

SCDOT COMMISSION ITINERARY
July 16, 2020
Commission Meeting July 16, 2020
U.S.C. Alumni Center, 900 Senate Street, Columbia, SC 29201

Thursday, July 16, 2020

Event: Commission Meeting *(estimated time 2 hours)*

<u>Time:</u>	9:00 AM
<u>Place:</u>	U.S.C. Alumni Center
<u>Commission Chairman:</u>	Tony Cox
<u>Members:</u>	All Commissioners
<u>Staff:</u>	Participating DOT Personnel

Intentionally Left Blank

Commission Meeting Agenda
Thursday, July 16, 2020
U.S.C. Alumni Center, 900 Senate Street. Columbia, S.C. 29201

- | | |
|---|----------------------------------|
| 1. Call to Order | Chairman Cox |
| 2. Roll Call | Chairman Cox |
| 3. Approval of July 16, 2020, Agenda <i>(Action Required)</i> | Chairman Cox |
| 4. Prayer | Commissioner McLawhorn |
| 5. Pledge of Allegiance | Commissioner Burriss |
| 6. Approval of June 18, 2020, Commission Meeting Minutes and Actions <i>(Action Required)</i> | Chairman Cox |
| 7. Report Out of June 18, 2020, Audit Committee Meeting <i>(No Action Required)</i> | Audit Committee Chairman Willard |
| 8. Approval of June 18, 2020, Audit Committee Minutes and Actions <i>(Action Required)</i> | Chairman Cox |
| 9. Public Comment | Chairman Cox |
| 10. Resolutions to Dedicate Roads to Honor Fallen Employees: | Chairman Cox |
| A. David Joseph Sibbick | |
| B. Cecil Andrew Morgan | |
| <i>(Action Required on both items)</i> | |
| 11. Multimodal Transportation Plan <i>(Action Required on all three items)</i> | |
| A. SC Statewide Freight Plan Update | Director Frate |
| B. SC Statewide Rail Plan Update | and Deputy Secretary Rewis |
| C. SC Multimodal Transportation Plan Update | |
| 12. Recommendations for Review: | Deputy Secretary Rewis |
| A. For Approval <i>(Action Required)</i> | and Deputy Secretary Powell |
| B. For Ratification <i>(Action Required)</i> | |
| C. Cuff Item <i>(Action may be Required)</i> | |
| 13. For Information Only <i>(No Action Required)</i> | Deputy Secretary Powell |

Intentionally Left Blank

Commission Meeting Agenda (continued)

Thursday, July 16, 2020

U.S.C. Alumni Center, 900 Senate Street. Columbia, S.C. 29201

Page 2

- | | |
|--|--|
| 14. Financial Update <i>(No Action Required)</i> | Deputy Secretary Powell |
| 15. Executive Session pursuant to S.C. Code Section 30-4-70 (a)(2) to receive legal advice regarding consideration of SIB projects | Chairman Cox |
| 16. Commission Consideration of SIB Approved Projects <i>(Action Required)</i> | Secretary Hall
and Deputy Secretary Rewis |
| 17. Old Business <i>(Action may be Required)</i> | Chairman Cox |
| 18. Secretary of Transportation Comments | Secretary Hall |
| 19. Commissioner Comments | Commissioners |
| 20. Adjourn <i>(Action Required)</i> | Chairman Cox |

Intentionally Left Blank

DRAFT

Commission Meeting
Minutes and Actions
South Carolina Department of Transportation
June 18, 2020

The South Carolina Department of Transportation (SCDOT) Commission held its Commission meeting on June 18, 2020, at 9:00 AM. The Commission meeting took place at the U.S.C. Alumni Center, 900 Senate Street, Columbia, SC 29201. In compliance with the Freedom of Information Act, the news media was advised in advance in writing of the time, date, and place of this meeting.



COMMISSION MEETING MINUTES AND ACTIONS
South Carolina Department of Transportation
June 18, 2020

<u>Section</u>	<u>Table of Contents</u>	<u>Page</u>
Section 1	Call to Order	3
Section 2	Roll Call	3
Section 3	June 18, 2020, Agenda, Approved	3
Section 4	May 21, 2020, Commission Meeting Minutes and Actions, Approved	3
Section 5	Report Out of May 21, 2020, Audit Committee Meeting, No Action	4
Section 6	May 21, 2020, Audit Committee Meeting Minutes and Actions, Approved	4
Section 7	Public Comment, No Action	4
Section 8	Resolution for Former Commission Blanchard, Adopted	
Section 9	2020-2021 Pavement Program, Approved	4-5
Section 10	Recommendations Review: A. For Approval, Approved	6
Section 11	For Information Only, No Action	6
Section 12	Old Business, No action	6
Section 13	Secretary of Transportation Comments, No Action	6-7
Section 14	Commissioner Comments, No Action	7
Section 15	Adjournment, Approved	7

Section 1: Call to Order

No Action

The Commission meeting was called to order by Chairman Tony Cox on June 18, 2020, at 9:00 AM.

Section 2: Roll Call

No Action

Chairman Cox called the roll of the Commissioners.

Commissioners present at the meeting were:

Gene Branham, Commissioner for the Fifth Congressional District
John Burriss, Commissioner for the Second Congressional District
Tony Cox, Chairman and Commissioner for the Seventh Congressional District
Ben Davis, Commissioner for the Third Congressional District (participated via WebEx)
Barnwell Fishburne, Vice-chairman and Commissioner for the Sixth Congressional District
J. T. McLawhorn, At-Large Commissioner
Robby Robbins, Commissioner for the First Congressional District
Woody Willard, Commissioner for the Fourth Congressional District

The Chairman declared that a quorum was present.

Also present at the meeting were:

Kristen Blanchard, former SCDOT Commissioner At-large
Christy Hall, Secretary of Transportation
Leland Colvin, Deputy Secretary for Engineering
Justin Powell, Deputy Secretary for Finance and Administration
Brent Rewis, Deputy Secretary for Intermodal Planning
Linda McDonald, Chief Legal Counsel
Pete Poore, Director of Communications
Allen Hutto, Director of Governmental Affairs
Andy Leaphart, Chief Engineer for Operations
George Kennedy, State Auditor

Section 3: Agenda

Approved

Chairman Cox asked for a Motion to approve the June 18, 2020, Commission Meeting Agenda. A Motion for approval was made by Commissioner Burriss and seconded by Commissioner Branham. The **Motion** was passed unanimously. A copy of the Agenda is included in the June 18, 2020, Commission Meeting Minutes and Actions.

Section 4: Commission Meeting Minutes and Actions

Approved

Chairman Cox called for a Motion to approve the May 21, 2020, Commission Meeting Minutes and Actions. A Motion for approval was made by Commissioner Robbins and seconded by Commissioner McLawhorn. The **Motion** was passed unanimously. A copy of the May 21, 2020, Commission Meeting Minutes and Actions is included in the June 18, 2020, Commission Meeting Minutes and Actions.

Section 5: Report Out of May 21, 2020, Audit Committee Meeting **No Action**

Committee Chairman Willard reported that the Audit Committee held a meeting at the U.S.C. Alumni Center, 900 Senate Street, Columbia, S.C. on Thursday, May 21, 2020, that began at 11:24 A.M. At the meeting, Director of Internal Audit Services Sams went over the Committee's Charter and explained an assessment tool available to the Committee for assessing internal audit performance. Director Sams reported further that the Internal Audit Services' compliance with ten internal audit standards received the highest rating given. He also presented the status of audit engagements through April 30, 2020. No Committee action was requested or taken on any of these items. A copy of the Report Out is included in the June 18, 2020, Commission Meeting Minutes and Actions.

