ROCK HILL - FORT MILL AREA TRANSPORTATION STUDY

2050 LONG RANGE TRANSPORTATION PLAN AMENDMENT SIX

AMENDMENT APPROVED: APRIL 28, 2023

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CHAPTER 3 GOALS, OBJECTIVES & PERFORMANCE MEASURES

The 2050 Long Range Transportation Plan is being amended to reflect the 2022 SCDOT System Performance Report.

As a point of reference, performance-based planning & programming or "performance management" is a strategic approach that uses system generated information to make investment and policy decisions to achieve goals set for the multimodal transportation system in the MPO Planning Area. Specifically, Performance-Based Planning & Programming (PBPP), refers to the application of performance management as standard practice in the planning and programming decision-making process.

The goal of PBPP is to ensure that transportation investment decisions – both long term planning and short term programming – are based on the ability to meet established performance goals. As a federal requirement, states will invest resources in projects to achieve individual performance targets that collectively will make progress toward established national goals. Like states, MPOs are also expected to make transportation investment decisions based on a performance-driven, outcome-based approach as well. With this in mind, the key planning documents of an MPO; specifically, the Long Range Transportation Plan (LRTP) and the Transportation Improvement Program (TIP), are required to reflect this same approach to the planning and decision-making process.

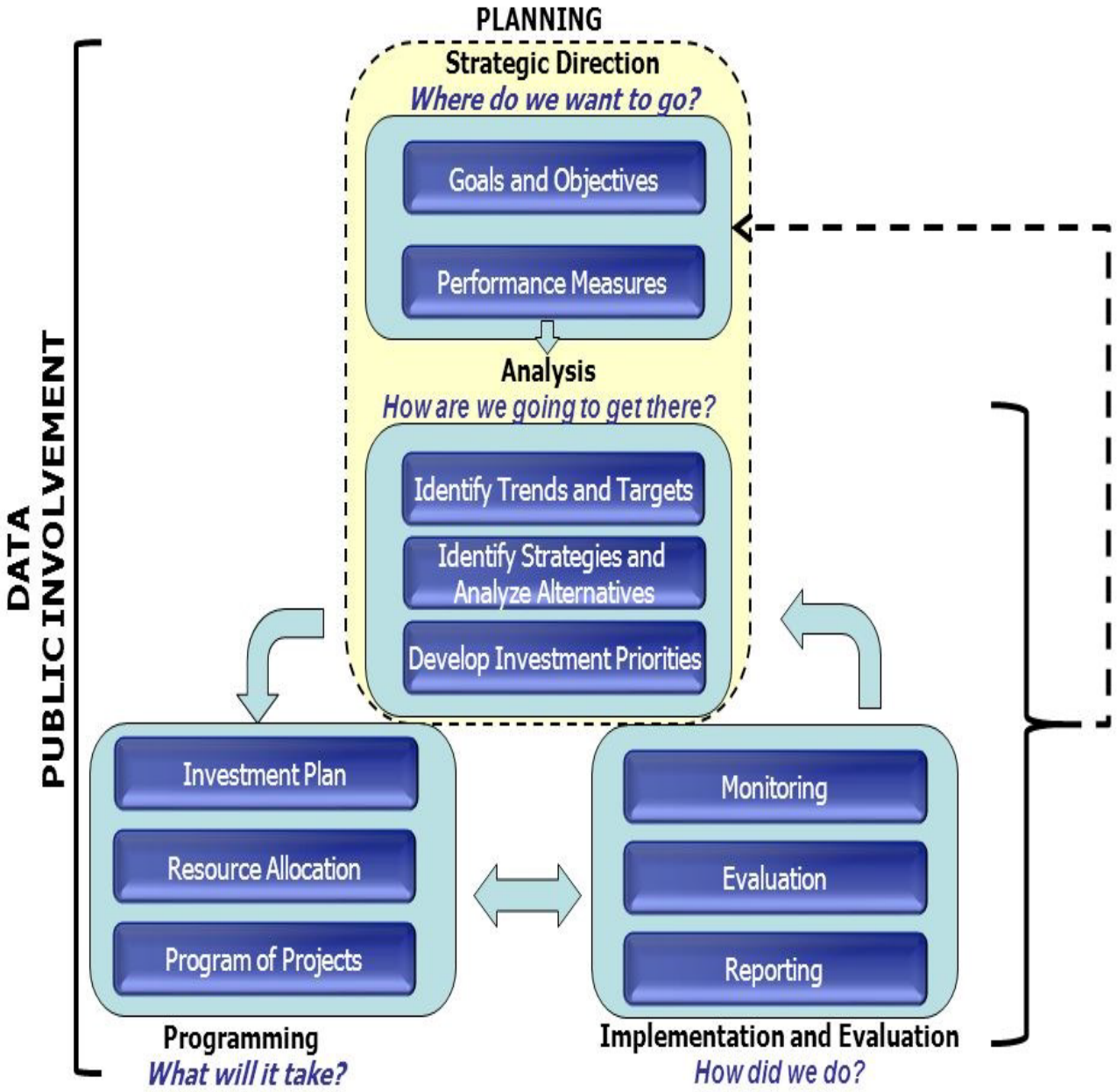
The MPO has developed its PBPP process to fulfill these federal requirements – which will include tracking specific measures and setting appropriate performance targets to meet the planning needs of the MPO. This document is meant to serve as the working framework as the MPO applies a strategic performance-based planning and programming process. This information describes the following:

1. National Goal Areas

2. Federal Requirements

3. 2022 SCDOT System Performance Report

The flow chart on the next page illustrates the process for Performance Management (provided by the National Highway Institute)



PERFORMANCED-BASED PLANNING AND PROGRAMMING

National Goal Areas

Highway Performance

Through the federal rulemaking process, the Federal Highway Administration (FHWA) is requiring state DOTs and MPOs to monitor the transportation system using specific performance measures. These measures are reflective of the national goal areas outlined in MAP-21 and the FAST Act. The following list describes these national goal areas for highway performance as well as broader measures of performance.

Safety

1) Injuries and Fatalities

Infrastructure Condition

1) Pavement Condition
2) Bridge Condition

System Reliability

1) Performance of National Highway System

Freight Movement and Economic Vitality 1)

Movement on Interstate System **Congestion**

Reduction

1) Traffic Congestion

Environmental Stability

1) On-Road Mobile Source Emissions

Reduced Project Delivery Delay

Transit Performance

Recipients of public transit funds – which can include states, local authorities, and public transportation operators are required to establish performance targets for safety, state of good repair, as well as transit asset management and safety plans. Regular reporting on their progress towards achieving the set performance targets will be made in each of these areas.

