting approach for six bridge and pavement measures (23 CFR 490.300 and 490.400)
- System Performance Measures detailing definitions, methodology, and target setting approach for reliability, freight, congestion, and emission measures (23 CFR 490.500, 490.600, 490.700, 490.800)
- Asset Management Plans detailing the requirements for states to develop and implement risk-based TAMPs for the NHS to improve or preserve asset condition (23 CFR Part 515)
- Statewide and Metropolitan Transportation Planning detailing the process states and MPOs must follow when developing transportation plans and programs, including performance management requirements (23 CFR Part 450)

For each performance period, states establish two-year and four-year targets for PM2 and PM3 measures (while MPOs, if they elect to set their own targets, are required to only establish 4-year targets). PM1 targets are set on an annual basis with coordination from South Carolina Department of Public Safety (SCDPS) and reported in federal Highway Safety Implementation Plan (HSIP) reports. PM1 measures are included in this report for all-inclusiveness.

States are required to regularly monitor performance for each measure and report that information to FHWA biennially through three reports including: Baseline Report, Mid-Performance Report and Full Performance Report. FHWA makes a significant progress determination every two-years for the PM2 and PM3 measures to assess whether a state has achieved or made significant progress towards those targets if the performance is better than baseline or the performance is equal to or better than the target.

SCDOT PERFORMANCE

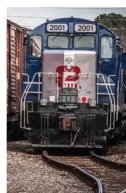
The commitment of SCDOT to the Governor, General Assembly, and citizens of South Carolina is to maintain the State Highway System in the highest state of good repair possible given the funding available. The Agency is responsible for planning, constructing, maintaining and operating the highway system in South Carolina, as well as the development of a statewide intermodal and freight program. To aid in our commitment, SCDOT uses asset and performance management principles that tie defined asset condition outcomes to specific levels of investment. In practical terms, this ensures that our pavement and bridge assets have the longest service life possible for the least practicable cost. This is extremely important in the state of South Carolina, in the most recent publishing of the 2023 Annual Report¹ we have:

- The 4th largest state highway maintained system in the United States
- Over 528 million tons of freight moving across SC annually,
- The 1st fastest growing population in the Nation,
- The deepest harbor (Charleston) on the Southeast coast,
- Over \$29 billion generated from tourism, and
- A population of approximately 5.2 million people.

It is obvious that the highway system is vital to the increasing growth of South Carolina’s economy. South Carolina’s highway system interconnects ports with major cities and commercial hubs while promoting the efficient transfer of both goods and people within and across the state. South Carolina continues to attract new residents, tourists, and businesses. This growth has influenced SCDOT’s ability to maintain and operate the transportation network. The agency has adopted transportation asset and performance management as a best management practice and fully embraced the concept for all of its programs. The agency has also aligned its major Multimodal Transportation Plan (MTP) goals in the Momentum 2050 Plan with the seven National Goals discussed in the above section.



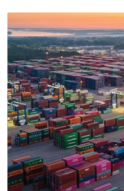
Continuing System Recovery



Support Freight Movement



Address Urban & Rural Mobility



Deepend Multimodal Partnerships

Performance measures are indicators of progress toward attaining a goal, objective or target (a desired level of future performance). This *System Performance Report* provides a snapshot of select measures that are used to inform decisions and provide feedback on the performance of SCDOT, our partners and South Carolina’s transportation system. The sections that follow, detail performance measures, performance levels, and statewide targets for SCDOT.

¹ <https://www.scdot.org/content/dam/scdot-legacy/performance/pdf/reports/2023%20SCDOT%20Annual%20Report%20-%20publishing.pdf>

PM1 STATEWIDE SAFETY

Transportation Safety is among the Department’s highest commitments to residents, business and visitors. Safety improvements save lives, enhance quality of life and support the state’s economic competitiveness. Safety spans all transportation modes and is effected by many factors such as driver behaviors, infrastructure condition, weather, technology, enforcement and education.

Effective April 14, 2016, FHWA established highway safety performance measures in conjunction with the Highway Safety Improvement Program (HSIP). Safety performance targets were developed in coordination with the South Carolina Department of Public Safety (SCDPS) and reported annually to FHWA in the state’s Highway Safety Improvement Program (HSIP) Annual Report and to the National Highway Traffic Safety Administration (NHTSA) in the state’s Highway Safety Plan (HSP) developed by SCDPS.

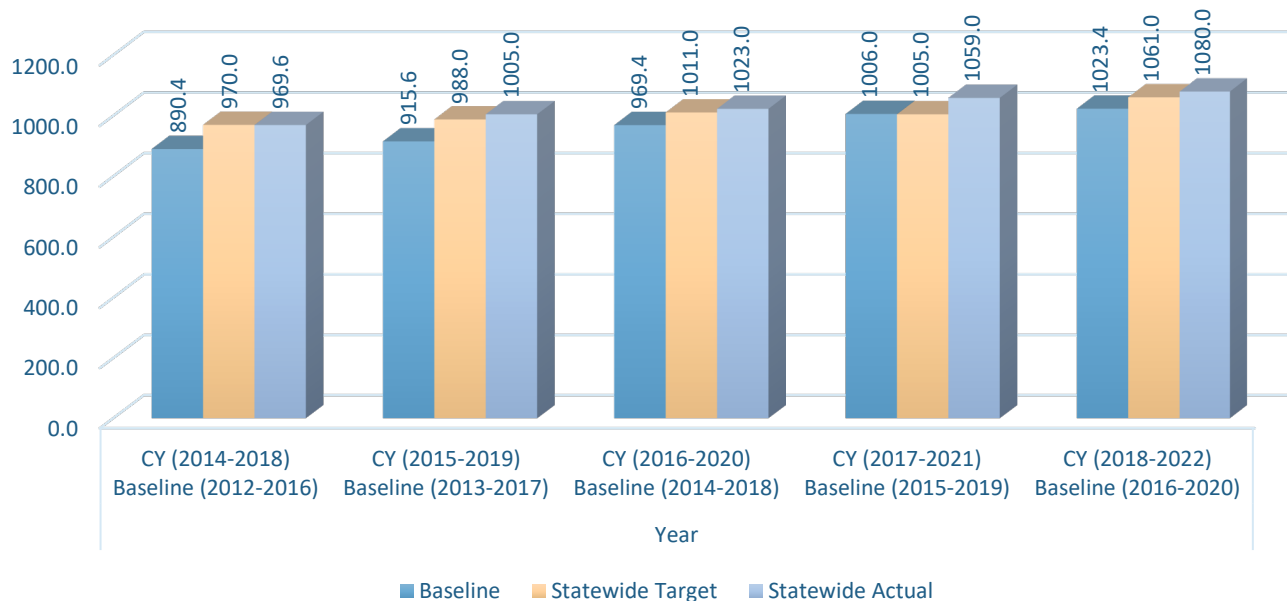
The performance measures are:

- Number of fatalities
- Rate of fatalities per 100 million vehicle miles traveled
- Number of Serious Injuries
- Rate of Serious Injuries per 100 million vehicle miles traveled
- Number of combined non-motorized fatalities and non-motorized serious injuries



The most recently assessed safety targets were for the five-year rolling average from Calendar Year (CY) 2018-2022. South Carolina’s statewide safety performance targets for this time period are shown in Figure 2 through Figure 6 that follow, including actual performance, baseline and historical look back. The numbers and rates of fatalities and non-motorized fatalities on a 5-year rolling average have continued to climb while numbers and rates of serious injuries have declined. SCDOT’s long term vision is zero deaths on South Carolina roadways. To advance this vision, safety is addressed through the Strategic South Carolina Highway Safety Plan (SHSP)², South Carolina Department of Public Safety Triennial Highway Safety Plan (HSP)³, (HSIP)⁴ and the SCDOT Pedestrian and Bicycle Safety Action Plan (PBSAP)⁵.

Figure 2. Number of Statewide Fatalities



² https://www.scdot.org/content/dam/scdot-legacy/performance/pdf/reports/BR1_SC_SHSP_Dec20_rotated.pdf

³ https://www.nhtsa.gov/sites/nhtsa.gov/files/2024-01/SC_FY24-26_HSP-tag.pdf

⁴ <https://highways.dot.gov/sites/fhwa.dot.gov/files/2024-04/HSIP%28South%20Carolina%29%202023%20Report.pdf>

⁵ <https://www.scdot.org/content/dam/scdot-legacy/projects/pdf/SC%20Pedestrian%20and%20Bicycle%20Safety%20Action%20Plan.pdf>

Figure 3. Rate of Fatalities Statewide (per 100 million VMT)

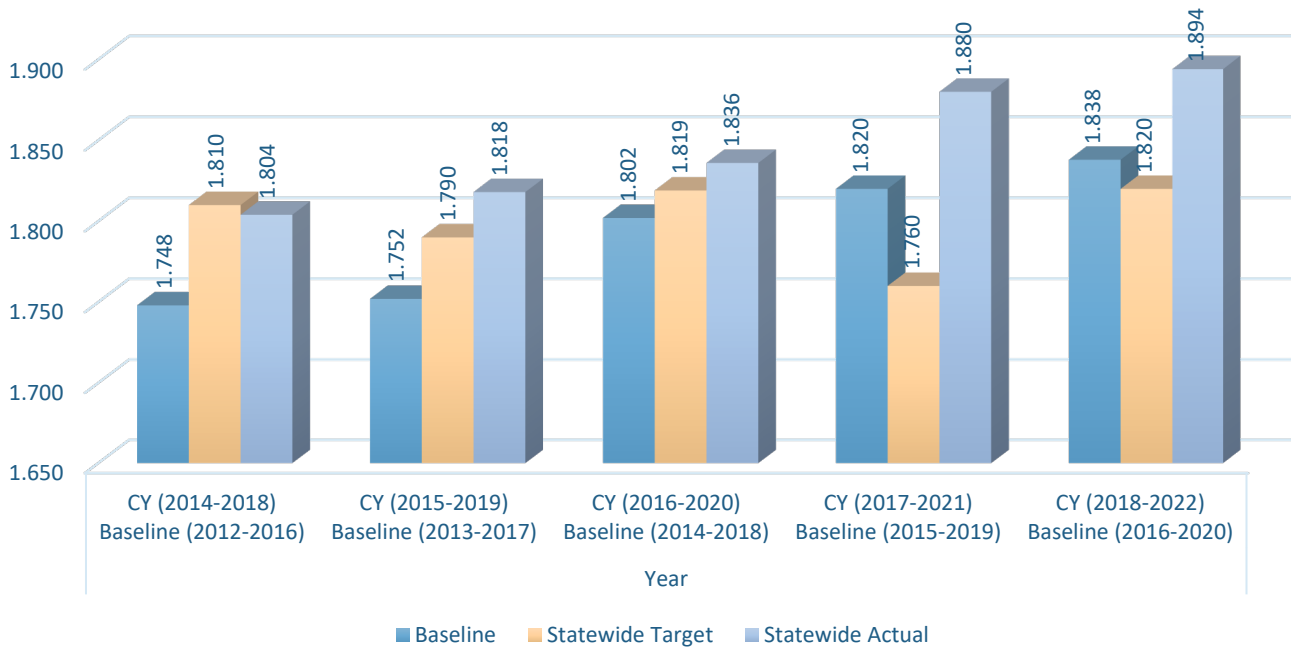


Figure 4. Number of Serious Injuries Statewide

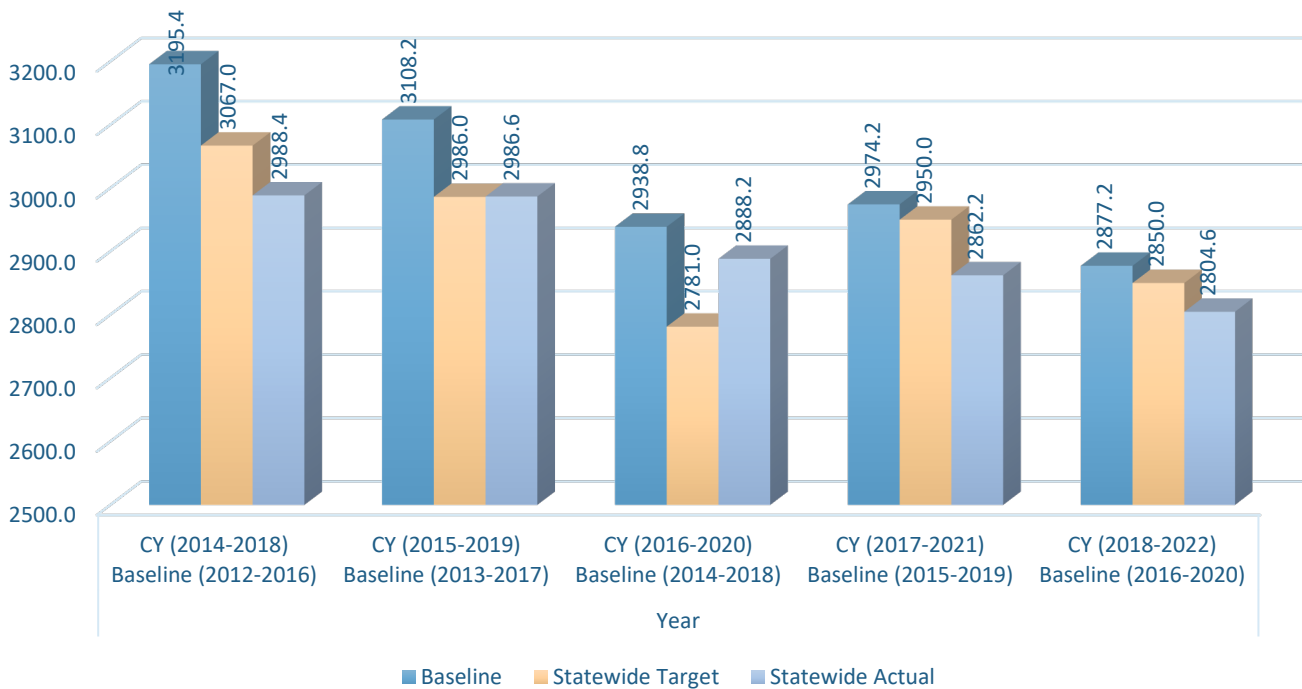


Figure 5. Rate of Serious Injuries Statewide (per 100 million VMT)

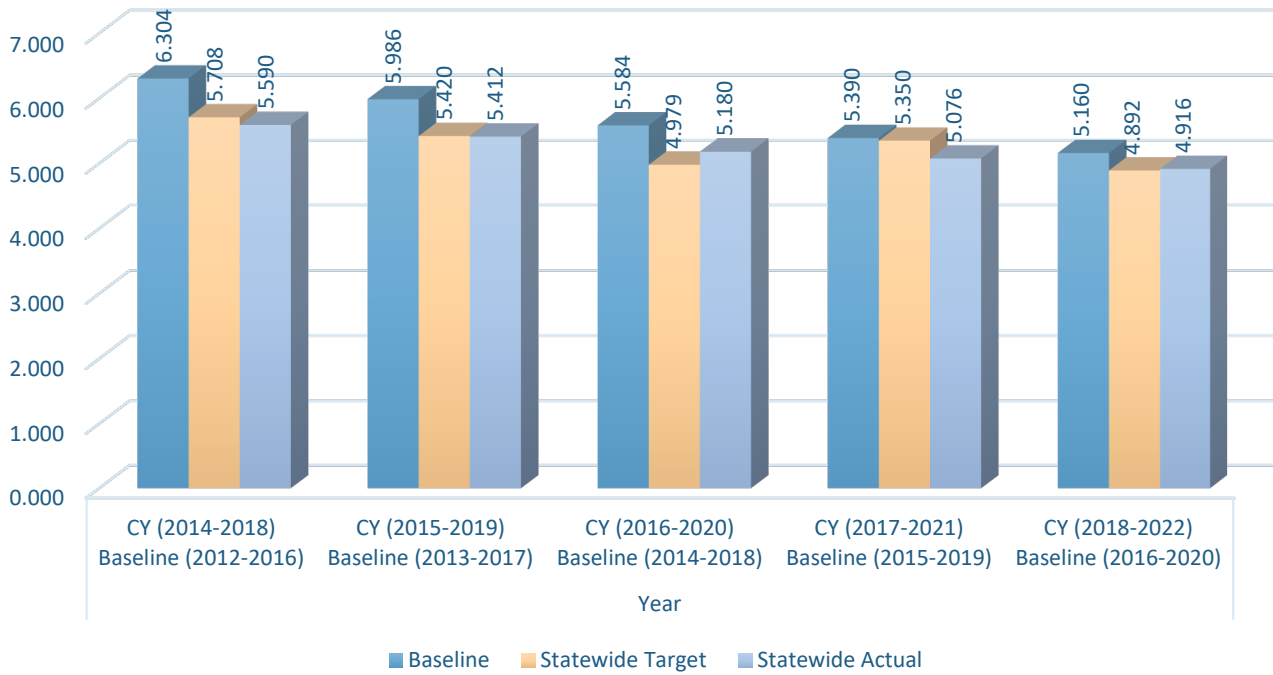
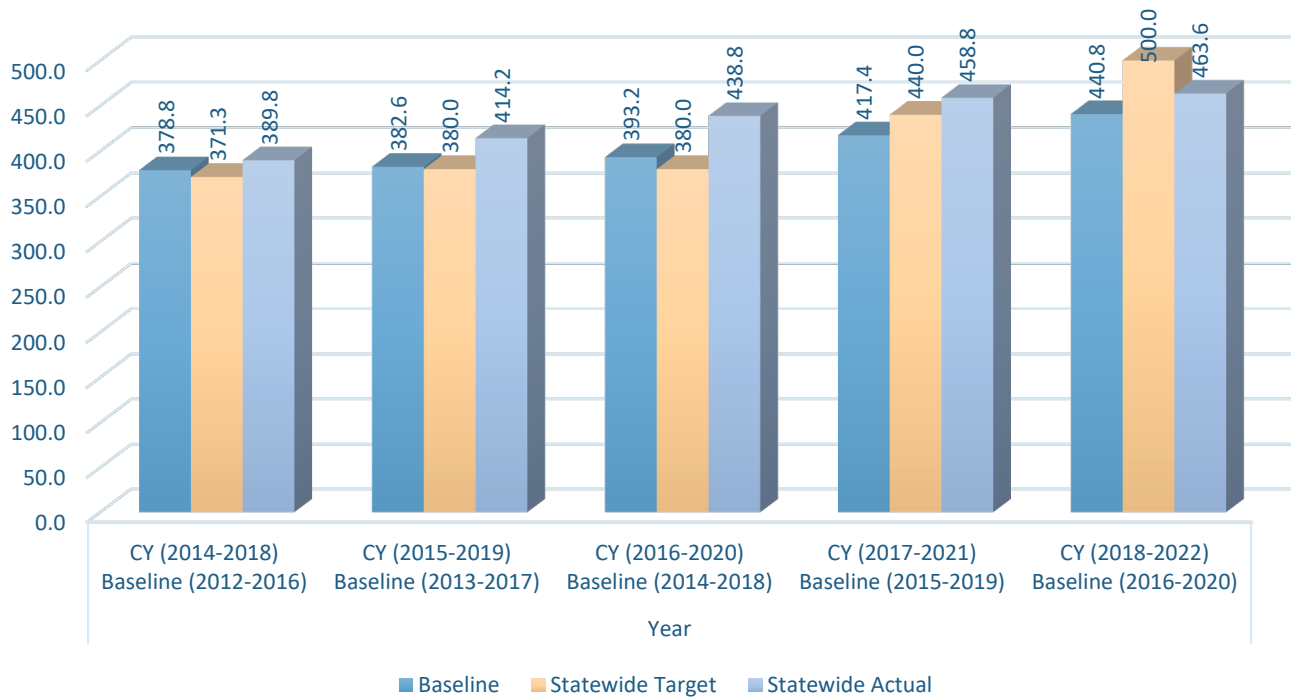
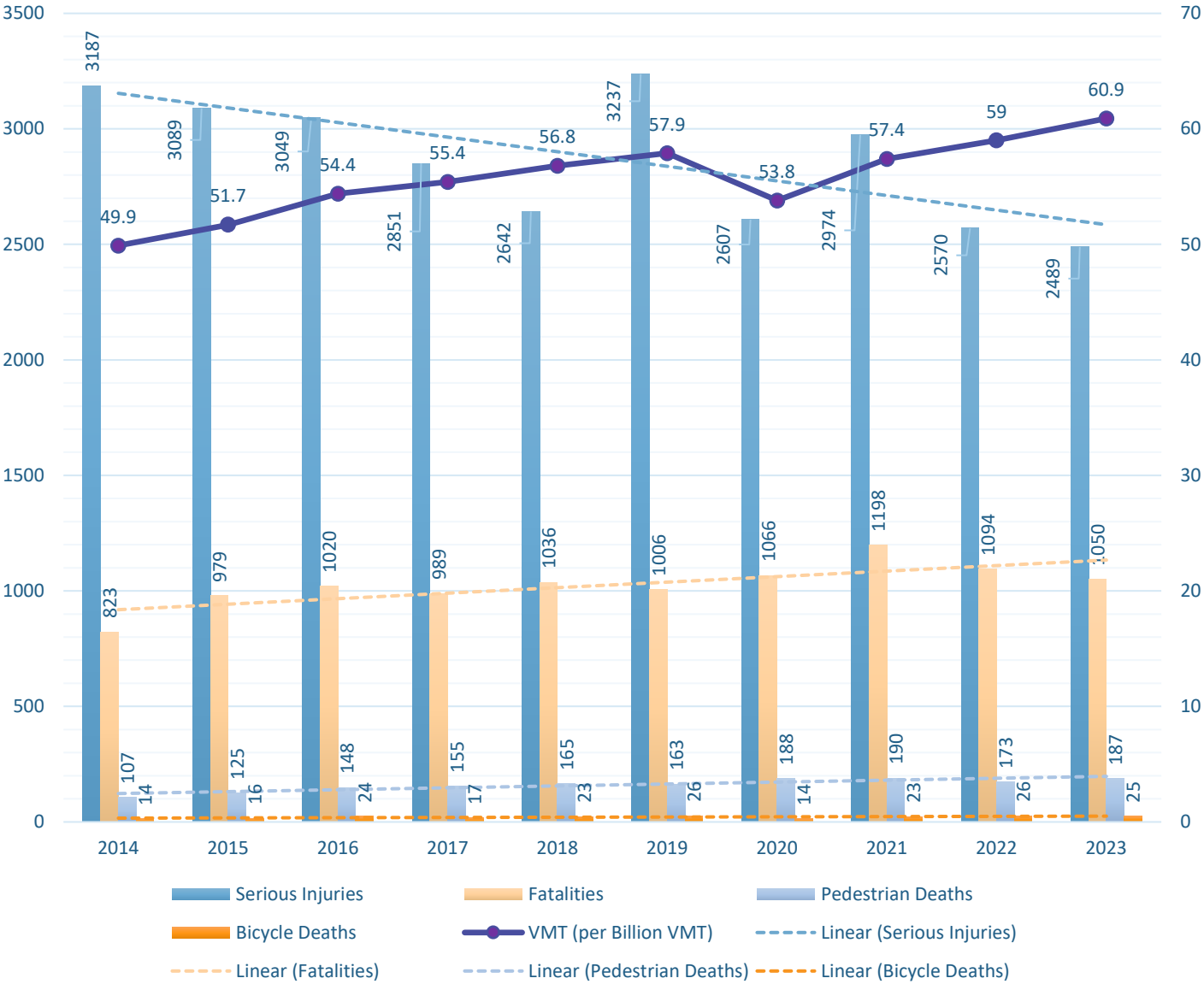


Figure 6. Number of Non-Motorized Fatalities and Serious Injuries Statewide



The total number of serious injuries, fatalities, pedestrian and bicycle deaths by calendar year are shown in Figure 7. Fatalities have increased over time until 2021 and have since been declining. Serious Injuries have generally decreased over time while bicycle and pedestrian deaths continue a trend of increase. A relationship is seen between increasing VMT and the general increasing trend of fatalities. Despite safer highway design, safer motor vehicles, increased safety belt usage, public education, enforcement and improved emergency response and treatments, there is still more work to do.