Section 6: Audit Committee Meeting Minutes and Actions **Approved**

Chairman Cox called for a Motion to approve the May 21, 2020, Audit Committee Minutes and Actions. A motion was made by Commissioner Willard and seconded by Vice-chairman Fishburne. The **Motion** was passed unanimously. A copy of the May 21, 2020, Audit Committee Meeting Minutes and Actions is included in the June 18, 2020, Commission Meeting Minutes and Actions.

Section 7: Public Comment **No Action**

Ms. Donna Kaloz from Myrtle Beach spoke as a private citizen about construction of I-73. She is in favor of the construction of I-73 and expressed a desire for the interstate to be built. She said it would be of benefit to the Myrtle Beach area by helping tourism and by offering a safe alternate route for vehicular traffic.

Section 8: Recognition of Former Commissioner Kirsten Blanchard **Adopted**

A Resolution, honoring former Commissioner Kristen Blanchard for her service and contributions as a South Carolina Department of Transportation (SCDOT) At-large Commissioner, was read into the record by Director of Communications Poore. A Motion was made by Vice-chairman Fishburne and seconded by Commissioner McLawhorn to adopt the Resolution as read. **The Motion** passed by acclamation. A copy of the Resolution is included in the June 18, 2020, Commission Meeting Minutes and Actions.

Section 9: 2020-2021 Pavement Program **Approved**

The 2020-2021 Pavement Program presentation was given to the Commission by Chief Engineer for Operations Leaphart. He explained that the Pavement Improvement Program includes the preservation, rehabilitation, and reconstruction of Interstates, major roads/primaries, farm-to-market secondaries, and neighborhood streets. Chief Engineer Leaphart said that no adjustments to the 10-year plan are recommended at this time since all pavement categories are trending right on target. Total funding for the program for SFY 2020-2021 is \$562M. These funds are distributed to the various road systems with the Interstates receiving a statewide allocation while the major roads/primaries, farm-to-market secondaries, and neighborhood streets receive a county-by-county allocation that is broken down as follows: funding is allocated to counties based on their relative share of lane miles for each system; approximately 10 percent of the county allocation is used for preservation to keep the roads good; and the funding balance is utilized for reconstruction/rehabilitation to make major repairs or fully rebuild decayed roads. Next, Chief

Section 9 Continued:

Engineer Leaphart said Commission approval is required for the ranked project lists (pages 65-116 under Commission Recommendations) for the planned rehabilitation and reconstruction projects comprised of approximately 661 centerline miles of proposed paving work (representing approximately 280 miles of primaries/major roads; approximately 179 miles of the farm-to-market secondaries; and approximately 202 miles of neighborhood streets).

Commissioner Robbins asked about neighborhood streets. Deputy Colvin said that they are very large (20,584 centerline miles) and comprise about one-half of South Carolina centerline miles even though they carry only 6 percent of the state's traffic. Commissioner Robbins said he would like to look at the neighborhood streets more closely.

The following Motion was presented by Commissioner Willard for Commission approval:

Motion #1: "In accordance with the Commission approved Transportation Asset Management Plan (TAMP) and the 10-year plan for rebuilding South Carolina's roads, the Commission approves the recommended 2020-2021 Pavement Improvement Program. The Secretary is authorized to adjust the program as necessary in the future to align to projected vs actual variances in revenues or program expenses. Any adjustments to the funding levels made by the Secretary are to be ratified by the Commission."

The **Motion** was seconded by Commissioner Burriss and passed unanimously.

A second Motion was presented by Commissioner Willard for Commission approval:

Motion #2: "In accordance with Act 114 of 2007, which requires the SCDOT Commission to select projects for funding based on objective and quantifiable factors, the Commission approves the Secretary's recommended ranked pavement improvement project lists for the Rehabilitation and Reconstruction of the Primary system, Farm to Market Secondaries, and Neighborhood Streets for state fiscal year 2020-2021.

The proposed 2020-2021 Pavement Improvement Program is to be open for 21 days of public comment with any substantive comments to be provided to the Commission for its consideration. Barring any substantive comments, the projects are to be incorporated in the State Transportation Improvement Program (STIP). "

The **Motion** was seconded by Commissioner Robbins and passed unanimously.

Commissioner McLawhorn said he wants to find a way to have more public comments on DOT projects since he feels it is a vital part of what the Agency does. He was also interested in demographics of people who participate with public comments.

Deputy Secretary Colvin advised the Commission that by approving Motion #1 and Motion #2 they inclusively approved the Recommendations for Approval on pages 65–116 that also pertained to the 2020-20212 Pavement Improvement Program. A copy of the presentation, with both Motions, is included in the June 18, 2020, Commission Meeting Minutes and Actions.

Section 10: Recommendations **Approved**

Deputy Secretary for Intermodal Planning Rewis reviewed all recommendations:

- A. Approval – Deputy Secretary Rewis requested the removal of pages 37-40 in the Commission Notebook until a later date. Deputy Rewis went on to review items for Approval on pages 41-64 (pages 65-116 were previously approved during the 2020-2021 Pavement Improvement Program). A Motion was made by Commissioner Willard to approve pages 41-64 as presented by staff. There was a second by Commissioner Burriss. The **Motion** passed unanimously. Copies of the Recommendations for Approval are included in the June 18, 2020, Commission Meeting Minutes and Actions.
- B. Ratification – There were no Ratifications.
- C. Cuff Items – There were no Cuff Items.

Section 11: For Information Only **No Action**

Deputy Secretary for Finance and Administration Powell reviewed the For Information Only items. These approvals, made previously by Secretary Hall (pgs. 119-138), were supplied to the Commission for information only. No action was needed. Copies of the For Information Only items are included in the June 18, 2020, Commission Meeting Minutes and Actions.

Section 12: Financial Update **No Action**

Deputy Secretary Powell presented the Financial Update. He apprised the Commission that even though traffic volumes are generally down they are gradually increasing, deferred payments from April and May in the amount of \$47M will be deposited in June rather than July, and there are no anticipated adjustments due to funding for the lettings in June, July, and August. Deputy Powell reported that the cash balances as of June 1, 2020, to support programs and operations at the Agency, total \$1,065,089,867.00. Projections for cash are: gas taxes will be down approximately 14.2 percent in July then tapering up to be off by 10 percent in October, and then off the projection by 5 percent in January 2021 to April 2022; car sales taxes will be down 50 percent in June-July 2020; and there is \$1.6B in construction work remaining to complete, excluding emergency work. The next steps will be to give an updated forecast in July after further monitoring of the impacts of the pandemic and to continue authorizing the release of projects to bid utilizing a month-by-month basis based on available cash in order to minimize the risk of overcommitting. The presentation plus additional financial pages are included in the June 18, 2020, Commission Meeting Minutes and Actions.

Section 13: Old Business **No Action**

Vice-chairman Fishburne mentioned a meeting concerning the permitting process for I-95 that he had with Mr. Craig Winn, Program Manager on the RPG I Lowcountry environmental permitting team and that Mr. Winn was most helpful.

Section 14: Secretary of Transportation Comments **No Action**

Secretary Hall referred to her handout of SCDOT Accomplishments for June 2020. She talked about the lane reversal “dress rehearsal” scheduled for Thursday, June 25. Lowcountry crews all the way up to the I-26/I-77 interchange will take up positions on the interstate. Secretary Hall

Section 14 Continued:

said SCDOT is part of TEAM South Carolina and its mission is to keep the state's workforce safe. DOT's participation on the TEAM has been to procure hand sanitizer to support both the Election Commission and all State Agencies. She also mentioned to the Commission that tolls will be reinstated on the Cross Island Parkway at Hilton Island. A copy of the Secretary's report is included in the June 18, 2020, Commission Meeting Minutes and Actions.