Public transportation operators are also directed to share information with MPOs and states so that all plans and performance reports are coordinated. The list below identifies performance measurement goals outlined in the National Public Safety Transportation Plan, released by the Federal Transit Administration (FTA), and in the final rule for transit asset management. The MPO will be required to coordinate with public transit providers to set targets for these measures.

Safety

1) Fatalities
2) Injuries
3) Safety Events
4) System Reliability

Infrastructure Condition

1) Equipment
2) Rolling Stock
3) Facilities

Federal Requirements

Targets

1) For each performance measure, the Policy Committee will decide to commit to support a statewide target, or where appropriate to establish a separate quantifiable target specific to the planning area.
2) SCDOT, MPOs, and public transit operators must coordinate the development of targets for performance measures to ensure consistency to the maximum extent practicable.
3) The MPO is required to establish performance targets no later than 180 days after SCDOT sets performance targets.

Reporting

1) The LRTP must describe established performance measures and targets, evaluate the performance of the transportation system, and report on progress realized.

2) The TIP must link investment priorities to the performance targets in the LRTP, and describe (to the maximum extent practicable), the anticipated effect of the program toward achieving established targets.

3) The MPO must also report baseline roadway transportation system conditions, performance data and overall progress toward the achievement of targets to SCDOT.

Assessments

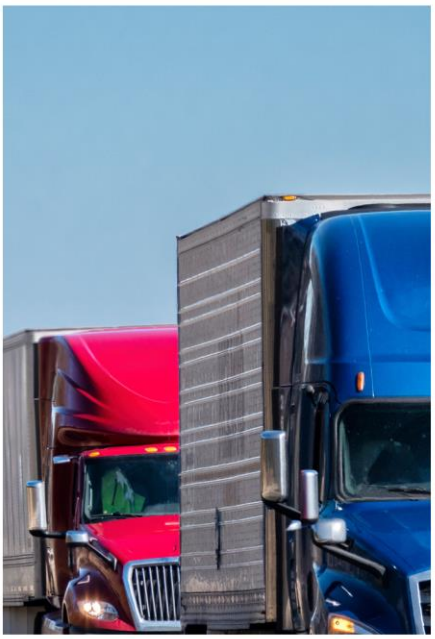
1) FHWA and FTA will not directly evaluate MPO progress towards meeting targets for required performance measures. The MPOs performance will be assessed as part of regular transportation planning process reviews, such as the Federal Certification Review that is conducted every four years.

2) FHWA will determine if SCDOT has met or made significant progress towards attaining the selected performance targets for the highway system.

SCDOT 2022 System Performance Report

The SCDOT Office of Planning has completed the 2022 STAMP System Performance Report that reflects SCDOT's progress towards statewide performance measures that are included in the Strategic 10-Year Asset Management Plan (STAMP). This report is created on a biennial basis in conjunction with the submittal of performance measures and the progress made towards those targets. For the 2022 System Performance Report, the agency has wrapped up the first performance period (2018-2021), and has set baseline, 2-year and 4-year targets for the second performance period (2022-2025) This report is part of federal regulatory requirement 23 CFR 450.324 (f) (3-4).

STAMP SYSTEM PERFORMANCE REPORT 2022



SCDOT

Date: February 1, 2023
CFR 450.324(f)(3-4)

South Carolina Department of Transportation
STAMP System Performance Report 2022

Full Performance Period Progress (FPP) Results of the 1st Performance Period (2018-2021) and Baseline Performance Period (BPP) of the 2nd Performance Period (2022-2025)

Through the federal rulemaking process, the Federal Highway Administration (FHWA) is requiring state DOTs and MPOs (and by extension the South Carolina Department of Transportation (SCDOT) is requiring COGs) to monitor the transportation system using specific performance measures. These measures are associated with the national goal areas prescribed in MAP-21 and the FAST Act. The following System Performance Report describes these national goal areas, rulemakings, performance areas, and prescribed measures. Performance measures have been identified for highway systems, including a set of measures to assess progress toward achieving the goals of the Congestion Mitigation Air Quality (CMAQ) Program. The requirements and targets of these measures and tools to calculate them are summarized in this report.

This System Performance Report presents the baseline, performance/condition measures, targets and the progress made towards achieving those targets. These performance measures are a part of SCDOT's Strategic Ten-Year Asset Management Plan (STAMP). SCDOT's STAMP has been developed in a collaborative effort with South Carolina's Division Office of the Federal Highway Administration (FHWA). The plan has been designed to not only satisfy federal rulemaking, but to transcend these requirements by setting performance estimates for ***all*** state maintained roads and bridges. By clearly identifying the needs of South Carolina's transportation infrastructure, the STAMP has provided SCDOT a platform to communicate existing infrastructure conditions and project constrained performance targets for SCDOT's physical assets over the next decade. The STAMP is an all-inclusive document that houses the Strategic Plan, Ten-Year Plan (2018-2027), Asset Management Plan (2022-2032) and Performance Measures. The timelines and horizons are illustrated below in Figure 1.