Figure 7. Calendar Year Trends from 2014-2023 Statewide



MPO and COG SAFETY

It is essential that federal, state, regional and local safety partners and other stakeholders work together to improve safety. SCDOT collaborates with the local MPO and COG partners to reduce fatalities and serious injuries by targeting projects and resources to areas with a data driven approach to tackle areas with the greatest potential for improvement. Figures 8 through 11 show the baseline (2019-2023) data for combined fatal and serious injuries by share for each MPO and COG area and the Fatality and Serious Injury rates (per 100 million VMT) for each region. See Appendix A for data tables.

Figure 8. MPO Share of Fatal and Serious Injuries (2019-2023)

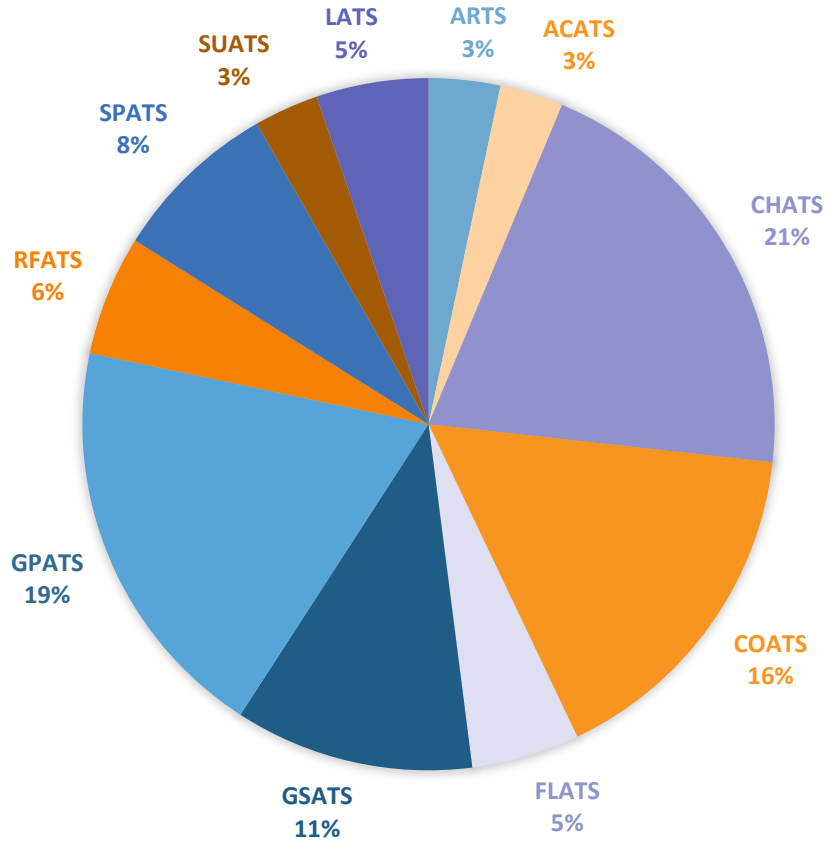


Figure 9. MPO Fatality and Serious Injury Rates (2019-2023)

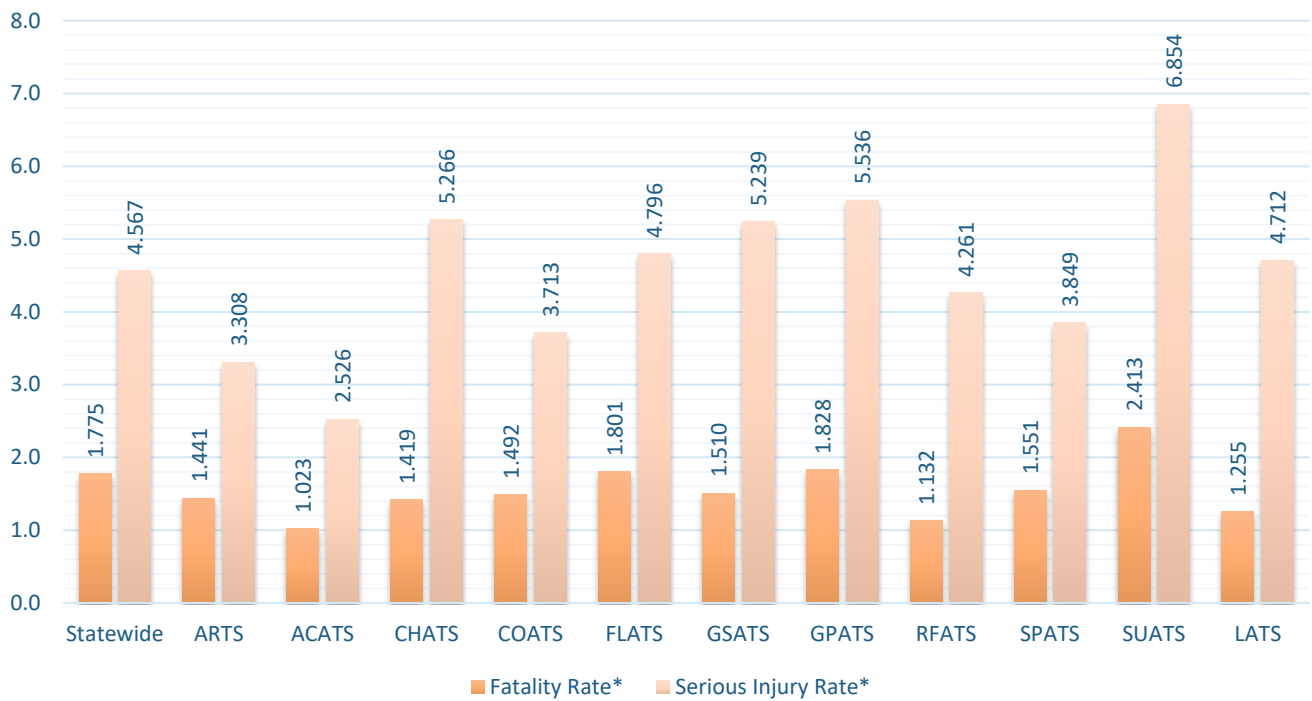


Figure 10. COG Share of Fatal and Serious Injuries (2019-2023)

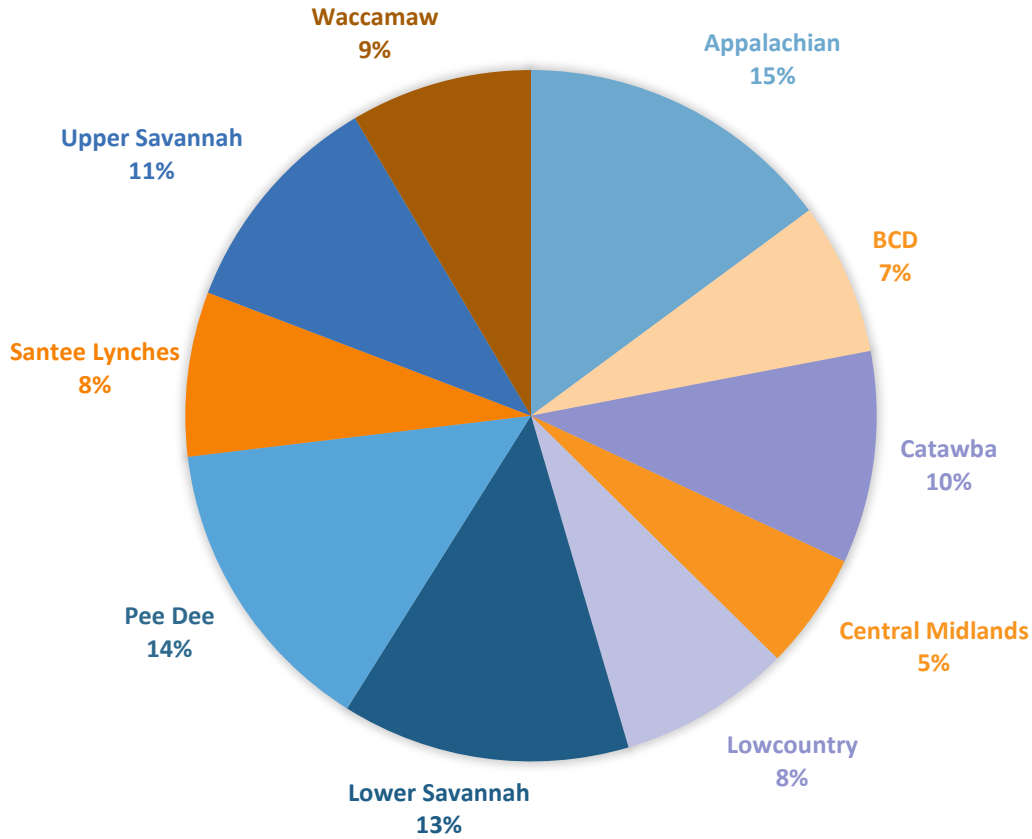
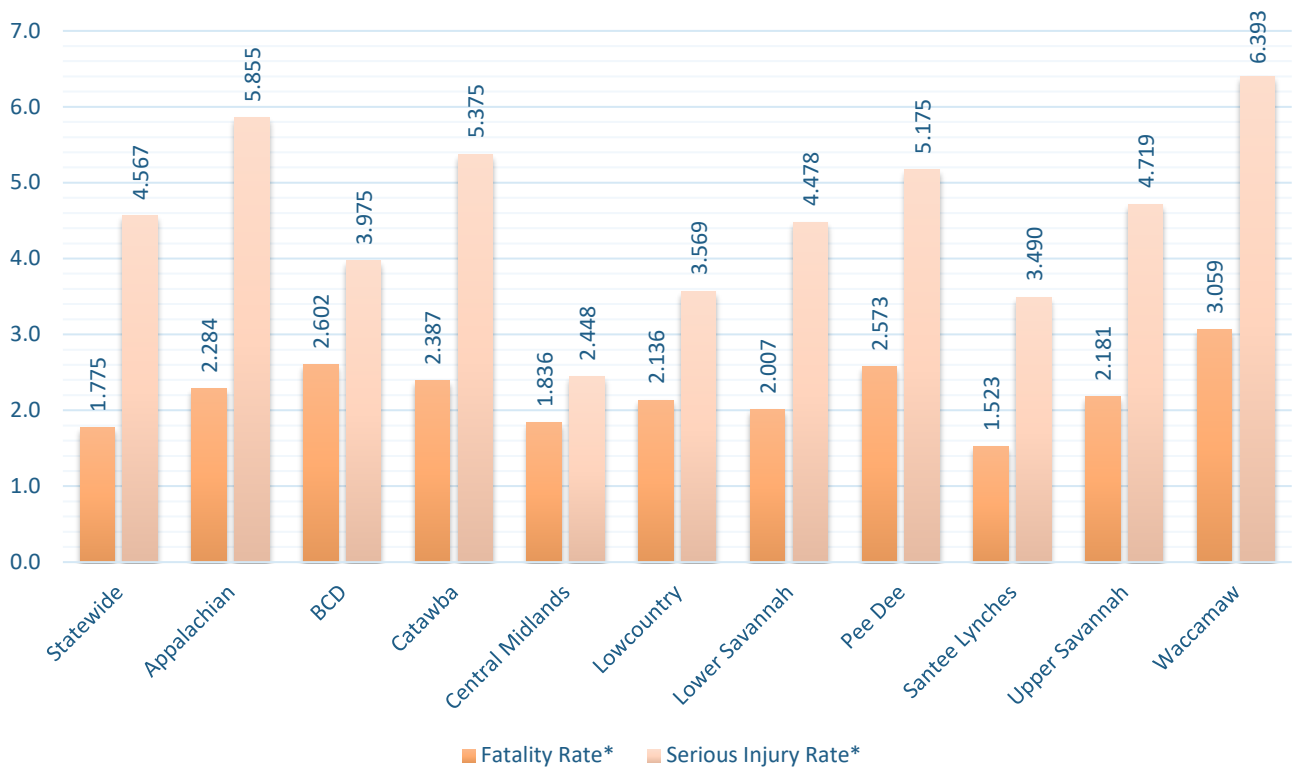


Figure 11. COG Fatality and Serious Injury Rates (2019-2023)



PM2 STATEWIDE PAVEMENT CONDITION

SCDOT has made measureable and positive progress implementing the strategic priorities of the STAMP that are key to aligning with SCDOT's internal and external efforts towards achievable results. The Ten-Year Plan is addressing infrastructure needs across the state, which was initiated in 2017. The largest single area of this investment is for paving. At the update of the 2023 Annual Report over 7,300 miles of paving had advanced to construction. The major road networks or primary routes have improved their measure of good and poor pavements since implementation of the plan.

The two-year and four-year performance targets (Figures 13-16), for both interstates and non-interstate NHS pavements were determined based on current performance, historic performance data and predicted trends. Since the establishment of MAP-21, state DOT's are required to report the performance measures in the Federal Pavement Metric. This metric is calculated to determine if the section is good, fair or poor with respect to: Pavement Roughness, Rutting, Present Serviceability Rating, Faulting and Cracking (concrete pavements only). The thresholds for good, fair and poor condition are established by federal regulation. Conditions are assessed for 0.1 mile long pavement sections using the criteria. An individual section is rated as being in overall good condition when all metrics are good. An individual section is rated as being in poor overall condition when two or more metrics are poor. Any other combination would fall into the fair category. Lane miles are tabulated for all sections to determine the overall percentage of good, fair and poor for each pavement system. When pavement is in good condition, it means no major investment is needed. Pavement in fair condition suggests only minor investment is needed, and pavement in poor condition suggest major reconstruction is needed. A minimum threshold in MAP-21 established the percentage of lane-miles of Interstate System in poor condition shall not exceed 5% (23 CFR 490.315). All pavement metrics were met with exception of the 2-year actual condition of 70.7% for Interstate pavements in good condition, coming in below the target of 77%. A combination of factors including distress data, project cost inflation used to forecast future work, and material shortages, particularly cement used to fully reconstruct roads effected the actual condition performance. The overall trend from 63.2% in 2019 to 70.7% for year 2023 for pavements on the Interstate in good condition has seen significant progress since implementation of the STAMP/10-Year Plan

The National Highway System (NHS) in South Carolina includes only 13,260 lane miles, approximately 15% of the total SCDOT roadway inventory lane miles of about 90,682

Figure 12. South Carolina Roadway Network Inventory

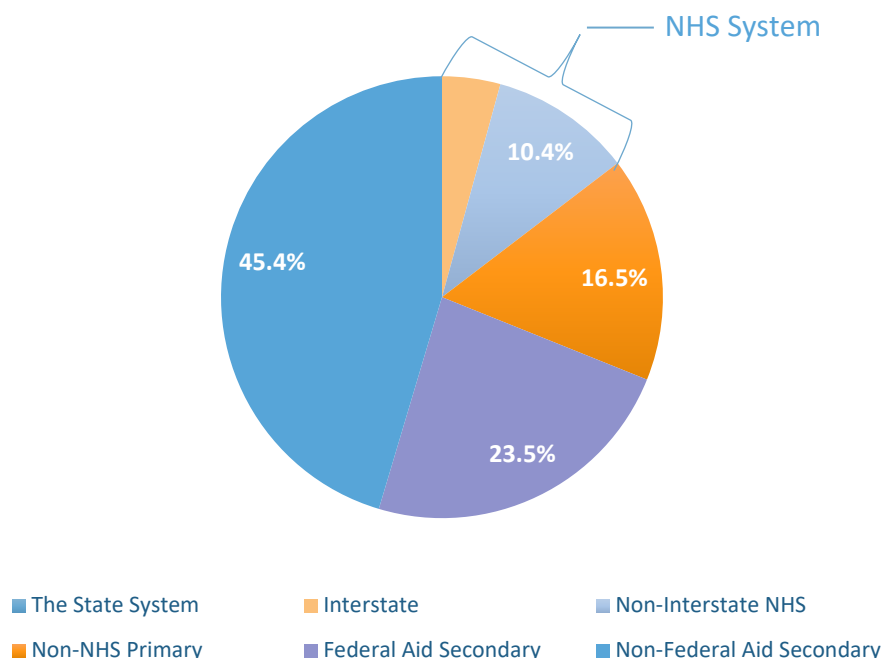


Figure 13. Interstate Pavements in Good Condition (Federal Metric)

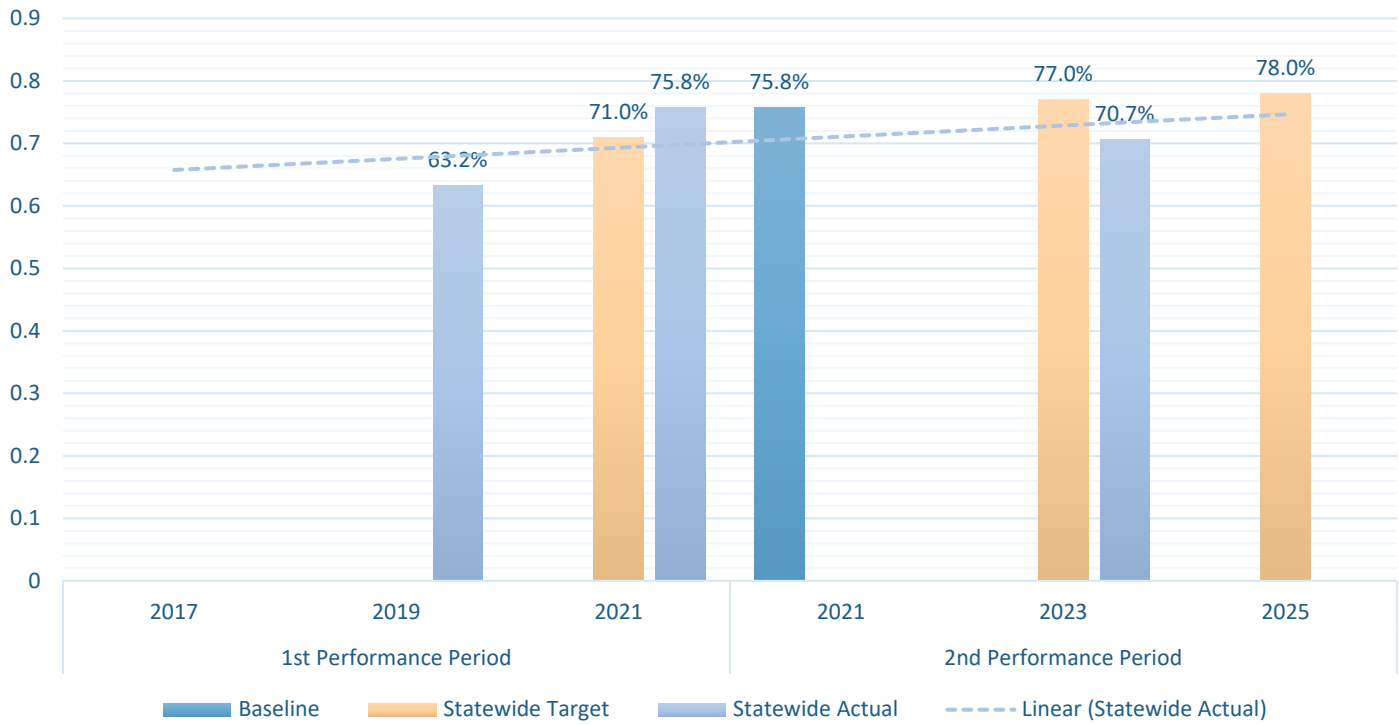


Figure 14. Interstate Pavements in Poor Condition (Federal Metric)

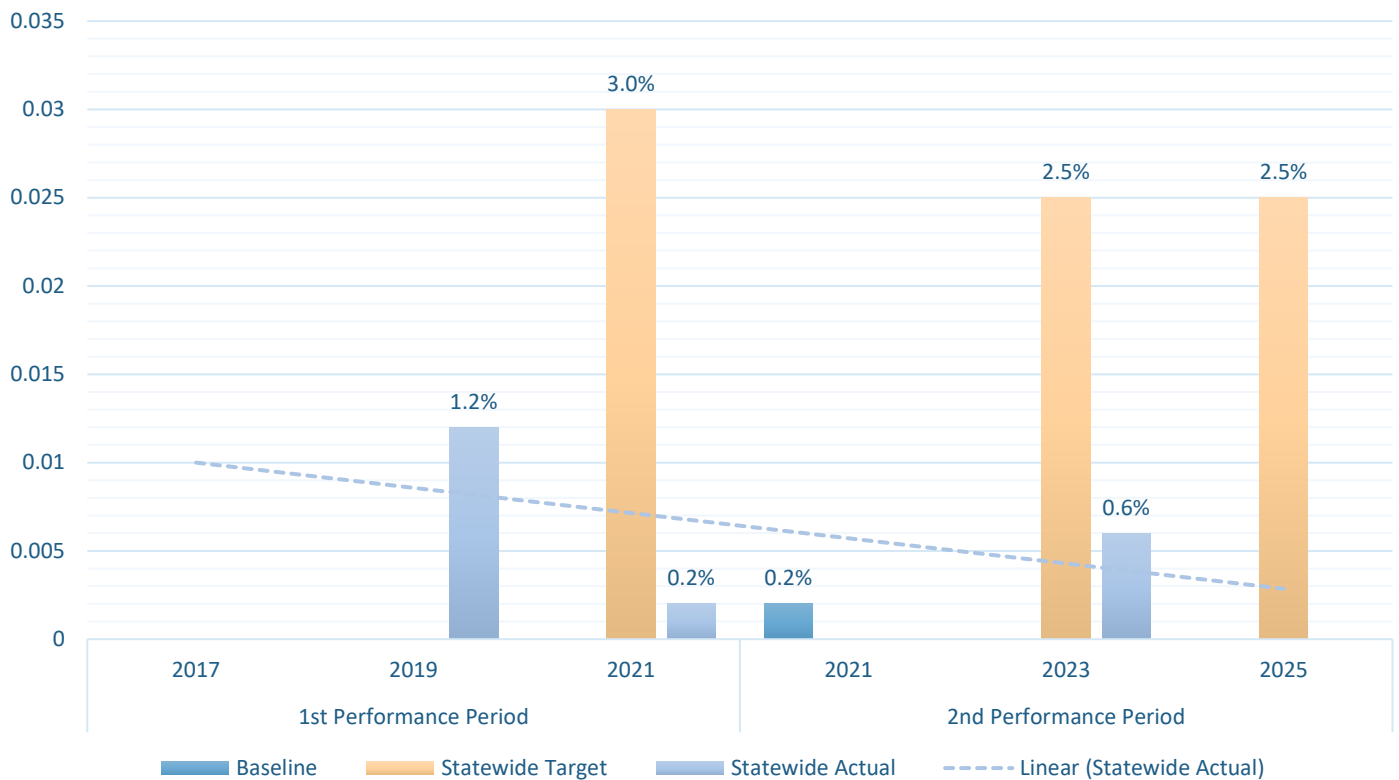


Figure 15. Non-Interstate NHS Pavements in Good Condition (Federal Metric)