Section 15: Commissioner Comments

No Action

Commissioner Willard congratulated the Department for the good job they are doing. Commissioner Willard also applauded the Agency's successful grant application as a great achievement for the State of South Carolina. Commissioner McLawhorn sent out a thank you to SCDOT for being involved with the acquisition and distribution of hand sanitizer. Commissioner McLawhorn also thanked Tony Magwood for his responsiveness in dealing with taking care of a large pothole. Vice-chairman Fishburne thanked Chief Engineer Leaphart for his Pavement Improvement Program presentation. Commissioner Burriss said he appreciated the interactive web site for the pavement program, the hand sanitizer efforts by the Agency, and mentioned that the public needs to know that SCDOT is not using state funds for the Panther interchange project in York County. Commissioner Robbins congratulated former Commissioner Blanchard for being recognized by the Commission for her service. Commissioner Robbins also mentioned the Gas Tax Trust Fund monthly account statement that shows SCDOT is making great use of these funds. Commissioner Davis responded saying he hoped to be back in person at the July meeting. Chairman Cox thanked staff for setting up the room for the meeting. Chairman Cox said he has had positive comments about the Commission web site.

Section 16: Adjournment

Approved

Chairman Cox asked for a Motion to adjourn. The **Motion** was made by Commissioner Burriss and seconded by Commissioner Robbins. It was approved unanimously. Chairman Cox declared the meeting adjourned at 10:24 AM.

Minutes Approved on July 16, 2020

Tony K. Cox, Chairman

Intentionally Left Blank

DRAFT

Audit Committee Meeting
Minutes and Actions
South Carolina Department of Transportation
June 18, 2020

The South Carolina Department of Transportation (SCDOT) Commission held its Audit Committee Meeting on June 18, 2020, at 10:55 AM. The Audit Committee Meeting took place at the U.S.C. Alumni Center, 900 Senate Street, Columbia, SC 29201. In compliance with the Freedom of Information Act, the news media was advised in advance in writing of the time, date, and place of this meeting.

AUDIT COMMITTEE MEETING MINUTES AND ACTIONS
South Carolina Department of Transportation
June 18, 2020

<u>Section</u>	<u>Table of Contents</u>	<u>Page</u>
Section 1	Call to Order	2
Section 2	Roll Call, No Action	2-3
Section 3	June 18, 2020, Agenda, Approved	3
Section 4	Internal Audit Reports - DIS-200 Gap Analysis: <ul style="list-style-type: none">• IT Audit (Log) and Compliance Management, No Action• It Performance Management, No Action	3 3
Section 5	Executive Session pursuant to S.C. Code Section 30-4-70 (a)(3) to receive internal audit information on security plans, No Action	3-4
Section 6	Old Business, No Action	4
Section 7	Adjournment, Approved	4

Section 1: Call to Order **No Action**

The Audit Committee meeting was called to order by Chairman Woody Willard on June 18, 2020, at 10:55 AM.

Section 2: Roll Call **Action**

Chairman Willard called the roll of the Committee Members.

Committee members present at the meeting were:

- Gene Branham, Commissioner for the Fifth Congressional District
- John Burriss, Commissioner for the Second Congressional District
- J. T. McLawhorn, At-Large Commissioner
- Woody Willard, Committee Chairman and Commissioner for the Fourth Congressional District

The Chairman declared that a quorum was present with four committee members in attendance.

Also present at the meeting were:

- Robby Robbins, Commissioner
- Christy Hall, Secretary of Transportation
- Linda McDonald, Chief Legal Counsel

Section 2 continued:

Leland Colvin, Deputy Secretary for Engineering
Justin Powell, Deputy Secretary for Finance and Administration
Brent Rewis, Deputy Secretary for Intermodal Planning
Wayne Sams, Director of Internal Audit Services
George Kinard, Interim Chief Information Officer
Michael Chandler, Chief Information Security Officer
George Kennedy, State Auditor

Section 3: Agenda **Approved**

Chairman Willard asked for a Motion to approve the June 18, 2020, Audit Committee meeting Agenda. A Motion was made by Commissioner McLawhorn and seconded by Commissioner Branham. The **Motion** passed unanimously. A copy of the Agenda is included in the combined June 18, 2020, Commission Meeting and Audit Committee Meeting Minutes and Actions.

Section 4: Internal Audit Reports – DIS-200 Gap Analysis:

- **IT Audit (Log) and Compliance Management** **No Action**
Director of Internal Services Sams presented this report since Senior Manager Wilkins was unable to attend the meeting. The report included two internal control observations with risk scores of medium-high.
- **IT Performance Management** **No Action**
Director Sams also presented this report which included three internal control observations with risk scores of medium-high.

Management has developed actions to address each of the observations. Director Sams will present the status of these actions quarterly to the Audit Committee. No Committee actions were taken on either of these items.

Section 5: Executive Session **No Action**

At this time in the meeting a **Motion** was made by Commissioner Burriss and seconded by Commissioner McLawhorn to go into Executive Session pursuant to S.C. Code Section 30-4-70 (a)(3) to receive internal audit information on security plans. The Motion passed unanimously. The recorder was turned off at 11:00 AM and the following personnel remained in the room for the Executive Session:

Audit Committee Members
Secretary of Transportation Christy Hall
Deputy Secretary Leland Colvin
Deputy Secretary Justin Powell
Deputy Secretary Brent Rewis
Director of Internal Audit Services Wayne Sams
State Auditor George Kennedy
Interim Chief Information Officer George Kinard
Chief Information Security Officer Michael Chandler

Section 5 continued:

A **Motion** was made by Commissioner Branham and seconded by Chairman Willard that the Audit Committee come out of Executive Session and back into their regularly scheduled meeting. The Motion passed unanimously. Chairman Willard reported that no votes were taken in Executive Session, nor did the Committee commit itself to a course of action. The regular Committee meeting recommenced at 11:14 AM.

Section 6: Old Business

No Action

There was no old business to consider.

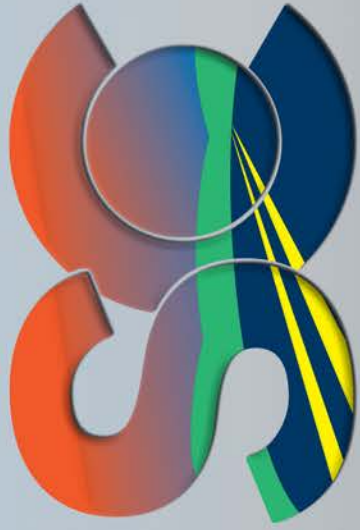
Section 7: Adjournment

Approved

Chairman Willard asked for a motion to adjourn. The **Motion** was made by Commissioner Burriss and seconded by Commissioner Branham. It was approved unanimously. Chairman Willard declared the meeting adjourned at 11:15 AM.

Minutes Approved on July 16, 2020

Woodrow W. Willard, Jr., Committee Chairman



MULTIMODAL TRANSPORTATION PLAN 2040



The Multimodal Transportation Plan (MTP) identifies South Carolinas statewide modal transportation needs, forecasts investment levels and estimates annual funding gaps for the next twenty years while also considering performance and transportation asset management principles.

The MTP evaluates various modes of transportation including:

- Roadways
- Bridges
- Freight
- Mass Transit
- Ports
- Bike/Pedestrian
- Rail
- Intercity Bus



SC Statewide Freight Plan Update



SC Statewide Freight Plan Update

Elements

- Inventory of transportation assets contributing to the movement of goods in South Carolina complete with all modes of transportation.
- Profile of goods movement for South Carolina, summarizing the tonnage and commodities for historical and forecast years, aligning data analyses for the Multimodal Transportation Plan and the Statewide Freight Plan.
- Identifies and updates the Statewide Freight Network consisting of roadways, railroads, and other multimodal transportation infrastructure needed for the efficient movement of goods in South Carolina.