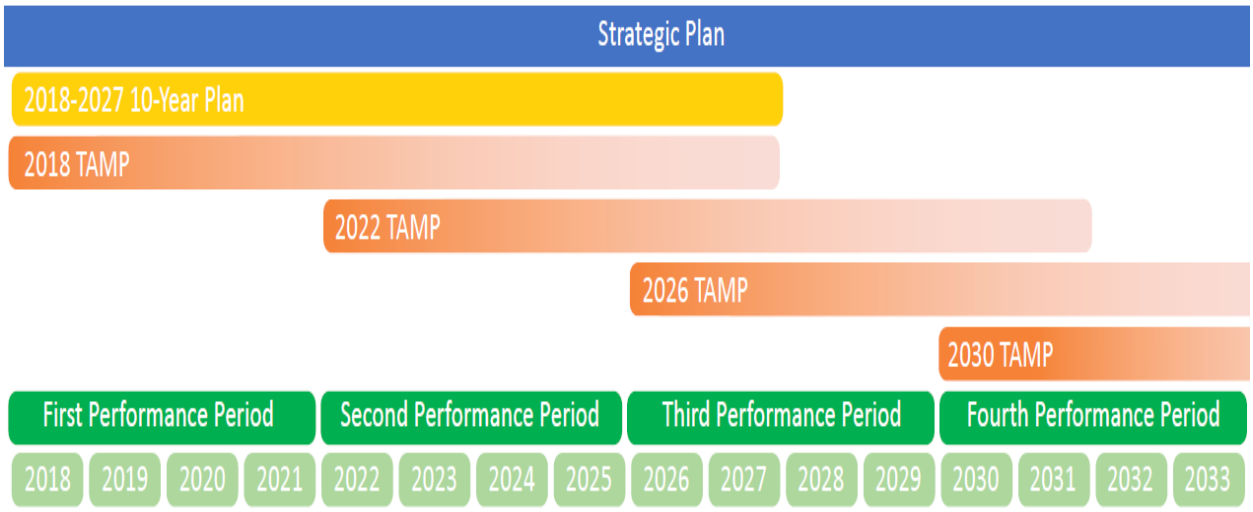


Figure 1. STAMP Timelines and Horizons

In 2017, The General Assembly passed legislation (the South Carolina Infrastructure and Economic Development reform Act (Act 40)) to increase the State gas tax by (12) twelve cents by phasing in the increase at (2) two cents per year for (6) six years. These funds are deposited into a new trust fund called the Infrastructure Maintenance Trust Fund (IMTF). In addition to state funding, SCDOT has received an increase of federal funding through the Infrastructure Investment and Jobs Act (IIJA) and recurring matching state funds. These new revenues, coupled with other Federal and State funds and one-time appropriations, form the financial foundation of SCDOT's Ten-Year Plan and performance targets. For the first time in 30 years, the South Carolina Department of Transportation has been provided with an increased and sustainable revenue stream. The additional funding gives the agency the opportunity to make gradual, but real and significant strides toward bringing the highway system back from three decades of neglect.

The SCDOT's Strategic Plan forms the guiding principles of the agency's Investment Strategies, focusing on the maintenance, preservation and safety of the existing transportation infrastructure, directing investments of highway systems and priority networks, integrating risk-based prioritization, improving safety, advancing lifecycle cost in investment programming and enhancing mobility. The three major goals of the Strategic Plan are:

SCDOT Strategic Plan Goals

Figure 2. Strategic Plan Goals

The Moving Ahead for Progress in the 21st Century (MAP-21) surface transportation legislation established National Goals and a performance and outcome based program. As part of the program federally established performance measures are set and those targets shall be monitored for progress. There is alignment between SCDOT's Strategic Plan Goals and the MAP-21 National Goals. The MAP-21 National Goals are as follows:

MAP-21 National Goals

- **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

These goals provide clear asset management performance based direction to support the effective movement of people and goods. Specifically, transportation asset management focuses on preservation of existing infrastructure with a more cost-effective and efficient approach. SCDOT also utilizes transportation asset management principles to address mobility by planning for future demands on the system. These actions facilitate safe and efficient movement of citizens, goods and services, thereby, enhancing performance of state and national commerce.

This System Performance Report details the federally required (MAP-21/FAST Act) performance measures for a State DOT. The following sections detail the performance measures, baseline and targets and the progress towards those targets based on the most recent Full Performance Period (FPP) that was submitted December 16, 2022, which is based on the first performance period (January 2018 – December 2021) and the Baseline Performance Period (BPP) submitted December 16, 2022, which is based on the second performance period (January 2022 - December 2025).

Highway Safety / PM-1

Effective April 14, 2016, FHWA established the highway safety performance measures to carry out the Highway Safety Improvement Program (HSIP). Safety performance targets are 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:

1. Number of fatalities
2. Rate of fatalities per 100 million vehicle miles traveled
3. Number of serious injuries
4. Rate of serious injuries per 100 million vehicle miles traveled
5. 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 2016 to 2020. South Carolina's statewide safety performance targets for this time period are included in Table 1, along with actual performance and the state's baseline data for the (5) five year rolling average from 2014 to 2018. A state is said to have met or made significant progress toward meeting its safety performance targets when at least (4) four of the (5) five targets established under 23 CFR 490.209(a) have been met or the actual outcome is better than the baseline performance. **As shown in Table 1 below, South Carolina met or performed better than baseline for 2 of the 5 safety targets**. SCDOT continues to implement proven countermeasures addressing the engineering emphasis areas identified in the State's Strategic Highway Safety Plan (SHSP). For more information regarding the recently updated SHSP, please visit our website here: https://www.scdot.org/performance/pdf/reports/BR1_SC_SHSP_Dec20_rotated.pdf. In response to the increasing number of non-motorized user fatalities, SCDOT has developed the state's first Pedestrian and Bicycle Safety Action Plan (PBSAP). It is available here: https://www.scdot.org/projects/pdf/SC%20Pedestrian%20and%20Bicycle%20Safety%20Action%20Plan.pdf. For a national perspective on state's setting and achieving safety performance targets, please visit FHWA's website https://safety.fhwa.dot.gov/hsip/spm/state_safety_targets/.

Table 1. South Carolina 2016-2020 Safety Performance Target Assessment

Performance Measure	2016-2020 Target	2016-2020 Outcome	2014-2018 Baseline	Met Target	Better than Baseline	Met / Made Significant Progress
Number of Traffic Fatalities	1,011.0	1,023.0	969.4	No	No	No
Rate of Traffic Fatalities	1.819	1.836	1.802	No	No	
Number of Traffic Serious Injuries	2,781.0	2,888.2	2,938.8	No	Yes	
Rate of Traffic Serious Injuries	4.979	5.180	5.584	No	Yes	
Number of Non-motorized Traffic Fatalities and Serious Injuries	380.0	438.8	393.2	No	No	

Table 2 and 3 below provides a historical look at the results of the department's Safety Performance Target Assessment for 2015-2019 and 2014-2018. **During the 2015-2019 assessment, South Carolina met 1 of the 5 safety targets.**

Table 2. South Carolina 2015-2019 Safety Performance Target Assessment

Performance Measure	2015-2019 Target	2015-2019 Actual	2013-2017 Baseline	Met Target	Better than Baseline	Met or Made Significant Progress
Number of Traffic Fatalities	988.0	1005.0	915.6	No	No	No
Rate of Traffic Fatalities	1.790	1.818	1.752	No	No	
Number of Traffic Serious Injuries	2986.0	2986.6	3108.2	No	Yes	
Rate of Traffic Serious Injuries	5.420	5.412	5.986	Yes	N/A	
Number of Non-motorized Traffic Fatalities & Serious Injuries	380.0	414.2	382.6	No	No	

South Carolina met 4 of the 5 safety targets in 2014-2018. During this time period, SCDOT began implementing the state's Rural Road Safety Program, specifically targeting roadway departure collisions on rural roads.