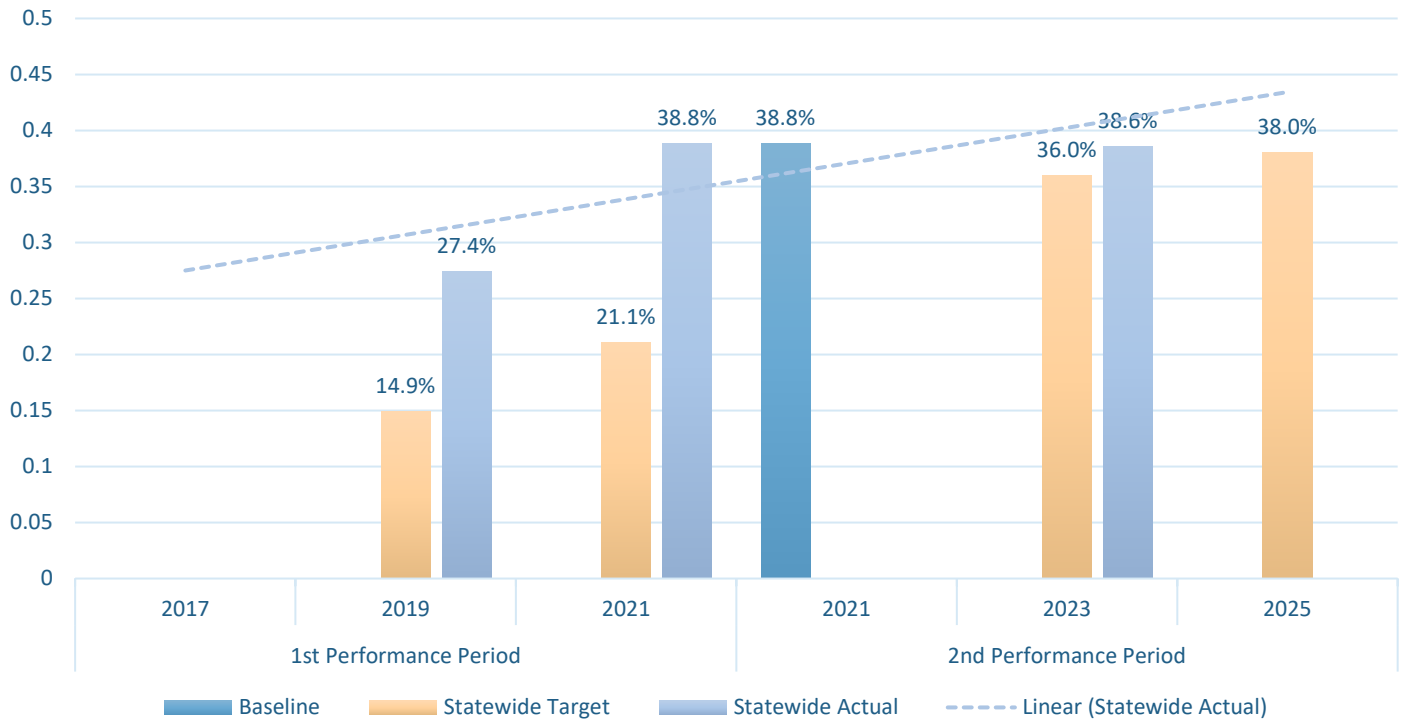
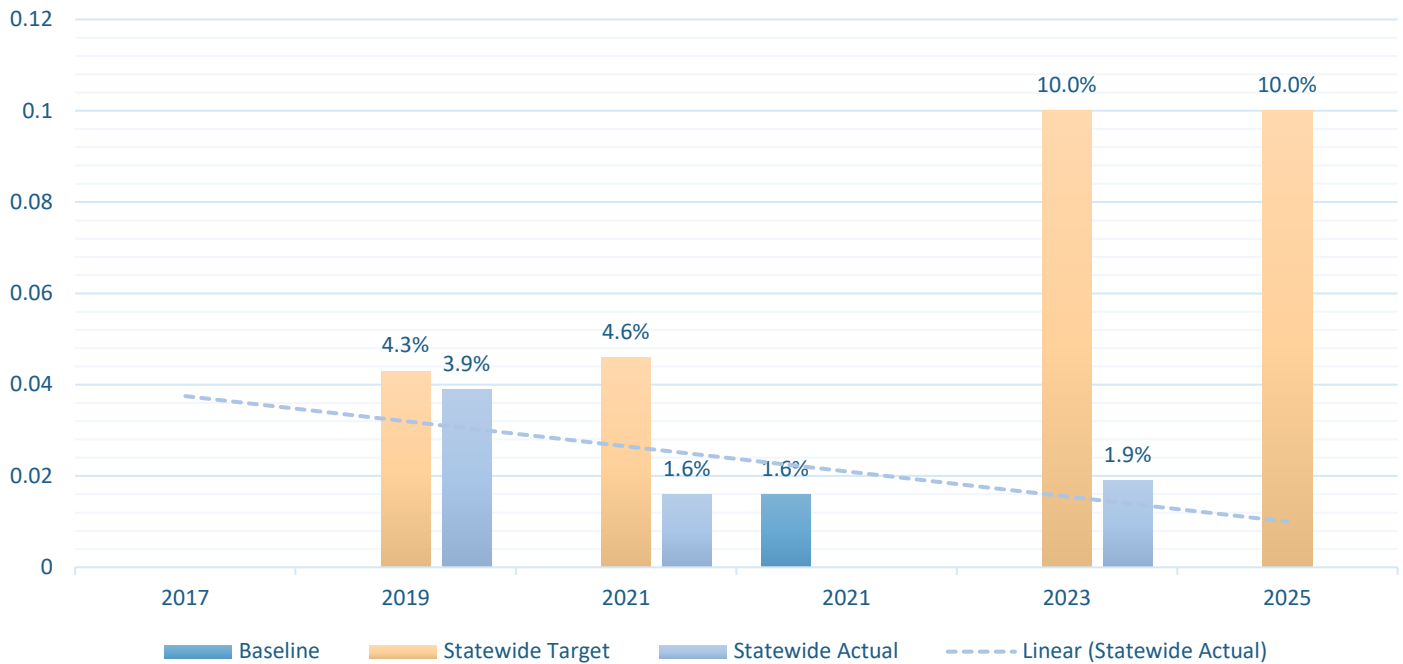


Figure 16. Non-Interstate NHS Pavements in Poor Condition (Federal Metric)



MPO and COG PAVEMENT CONDITION

MPO and COG regional pavement conditions on the Interstate and Non-Interstate NHS are shown in Figure 19-22 and 25-28. In the following figures the pavement conditions are shown in the metric of Pavement Quality Index (PQI) instead of the Federal Metric required for Transportation Performance Management (TPM) reporting. PQI is used to evaluate the pavement surface characteristics and was developed for South Carolina to reflect the types of pavement deterioration typically found within the State. The PQI metric is the preferred performance metric for reporting throughout the agency and for project selection criteria. Data sourced for these charts was aggregated from the SCDOT Performance Viewer, finalized PQI year-end 2023 data, see Appendix A for tables. Figures 17, 18, 23 and 24 show centerline mile inventory by region (note that SUATS, GSATS, and Wacamaw COG have no Interstate miles).

Figure 17. MPO Interstate Centerline Miles and Percentage

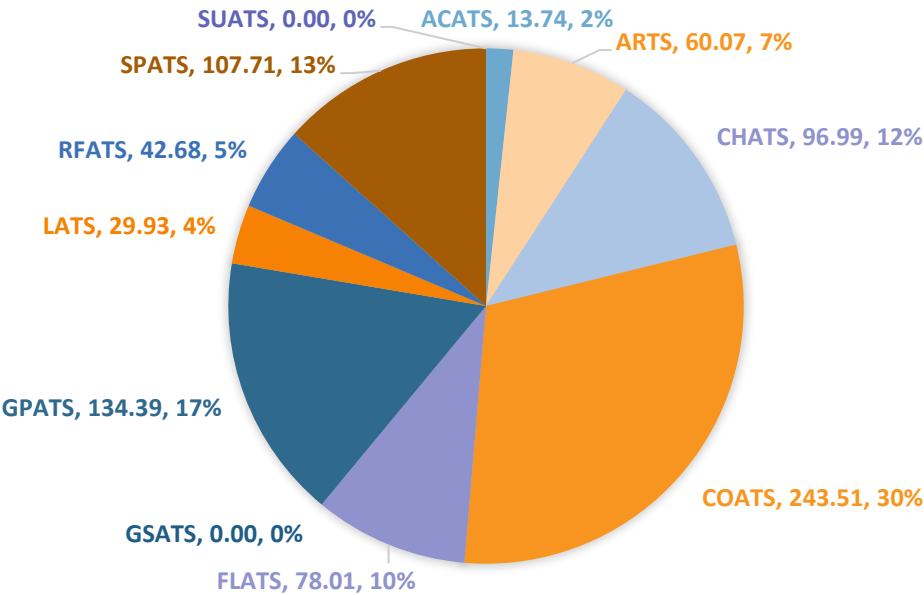


Figure 18. MPO Non-Interstate NHS Centerline Miles and Percentage

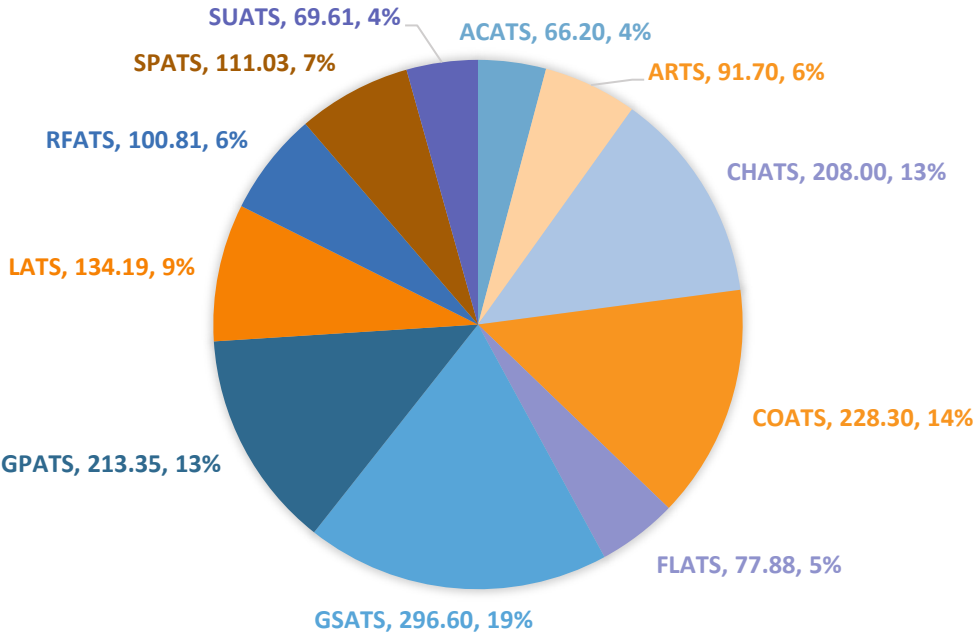


Figure 19. MPO Interstate Pavements in Good Condition (PQI)

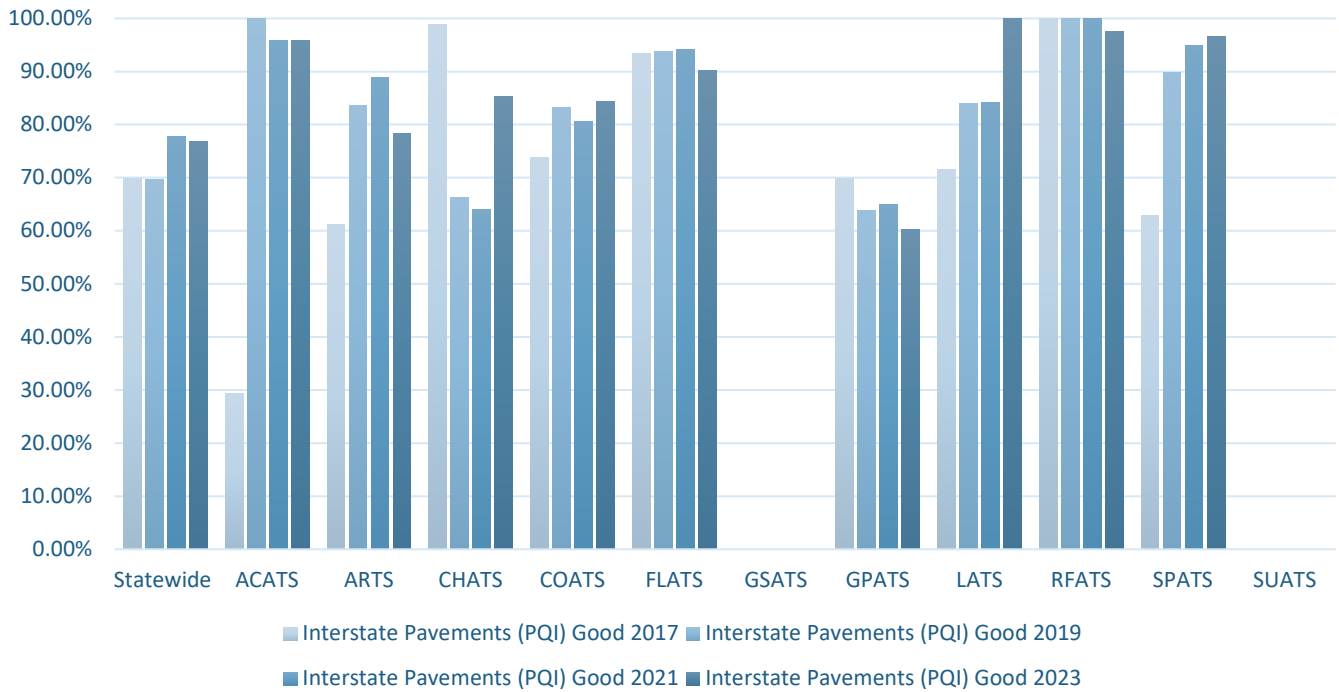


Figure 20. MPO Interstate Pavements in Poor Condition (PQI)

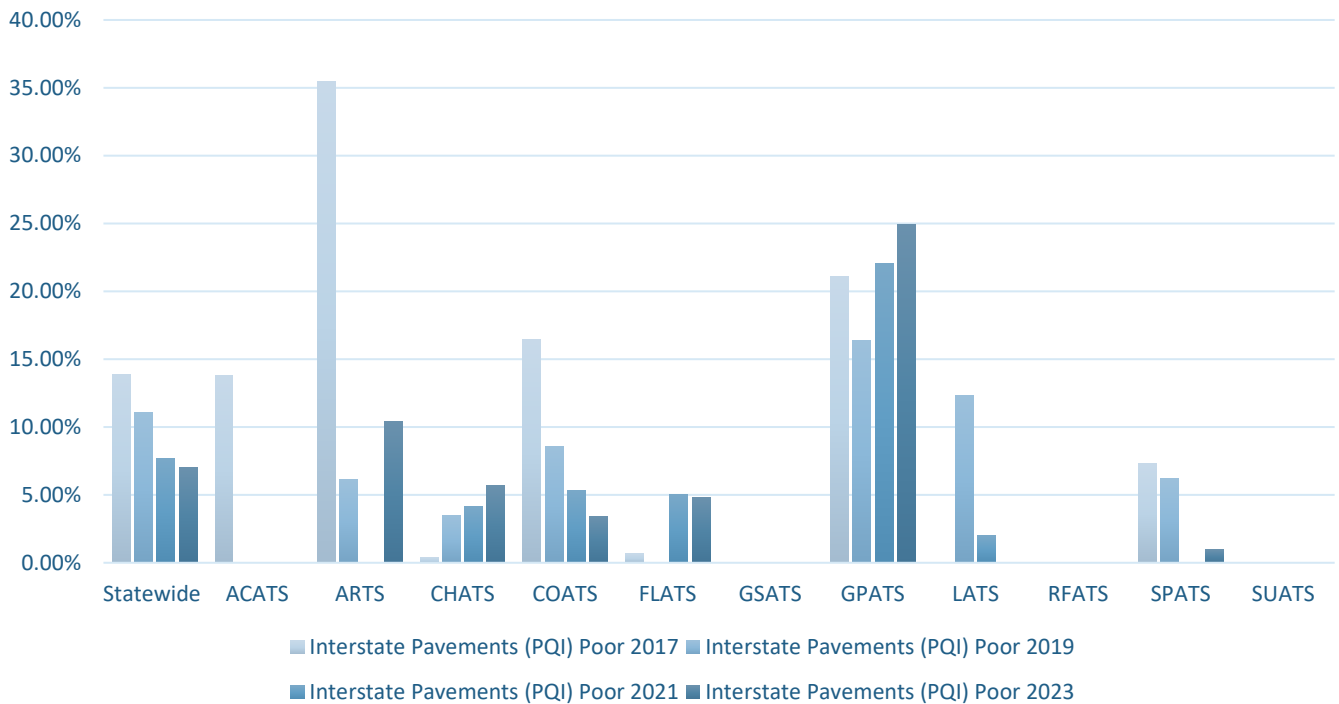


Figure 21. MPO Non-Interstate NHS Pavements in Good Condition (PQI)

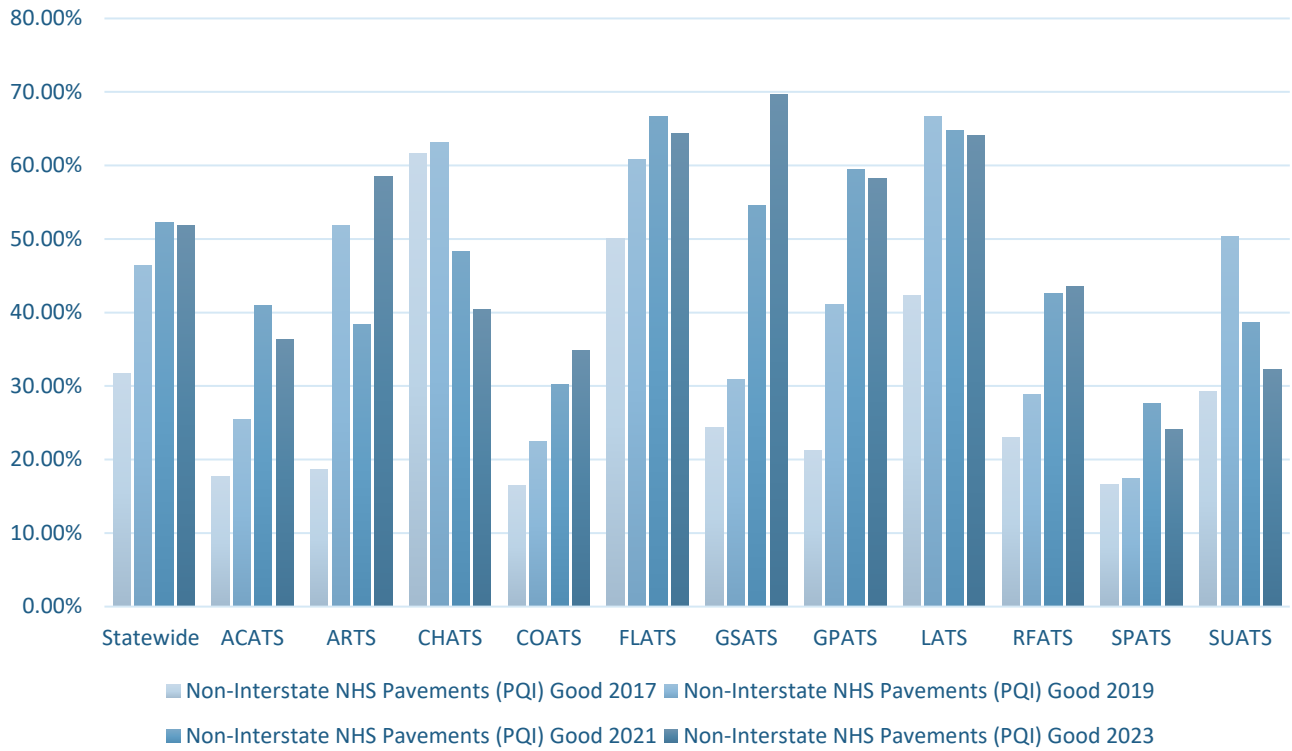


Figure 22. MPO Non-Interstate NHS Pavements in Poor Condition (PQI)