SC Statewide Freight Plan Update

Purpose

- Amends original Statewide Freight Plan first approved by the Commission in 2014.
- Satisfies requirements as outlined in the FAST Act and USDOT-published Guidance on State Freight Plans.
- Responds to the critical role of transportation infrastructure and freight movement to the economy of the state.



SC Statewide Freight Plan Update

Multimodal Freight Growth
Total Tons & Total Value (in Millions)
2011-2040



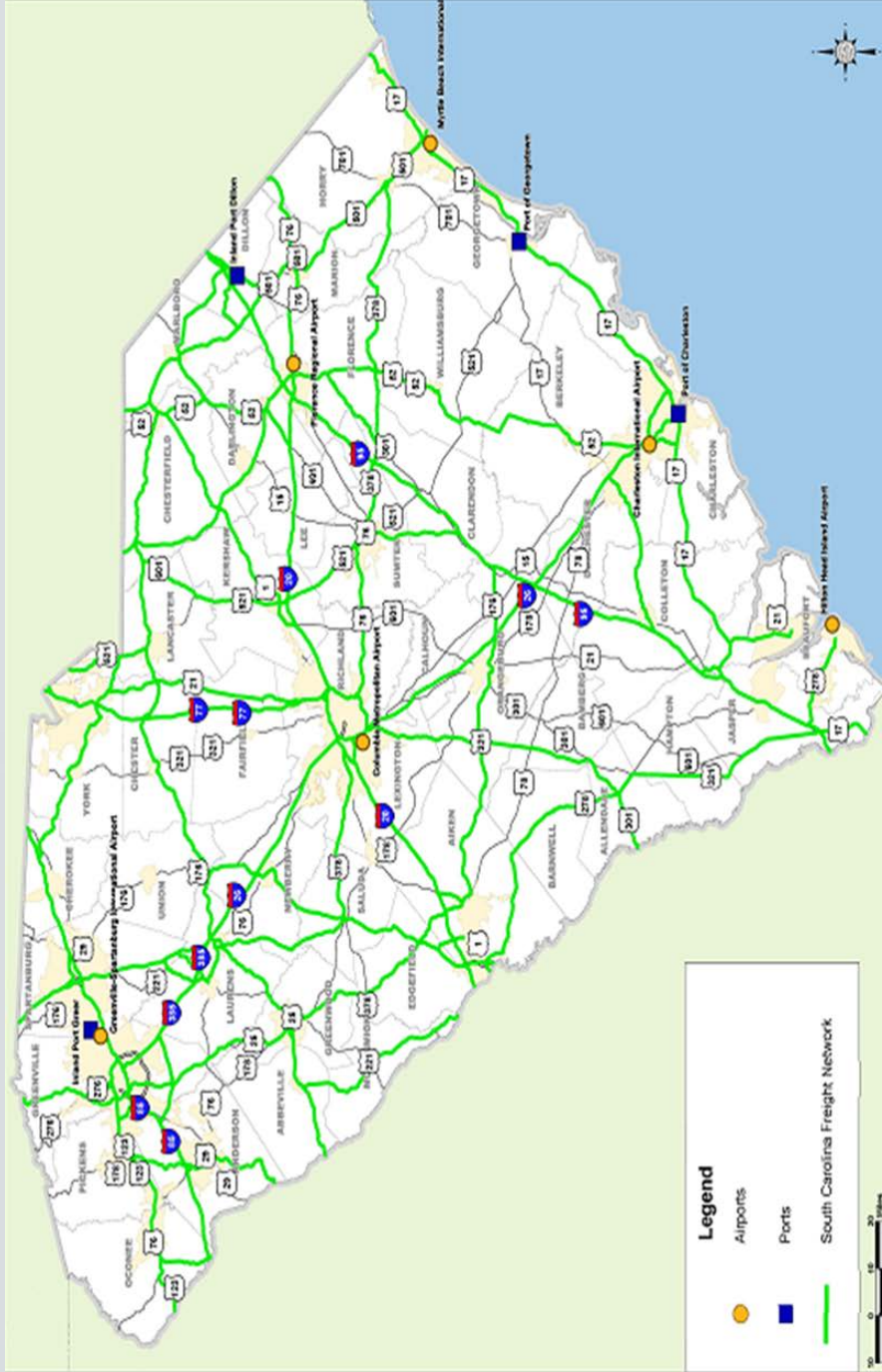
Truck Tons Growth 2016 - 2040





MULTIMODAL
TRANSPORTATION
PLAN 2040

Statewide Freight Network



SCDOT

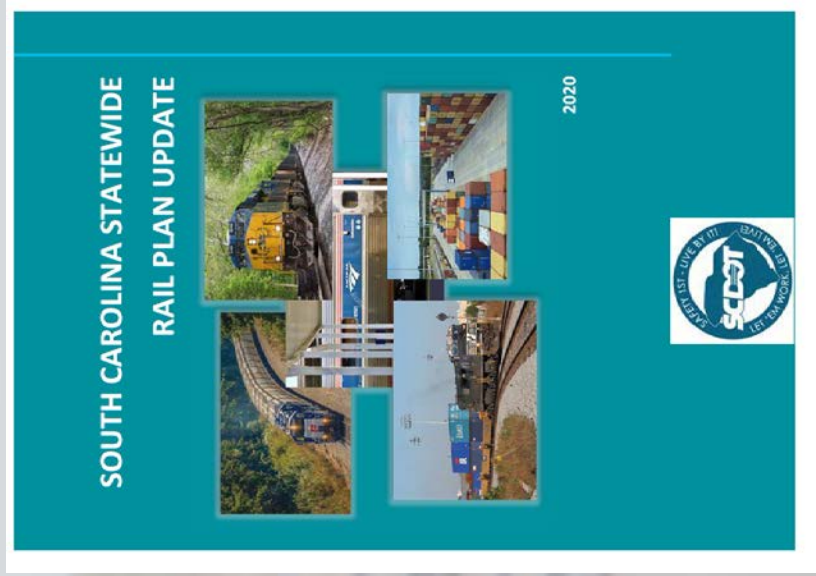
Freight Funds included within the 10-year plan

	FFY 20	FFY 21	FFY 22	FFY 23	FFY 24	FFY 25
Estimated \$25M annual Apportionment requires 20% state matching funds						
Truck Parking Assessment & Planning Study	\$240k					
I 26 Widening from SC 202 (exit 85) to near US 176 (exit 101)	\$12.5M	\$12.5M	\$12.5M	\$12.5M		
I 85 Widening from near SC 18 (exit 96) to near NC State Line	\$12.5M	\$12.5M	\$12.5M	\$12.5M		
I 26 Widening from Old Sandy Run Road (exit 125) to I-95 (exit 169) RURAL INTERSTATE WIDENING					\$12.5M	\$12.5M
I 95 Widening from Georgia State Line to Ridgeland (exit 33) RURAL INTERSTATE WIDENING					\$12.5M	\$12.5M
TOTAL	\$25.24M	\$25M	\$25M	\$25M	\$25M	\$25M

Estimated \$25M annual Federal Apportionment requires 20% State Matching Funds



SC Statewide Rail Plan Update



SC Statewide Rail Plan Update

Purpose

- Integrate the state's rail vision with the Multimodal Transportation Plan and Statewide Freight Plan.
- Update to the previous Statewide Rail Plan approved in December 2014.
- Complies with federal Passenger Rail Investment and Improvement Act of 2008 (PRIIA) and SC Code Section 57-3-30.



SC Statewide Rail Plan Update

Elements

- A description and inventory of the existing rail system in South Carolina, including growth trends and forecasts along with needs and opportunities.
- A discussion of proposed improvements and investments for freight rail and proposed passenger service through South Carolina.
- A vision of long range rail service in South Carolina and strategies to achieve the vision.