Table 3. South Carolina 2014-2018 Safety Performance Target Assessment

Performance Measure	2014-2018 Target	2014-2018 Actual	2012-2016 Baseline	Met Target	Better than Baseline	Met or Made Significant Progress
Number of Traffic Fatalities	970.0	969.6	890.4	Yes	N/A	YES
Rate of Traffic Fatalities	1.810	1.804	1.748	Yes	N/A	
Number of Traffic Serious Injuries	3067.0	2988.4	3195.4	Yes	N/A	
Rate of Traffic Serious Injuries	5.708	5.590	6.304	Yes	N/A	
Number of Non-motorized Traffic Fatalities & Serious Injuries	371.3	389.8	378.8	No	No	

Pavement and Bridge Condition / PM-2 – First Performance Period (2018-2021)

Pavement and bridge performance measures are assessed and reported over a (4) four-year period with the first period beginning on January 1, 2018 and ending December 31, 2021. SCDOT reported baseline targets to FHWA on October 1, 2018. Mid-point (2) two-year performance targets were reported on October 1, 2020, and represented expected pavement and bridge conditions at the end of calendar year 2019. Final (4) four-year performance targets were reported on December 16, 2022, and represent expected pavement and bridge condition at the end of calendar year 2021. MPOs and COGs can elect to establish their own targets or support the statewide targets. The SCDOT statewide PM-2 targets for the first performance period are listed in Table 4.

1. Percent of Interstate pavements in good condition – (4) four-year target
2. Percent of Interstate pavements in poor condition – (4) four-year target
3. Percent of non-Interstate NHS pavements in good condition – (2) two and (4) four year targets
4. Percent of non-Interstate NHS pavements in poor condition – (2) two and (4) four year targets
5. Percent of NHS bridges by deck area in good condition – (2) two and (4) four year targets
6. Percent of NHS bridges by deck area in poor condition – (2) two and (4) four year targets

Table 4 provides a summary of pavement and bridge performance measures. The SCDOT has made measurable 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 underway to address infrastructure needs across the state which was initiated in 2017. The plan has seen progress, most notably in the pavement performance measures. At the update of the 2021 Annual Report https://www.scdot.org/performance/pdf/reports/SCDOT_Annual_Report_2021.pdf?v=2 the agency is on target with approximately 82.5 miles of interstate widening completed or advancing to construction. Widening projects are currently completed on I-20 and under construction on I-85, and I-26 and are expected to be completed within the next performance period. System to system interchange improvement projects that are moving forward include I-26/526, I-26/I-95 and I-26/I-126/I-20. The system to system interchange improvement at I-85/I-385 has been completed and is operational. To date approximately 5,800 lane miles of paving have been completed along with 274 bridges that are completed or under contract.

SCDOT made significant progress from the baseline statewide Percentage of Pavements on the Interstate in Good Condition of 63.2% to the actual 4-year performance condition of 75.8%. SCDOT also improved from the baseline statewide Percentage of Pavements on the Interstate in Poor Condition of 1.2% to the actual 4-year performance condition of 0.2%. The percentage of good pavements on the Interstate System will only continue to improve over the next performance period as the agency works towards a State of Good Repair (SOGR) and additional interstate work is completed in accordance with the asset management principles in the STAMP. Note that pavement metrics are reported in the federal metric of Full Distress + International Roughness Index (IRI) only for the 2nd Performance Period.

Significant progress has been made from the baseline statewide Percentage of Pavements on the Non-Interstate NHS System in Good Condition of 21.1% to the actual 4-year performance condition of 38.8%. SCDOT also improved from the baseline statewide Percentage of Pavements on the Non-Interstate NHS System in Poor Condition of 4.6% to the actual 4-year performance condition of 1.6%. Over the last 5-years the agency has spent over $419 million on paving the Non-Interstate NHS in addition to the 100% state funded $50 million annual program to address Rural Road Safety that improves select Non-Interstate NHS roadways. The percentage of good pavements on the Non-Interstate NHS System will only continue

to improve over the next performance period as the agency works towards a SOGR and additional paving is completed in accordance with the asset management principles in the STAMP.

SCDOT's Bridge Program was completely restructured in the middle of SFY 2022, focusing on regional mobility throughout the State. Changes to the program are detailed in the 2022 STAMP update. The Load Rating Program was completed in 2021, and based on those results the agency has implemented a balanced approach to bridge preservation, rehab and replacement. The agency presented new priorities and a new list of prioritized bridges that blended the original bridge list with the State's most pressing needs to Commission on December of 2021.

SCDOT did not meet the 4-year target for statewide Percentage of deck area of Bridges on the NHS classified as in Good Condition of 42.7% to the actual 4-year performance condition of 38.5%. The agency did meet the 4-year target of statewide Percentage of deck area of Bridges on the NHS classified as in Poor Condition of 6.0% to the actual 4-year performance condition of 4.3%. In the near term although the percent good target was not met the agency has boosted the funding to the bridge program by $69 million and has balanced the approach to bridge preservation, rehabilitation and replacement projects. Additional funding has been strategically aligned with the STAMP to achieve asset management objectives and rebuild and improve the bridge network as the agency works towards a SOGR. The agency is well below the minimum threshold of 10% for the percentage of deck are of bridges on the NHS as classified in poor condition.

Table 4. SCDOT Pavement and Bridge Performance Measures (1st Performance Period)

Performance Measure	Baseline	2-Year Condition/ Performance	2-Year Target	4-Year Condition/ Performance	4-Year Target
Percentage of Pavements on the Interstate System in Good Condition (Federal Metric)	NA	63.2%	NA	75.8%	71.0%
Percentage of Pavements on the Interstate System in Poor Condition (Federal Metric)	NA	1.2%	NA	0.2%	3.0%
Percentage of Pavements of the Non-Interstate NHS in Good Condition (IRI)	50.4%	54.3%	NA	56.9%	NA
Percentage of Pavements of the Non-Interstate NHS in Good Condition (Federal Metric)	NA	27.4%	14.9%	38.8%	21.1%
Percentage of Pavements of the Non-Interstate NHS in Poor Condition (IRI)	8.6%	8.4%	NA	7.7%	NA
Percentage of Pavements of the Non-Interstate NHS in Poor Condition (Federal Metric)	NA	3.9%	4.3%	1.6%	4.6%
Percentage of NHS Bridges Classified as in Good Condition	41.1%	40.0%	42.2%	38.5%	42.7%
Percentage of NHS Bridges Classified as in Poor Condition	4.0%	4.2%	4.0%	4.3%	6.0%

Pavement and Bridge Condition / PM-2 – Second Performance Period (2022-2025)

The second year performance period began January 1, 2022 and ends December 31, 2025, with additional (4) four-year performance periods to follow (See Figure 1). The new 2 and 4-year targets for the 2nd performance period for pavements and bridges are listed in Table 5 below.