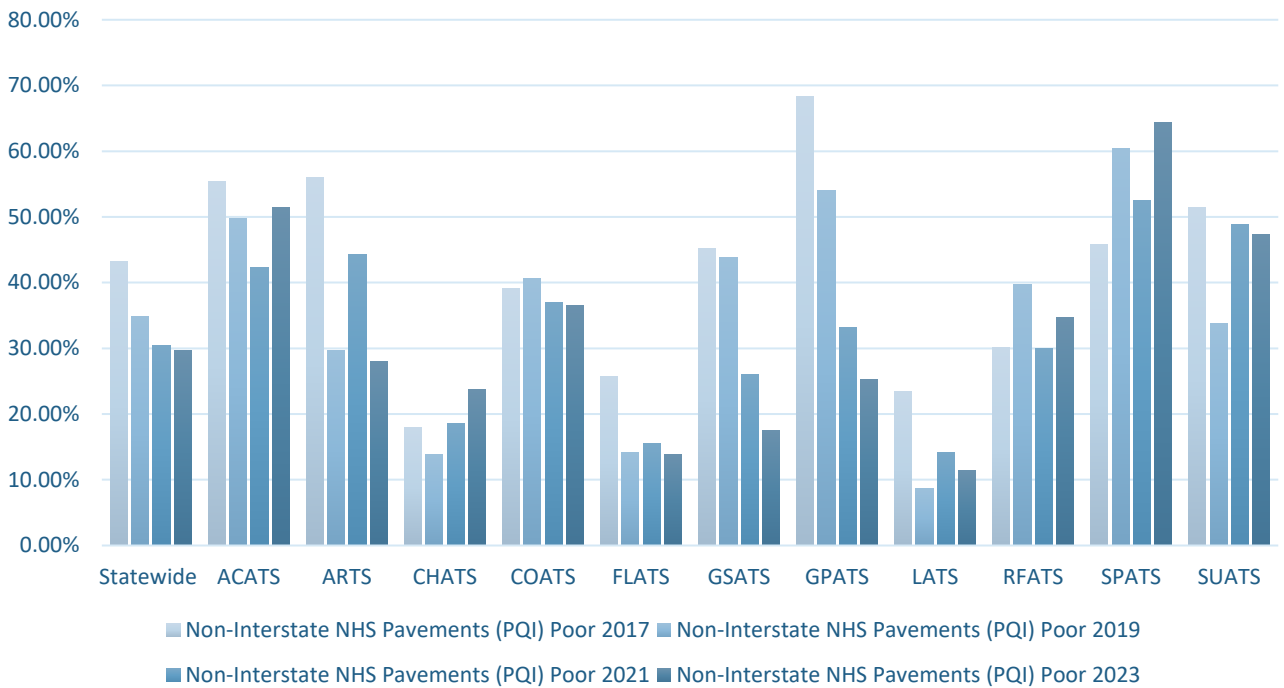


Figure 23. COG Interstate Centerline Miles and Percentage

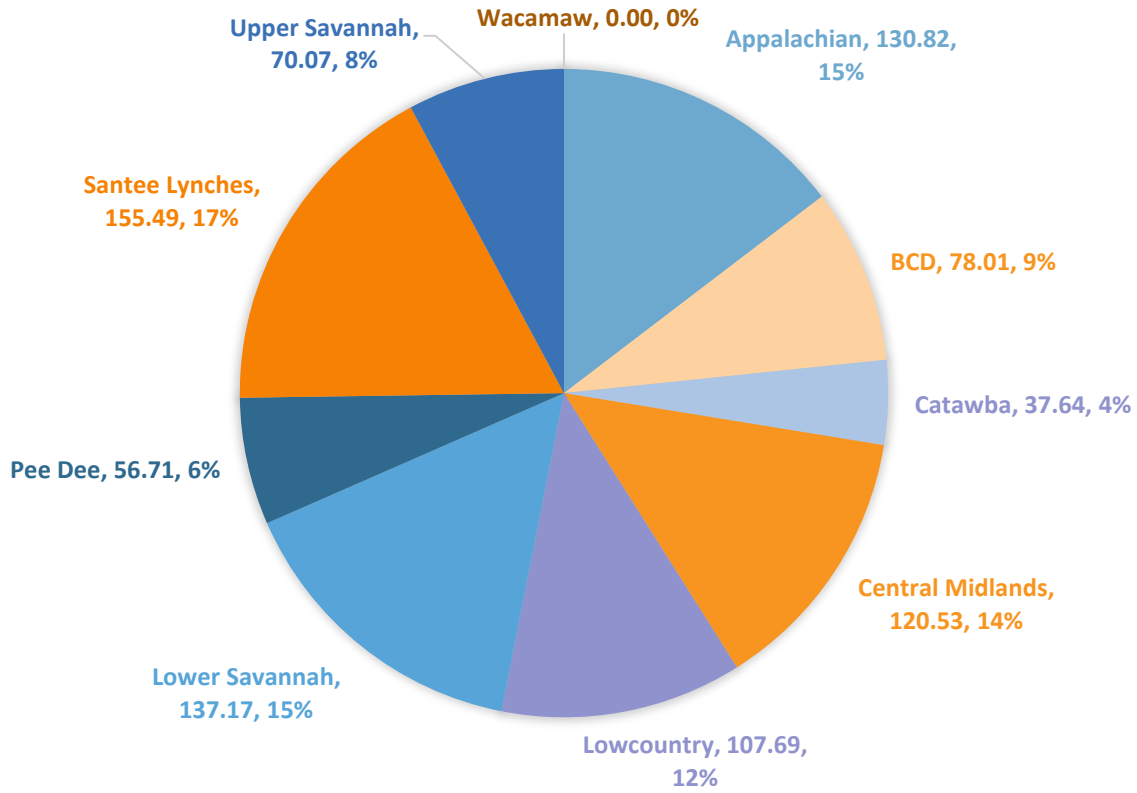


Figure 24. COG Non-Interstate NHS Centerline Miles and Percentage

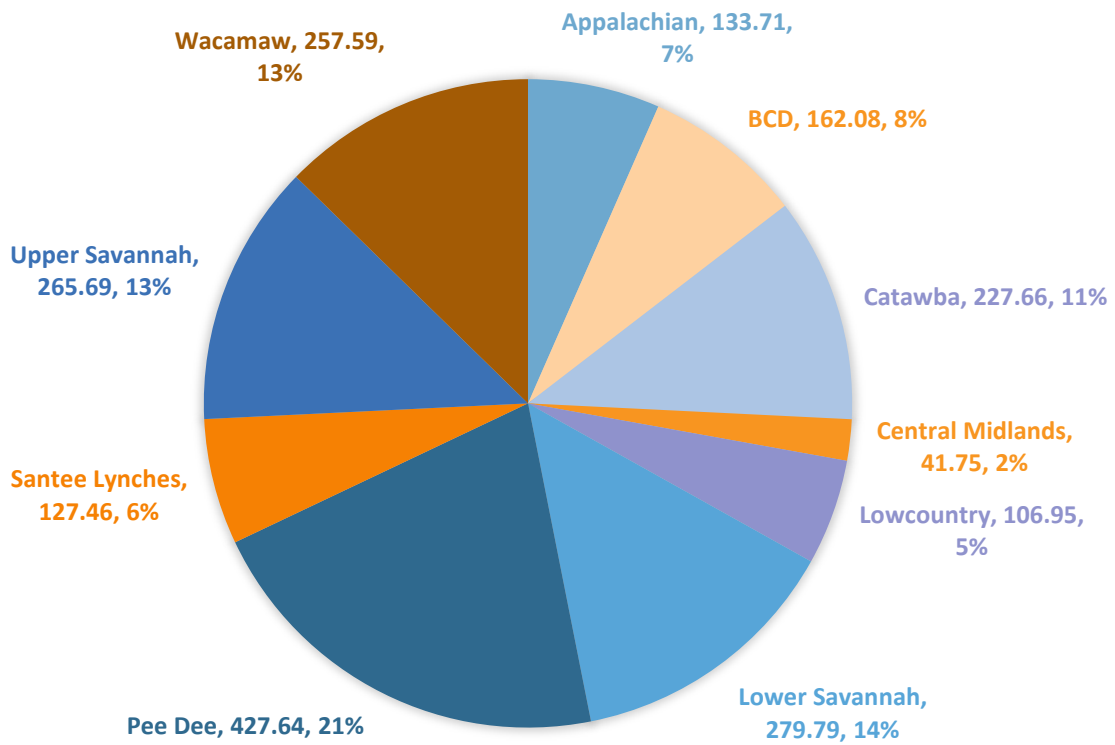


Figure 25. COG Interstate Pavements in Good Condition (PQI)

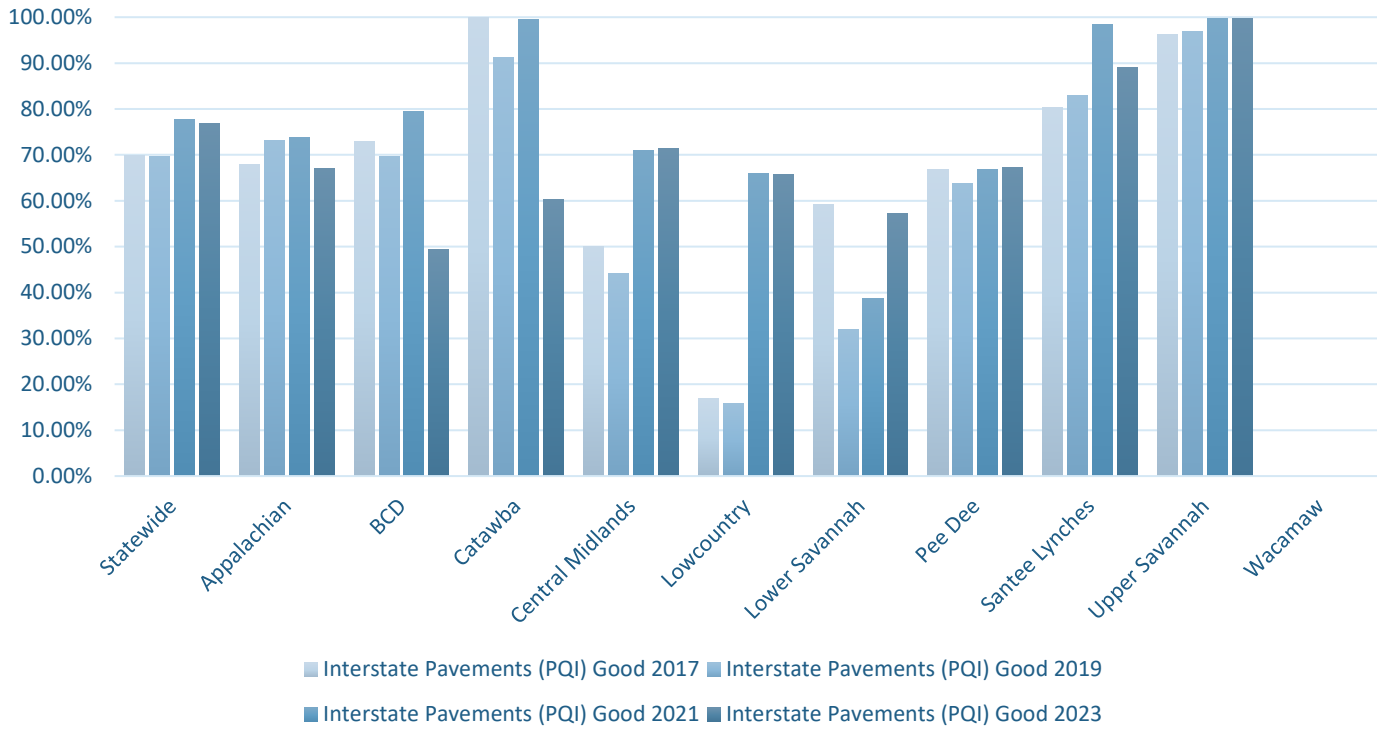


Figure 26. COG Interstate Pavements in Poor Condition (PQI)

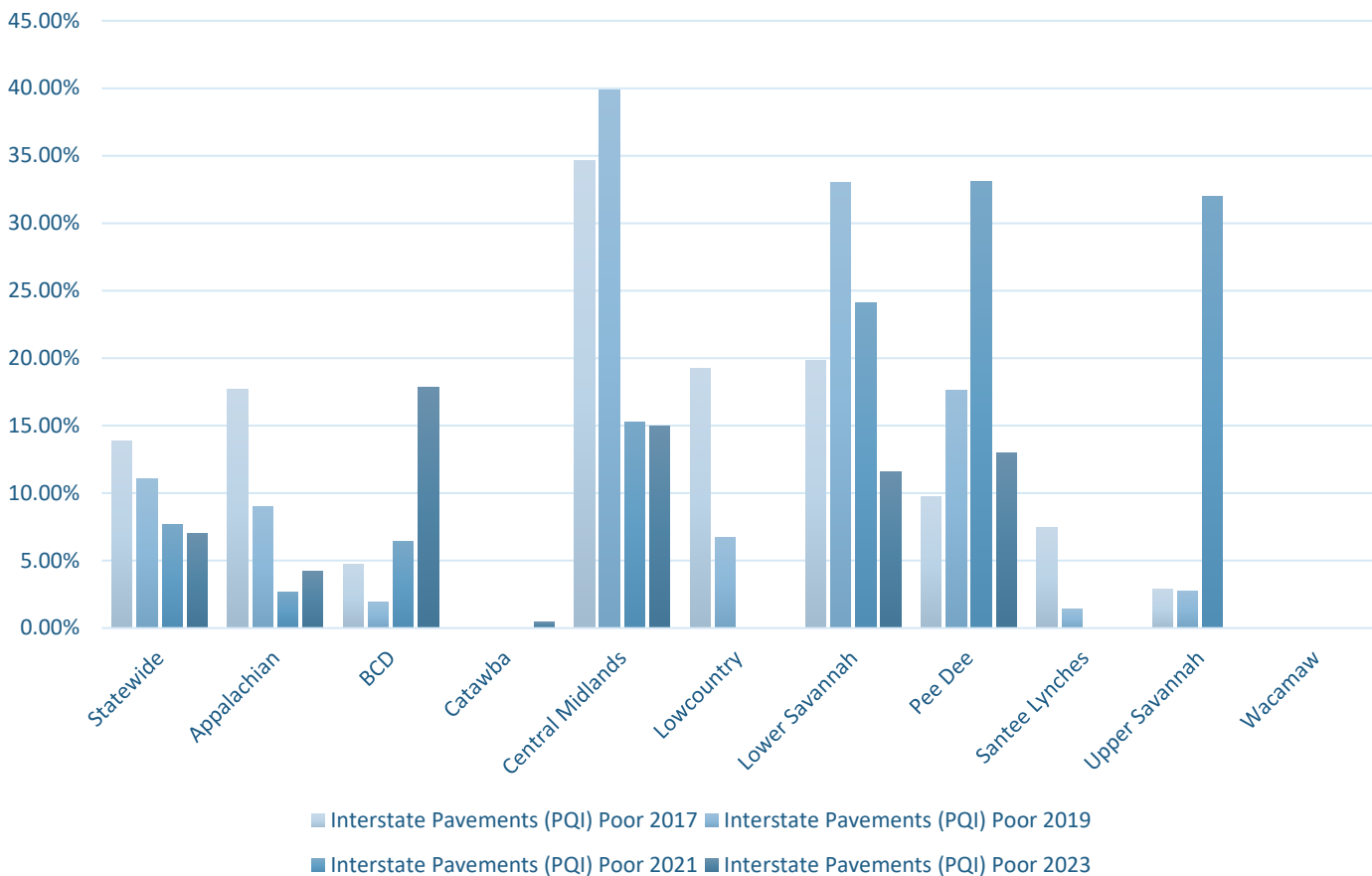


Figure 27. COG Non-Interstate NHS Pavements in Good Condition (PQI)

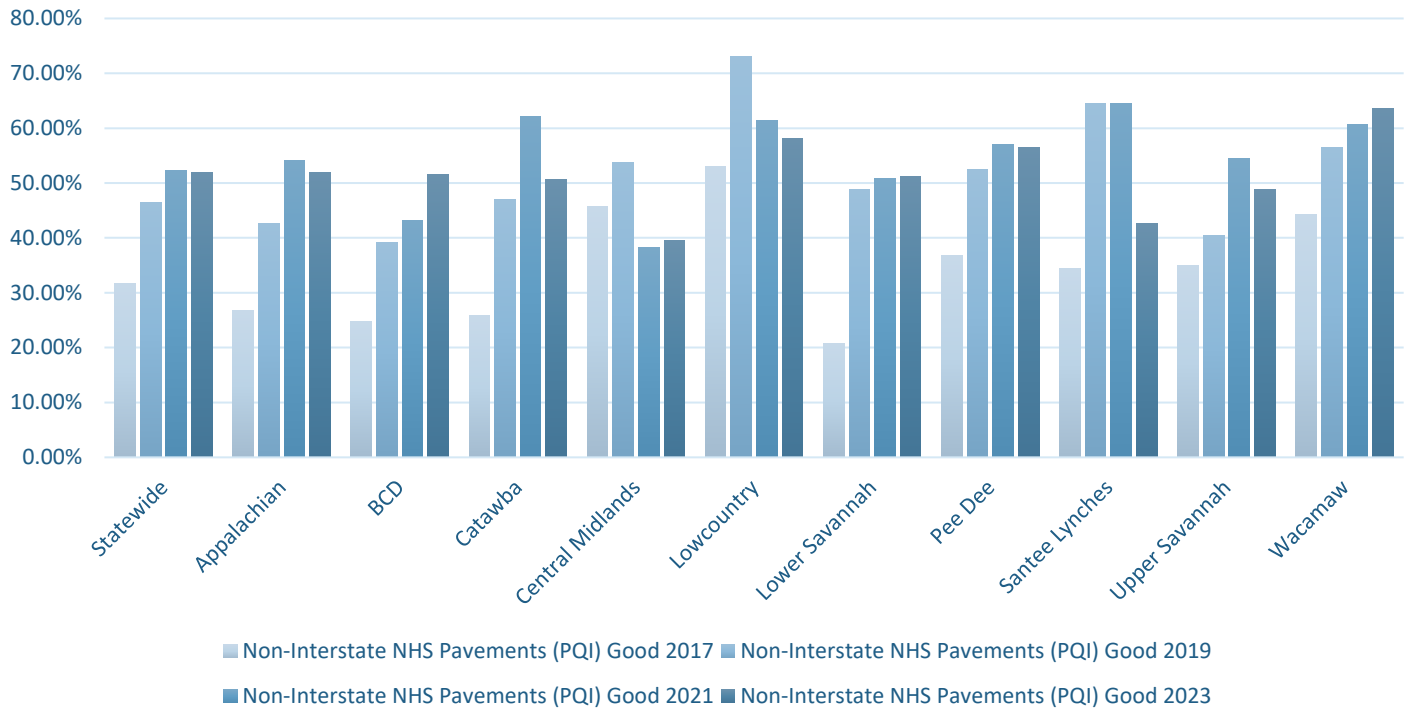
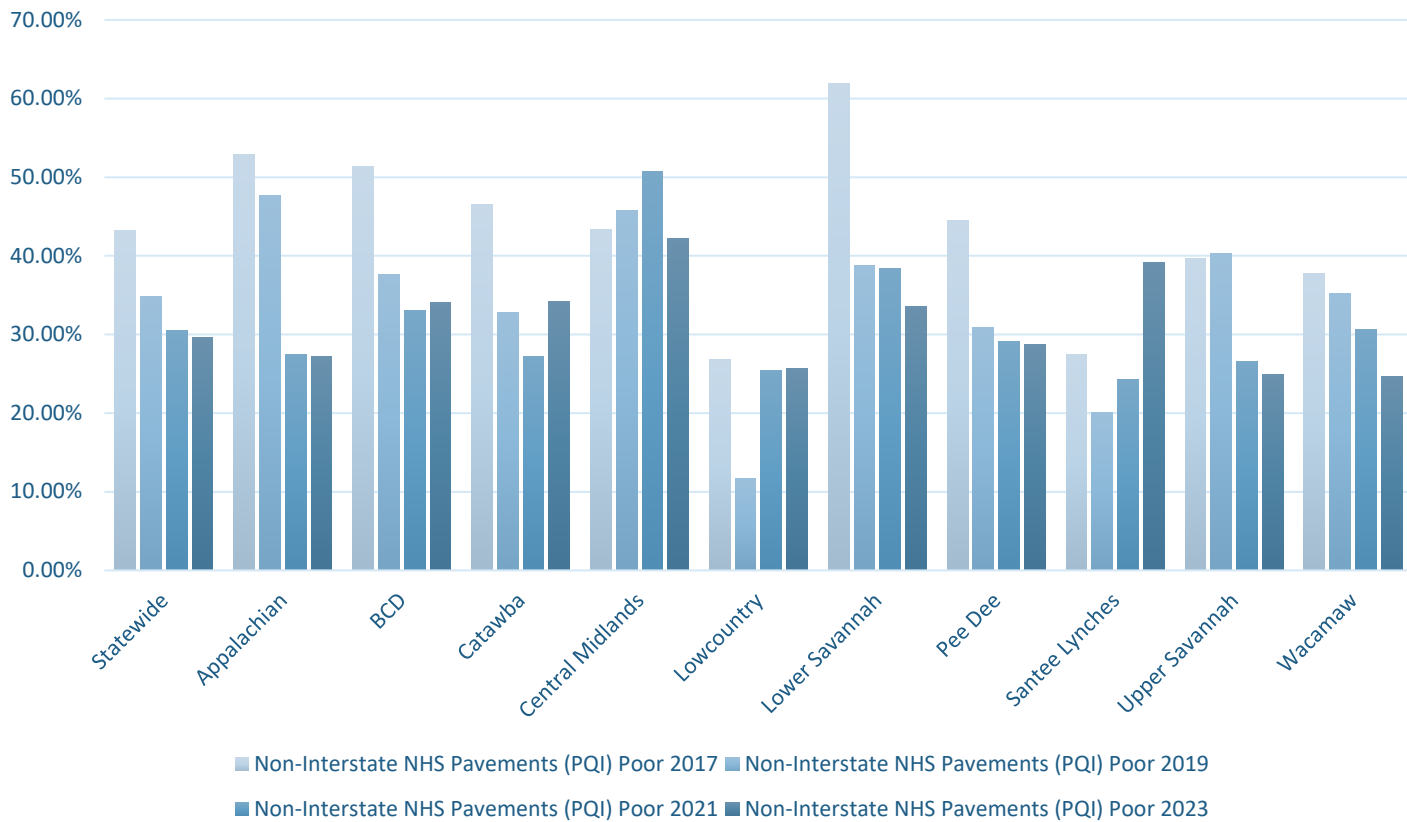


Figure 28. COG Non-Interstate NHS Pavements in Poor Condition (PQI)



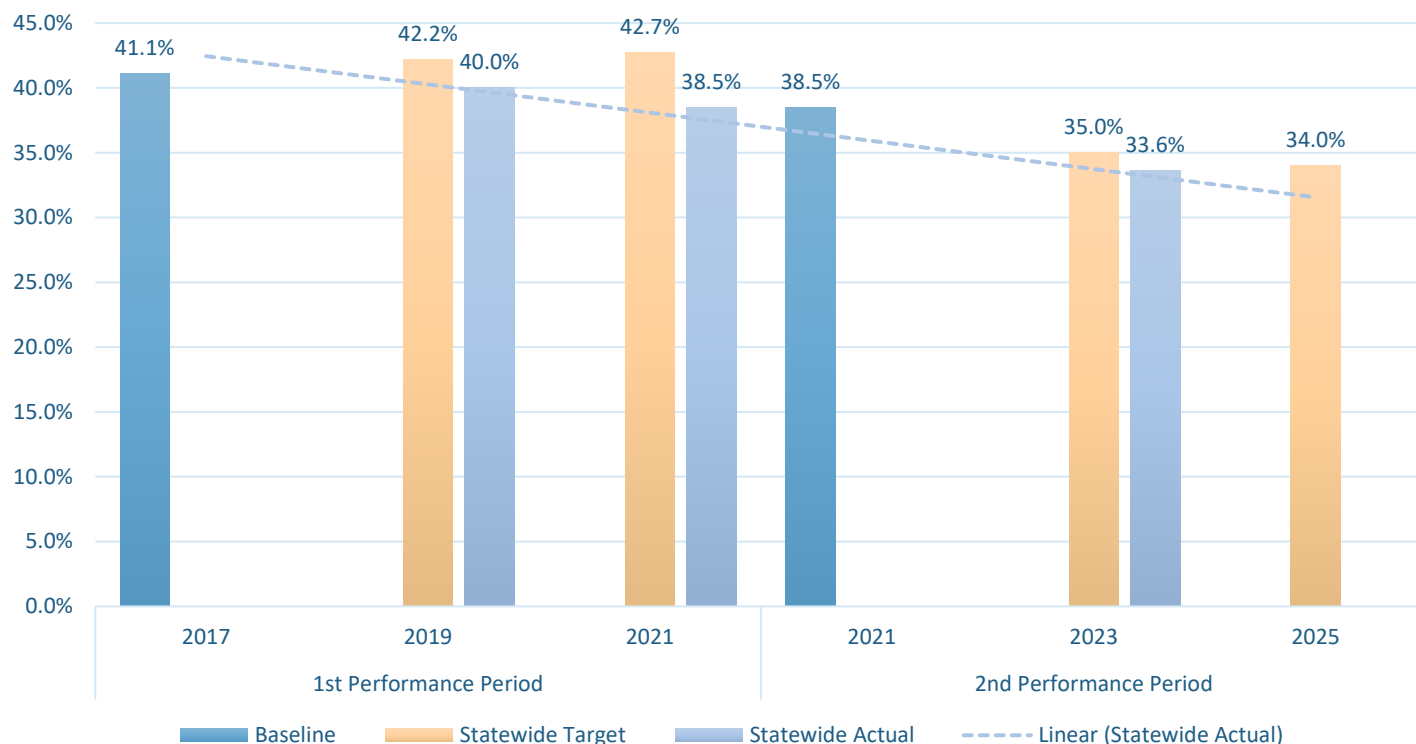
PM-2 STATEWIDE BRIDGE CONDITION

SCDOT’s Bridge Program was completely restructured in the middle of SFY 2022, changes to the program are detailed in the 2022 STAMP⁶ update. The agency has targeted load-restricted bridges in poor condition on the network that create inefficiencies and unnecessary delays. Additionally, new sub-category programs in the were created to set aside specific funds for Bridge Rehabilitation, Bridge Reactionary Maintenance, Bridge Maintenance and Bridge Inspection to create a more balanced approach to bridge management.