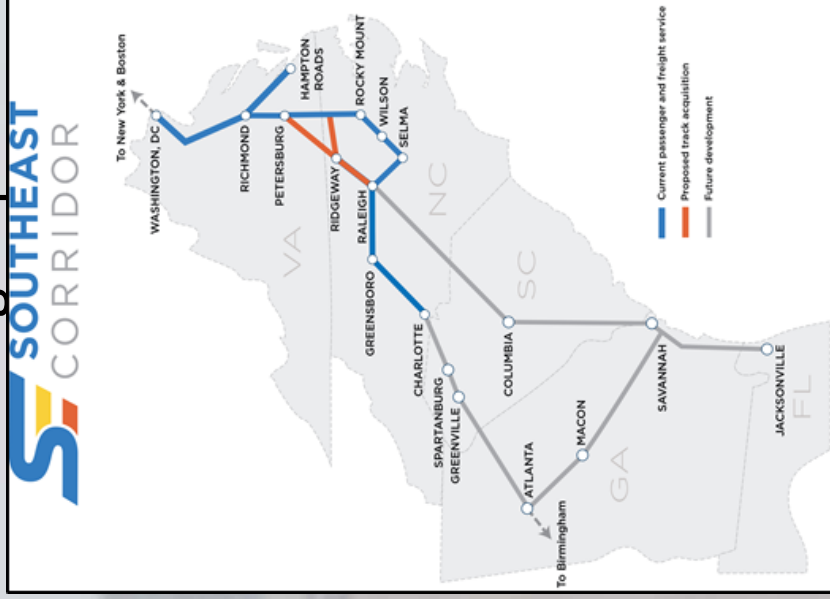
SC Statewide Rail Plan Update

SC Short-Line Rail Needs

Type of Needs	Needs (Millions)
Rehabilitation	\$41.62
Capacity / Service	\$3.50
Safety	\$2.50
Short Line Total	\$47.62

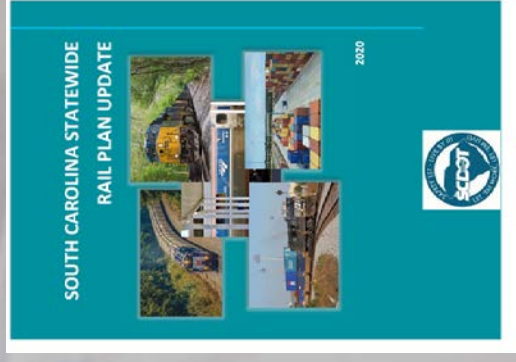


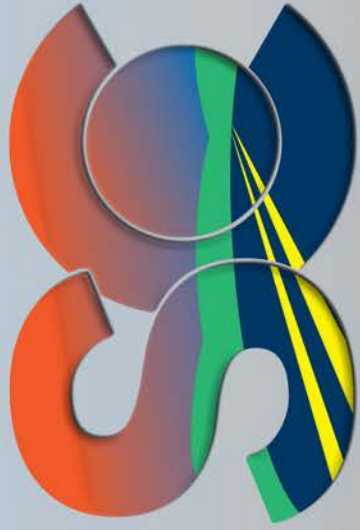
Southeast High-Speed Rail



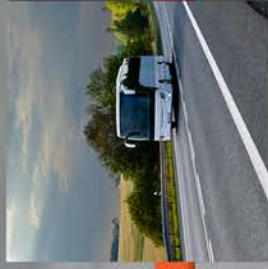
Commission Motion for Consideration

“The Commission approves the SC Statewide Freight Plan Update and SC Statewide Rail Plan Update, and requests that the Secretary submit the plans to the Federal Highway Administration and the Federal Railroad Administration for the required federal concurrence and approval actions.”



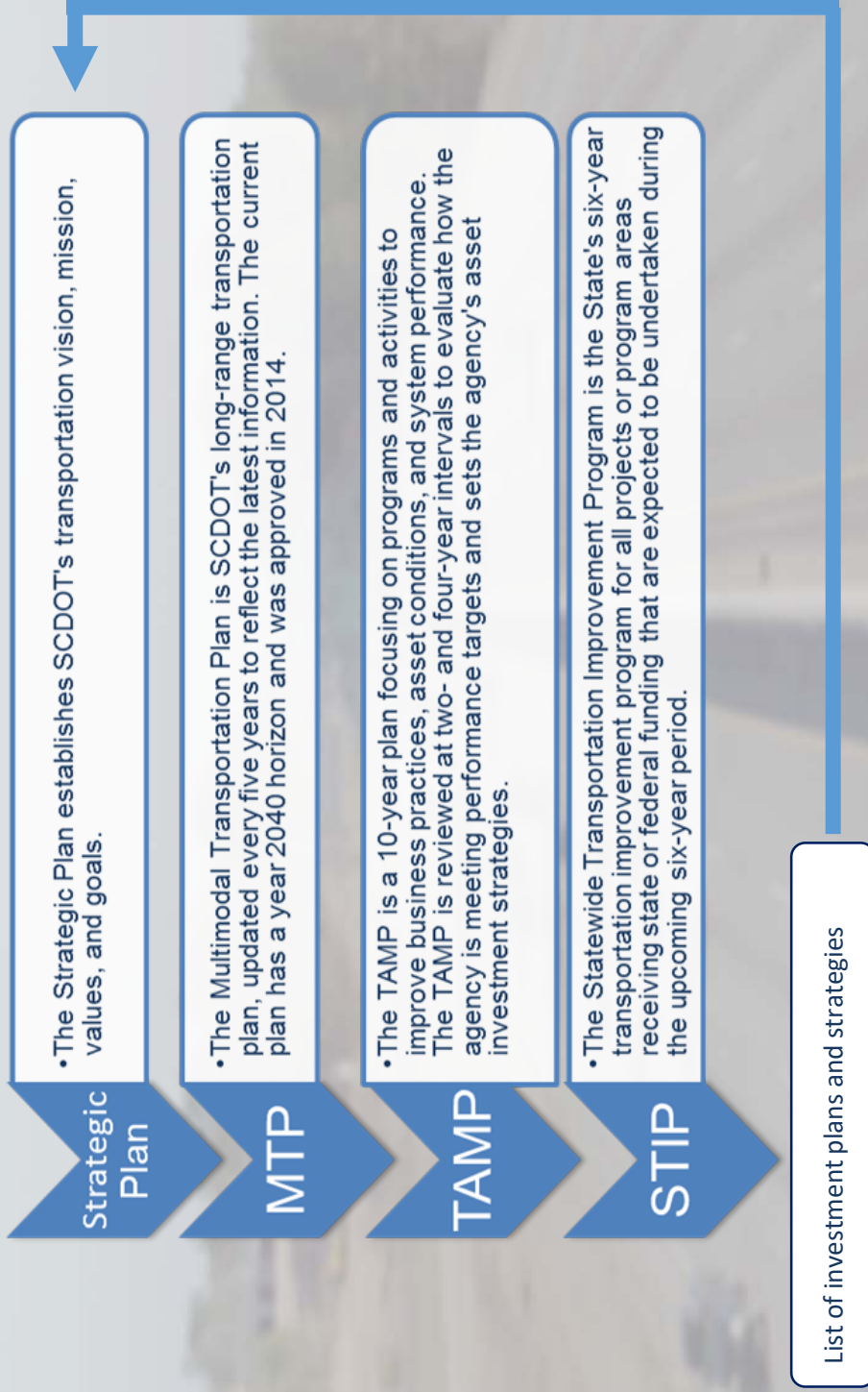


MULTIMODAL TRANSPORTATION PLAN 2040



July 2020 Update





MTP Survey

- Takes 5-7 Minutes
Interactive Survey
Categories Include:
- Introduction
 - Priority Ranking
 - Tradeoffs
 - Budget Allocation
 - Wrap up