The pavement targets were developed from historical performance trends and planned investments. The targets below are all reported in the federal metric of Full Distress + IRI which varies from the SCDOT metric of Pavement Quality Index (PQI). The trendlines derived to project targets were validated using project and budget data. The 75th percentile value was determined and used as the basis for establishing targets. With the expansive amount of Interstate work taking place and replacement of Open Graded Friction Course (OGFC) during the 2nd performance period, the working group recommended the targets below. For the Non-Interstate NHS System the agency used the same methodology described above but noted that the agency delegates the District Offices within each county of South Carolina to propose resurfacing projects causing the amount of Non-Interstate NHS versus Non-NHS projects to fluctuate from year to year.

Bridge targets were established using historical National Bridge Inventory (NBI) data and planned investments. The model was used to forecast a trendline and incorporated any projects that were let, forecasted to let and planned capital projects that would "move the needle" on bridge condition. The established targets took into consideration on-going inspections of NHS bridge condition and underwater inspections that would shift bridge condition categories. The group also expressed concern over effects of rising inflation costs for bridge letting over the 2nd performance period. Gathering all available data the agency established the targets below in Table 5 for bridges over the next performance period.

Table 5. SCDOT Pavement and Bridge Performance Measures (2nd Performance Period)

Performance Measure	Baseline	2-Year Condition/ Performance	2-Year Target	4-Year Condition/ Performance	4-Year Target
Percentage of Pavements on the Interstate System in Good Condition (Federal Metric)	75.8%		77.0%		78.0%
Percentage of Pavements on the Interstate System in Poor Condition (Federal Metric)	0.2%		2.5%		2.5%
Percentage of Pavements of the Non-Interstate NHS in Good Condition (Federal Metric)	38.8%		36.0%		38.0%
Percentage of Pavements of the Non-Interstate NHS in Poor Condition (Federal Metric)	1.6%		10.0%		10.0%
Percentage of NHS Bridges Classified as in Good Condition	38.5%		35.0%		34.0%
Percentage of NHS Bridges Classified as in Poor Condition	4.3%		6.0%		6.0%

System Performance, and Freight Movement / PM-3 - First Performance Period (2018-2021)

FHWA established measures to assess the performance and reliability of the National Highway System and freight movement on the interstate. These measures became effective on May 20, 2017, and are as follows:

System Performance Measures

1. Percent of person-miles on the Interstate system that are reliable – (2) two-year and (4) four-year targets
2. Percent of person-miles on the non-Interstate NHS that are reliable – (4) four-year targets
    - Performance measure assesses the reliability of travel time on the Interstate or non-Interstate NHS through the Level of Travel Time Reliability (LOTTR). It is ratio of longer travel times (80th percentile) to a normal travel time (50th percentile) over four time periods (AM peak, Mid-day, PM Peak, and weekends) which covers 6AM to 8PM each day. 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.

Freight Movement Performance Measures

3. Truck Travel Time Reliability (TTTR) – (2) two-year and (4) four-year targets
    - Performance measure is a ratio generated by dividing the longer travel time (95th percentile) by a normal travel time (50th percentile) for each segment of the interstate over five time periods throughout weekdays and weekends (AM Peak, Mid-day, PM peak, weekend and overnight). This performance measure covers all hours of the day. The TTTR's of Interstate 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.

Table 6 displays the results of the performance measures and targets for system performance. The 4-year condition of 95.9% outperformed the 4-year target of 90.0% for the Percent of Person Miles Traveled on the Interstate that are Reliable. The number of Vehicle Miles Traveled (VMT) has an inverse relationship with reliability. The VMT share of unreliable TMC decreased from the baseline year due to the effects of COVID pandemic contributing to the difference in actual and target 4-year values. Over the first performance period over 82.5 miles of Interstate have been improved. Interstate capacity widening projects on I-85, I-26 and I-20 are currently under construction or completed in addition to preservation and rehabilitation projects that contributed towards progress towards the 4-year target. There are consistently unreliable sections on the Interstate System in South Carolina that are responsible for making 4.1% of the Interstate's unreliable, the majority of which are located in 3 MPO's: Charleston (CHATS), Greenville-Pickens (GPATS) and Columbia (COATS). Addressing these unreliable sections and pinch points of System to System Interchanges in these areas has been a top priority for the agency and is being completed through the management of the STAMP.

Table 6. System Performance Measures, and Freight (1st Performance Period)					
Performance Measure	Baseline	2-Year Condition/ Performance	2-Year Target	4-Year Condition/ Performance	4-Year Target
Percent of the Person-Miles Traveled on the Interstate that are Reliable	94.7%	94.8%	91.0%	95.9%	90.0%
Percent of the Person-Miles Traveled on the Non-Interstate NHS that are Reliable	91.4%	NA	NA	95.0%	81.0%
Truck Travel Time Reliability Index (TTTR)	1.34	1.33	1.36	1.31	1.45

Table 6 also displays the (4) four-year performance measure for Truck Travel Time Reliability (TTTR) at 1.31, which outperformed the target of 1.45. The SCDOT has made addressing congestion at freight bottlenecks a priority to improve operational efficiency and accommodate future traffic volumes. Some of the bottleneck areas with projects currently under construction and/or in planning stages include:

- **I-20**: The I-77 and Clemson Road interchanges are the respective bottleneck points along I-20 during the AM peak hour and PM peak hour. **This Corridor and Interchange improvement Project is complete and operational.**

- **I-77**: The primary bottleneck point along I-77 southbound is approaching the Forest Drive interchange in the Columbia area every Thursday in the AM peak hour, due to weekly graduation ceremonies of Fort Jackson. **This Corridor Improvement Project is complete and operational.**

- **I-26**: In the Columbia area, bottleneck points during the PM peak hours are located at the Broad River Road (Exit 101). Capacity improvements are needed from Exit 101 to east of the Saluda River (Exit 85). C**orridor improvements are currently underway to address these issues and estimated to be complete in 2024.**