Bridge condition measures refer to the percentage of bridges by deck area on the NHS that are in good condition or poor condition. The measures assess the condition of four bridge components: deck, superstructure, substructure, and culverts. Each component has a metric rating threshold to establish good, fair or poor condition. If the lowest of the four metrics is greater than or equal to seven, the structure is classified as good. If the lowest rating is less than or equal to four, the structure is classified as poor. If the lowest rating is five or six, it is classified as fair. The percent is determined by summing the total deck area of good or poor NHS bridges and dividing the total deck area of the bridges carrying the NHS. Deck area is computed using structure length and either deck width or approach roadway width. The minimum percent poor condition level on NHS bridges shall not exceed 10% for 3 consecutive years (23 CFR 490.411). SCDOT expects the percentage of good deck area on the NHS to decrease during the performance period. At the mid-point of the current performance period (end of 2023), the actual 2-year target of 33.6% was slightly lower than the expected 35.0% of deck are of bridges on the NHS classified as in good condition. A declining target is appropriate given available funding, age and condition of the inventory, and the need to minimize life cycle costs. Significant progress was made on meeting the statewide percentage of bridges on the NHS classified in poor condition and remains well below the threshold of 10%. See Figures 29 and 30.

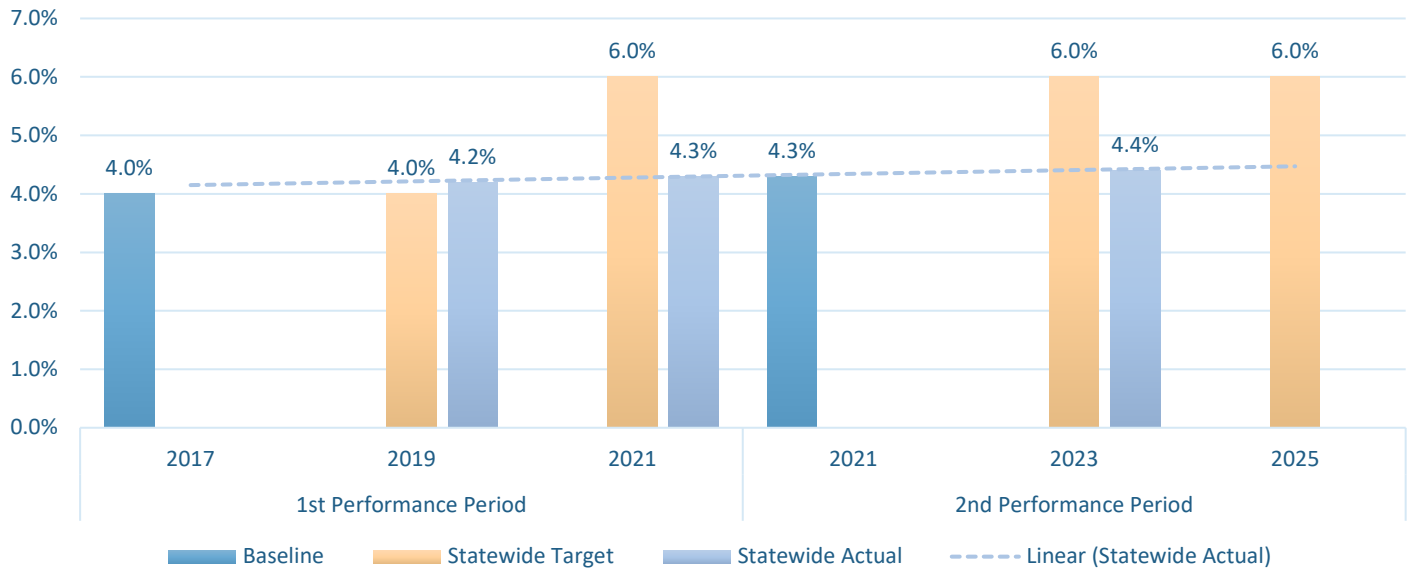
The National Highway System (NHS) in South Carolina includes 1,780 bridges, approximately 22% of the total SCDOT inventory of about 8,445 bridges

Figure 29. NHS Bridges in Good Condition (% Overall Deck Area)



⁶ <https://www.scdot.org/content/dam/scdot-legacy/performance/pdf/reports/STAMP.pdf>

Figure 30. NHS Bridges in Poor Condition (% Overall Deck Area)



MPO AND COG BRIDGE CONDITION

MPO and COG regional bridge conditions are shown in Figure 32, 33, 35 and 36 with statewide actuals conditions and targets compared over time. For data used to create these figures see Appendix A.

Figure 31. MPO NHS Bridge Inventory by Square Footage of Deck Area

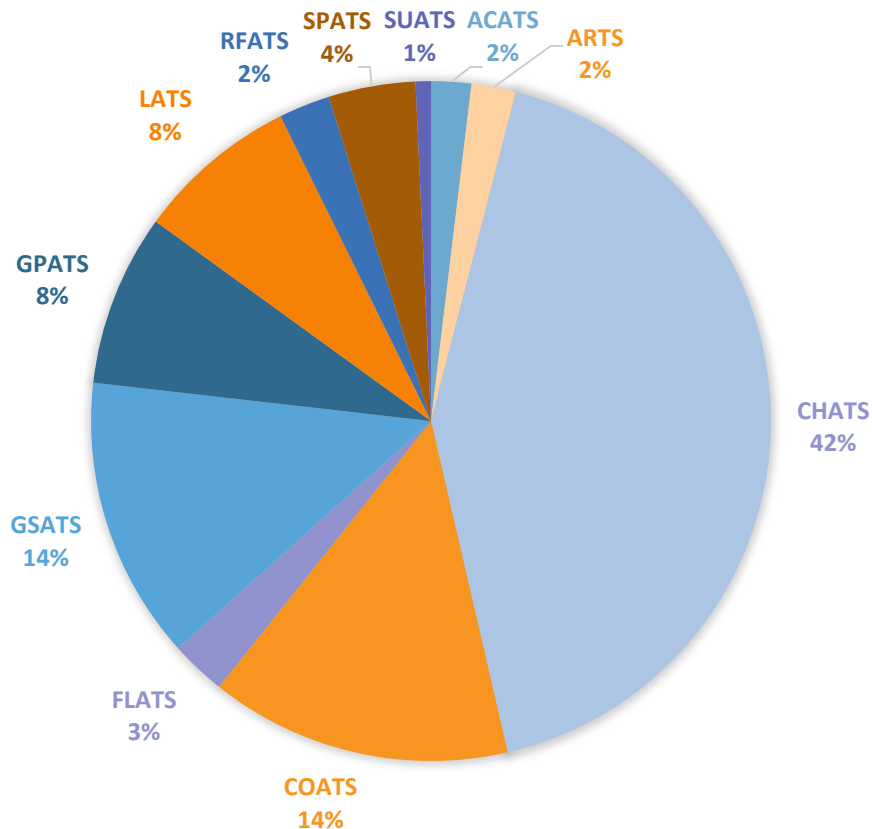


Figure 32. MPO NHS Bridges in Good Condition (SF Deck Area)

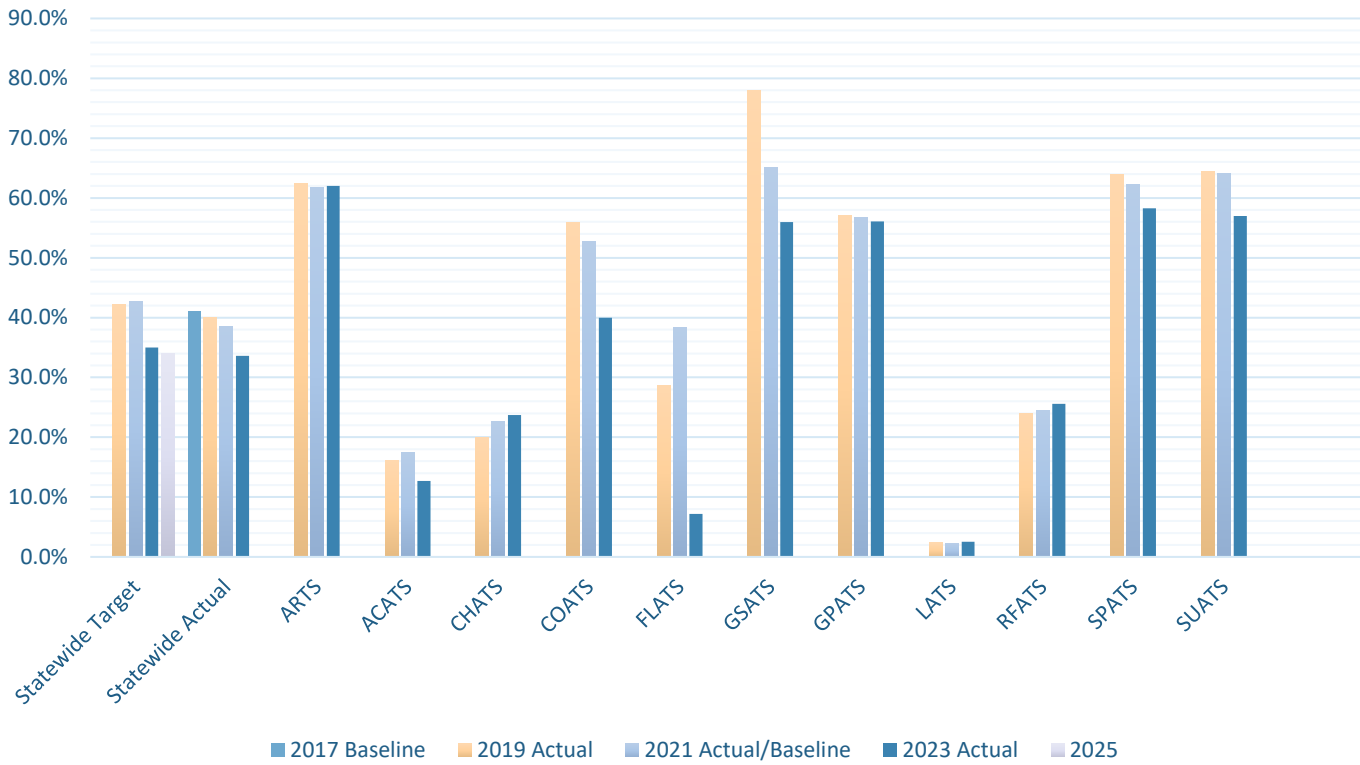


Figure 33. MPO NHS Bridges in Poor Condition (SF Deck Area)

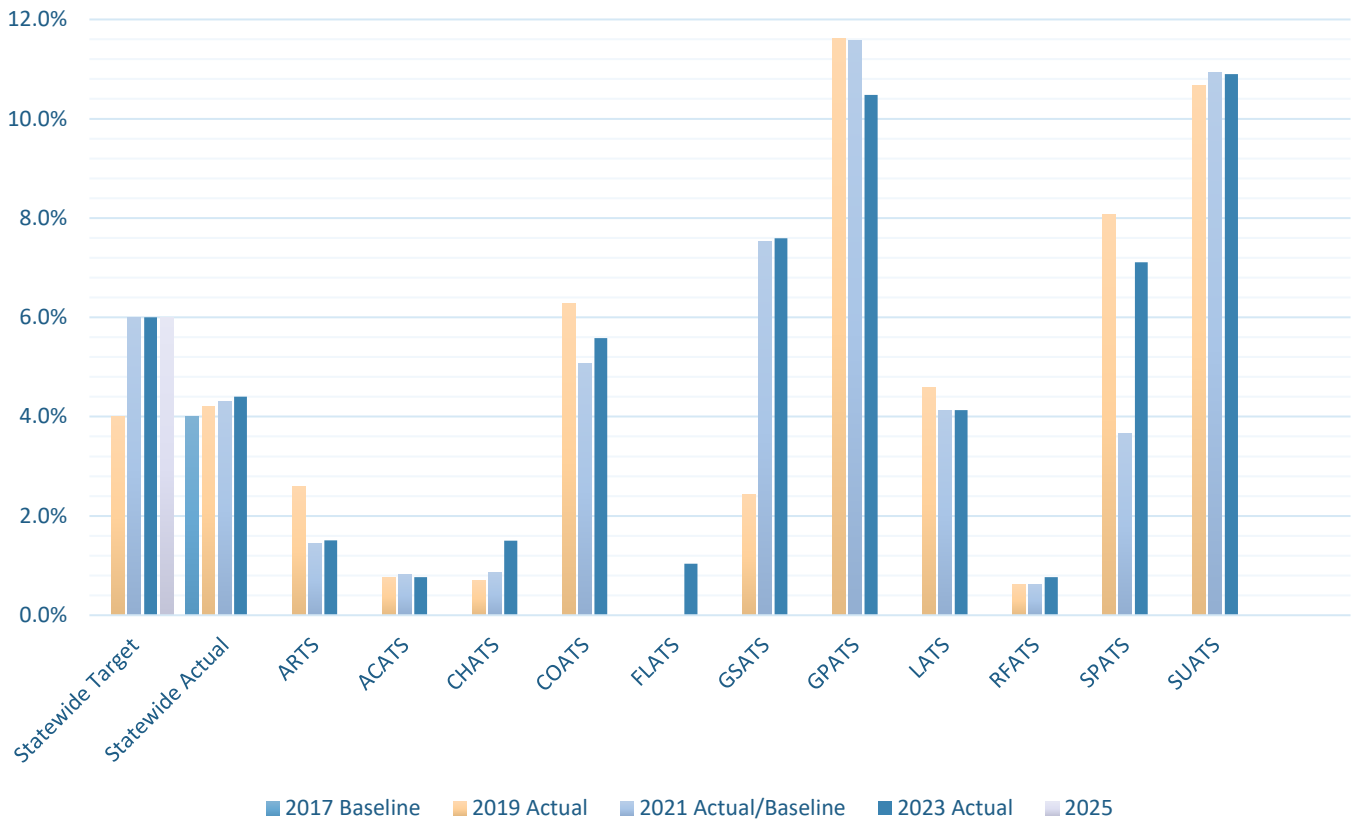


Figure 34. COG NHS Bridge Inventory by Square Footage of Deck Area

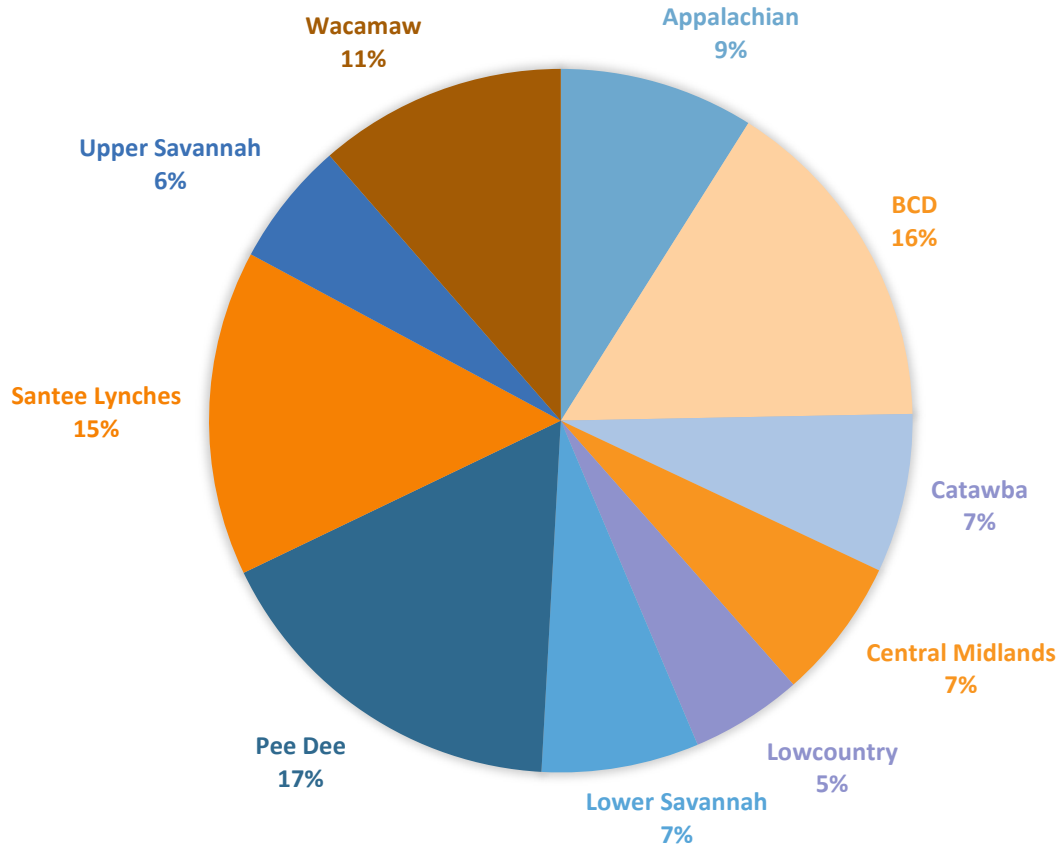


Figure 35. COG NHS Bridges in Good Condition (SF Deck Area)

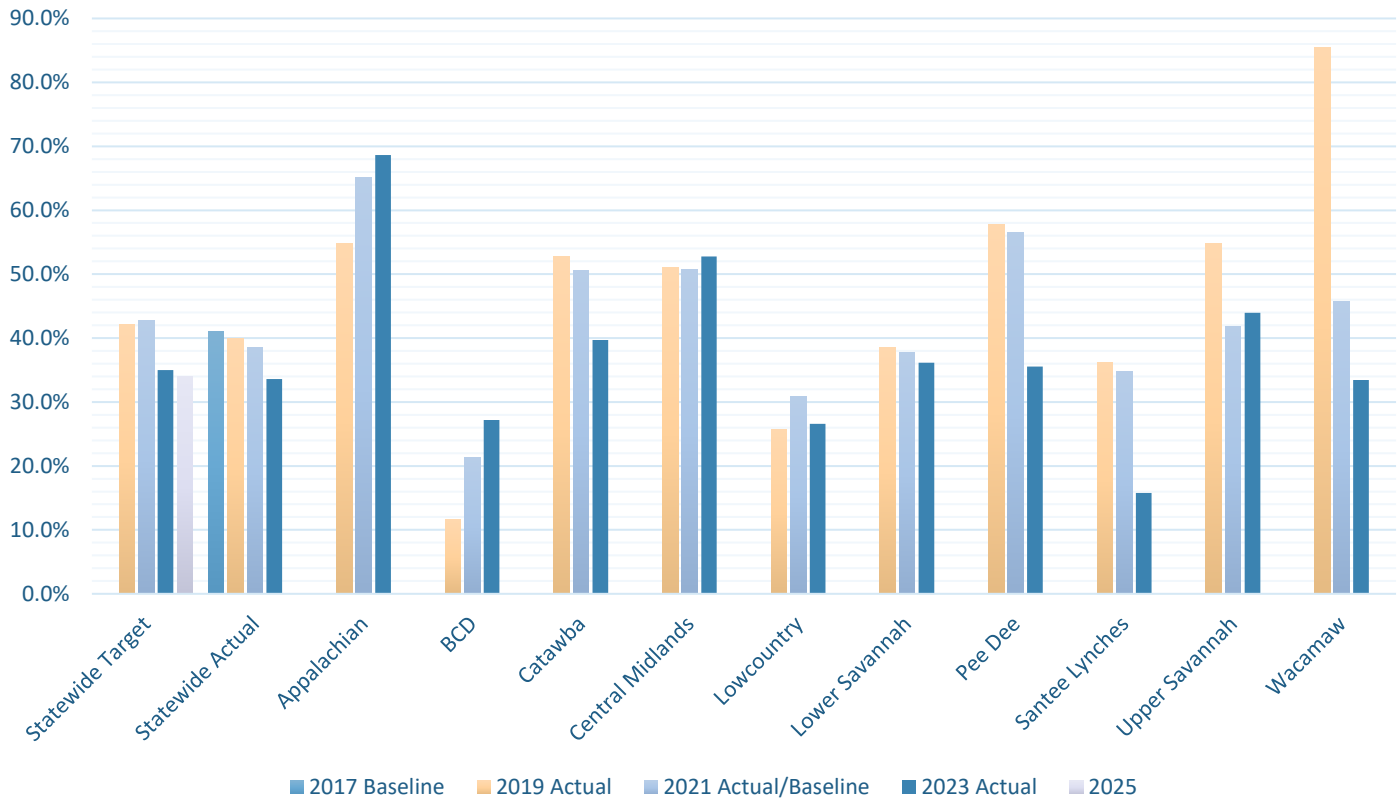
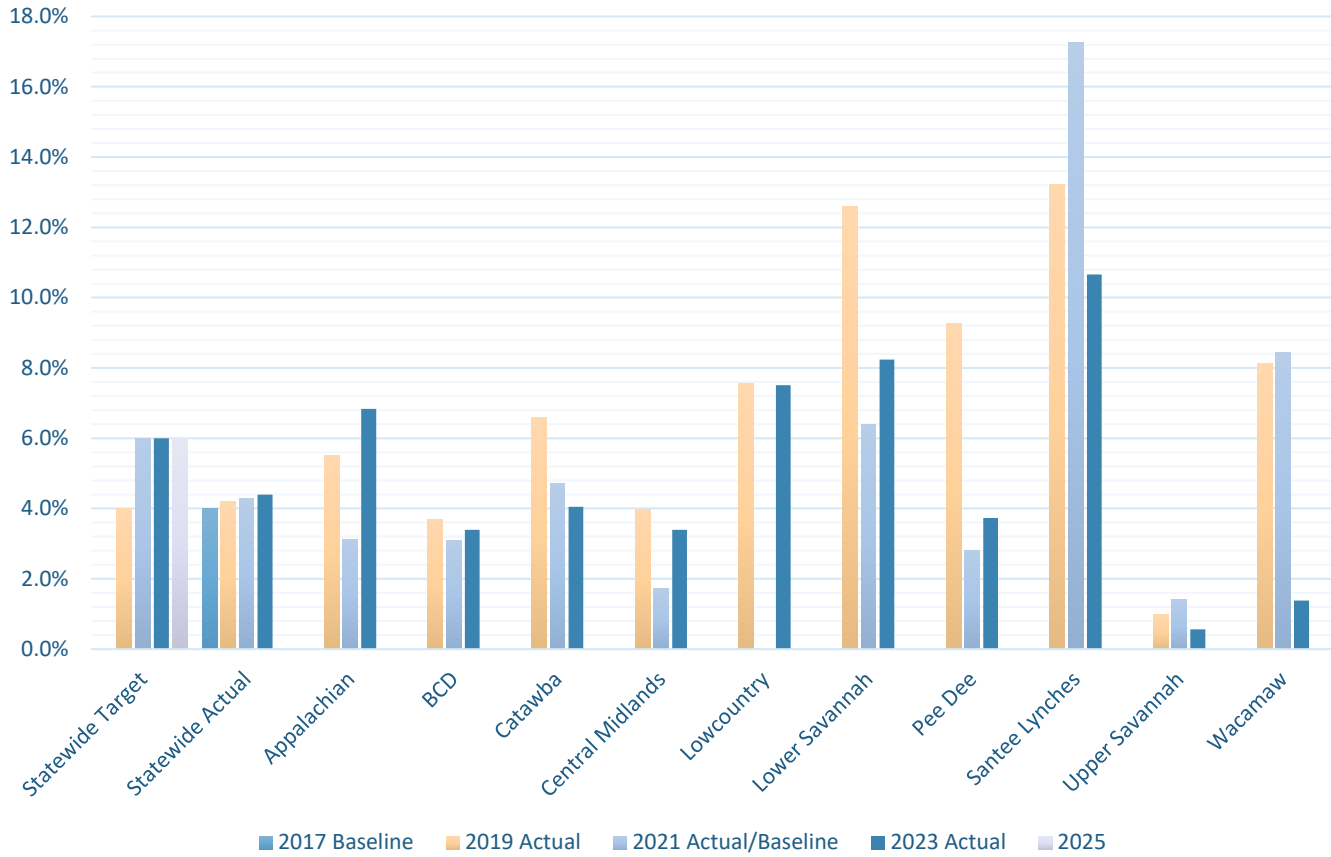


Figure 36. COG NHS Bridges in Poor Condition (SF Deck Area)



PM3 STATEWIDE MOBILITY

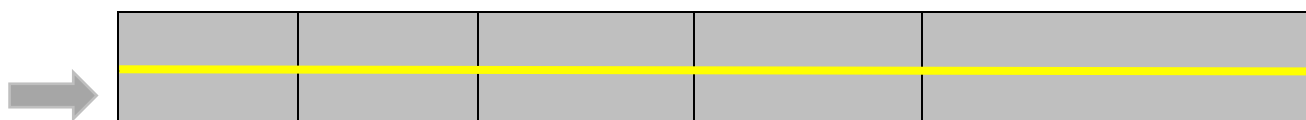
FHWA established measures to assess the performance and reliability of the National Highway System and freight movement on the interstate. Travel time reliability is how consistent or predictable travel conditions are for a trip or on a certain road. Some roads have very repeatable and consistent conditions day-to-day and are considered “reliable”, while others are more inconsistent with delays and travel times and are considered “unreliable”. A congested road is still considered reliable if the congestion is consistent and there are predictable travel times at certain times of the day. Level of Travel Time Reliability (LOTTR) measures the variability of travel times that occur on a facility or trip over a period of time. Reliability measures the benefit of traffic management and is significant to everyone who uses the transportation network, whether they’re motor vehicle users, transit, freight or others.