MTP Video

<http://info2.scdot.org/projects/ViewerFiles/>

SCDOT_MTP2040%20Survey%20FINAL_H26

4_35Mbps_%207-17-19.mp4



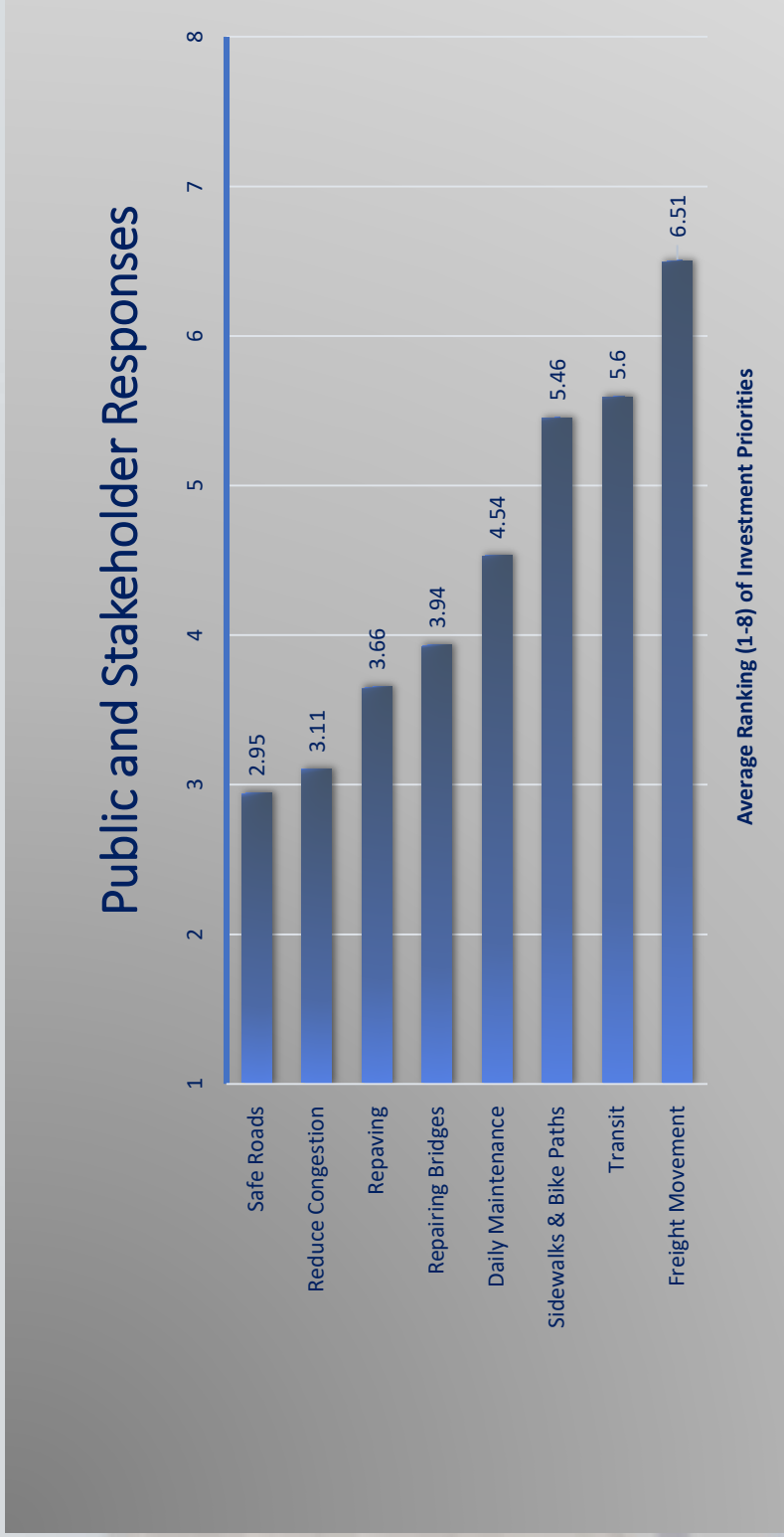
Share Your Thoughts
with Us



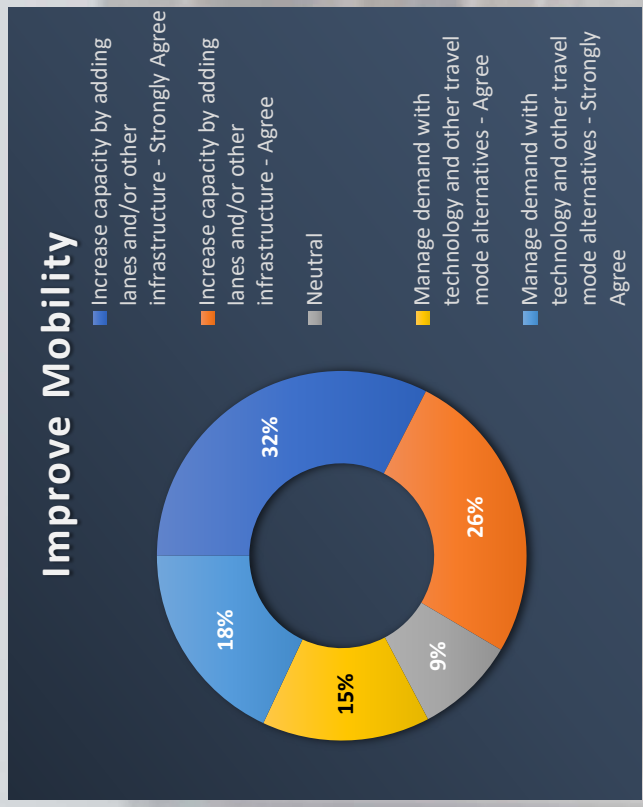
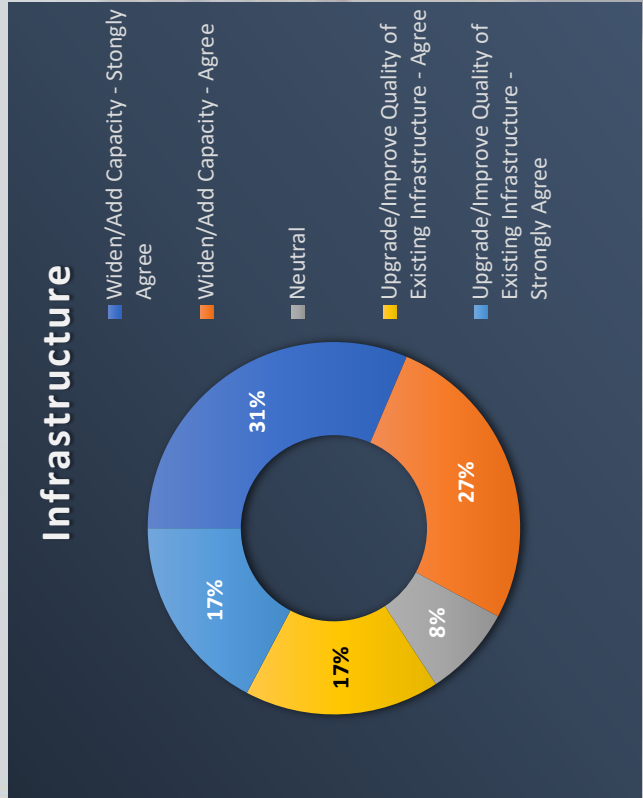
Help us identify the problems you care about.

Take a quick survey

Web Survey: What infrastructure priorities are most important?



Web Survey: Where should transportation investments be made between competing priorities?