- **I-26**: In the Columbia area, the I-20 interchange is the primary bottleneck points during the AM peak hour and the I-126, I-20 and St. Andrews Road interchanges are the primary bottleneck points during the PM peak hour. **As part of the 5-phase Carolina Crossroads Project, corridor and interchange improvement projects have begun and all phases are currently scheduled for completion by 2029.**

- **I-26**: In the Charleston area, the U.S. 52 Connector/Ashley Phosphate Road interchange and the merge to I-526 are the primary bottleneck points during the AM peak hour and the I-526 and Ashley Phosphate Road interchanges are the primary bottleneck points during the PM peak hour. **Planning activities for the Ashley Phosphate Road Safety Improvements Project are currently underway for these areas. ROW acquisition is estimated to begin in Fall 2022 with construction start estimated for 2023.**

- **I-526**: During the PM peak hour, the primary bottleneck along I-526 eastbound is the I-26 interchange and the primary bottleneck points along I-526 westbound are the I-26 interchange,

the merge from Leeds Avenue, and the Paul Cantrell Boulevard interchange. **Preliminary activities are underway on I-526 East & West interchange and corridor improvements. Phase 1 construction estimated to start 2023.**

- **I-85:** Corridor improvements necessary to alleviate traffic congestion, improve safety, and increase capacity. Widening and rehabilitation of the existing Interstate 85 beginning at mile marker 96 and continuing to the North Carolina state line. **Corridor Improvements are currently in construction.**

- **I-85**: The Woodruff Road/I-385 interchange is the primary bottleneck for both directions of I-85 during both the AM and PM peak hours. **Preliminary activities are underway for the Woodruff Road Congestion Relief Project. Estimated construction start is to be determined.**

- **I-385**: The primary bottleneck along I-385 is the interchange with I-85. **This interchange improvement project (as part of the 85/385 Gateway project) is complete and operational.**

In October 2018, the SCDOT Commission approved the Rural Interstate Freight Mobility Improvement Program (RIFMIP). This interstate widening program specifically targets rural sections of South Carolina's interstate system with a focus on freight safety and mobility. These projects can be found on the SCDOT website under "Interstate Capacity" https://www.scdot.org/inside/planning-project-prioritization-list.aspx . This program is in addition to the interstate widening projects planned for urban areas of the state.

- **I-26:** between Columbia and Charleston (MM-125 to MM-194). **Corridor Improvement Project construction between mile marker 184 and 194 near Charleston began in 2022. Preliminary activities for the remaining Corridor Improvement Project are underway. Construction estimated to begin in 2023.**

- **I-26 at I-95 Interchange:** in Dorchester and Orangeburg Counties (MM-172-182 and MM 69-86). **Preliminary activities for this Corridor Improvement Project are underway. Construction estimated to begin in 2023.**

- **I-95:** in the Lowcountry from the Georgia State Line (MM-0 to MM-33). **Preliminary activities for this Corridor Improvement Project are underway. Construction estimated to begin in 2024.**

- **I-85:** in the Upstate from the Georgia State Line (MM-0 to MM-19). **Preliminary activities for this Corridor Improvement Project are underway. Construction estimated to begin in 2035.**

- **I-77:** in the Catawba Region (MM-65 to MM-77). **Preliminary activities for this Corridor Improvement Project are underway. Construction estimated to begin in 2035.**

The RIFMIP was recently re-examined in 2022 based on new Transearch data and other data that was available to initiate planning to align with an updated 2050 horizon. Three additional segments were identified for future projects which include:

- **I-95:** from US-17 (Ridgeland North) / Exit 33 to I-26 / Exit 86

- **I-95:** from the North Carolina State Line (MM 198.76) to Exit 170 (SC-327)

- **I-26:** from I-385 / Exit 51 to SC-202 / Exit 85

System Performance, and Freight Movement / PM-3 - Second Performance Period (2022-2025)

For the 2nd Performance Period (2022-2025) the following targets were set in Table 7 below. To calculate travel time reliability the System Performance Group in the Planning Office observed historical trends and created scenarios to model the future impact that construction projects would have on the effected segments. *Due to the impacts of COVID-19 the years of 2020 and 2021 were excluded from the data set.* The baseline numbers below reflects the impacts of COVID-19 and the expectation is for a return to normal patterns of congestion which will negatively impact the performance measures.

Similar to Travel Time Reliability, Truck Travel Time Reliability (TTTR) was also effected by COVID-19 patterns. The expectation is for normal congestion patterns to return which will negatively impact the performance measures for TTTR. The established targets were adjusted to the 97th percentile to accommodate for the construction impact of interstate projects within the appropriate time frames.

Table 7. System Performance Measures, and Freight (2nd Performance Period)

Performance Measure	Baseline	2-Year Condition/ Performance	2-Year Target	4-Year Condition / Performance	4-Year Target
Percent of the Person-Miles Traveled on the Interstate that are Reliable	95.9%		89.1%		89.1%
Percent of the Person-Miles Traveled on the Non-Interstate NHS that are Reliable	95.0%		85.0%		85.0%
Truck Travel Time Reliability Index (TTTR)	1.31		1.45		1.45

Congestion Mitigation & Air Quality Improvement Program / PM-3

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. If applicable the FHWA has established measures, which became effective on May 20, 2017 to assess the following performance measures.

1. CMAQ Only - Annual hours of peak hour excessive delay per capita (PHED) – (4) four-year targets
    - Peak Hour Excessive Delay (PHED) is a measurement of traffic congestion and is expressed as annual hours of peak hour excessive delay per capita. The threshold for excessive delay is based on travel time at 20 miles per hour or 60% of the posted speed limit travel time, whichever is greater, and is measured in 15-minute intervals on National Highway System (NHS) roads. 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.

2. CMAQ Only - Percent of non-single occupant vehicle travel (Non-SOV) – (2) two-year and (4) four-year targets
    - Non-Single Occupancy Vehicle (Non-SOV) Travel measures the percent of vehicle travel that occurs with more than one occupant in the vehicle.

3. CMAQ Only - Cumulative two-year and four-year reduction of on-road mobile source emissions for CMAQ funded projects (CMAQ Emission Reduction) – (2) two-year and (4) four-year targets
    - The On-Road Emissions Reduction measure represents the cumulative two-year and four-year emission reductions in kg/day for CMAQ funded projects within the boundaries of the planning area.

Table 8 provides the System Performance Congestion Mitigation and Air Quality Improvement Program. The SCDOT worked in conjunction with NCDOT and the relative MPO to develop the (2) two-year and (4) four-year targets with NCDOT taking the lead on data gathering and analysis due to most of the UZA being located in North Carolina. Trend lines in data have changed with the uncertainty involved with COVID-19 and reduced travel and social distancing practices that have affected travel behavior through the remainder of the performance period. Due to this uncertainty the (4) four-year target was elected to stay at 34.0 annual hours of Peak Hour Excessive Delay (PHED) even though the (2) two-year performance target was reduced.