LOTTR is defined as the ratio of longer travel times (80th percentile) to a “normal” travel time (50th percentile) using data from the Federal Highway Administration’s National Performance Management Research Data Set (NPMRDS). Data is collected in 15-minute segments during four time periods:

- Morning Peak (6am-10am) Monday-Friday
- Midday (10am-4pm) Monday-Friday
- Afternoon Peak (4pm-8pm) Monday-Friday
- Weekends (6am-8pm)

The ratio is expressed as a percentage of the person miles traveled that are reliable through the sum of the number of reliable person miles traveled divided by the sum of total person miles traveled. For an example of how travel time reliability is measure see Figure 37. Performance is reported for percent person miles traveled on the Interstate and the Non-Interstate NHS that are reliable in Figure 38 and 39.

Figure 37. Calculating Travel Time Reliability Measure



Length	0.5 miles	0.5 miles	1.00 miles	1.00 miles	5.0 miles
<i>6am-10am</i>					
<i>10am-4pm</i>					
<i>4pm-8pm</i>					
<i>Weekend</i>					
<i>Reliable?</i>	<i>No</i>	<i>Yes</i>	<i>No</i>	<i>Yes</i>	<i>Yes</i>

$$\frac{6.5 \text{ reliable miles}}{8.00 \text{ total miles}} = 81.3\% \text{ Reliable}$$

SCDOT’s travel time reliability approach includes factors such as anticipated growth in vehicle miles traveled, and major projects. Evaluations for this performance period indicated that both reliability on the Interstate and Non-Interstate NHS would decline relative to 2021 baseline conditions. Baseline conditions in 2021 may not be fully indicative of post pandemic travel patterns, which was reflected in projected targets.

Figure 38. Percent Person-Miles Traveled on the Interstate that are Reliable

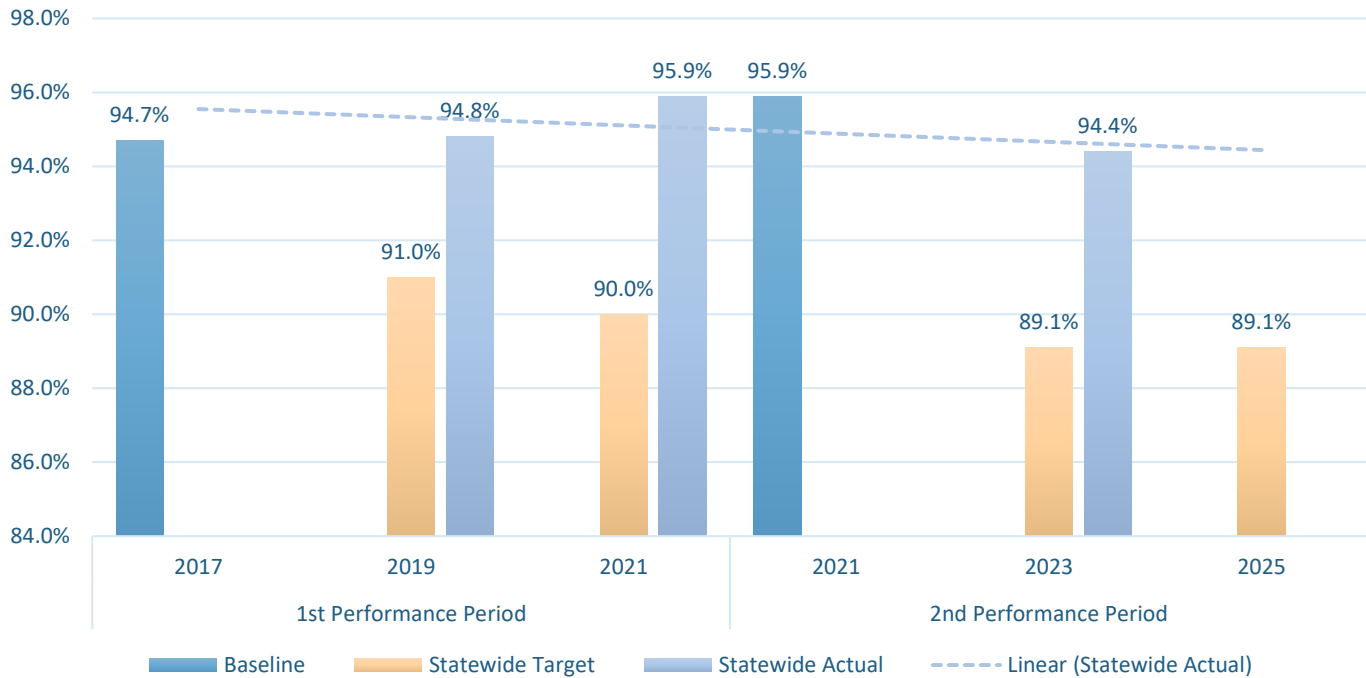
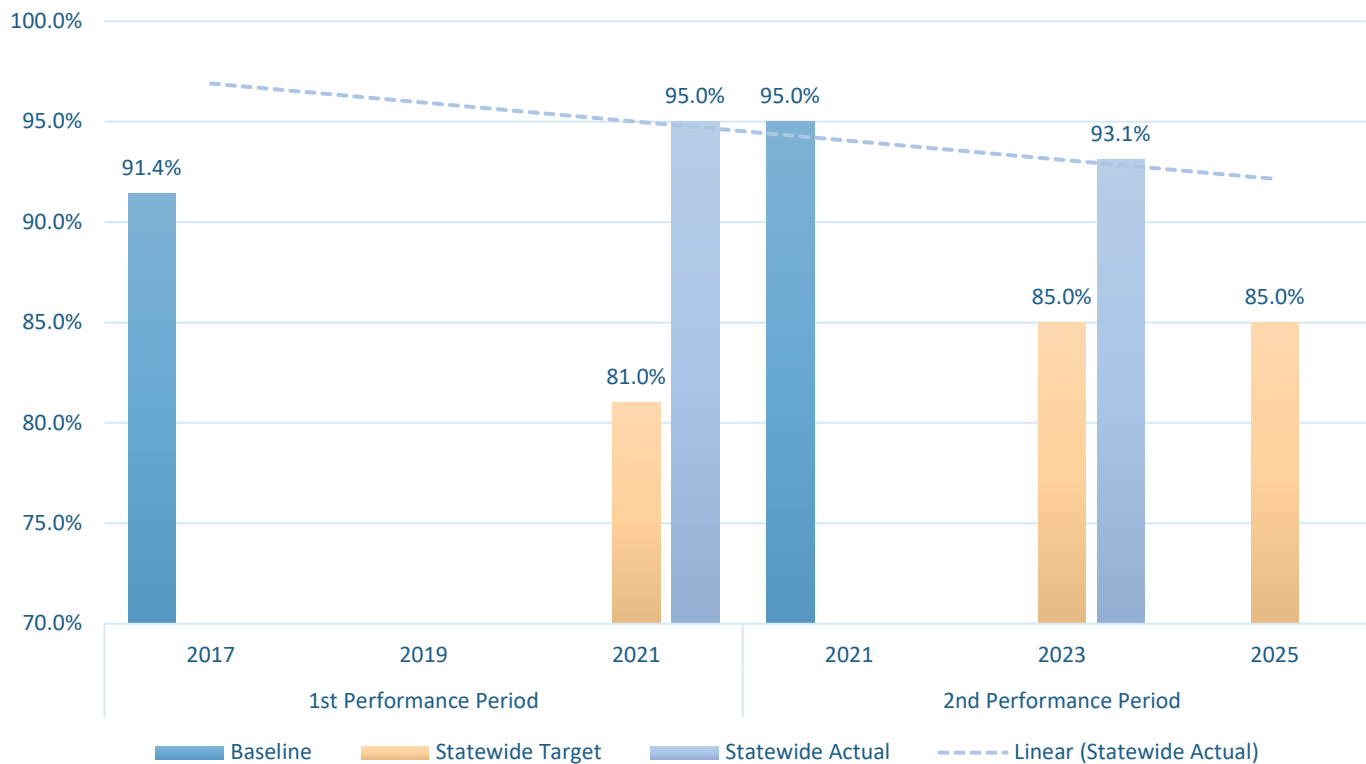


Figure 39. Percent Person-Miles Traveled on the Non-Interstate NHS that are Reliable



MPO AND COG MOBILITY

MPO and COG regional mobility conditions are shown in Figure 40 through 43 with comparison to the statewide actual conditions and targets over time. For data used to create these figures see Appendix A.

Figure 40. Percent of Person-Miles Traveled on the Interstate that are Reliable (MPO)

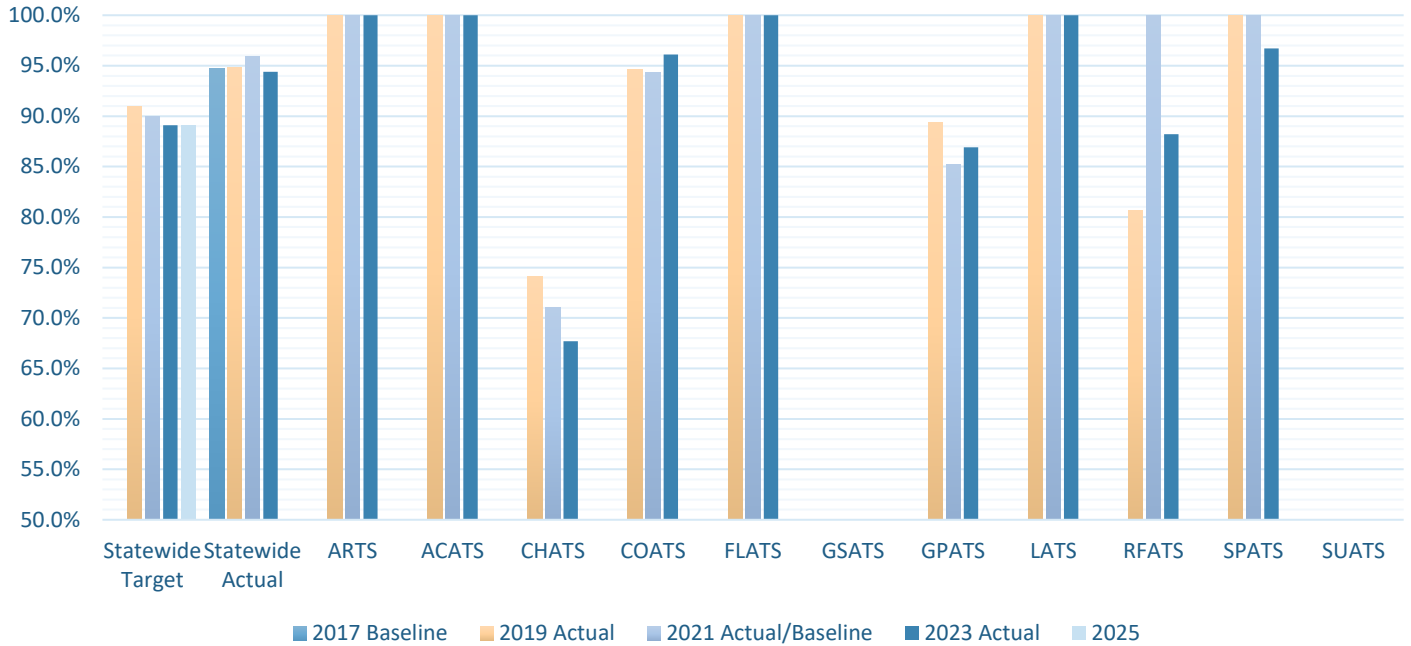


Figure 41. Percent of Person-Miles Traveled on the Non-Interstate NHS that are Reliable (MPO)

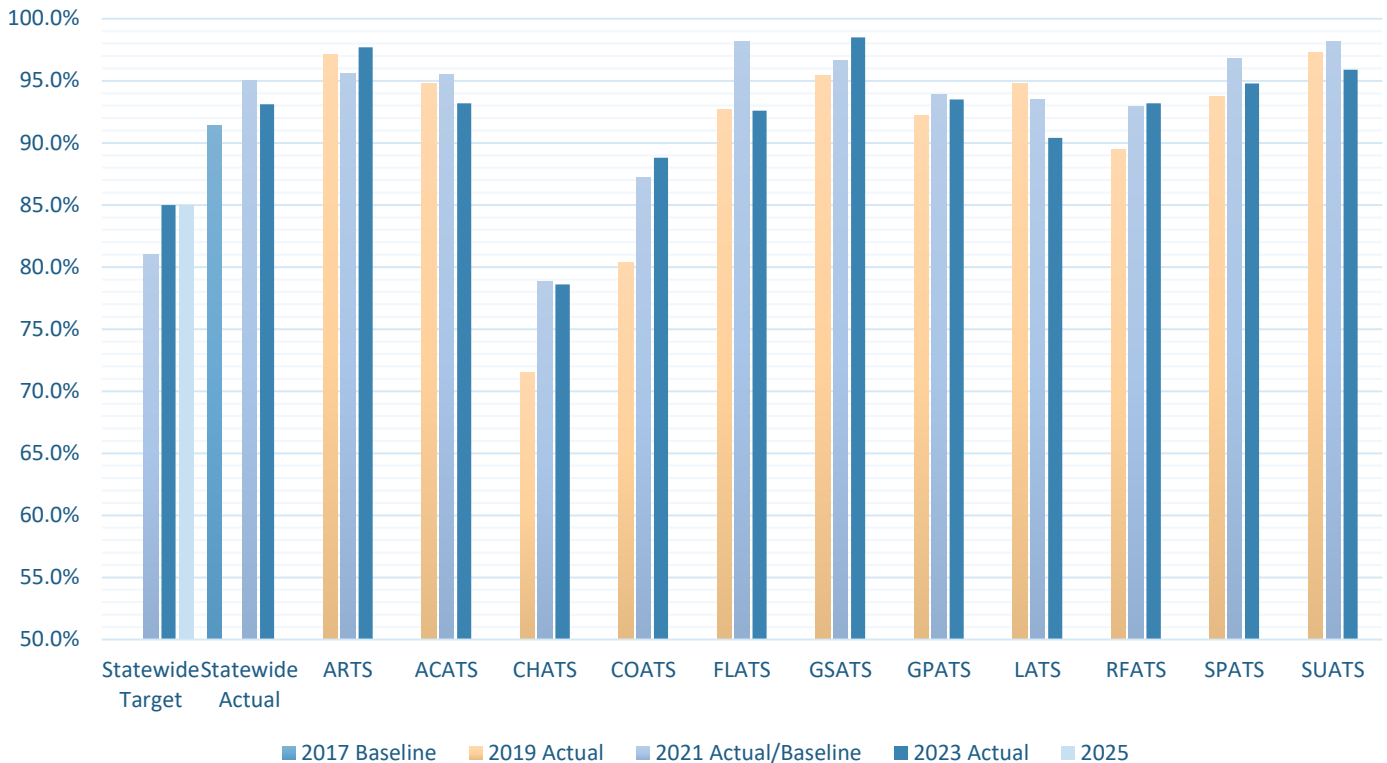
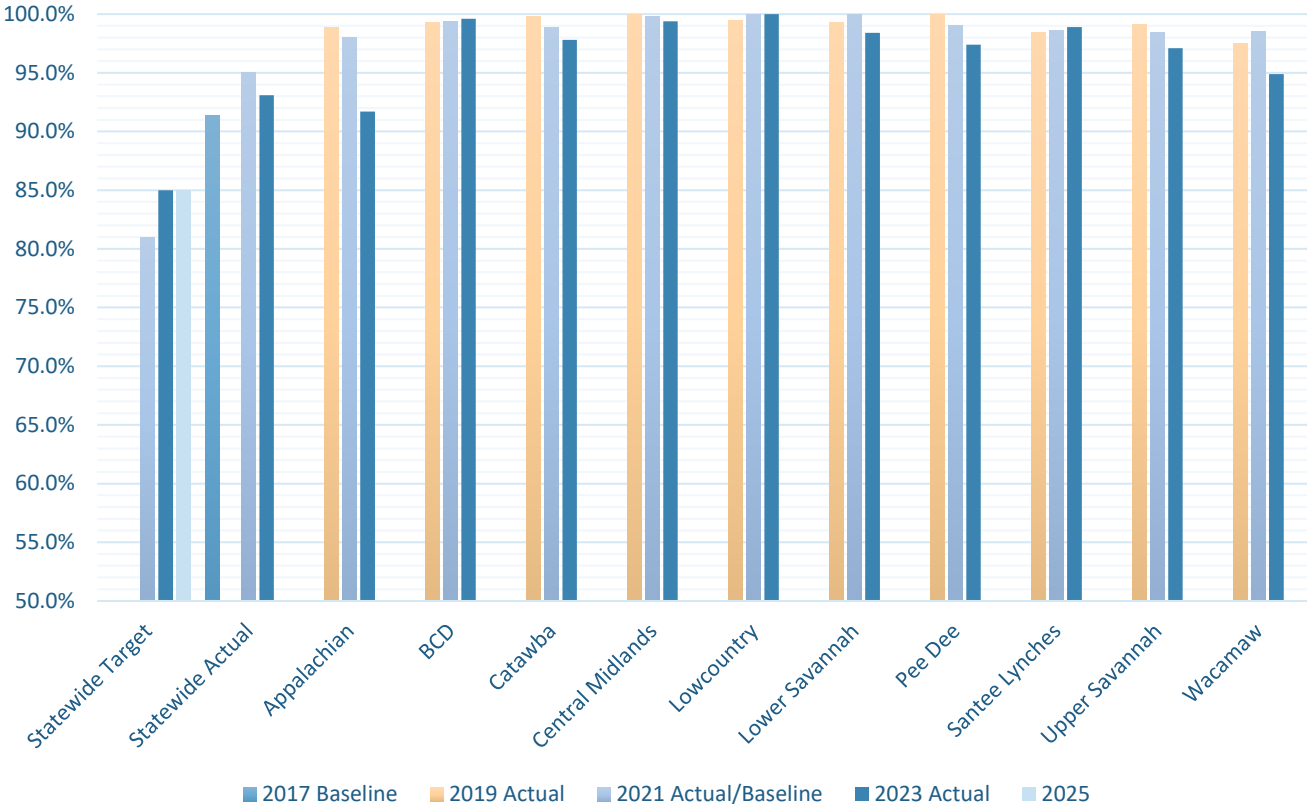


Figure 42. Percent of Person-Miles Traveled on the Interstate that are Reliable (COG)



Figure 43. Percent of Person-Miles Traveled on the Non-Interstate NHS that are Reliable (COG)



PM3 FREIGHT MOBILITY (TTTR)

The freight movement performance measure assesses reliability for trucks traveling on the Interstate system. A Truck Travel Time Reliability (TTTR) index is generated based on the ratio of actual truck travel times to normal travel times. A lower TTTR value means better performance, i.e., more reliable truck travel.

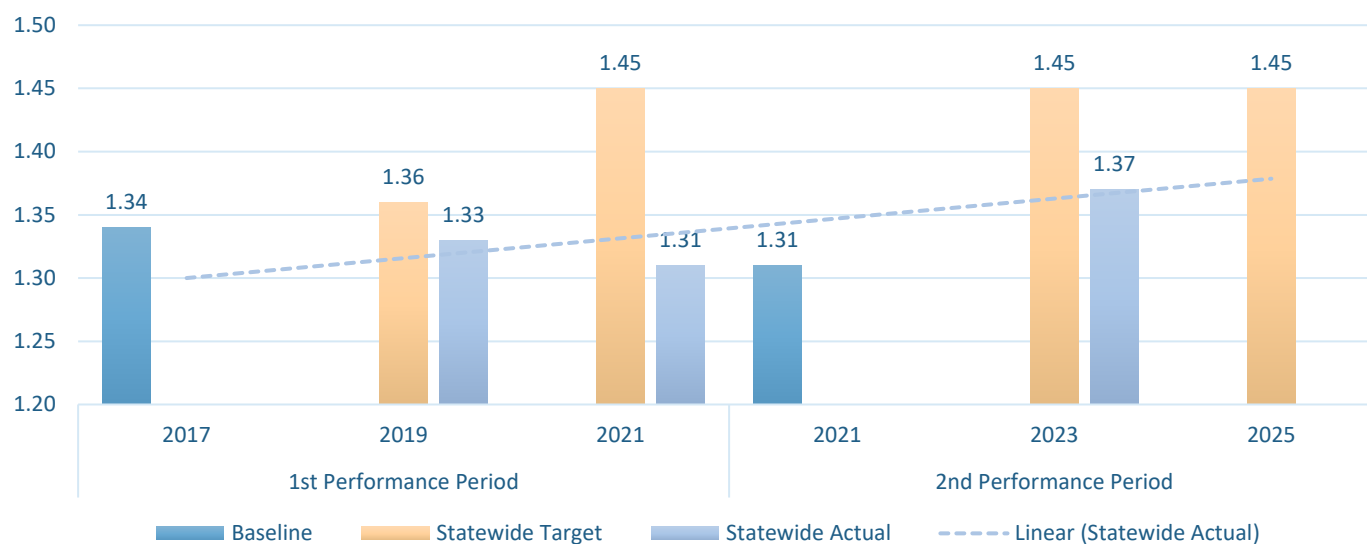
FHWA defines Level of Truck Travel Time Reliability (LOTTTR) as the percent of truck-miles on the Interstate System that are reliable. LOTTTR is calculated as the ratio of the longer travel times (95th percentile) to a “normal” travel time (50th percentile), using NPMRDS or equivalent data. Data is collected in 15-minute segments during five time periods:

- Morning Peak (6am-10am) Monday-Friday
- Midday (10am-4pm) Monday-Friday
- Afternoon Peak (4pm-8pm) Monday-Friday
- Weekends (6am-8pm)
- Overnight (8pm-6am)

The segments are then used to create the TTTR index for the entire system using a weighted aggregate calculation for the worst performing times of each segment.