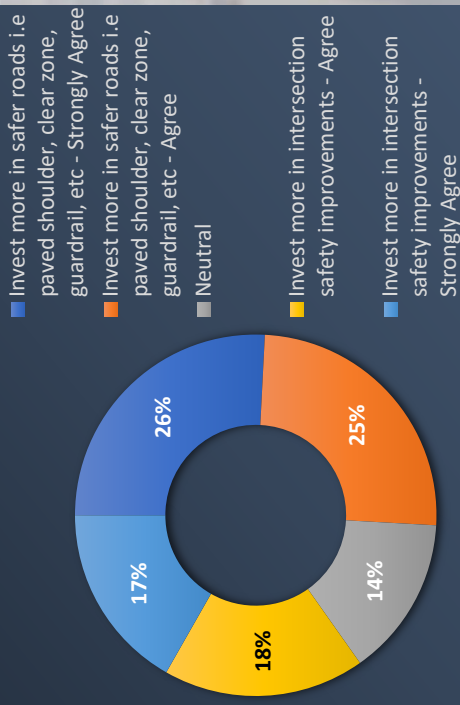


Tradeoff's

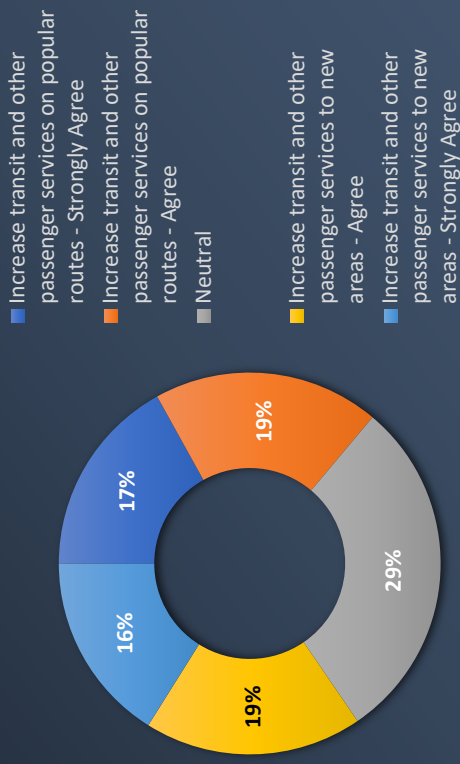


Web Survey: Where should transportation investments be made between competing priorities?

Safe and Secure Travel



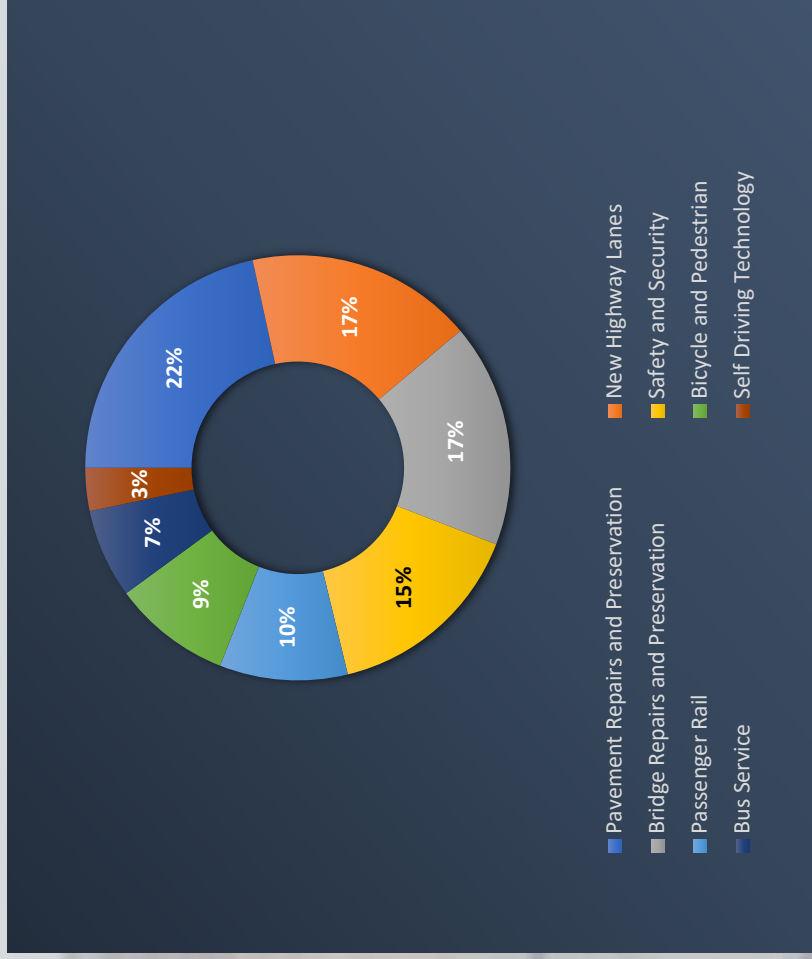
Passenger Transit



Tradeoff's



Web Survey: How and where should transportation investments be made?



A major component of the Multimodal Transportation Plan is an update to the projected annual funding gap.

- Reforecasts the previous annual funding gap figure by factoring in the recent gas tax increase and other funding infusions.
- Tempers the previous outlook based on industry, vendor and overall delivery capacity constraints.

\$1.47Billion
Annual Gap
forecasted in 2014 MTP



\$403Million
Annual Gap
forecasted in 2020 MTP



Key Findings

- **Funding** - \$8.91 Billion funding gap to address the and maintain the multimodal needs of highways, bridges, bicycle/pedestrian, and transit through 2040. This equates to a \$403 M yearly annualized funding gap.
- **Safety** – Safety on the State Highway System is the top goal for SCDOT. An increase of \$50 M, would double current rural road safety initiatives and advance safety projects throughout out state.
- **Interstates** – \$2.76 Billion funding gap to address congestion on the states interstates. This equates to a \$123 M yearly annualized funding gap. With these existing funds will expedite the completion of the Rural Road Interstate Program as well as the I 526 Lowcountry Corridor Project in Charleston County.



Key Findings Continued

- **Pavements** – SCDOT does not forecast a funding gap for pavements for the 2040 Horizon Year. With recent data trends showing improvement, SCDOT plans to manage the existing pavement funds within the various road classifications.
- **Bridges** – Anticipate both structurally deficient and load restricted bridges will increase by 38 bridges per year. Therefore, approximately 1520 bridges will either become structurally deficient or load restricted by 2040. It is anticipated that an additional \$76 Million per year is needed to address the future bridge deterioration.
- **MPO/COG** – With increased growth throughout the state, congestion continues to be a major problem. A \$100 M annualize funding gap would help reduce these congestion issues by increasing the total guideshare allocation to \$238 M.