To develop the Non-Single Occupancy Vehicle (SOV) travel target a conservative approach was taken based on a trend analysis that was completed. Data used for the measure was developed from the communizing to work data from the American Community Survey. The data fluctuates slightly above 21.0%. The (2) two-year performance was slightly above the (2) two-year target, but in line with the trending data that was expected.

Total Emission reduction for Nitrous Oxide (NOx) and for Volatile Organic Compounds (VOC) performance measures were less than the expected (2) two-year target due to changes in project delivery schedules and a series of challenges encountered by the project management team. Six (6) of the eight (8) CMAQ projects in the 2020 CMAQ Performance Plan were completed with two projects expected to be completed in the next performance period.

Table 8. System Performance Congestion Mitigation & Air Quality Improvement Program (1st Performance Period)

Performance Measure	Baseline	2-Year Condition/ Performance	2-Year Target	4-Year Condition / Performance	4-Year Target
Annual Hours of Peak Hour Excessive Delay Per Capita: Urbanized Area 1	NA	14.8	NA	9.8	34.0
Percent of Non-Single Occupancy Vehicle (Non-SOV) Travel: Urbanized Area 1	21.7%	21.6%	21.0%	25.6%	21.0%
Total Emission Reductions: NOx	18.800	8.290	58.670	8.290	58.730
Total Emission Reductions: VOC	22.430	11.010	40.820	11.010	46.262

Congestion Mitigation & Air Quality Improvement Program / PM-3

Table 9 represents the CMAQ Program for the 2nd Performance Period (January 2022 – December 2025). The unified PHED and Non-SOV targets were set in conjunction with NCDOT and represent continued uncertainty about the lingering effects from the COVID pandemic.

Total Emission reductions for Nitrous Oxide (NOx) and Volatile Organic Compounds (VOC) represent the estimated reductions benefit resulting from the CMAQ projects authorized for funding in the 2022-2025 performance period. These benefits are highly dependent on the project type and project delivery schedules.

Table 9. System Performance Congestion Mitigation & Air Quality Improvement Program (2nd Performance Period)

Performance Measure	Baseline	2-Year Condition/ Performance	2-Year Target	4-Year Condition / Performance	4-Year Target
Annual Hours of Peak Hour Excessive Delay Per Capita: Urbanized Area 1	9.8		34.0		34.0
Percent of Non-Single Occupancy Vehicle (Non-SOV) Travel: Urbanized Area 1	25.6%		21.0%		21.0%
Total Emission Reductions: NOx	8.290		58.670		58.963
Total Emission Reductions: VOC	11.010		40.820		41.894

PUBLIC PARTICIPATION

The RFATS has an established Public Participation Plan which outlines specific procedures for ensuring that public participation is a core component of the transportation planning process. Public participation takes many forms, and RFATS' uses a wide range of methods and approaches to secure meaningful public input.

In addition to general stakeholder identification and outreach, RFATS has established a Citizens Advisory Committee (CAC) to expand the range of general citizen input into the organizational structure of the MPO as a part of the transportation planning process. This standing committee meets regularly to review and provide comments to the RFATS Policy Committee as appropriate. All submitted public comments related to this amendment are reflected in **Appendix C**.

APPENDIX A: ADOPTION AND APPROVAL RESOLUTION / LETTER

RESOLUTION APPROVING AMENDMENT #6 TO THE 2050 LONG-RANGE TRANSPORTATION PLAN FOR THE ROCK HILL-FORT MILL AREA TRANSPORTATION STUDY(RFATS)

WHEREAS, the Policy Committee is the duly recognized decision making body of the 3-C transportation planning process for the Rock Hill-Fort Mill Area Transportation Study; and

WHEREAS, the RFATS 2050 Long Range Transportation Plan is being amended to reflect 2022 SCDOT System Performance Report as part of a strategic performance-based planning and programming process; and,

WHEREAS, the 2050 Long Range Transportation Plan will continue to meet the planning requirements of 23 CFR Part 450.324

NOW, THEREFORE BE IT RESOLVED, that the RFATS Policy Committee finds that the 2050 Long Range Transportation Plan and Transportation Improvement Program conform to the purpose of the South Carolina State Implementation Plan in accordance with the Clean Air Act as Amended (CAAA), and Infrastructure Investment & Jobs Act (IIJA) on this 28th day of April 2023.

BE IT FURTHER RESOLVED, that the RFATS Policy Committee authorizes the Chair to sign said Resolution on behalf of all the membership.

APPROVED:

Tom Audette

Tom Audette, Chair

ATTEST:

David F. Hooper

David F. Hooper, MPO Director

APPENDIX B: TECHNICAL TEAM / POLICY COMMITTEE MEETING MINUTES AND AGENCY COMMENTS

Technical Team Meeting
(Teams Conference Call)
Summary Minutes
April 6, 2023 – 1:30 p.m.

Conference Call Attendees: Berry Mattox (SCDOT); Mark Pleasant (FHWA); Jim Walden (SCDOT); Susan Britt (City of Tega Cay); Chris Herrmann (City of Rock Hill); Matthew Blaszyk (Lancaster County); Diane Lackey (SCDOT); Cliff Goolsby (City of Rock Hill); Steve Allen (CRCOG); Josh Meetze (SCDOT); Diane Dil (York County);Vic Edwards (SCDOT); Jonathan Buono (York County); Christina Lewis (SCDOT); Scot Sibert (WSP, USA); and David Hooper (RFATS).

I. Review of Minutes

Mr. Hooper asked if there were any additions, corrections, or deletions from the March minutes. Ms. Britt noted one item under New Business. The minutes were then approved as amended.

II. Old Business

A. Policy Committee Meeting

1. **Celanese / I-77 Interchange Evaluation (Status Report)** – Mr. Hooper briefly reviewed the principal objectives of this work effort; and then thanked Mr. Mattox for his presentation with the Policy Committee at the March meeting.

2. **2020 Census Follow-up Report** – Mr. Hooper summarized the information provided to the Policy Committee as well as the supplemental information (i.e. voting composition, etc.), requested for discussion at the April meeting.

3. **FY 23-25 Draft UPWP** – Mr. Hooper stated that the draft UPWP for FY 23-25 was presented to the Policy Committee for preliminary approval and initiation of a 30-day public comment period.