Any roadway segment or corridor that has a reliability index of 1.5 or greater during any time period is considered to be unreliable. TTTR Index in Figure 44 shows overall freight reliability on the Interstate in South Carolina. In the MPO and COG Freight Mobility section that follows the graph shows the consistently unreliable regions of the Interstate System that are responsible for making 4.1% of the Interstate’s unreliable, the majority of which are located in three MPO’s: Charleston (CHATS), Greenville-Pickens (GPATS) and Columbia (COATS). Addressing unreliable sections and pinch points of System to System Interchanges is a top priority for the agency. As future freight volume increases, economic growth and increased work zone and interstate capacity projects are in construction, it is forecasted that TTTR index will increase above the baseline. Current and future interstate projects will benefit interstate TTTR in the long term, but SCDOT anticipates lower truck reliability will be difficult to achieve in the short term.

Figure 44. Interstate Truck Travel Time Reliability Index (TTTR)



MPO AND COG FREIGHT MOBILITY

MPO and COG regional freight mobility conditions are shown in Figure 45 and 46, with a comparison to the statewide actual conditions over time. For data used to create these figures see Appendix A.

Figure 45. Interstate Freight TTTR Index (MPO)

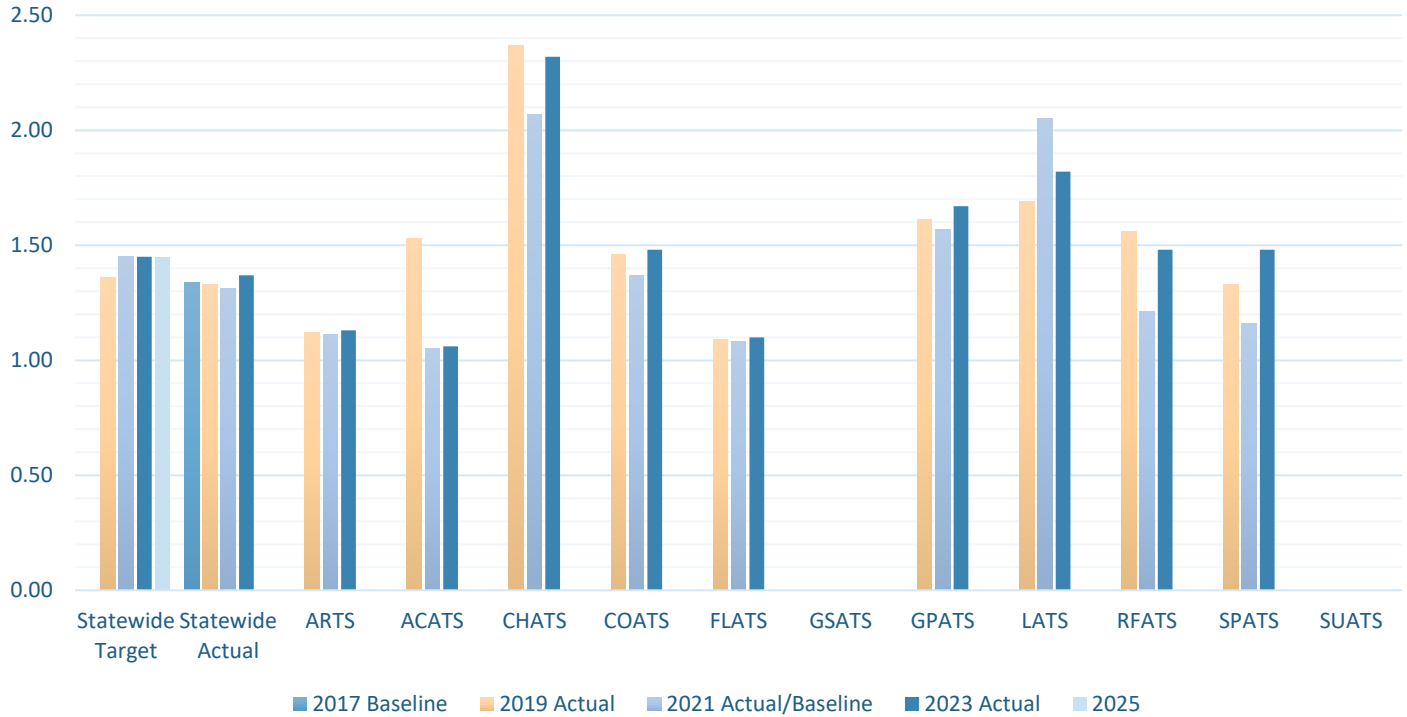
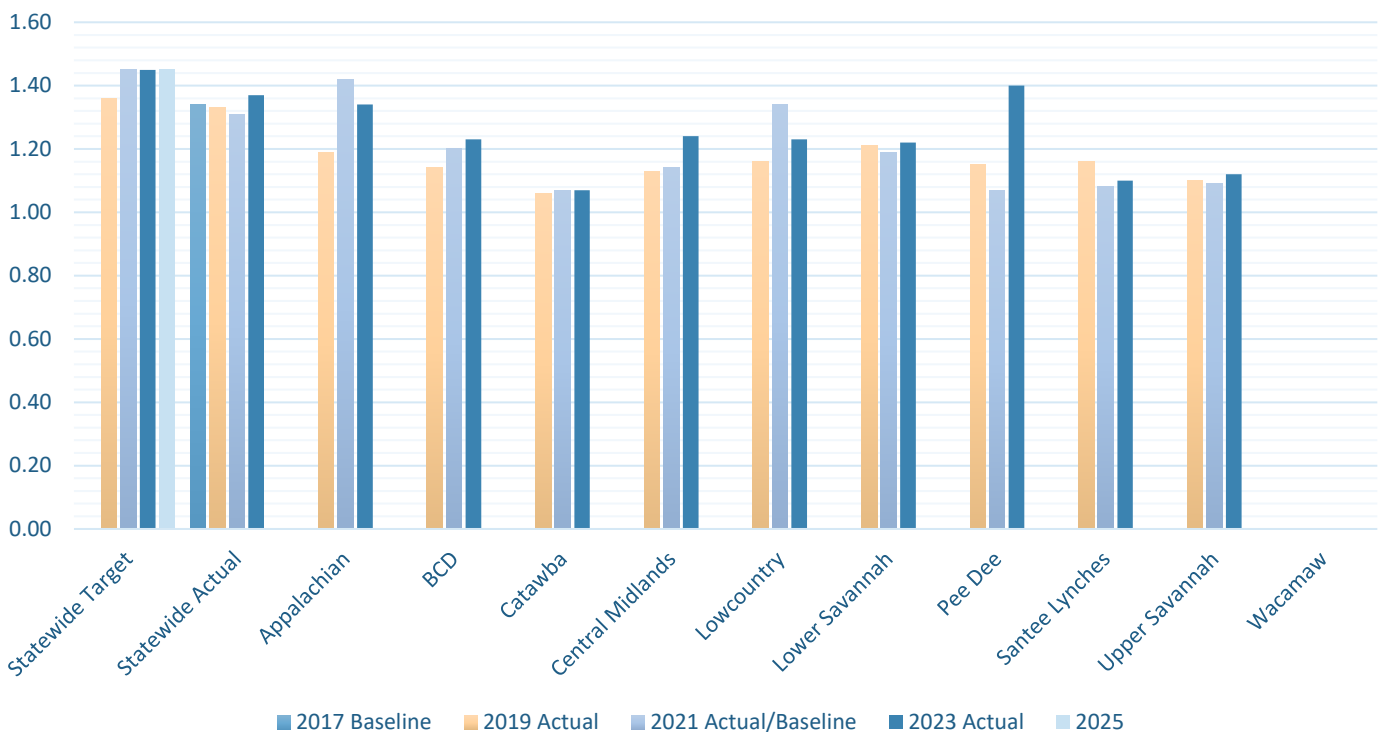


Figure 46. Interstate Freight TTTR Index (COG)

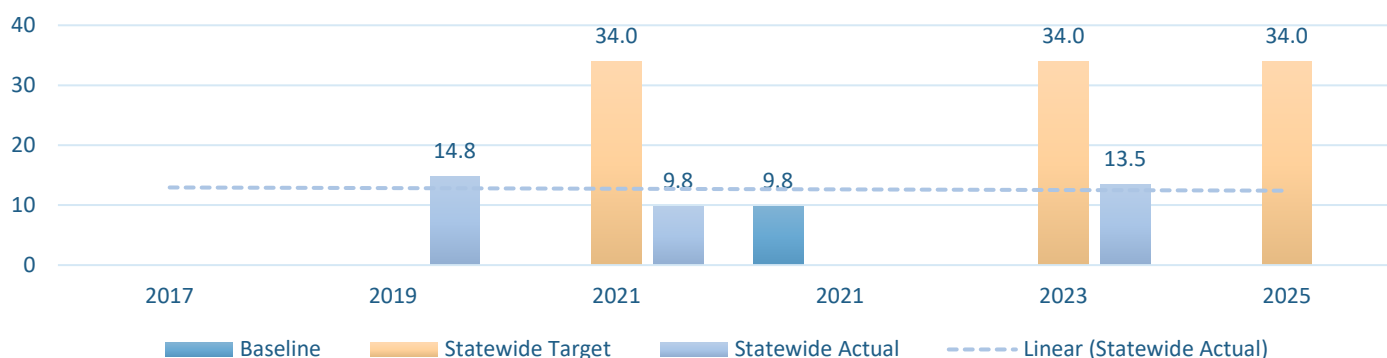


PM3 CONGESTION MITIGATION & AIR QUALITY IMPROVEMENT PROGRAM

Congestion Mitigation and Air Quality Improvement Program (CMAQ) measures apply to MPOs that are within the boundaries of each U.S. Census Bureau-designated Urbanized Area (UZA) that contains a NHS road, has a population of more than one million, and contains any part of nonattainment or maintenance area for emissions which applies to one MPO area of the state, Rock Hill and Fort Mill Area Transportation Study (RFATS). SCDOT works in conjunction with NCDOT, RFATS and other relative MPOs to develop the targets with NCDOT taking the lead on data gathering and analysis due to most of the UZA being located in North Carolina. FHWA established measures, to assess the extent of congestion and projects aimed at emission reduction.

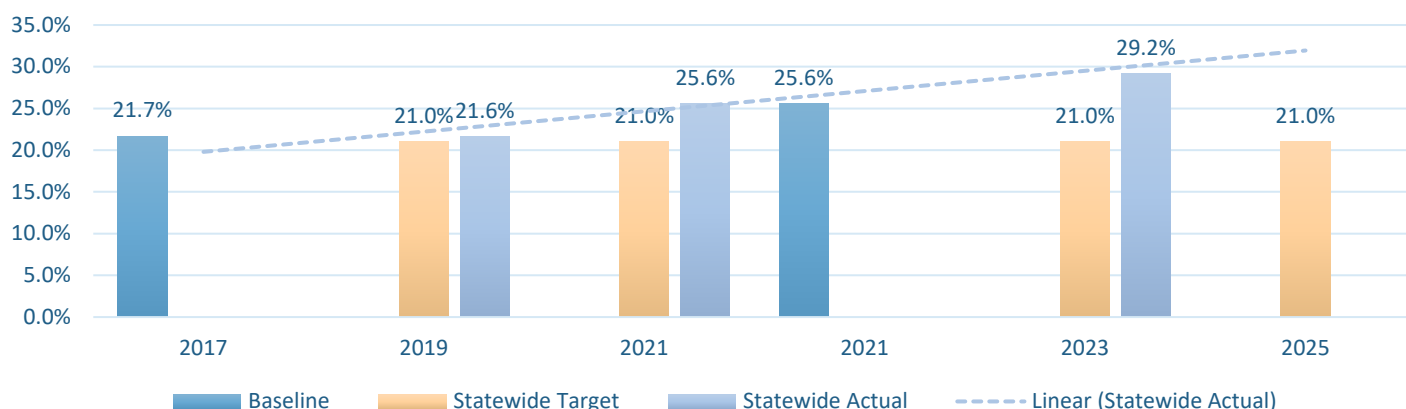
The extent of traffic congestion is measured by the number of transportation system users that are affected by congestion. This metric is measured by the annual hours of Peak Hour Excessive Delay (PHED) per capita on the NHS in the Charlotte, NC-SC Urbanized Area. The threshold for excessive delay is based on the travel times at 20 miles per hour or 60% of the posted speed limit travel time, whichever is greater. And measured in 15-minute intervals. Peak travel hours are defined as 6:00 to 10:00 a.m. on weekday mornings; the weekday afternoon period is 3:00 to 7:00 p.m. or 4:00 to 8:00 p.m. The total excessive delay metric is weighted by vehicle volumes and occupancy. Thus, PHED is a measure of person-hours of delay experienced on NHS roads on an annual basis. The targets in Figure 47 reflect an anticipated return to pre-pandemic traffic delays, above the 2021 baseline. Uncertainty remains as the continuing impacts of widespread telework and more flexible work schedules have kept actual conditions better than pre-pandemic performance trends.

Figure 47. Annual Hours of Peak Hour Excessive Delay per Capita - Charlotte, NC-SC Urbanized Area (hours)



Measuring Non-Single Occupancy Vehicle (Non-SOV) travel, within an urbanized area, recognizes investments within the Charlotte, NC-SC region that increase multimodal solutions and vehicle occupancy levels as strategies to reduce congestion and criteria pollutant emissions. Modes of transportation recognized include carpooling, vanpooling, public transportation, commuter rail, walking, bicycling and tele-commuting. See Figure 48 below.

Figure 48. Percent of Non-Single Occupancy Vehicle Travel - Charlotte, NC-SC Urbanized Area



On-road emission reduction measures represents the cumulative target period reductions in kg/day for CMAQ funded projects within the boundary of the planning area. Total emission reduction for Nitrogen Oxides (NOx), Figure 49, and Volatile Organic Compounds (VOC), Figure 50, performance measures represent the estimated reductions benefit resulting from CMAQ projects authorized for funding in the performance period. These benefits are highly dependent on the project type and project delivery schedules. Projects planned to be completed in the first half of the performance period have shifted to the remainder of the performance period due to delays with utility coordination, right-of-way phase and other project delivery delays.

Figure 49. Total Emission Reduction (NOx) - Charlotte, NC-SC Urbanized Area (kg/day)

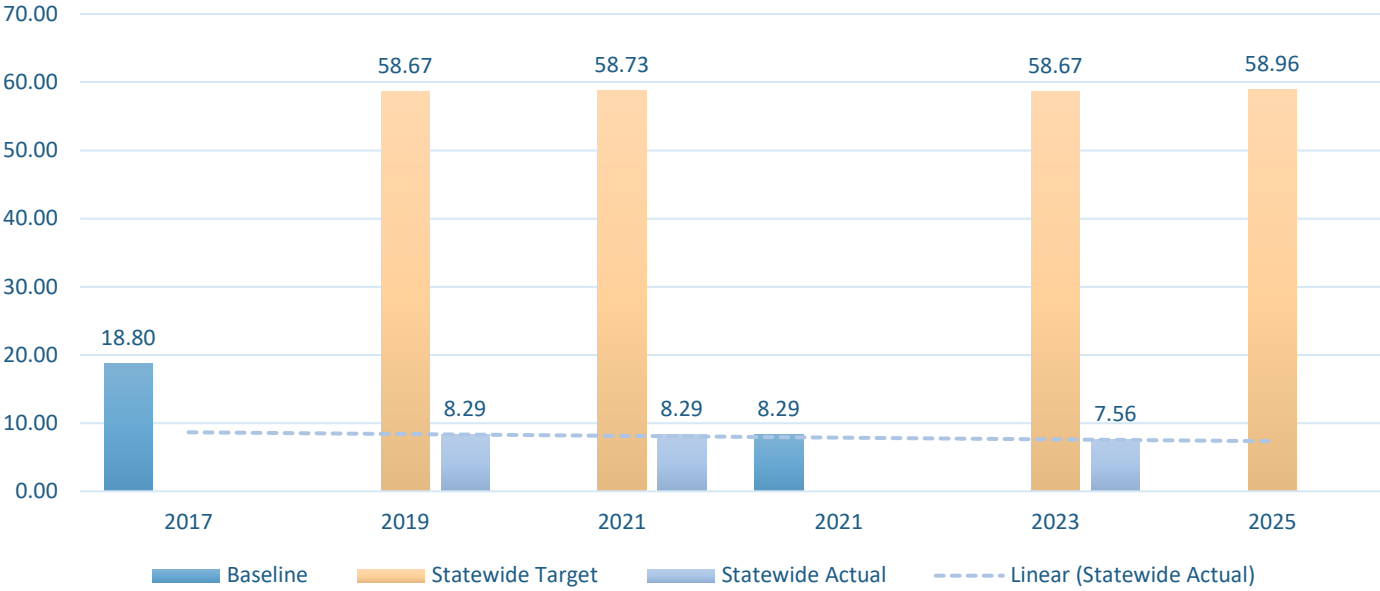
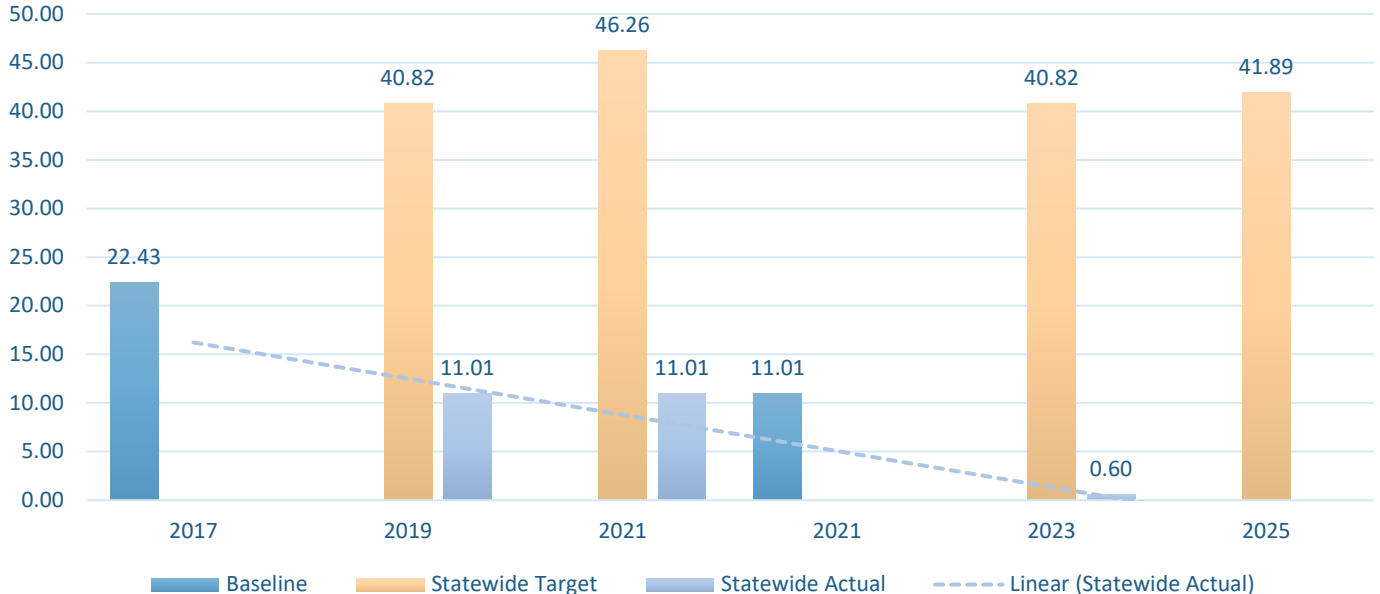


Figure 50. Total Emission Reduction (VOC) - Charlotte, NC-SC Urbanized Area (kg/day)



APPENDIX

(Note – Some cells are purposely left blank in the tables that follow)

Number of Fatalities Statewide	Year				
	CY (2014-2018) Baseline (2012-2016)	CY (2015-2019) Baseline (2013-2017)	CY (2016-2020) Baseline (2014-2018)	CY (2017-2021) Baseline (2015-2019)	CY (2018-2022) Baseline (2016-2020)
Baseline	890.4	915.6	969.4	1006.0	1023.4
Statewide Target	970.0	988.0	1011.0	1005.0	1061.0
Statewide Actual	969.6	1005.0	1023.0	1059.0	1080.0

Rate of Fatalities	Year				
	CY (2014-2018) Baseline (2012-2016)	CY (2015-2019) Baseline (2013-2017)	CY (2016-2020) Baseline (2014-2018)	CY (2017-2021) Baseline (2015-2019)	CY (2018-2022) Baseline (2016-2020)
Baseline	1.748	1.752	1.802	1.820	1.838
Statewide Target	1.810	1.790	1.819	1.760	1.820
Statewide Actual	1.804	1.818	1.836	1.880	1.894

Number of Serious Injuries Statewide	Year				
	CY (2014-2018) Baseline (2012-2016)	CY (2015-2019) Baseline (2013-2017)	CY (2016-2020) Baseline (2014-2018)	CY (2017-2021) Baseline (2015-2019)	CY (2018-2022) Baseline (2016-2020)
Baseline	3195.4	3108.2	2938.8	2974.2	2877.2
Statewide Target	3067.0	2986.0	2781.0	2950.0	2850.0
Statewide Actual	2988.4	2986.6	2888.2	2862.2	2804.6

Rate of Serious Injuries	Year				
	CY (2014-2018) Baseline (2012-2016)	CY (2015-2019) Baseline (2013-2017)	CY (2016-2020) Baseline (2014-2018)	CY (2017-2021) Baseline (2015-2019)	CY (2018-2022) Baseline (2016-2020)
Baseline	6.304	5.986	5.584	5.390	5.160
Statewide Target	5.708	5.420	4.979	5.350	4.892
Statewide Actual	5.590	5.412	5.180	5.076	4.916