B. US 21 / Spratt Area Intersection Operations – Mr. Hooper noted that some concerns had been raised regarding the operating conditions in the US 21 / Spratt Street area. Mr. Edwards then summarized recent field visits conducted by SCDOT, and related adjustments to signal timing.

C. RFATS Presentation to Pennies V Commission – Mr. Hooper provided comments on feedback during the 2017 referendum regarding the total number of project ideas and budgetary constraints. With this in mind, Mr. Hooper then outlined principal areas and/or corridors of importance to the regional transportation network. Mr. Goolsby then noted that it may be appropriate to incorporate a transit component for consideration as well. Discussion then briefly followed between jurisdictional and regional priority recommendations for the Sales Tax Commission to consider.

D. I-77 Corridor Interchange Projects – Mr. Mattox provided the latest information on each of the project locations (i.e., Exit 90; 85; 82 and 81). As a point of reference – given the volume of interchange projects, this will continue as a standing agenda item.

E. Bicycle / Pedestrian Projects – Mr. Meetze briefly noted upcoming next steps in the continued development of all projectsa (i.e., Spratt Street; Tega Cay Trail; and DLB).

III. New Business

A. Policy Committee Meeting for April 28, 2023 (Due no later than April 18th)

1. Pennies for Progress Report

B. 2020 Urbanized Areas – Mr. Hooper briefly noted that the requested information on potential adjustments to the Policy Committee as well as related next steps will be reviewed at the April meeting.

C. 2050 LRTP Amendment (2022 SCDOT System Performance Report) – Mr. Hooper provided an overview of the SCDOT System Performance Report; and then noted that this document will be amended into our 2050 LRTP at the April Policy Committee meeting.

D. CAC Reappointment – Mr. Hooper stated that Mr. Barnes is slated for reappointment to the Citizens Advisory Committee in April.

E. Administrative Report – Mr. Hooper briefly noted that the Administrative Report will be provided to the Policy Committee at their April meeting.

IV. Other Business

A. CRAFT & Other Planning Initiatives – Mr. Hooper stated that RFATS hosted the most recent CRAFT Technical Committee meeting; and then noted an EPA grant project that Catawba Regional is working on.

B. Next Technical Team Meeting – Mr. Hooper noted that the next Technical Team meeting is scheduled for May 4, 2023.

V. Adjourn – The meeting was adjourned at 2:55 PM.

POLICY COMMITTEE MEETING
SUMMARY MINUTES
April 28, 2023 – 12:00 p.m.
Rock Hill Operations Center – Room 132

COMMITTEE MEMBERS PRESENT: Tom Audette; Brian Carnes; Kathy Pender; Chris Gray; Heath Sessions; Christi Cox; Jim Reno; Michael Johnson; Guynn Savage; Bill Harris; and John Gettys.

ADMINISTRATIVE / TECHNICAL / MANAGEMENT STAFF PRESENT:
Berry Mattox (SCDOT); Patrick Hamilton (York County); Penelope Karagounis (Town of Fort Mill); Josh Meetze (SCDOT); Jimmy Bagley (City of Rock Hill); David Hudspeth (York County); Lisa Brown (City of Rock Hill); Jonathan Buono (York County); Chris Herrmann (City of Rock Hill); Christina Lewis (SCDOT); Cliff Goolsby (City of Rock Hill); Melanie Mobley (SCDOT); Katie Compton (City of Rock Hill); and David Hooper (RFATS).

CITIZENS / VISITORS PRESENT: John Marks (Herald); Cleopatra Allen (CAC); Joel Hamilton (York County Resident); Jim Van Blarcom (CAC); Brett Harrelson (Consultant); Tommy Thompson (resident); Lori Hadedon (resident): Luther Dasher (CAC); Phil Leazer (KCI); Tyler Cupp (WRHI); and Scot Sibert (STV).

1. CALL TO ORDER:

a. Welcome – Chair Audette called the meeting to order at 12:00 P.M. and welcomed all in attendance.

b. Citizen Comment Period – There were no comments received.

2. REVIEW / APPROVAL OF MINUTES

Mr. Audette asked if there were any changes, deletions, or comments to the minutes of the March 24, 2023 meeting. Mr. Audetter then made a motion to approve; this was seconded by Ms. Pender and unanimously approved.

3. REPORTS:

a. Pennies for Progress Report – Mr. Hamilton provided a brief overview of existing project priorities and upcoming public outreach meetings supporting the development of the Pennies V referendum. Ms Savage then outlined concerns she has received about operating conditions at the intersection of Spratt / FM Parkway. Mr. Hamilton then provided the latest information on planned project work to enhance area efficiency and safety as well as the applicable timeline.

b. 2020 Census (Urbanized Area Designations) – Mr. Hooper briefly reviewed the principal outputs from the 2020 Census (i.e., changes in population; role of the Rock Hill UZA, etc.); and then transitioned to the Policy Committee's request for potential options for considering changes to the memberhship composition and voting structure. Discussion then followed that fractionalized voting should not be utilized; and that an amended version of Option B would best serve the planning area. Specifically, the updated Policy Committee structure would reflect a shift from 12 to 15 members (i.e., Tega Cay 1; York County 3; Town of Fort Mill 2; Catawba Nation 1; Lancaster County 2; City of Rock Hill 3; Transit Representative from City of Rock Hill 1; State House Representative 1; State Senate 1; SCDOT

Commissioner – Ex Officio). This approach reflected the unamious consensus decision of the Policy Committee.

4. PROPOSED POLICY COMMITTEE ACTION ITEMS

a. 2050 LRTP Amendment (SCDOT System Performance Report – Mr. Hooper provided a brief overview of the principal discussion points from the System Performance Report; and then requested preliminary approval to amend the 2050 LRTP to reflect this material and authorize a 30-day public comment period. A motion to approve was made by Mr. Audette; seconded by Mr. Carnes and unamiously approved.

5. OTHER BUSINESS:

a. Administrative Report – Mr. Hooper briefly reviewed presentations made on the US 521 Corridor Study to the Lancaster County Council and to residents of Sun City since the last Policy Committee meeting.

b. Next Meeting – Mr. Audette noted that the next Policy Committee meeting is scheduled for May 19, 2023.

6. ADJOURNMENT:

The motion to adjourn was made by Mr. Audette and seconded by Ms. Savage; the motion was unanimously approved and the meeting was adjourned at 1:00 P.M.

APPENDIX C: SUMMARY OF PUBLIC COMMENTS