Number of Non-Motorized Fatalities and Serious Injuries	Year				
	CY (2014-2018) Baseline (2012-2016)	CY (2015-2019) Baseline (2013-2017)	CY (2016-2020) Baseline (2014-2018)	CY (2017-2021) Baseline (2015-2019)	CY (2018-2022) Baseline (2016-2020)
Baseline	378.8	382.6	393.2	417.4	440.8
Statewide Target	371.3	380.0	380.0	440.0	500.0
Statewide Actual	389.8	414.2	438.8	458.8	463.6



MPO Study Area	Total F&SI	Percent Total F&SI Overall	Traffic Fatalities	Fatality Rate*	Serious Injuries	Serious Injury Rate*	Non-Motorized Fatalities and Serious Injuries
Statewide				1.775		4.567	
ARTS	88.800	3%	23.0	1.441	52.8	3.308	13.0
ACATS	79.000	3%	20.0	1.023	49.4	2.526	9.6
CHATS	544.400	20%	97.2	1.419	360.6	5.266	86.6
COATS	430.400	16%	106.8	1.492	265.8	3.713	57.8
FLATS	134.400	5%	31.4	1.801	83.6	4.796	19.4
GSATS	297.200	11%	56.6	1.510	196.4	5.239	44.2
GPATS	509.600	19%	112.0	1.828	339.2	5.536	58.4
RFATS	149.400	6%	28.2	1.132	106.2	4.261	15.0
SPATS	208.400	8%	54.0	1.551	134.0	3.849	20.4
SUATS	80.600	3%	18.8	2.413	53.4	6.854	8.4
LATS	139.400	5%	26.0	1.255	97.6	4.712	15.8

COG Study Area	Total F&SI	Percent Total F&SI Overall	Traffic Fatalities	Fatality Rate*	Serious Injuries	Serious Injury Rate*	Non-Motorized Fatalities and Serious Injuries
Statewide				1.775		4.567	
Appalachian	250.200	15%	65.0	2.284	166.6	5.855	18.6
BCD	119.800	7%	43.6	2.602	66.6	3.975	9.6
Catawba	167.000	10%	47.6	2.387	107.2	5.375	12.2
Central Midlands	91.800	5%	36.0	1.836	48.0	2.448	7.8
Lowcountry	135.600	8%	46.2	2.136	77.2	3.569	12.2
Lower Savannah	226.800	13%	65.8	2.007	146.8	4.478	14.2
Pee Dee	238.400	14%	71.6	2.573	144.0	5.175	22.8
Santee Lynches	129.400	8%	37.0	1.523	84.8	3.490	7.6
Upper Savannah	180.000	11%	52.4	2.181	113.4	4.719	14.2
Waccamaw	143.000	9%	42.4	3.059	88.6	6.393	12.0

Interstate Pavements in Good Condition (Fed Metric)	1st Performance Period			2nd Performance Period		
	2017	2019	2021	2021	2023	2025
Baseline				75.8%		
Statewide Target			71.0%		77.0%	78.0%
Statewide Actual		63.2%	75.8%		70.7%	

Interstate Pavements in Poor Condition (Fed Metric)	1st Performance Period			2nd Performance Period		
	2017	2019	2021	2021	2023	2025
Baseline				0.2%		
Statewide Target			3.0%		2.5%	2.5%
Statewide Actual		1.2%	0.2%		0.6%	

Non-Interstate NHS Pavements in Good Condition (Fed Metric)	1st Performance Period			2nd Performance Period		
	2017	2019	2021	2021	2023	2025
Baseline				38.8%		
Statewide Target		14.9%	21.1%		36.0%	38.0%
Statewide Actual		27.4%	38.8%		38.6%	

Non-Interstate NHS Pavements in Poor Condition (Fed Metric)	1st Performance Period			2nd Performance Period		
	2017	2019	2021	2021	2023	2025
Baseline				1.6%		
Statewide Target		4.3%	4.6%		10.0%	10.0%
Statewide Actual		3.9%	1.6%		1.9%	



MPO Region - Interstate Centerline Miles	Centerline Miles	Percentage
ACATS	13.74	2%
ARTS	60.07	7%
CHATS	96.99	12%
COATS	243.51	30%
FLATS	78.01	10%
GSATS	0.00	0%
GPATS	134.39	17%
LATS	29.93	4%
RFATS	42.68	5%
SPATS	107.71	13%
SUATS	0.00	0%

MPO Region Non-Interstate NHS Centerline Miles	Centerline Miles	Percentage
ACATS	66.20	4%
ARTS	91.70	6%
CHATS	208.00	13%
COATS	228.30	14%
FLATS	77.88	5%
GSATS	296.60	19%
GPATS	213.35	13%
LATS	134.19	8%
RFATS	100.81	6%
SPATS	111.03	7%
SUATS	69.61	4%



COG Region - Interstate Centerline Miles	Centerline Miles	Percentage
Appalachian	130.82	15%
BCD	78.01	9%
Catawba	37.64	4%
Central Midlands	120.53	13%
Lowcountry	107.69	12%
Lower Savannah	137.17	15%
Pee Dee	56.71	6%
Santee Lynches	155.49	17%
Upper Savannah	70.07	8%
Wacamaw	0.00	0%

COG Region Non-Interstate NHS Centerline Miles	Centerline Miles	Percentage
Appalachian	133.71	7%
BCD	162.08	8%
Catawba	227.66	11%
Central Midlands	41.75	2%
Lowcountry	106.95	5%
Lower Savannah	279.79	14%
Pee Dee	427.64	21%
Santee Lynches	127.46	6%
Upper Savannah	265.69	13%
Wacamaw	257.59	13%



MPO Interstate Pavements (PQI) Good	Years			
	2017	2019	2021	2023
Statewide	69.87%	69.72%	77.69%	76.79%
ACATS	29.34%	100.00%	95.85%	95.78%
ARTS	61.20%	83.52%	88.91%	78.29%
CHATS	98.94%	66.35%	64.09%	85.30%
COATS	73.88%	83.21%	80.60%	84.36%
FLATS	93.31%	93.87%	94.22%	90.13%
GSATS				
GPATS	69.91%	63.88%	64.94%	60.18%
LATS	71.57%	83.90%	84.20%	100.00%
RFATS	100.00%	100.00%	100.00%	97.51%
SPATS	62.85%	89.77%	94.83%	96.68%
SUATS				

MPO Interstate Pavements (PQI) Poor	Years			
	2017	2019	2021	2023
Statewide	13.90%	11.07%	7.65%	7.02%
ACATS	13.83%	0.00%	0.00%	0.00%
ARTS	35.47%	6.16%	0.00%	10.38%
CHATS	0.40%	3.48%	4.13%	5.67%
COATS	16.45%	8.56%	5.30%	3.43%
FLATS	0.67%	0.00%	5.00%	4.79%
GSATS				
GPATS	21.12%	16.35%	22.05%	24.95%
LATS	0.00%	12.29%	1.98%	0.00%
RFATS	0.00%	0.00%	0.00%	0.00%
SPATS	7.29%	6.23%	0.00%	0.98%
SUATS				



MPO Non-Interstate NHS Pavements (PQI) Good	Years			
	2017	2019	2021	2023
Statewide	31.67%	46.43%	52.20%	51.85%
ACATS	17.66%	25.40%	40.94%	36.40%
ARTS	18.62%	51.87%	38.38%	58.48%
CHATS	61.62%	63.08%	48.30%	40.39%
COATS	16.48%	22.48%	30.27%	34.80%
FLATS	50.13%	60.86%	66.72%	64.36%
GSATS	24.42%	30.91%	54.62%	69.67%
GPATS	21.22%	41.13%	59.39%	58.20%
LATS	42.38%	66.71%	64.72%	64.06%
RFATS	23.05%	28.82%	42.53%	43.61%
SPATS	16.66%	17.47%	27.63%	24.05%
SUATS	29.32%	50.37%	38.68%	32.25%

MPO Non-Interstate NHS Pavements (PQI) Poor	Years			
	2017	2019	2021	2023
Statewide	43.22%	34.84%	30.50%	29.62%
ACATS	55.35%	49.74%	42.28%	51.46%
ARTS	55.93%	29.65%	44.34%	28.04%
CHATS	17.89%	13.84%	18.58%	23.78%
COATS	39.14%	40.56%	36.94%	36.57%
FLATS	25.67%	14.09%	15.50%	13.83%
GSATS	45.22%	43.88%	26.07%	17.55%
GPATS	68.37%	53.98%	33.14%	25.27%
LATS	23.43%	8.61%	14.17%	11.35%
RFATS	30.14%	39.68%	29.93%	34.72%
SPATS	45.78%	60.36%	52.50%	64.31%
SUATS	51.44%	33.85%	48.90%	47.31%



COG Interstate Pavements (PQI) Good	Years			
	2017	2019	2021	2023
Statewide	69.87%	69.72%	77.69%	76.79%
Appalachian	67.95%	73.19%	73.69%	67.11%
BCD	72.99%	69.74%	79.37%	49.34%
Catawba	100.00%	91.21%	99.55%	60.20%
Central Midlands	50.11%	44.09%	70.98%	71.49%
Lowcountry	16.82%	15.84%	65.98%	65.66%
Lower Savannah	59.17%	32.04%	38.63%	57.33%
Pee Dee	66.81%	63.69%	66.87%	67.31%
Santee Lynches	80.30%	82.95%	98.46%	89.07%
Upper Savannah	96.24%	96.96%	99.68%	99.75%
Wacamaw				

COG Interstate Pavements (PQI) Poor	Years			
	2017	2019	2021	2023
Statewide	13.90%	11.07%	7.65%	7.02%
Appalachian	17.69%	9.03%	2.68%	4.24%
BCD	4.74%	1.92%	6.45%	17.83%
Catawba	0.00%	0.00%	0.00%	0.45%
Central Midlands	34.63%	39.88%	15.28%	14.96%
Lowcountry	19.25%	6.69%	0.00%	0.00%
Lower Savannah	19.86%	33.02%	24.11%	11.60%
Pee Dee	9.71%	17.63%	33.13%	12.99%
Santee Lynches	7.46%	1.43%	0.00%	0.00%
Upper Savannah	2.90%	2.75%	32.00%	0.00%
Wacamaw				

COG Non-Interstate NHS Pavements (PQI) Good	Years			
	2017	2019	2021	2023
Statewide	31.67%	46.43%	52.20%	51.85%
Appalachian	26.71%	42.67%	54.15%	52.01%
BCD	24.78%	39.24%	43.12%	51.55%
Catawba	25.80%	47.08%	62.22%	50.58%
Central Midlands	45.81%	53.67%	38.17%	39.45%
Lowcountry	53.02%	73.00%	61.47%	58.08%
Lower Savannah	20.79%	48.77%	50.82%	51.25%
Pee Dee	36.75%	52.47%	56.94%	56.50%
Santee Lynches	34.49%	64.56%	64.51%	42.58%
Upper Savannah	34.91%	40.35%	54.40%	48.90%
Wacamaw	44.27%	56.49%	60.59%	63.59%

COG Non-Interstate NHS Pavements (PQI) Poor	Years			
	2017	2019	2021	2023
Statewide	43.22%	34.84%	30.50%	29.62%
Appalachian	52.84%	47.67%	27.46%	27.17%
BCD	51.36%	37.60%	33.10%	34.06%
Catawba	46.49%	32.81%	27.25%	34.15%
Central Midlands	43.29%	45.80%	50.77%	42.14%
Lowcountry	26.87%	11.68%	25.45%	25.65%
Lower Savannah	61.94%	38.71%	38.38%	33.53%
Pee Dee	44.44%	30.91%	29.16%	28.74%
Santee Lynches	27.49%	20.02%	24.23%	39.21%
Upper Savannah	39.64%	40.35%	26.55%	24.86%
Wacamaw	37.78%	35.25%	30.57%	24.65%



NHS Bridges in Good Condition (Deck Area)	1st Performance Period			2nd Performance Period		
	2017	2019	2021	2021	2023	2025
Baseline	41.1%			38.5%		
Statewide Target		42.2%	42.7%		35.0%	34.0%
Statewide Actual		40.0%	38.5%		33.6%	

NHS Bridges in Poor Condition (Deck Area)	1st Performance Period			2nd Performance Period		
	2017	2019	2021	2021	2023	2025
Baseline	4.0%			4.3%		
Statewide Target		4.0%	6.0%		6.0%	6.0%
Statewide Actual		4.2%	4.3%		4.4%	

MPO NHS Bridges	Square Footage Deck Area	Number	Percentage
ACATS	522625	35	2%
ARTS	580078	44	2%
CHATS	11627783	147	42%
COATS	3936459	173	14%
FLATS	722926	61	3%
GSATS	3692822	108	13%
GPATS	2245373	151	8%
LATS	2119872	48	8%
RFATS	667130	35	2%
SPATS	1135581	93	4%
SUATS	199744	16	1%

COG NHS Bridges	Square Footage Deck Area	Number	Percentage
Appalachian	1184293	84	9%
BCD	2082239	98	11%
Catawba	966203	85	10%
Central Midlands	860469	58	6%
Lowcountry	679518	58	6%
Lower Savannah	957638	89	10%
Pee Dee	2249035	149	17%
Santee Lynches	1978970	110	12%
Upper Savannah	759670	85	10%
Wacamaw	1510327	74	8%



MPO NHS Bridges in Good Condition (Deck Area)	1st Performance Period			2nd Performance Period		
	2017	2019	2021	2021	2023	2025
Statewide Baseline	41.1%			38.5%		
Statewide Target		42.2%	42.7%		35.0%	34.0%
Statewide Actual		40.0%	38.5%		33.6%	
ARTS		62.4%	61.8%		62.0%	
ACATS		16.2%	17.4%		12.7%	
CHATS		19.9%	22.6%		23.7%	
COATS		55.9%	52.7%		40.0%	
FLATS		28.6%	38.4%		7.2%	
GSATS		78.0%	65.1%		56.0%	
GPATS		57.1%	56.8%		56.1%	
LATS		2.4%	2.3%		2.6%	
RFATS		23.9%	24.5%		25.6%	
SPATS		63.9%	62.2%		58.3%	
SUATS		64.41%	64.01%		56.99%	

MPO NHS Bridges in Poor Condition (Deck Area)	1st Performance Period			2nd Performance Period		
	2017	2019	2021	2021	2023	2025
Statewide Baseline	4.0%			4.3%		
Statewide Target		4.0%	6.0%		6.0%	6.0%
Statewide Actual		4.2%	4.3%		4.4%	
ARTS		2.6%	1.4%		1.5%	
ACATS		0.8%	0.8%		0.8%	
CHATS		0.7%	0.9%		1.5%	
COATS		6.3%	5.1%		5.6%	
FLATS		0.0%	0.0%		1.0%	
GSATS		2.4%	7.5%		7.6%	
GPATS		11.6%	11.6%		10.5%	
LATS		4.6%	4.1%		4.1%	
RFATS		0.6%	0.6%		0.8%	
SPATS		8.1%	3.7%		7.1%	
SUATS		10.7%	10.9%		10.9%	

COG NHS Bridges in Good Condition (Deck Area)	1st Performance Period			2nd Performance Period		
	2017	2019	2021	2021	2023	2025
Statewide Baseline	41.1%			38.5%		
Statewide Target		42.2%	42.7%		35.0%	34.0%
Statewide Actual		40.0%	38.5%		33.6%	
Appalachian		54.7%	65.2%		68.6%	
BCD		11.6%	21.3%		27.2%	
Catawba		52.8%	50.6%		39.7%	
Central Midlands		51.0%	50.7%		52.8%	
Lowcountry		25.7%	30.8%		26.6%	
Lower Savannah		38.6%	37.8%		36.2%	
Pee Dee		57.8%	56.5%		35.5%	
Santee Lynches		36.2%	34.8%		15.8%	
Upper Savannah		54.8%	41.9%		44.0%	
Wacamaw		85.5%	45.7%		33.5%	

COG NHS Bridges in Poor Condition (Deck Area)	1st Performance Period			2nd Performance Period		
	2017	2019	2021	2021	2023	2025
Statewide Baseline	4.0%			4.3%		
Statewide Target		4.0%	6.0%		6.0%	6.0%
Statewide Actual		4.2%	4.3%		4.4%	
Appalachian		5.5%	3.1%		6.8%	
BCD		3.7%	3.1%		3.4%	
Catawba		6.6%	4.7%		4.1%	
Central Midlands		4.0%	1.7%		3.4%	
Lowcountry		7.6%	0.0%		7.5%	
Lower Savannah		12.6%	6.4%		8.2%	
Pee Dee		9.3%	2.8%		3.7%	
Santee Lynches		13.2%	17.3%		10.7%	
Upper Savannah		1.0%	1.4%		0.6%	
Wacamaw		8.1%	8.4%		1.4%	



Percent of Person-Miles Traveled on the Interstate that are Reliable	1st Performance Period			2nd Performance Period		
	2017	2019	2021	2021	2023	2025
Baseline	94.7%			95.9%		
Statewide Target		91.0%	90.0%		89.1%	89.1%
Statewide Actual		94.8%	95.9%		94.4%	

Percent of Person-Miles Traveled on the Non-Interstate NHS that are Reliable	1st Performance Period			2nd Performance Period		
	2017	2019	2021	2021	2023	2025
Baseline	91.4%			95.0%		
Statewide Target			81.0%		85.0%	85.0%
Statewide Actual			95.0%		93.1%	

Truck Travel Time Reliability Index	1st Performance Period			2nd Performance Period		
	2017	2019	2021	2021	2023	2025
Baseline	1.34			1.31		
Statewide Target		1.36	1.45		1.45	1.45
Statewide Actual		1.33	1.31		1.37	



MPO Percent of Person-Miles Traveled on the Interstate that are Reliable	1st Performance Period			2nd Performance Period		
	2017	2019	2021	2021	2023	2025
Baseline	94.7%			95.9%		
Statewide Target		91.0%	90.0%		89.1%	89.1%
Statewide Actual		94.8%	95.9%		94.4%	
ARTS		100.0%	100.0%		100.0%	
ACATS		100.0%	100.0%		100.0%	
CHATS		74.1%	71.0%		67.7%	
COATS		94.6%	94.3%		96.1%	
FLATS		100.0%	100.0%		100.0%	
GSATS						
GPATS		89.4%	85.2%		86.9%	
LATS		100.0%	100.0%		100.0%	
RFATS		80.7%	100.0%		88.2%	
SPATS		100.0%	100.0%		96.7%	
SUATS						

MPO Percent of Person-Miles Traveled on the Non-Interstate NHS that are Reliable	1st Performance Period			2nd Performance Period		
	2017	2019	2021	2021	2023	2025
Baseline	91.4%			95.0%		
Statewide Target			81.0%		85.0%	85.0%
Statewide Actual			95.0%		93.1%	
ARTS		97.1%	95.6%		97.7%	
ACATS		94.8%	95.5%		93.2%	
CHATS		71.5%	78.8%		78.6%	
COATS		80.4%	87.2%		88.8%	
FLATS		92.7%	98.2%		92.6%	
GSATS		95.4%	96.6%		98.5%	
GPATS		92.2%	93.9%		93.5%	
LATS		94.8%	93.5%		90.4%	
RFATS		89.5%	92.9%		93.2%	
SPATS		93.7%	96.8%		94.8%	
SUATS		97.3%	98.2%		95.9%	



COG Percent of Person-Miles Traveled on the Interstate that are Reliable	1st Performance Period			2nd Performance Period		
	2017	2019	2021	2021	2023	2025
Baseline	94.7%			95.9%		
Statewide Target		91.0%	90.0%		89.1%	89.1%
Statewide Actual		94.8%	95.9%		94.4%	
Appalachian		100.0%	96.5%		100.0%	
BCD		100.0%	100.0%		100.0%	
Catawba		100.0%	100.0%		100.0%	
Central Midlands		100.0%	100.0%		100.0%	
Lowcountry		100.0%	100.0%		100.0%	
Lower Savannah		100.0%	100.0%		100.0%	
Pee Dee		100.0%	100.0%		100.0%	
Santee Lynches		100.0%	100.0%		100.0%	
Upper Savannah		100.0%	100.0%		100.0%	
Wacamaw						

COG Percent of Person-Miles Traveled on the Non-Interstate NHS that are Reliable	1st Performance Period			2nd Performance Period		
	2017	2019	2021	2021	2023	2025
Baseline	91.4%			95.0%		
Statewide Target			81.0%		85.0%	85.0%
Statewide Actual			95.0%		93.1%	
Appalachian		98.9%	98.0%		91.7%	
BCD		99.3%	99.4%		99.6%	
Catawba		99.8%	98.9%		97.8%	
Central Midlands		100.0%	99.8%		99.4%	
Lowcountry		99.5%	100.0%		100.0%	
Lower Savannah		99.3%	100.0%		98.4%	
Pee Dee		100.0%	99.0%		97.4%	
Santee Lynches		98.4%	98.6%		98.9%	
Upper Savannah		99.1%	98.4%		97.1%	
Wacamaw		97.5%	98.5%		94.9%	



MPO Truck Travel Time Reliability Index (Interstates)	1st Performance Period			2nd Performance Period		
	2017	2019	2021	2021	2023	2025
Baseline	1.34			1.31		
Statewide Target		1.36	1.45		1.45	1.45
Statewide Actual		1.33	1.31		1.37	
ARTS		1.12	1.11		1.13	
ACATS		1.53	1.05		1.06	
CHATS		2.37	2.07		2.32	
COATS		1.46	1.37		1.48	
FLATS		1.09	1.08		1.10	
GSATS						
GPATS		1.61	1.57		1.67	
LATS		1.69	2.05		1.82	
RFATS		1.56	1.21		1.48	
SPATS		1.33	1.16		1.48	
SUATS						

COG Truck Travel Time Reliability Index (Interstates)	1st Performance Period			2nd Performance Period		
	2017	2019	2021	2021	2023	2025
Baseline	1.34			1.31		
Statewide Target		1.36	1.45		1.45	1.45
Statewide Actual		1.33	1.31		1.37	
Appalachian		1.19	1.42		1.34	
BCD		1.14	1.2		1.23	
Catawba		1.06	1.07		1.07	
Central Midlands		1.13	1.14		1.24	
Lowcountry		1.16	1.34		1.23	
Lower Savannah		1.21	1.19		1.22	
Pee Dee		1.15	1.07		1.4	
Santee Lynches		1.16	1.08		1.1	
Upper Savannah		1.1	1.09		1.12	
Wacamaw						



PHED (hours)	1st Performance Period			2nd Performance Period		
	2017	2019	2021	2021	2023	2025
Baseline				9.8		
Statewide Target			34.0		34.0	34.0
Statewide Actual		14.8	9.8		13.5	

Non-SOV (%)	1st Performance Period			2nd Performance Period		
	2017	2019	2021	2021	2023	2025
Baseline	21.7%			25.6%		
Statewide Target		21.0%	21.0%		21.0%	21.0%
Statewide Actual		21.6%	25.6%		29.2%	

Emissions Nox (kg/day)	1st Performance Period			2nd Performance Period		
	2017	2019	2021	2021	2023	2025
Baseline	18.80			8.29		
Statewide Target		58.67	58.73		58.67	58.96
Statewide Actual		8.29	8.29		7.56	

Emissions VOC (kg/day)	1st Performance Period			2nd Performance Period		
	2017	2019	2021	2021	2023	2025
Baseline	22.43			11.01		
Statewide Target		40.82	46.26		40.82	41.89
Statewide Actual		11.01	11.01		0.60	