**MULTIMODAL
TRANSPORTATION
PLAN 2040**

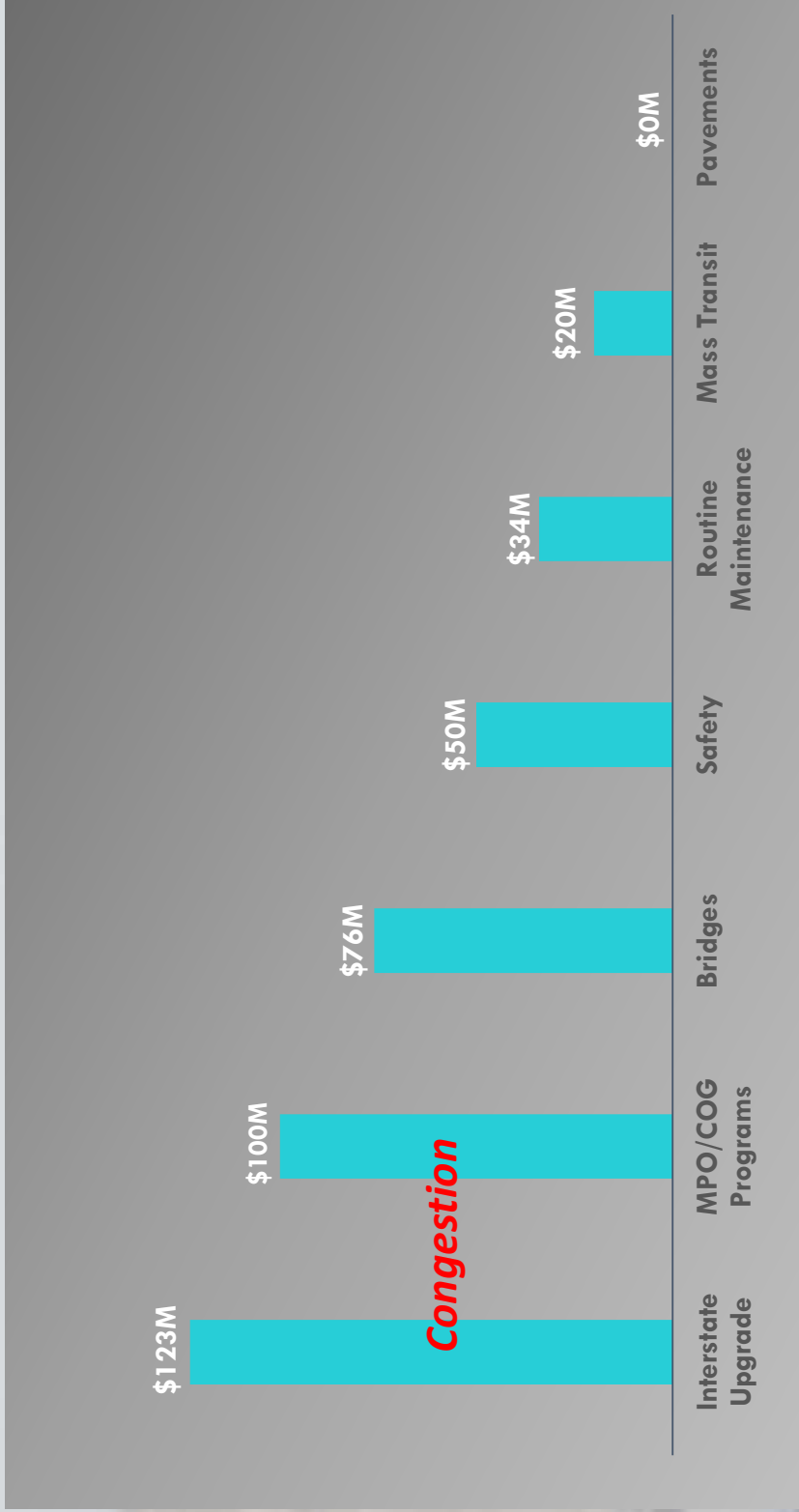


Mode/Category	2019-2040 MTP Annualized Funding	2019-2040 MTP Annualized Need	2019-2040 Yearly Average Gap	2019- 2040 Total Gap
Interstate System				
Interstate System Upgrade	\$441 Million	\$564 Million	\$123 Million	\$2.76 Billion
Pavements				
Interstates	\$135 Million	\$135 Million	\$0 Million	\$0 Million
Primarys	\$269 Million	\$269 Million	\$0 Million	\$0 Million
Farm to Market Secondarys	\$140 Million	\$140 Million	\$0 Million	\$0 Million
Neighborhood Streets	\$121 Million	\$121 Million	\$0 Million	\$0 Million
Subtotal	\$665 Million	\$665 Million	\$0 Million	\$0 Million
Bridges				
Bridges	\$313 Million	\$389 Million	\$76 Million	\$1.67 Billion
MPO/COG Program				
MPO/COG Program	\$138 Million	\$238 Million	\$100 Million	\$2.2 Billion
Safety				
Safety	\$100 Million	\$150 Million	\$50 Million	\$1.1 Billion
Routine Maintenance				
Routine Maintenance	\$174 Million	\$208 Million	\$34 Million	\$748 Million
Mass Transit				
Mass Transit	\$104.7 Million	\$124.5 Million	\$19.8 Million	\$435.6 Million
Totals	\$1.94 Billion	\$2.34 Billion	\$403 Million	\$8.91 Billion



SCDOT

\$4003M Annual Funding Gap



Commission Motion for Consideration

In accordance with South Carolina Code, SECTION 57-1-370 (A), the Commission approves the adoption of the updated 2040 Multimodal Transportation Plan. The updated 2040 Multimodal Transportation Plan is to be open for 21 days of public comment with any substantive comments to be provided to the Commission for its consideration.





South Carolina Department of Transportation

Commission Recommendations July 16, 2020

Approval
Ratification
Cuff Item

TAB	ITEM	ACTION RECOMMENDED	PAGE(S)
1	State Transportation Improvement Program		
	A. Public Comment Period		
	B. Revisions	Approval	47-48
2	State Highway System		
	A. Additions/Deletions/Revisions	Approval	51-64
	B. Bridge Removal		
3	Construction Contracts		
	Extension/Modification > \$150,000	Approval	65-66
4	SC Transportation Infrastructure Bank		
	none		
5	Annual		
	A. Statewide Transportation Improvement Program (STIP)		
	B. Long Range Statewide Transportation Plan (Long Range Plan)		
	C. Annual Budget		
	D. Transportation Asset Management Plan (TAMP)		
	E. State Transit Plan		
6	Capital Improvements		
	Capital Improvement Request >\$1,000 - Section 11-35-450 Items		
7	Construction Contracts		
	Extension/Modification < \$150,000		
8	Cuff Item		

Intentionally Left Blank

**SCDOT Commission
Recommendation Transmittal Form**

1-B

For Commission Meeting of: July 16, 2020

- APPROVAL**
- RATIFICATION**
- FINDING**
- FOR INFORMATION ONLY**
- CUFF ITEM**

Initial Commission Approval: See Attached

Current STIP Page: See Attached

Project Ranking Within Program Category: See Attached

Project Number: See Attached

Major Budget Category: Remaining Operations

Program Category: Other

Other: Multiple Sources

Location: Statewide

DETAILED DESCRIPTION

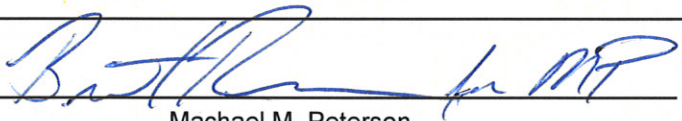
Request Commission approval for Revision #38 of the 2017-2022 Statewide Transportation Improvement Program (STIP).

A.) Inclusion of US 21 Joe Jeffords Highway Widening project into the Lower Savannah COG System Upgrade Program.



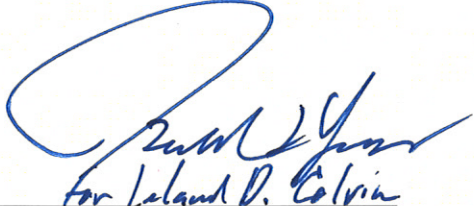
B.) Removal of (4) Operations/Shoulder Improvement projects and (1) Intersection Improvement project out of the Lower Savannah COG System Upgrade Program.

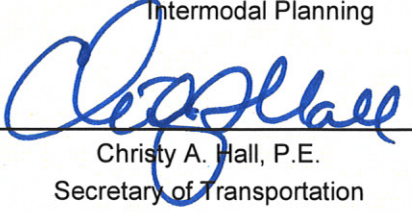
1. SC 33 Russell Street
2. US 301 Five Chop Segment
3. US 21 Freedom Road and US 78 Edward Street
4. US 178 Charleston Highway
5. Intersection Improvement - SC 210 @ S 80

C.) Inclusion of new project into the RFATS Mass Transit Program

Recommended By: 
 Michael M. Peterson
 Director of Planning

Deputy Secretary Concurrence:

<u></u> Justin P. Powell Deputy Secretary for Finance and Administration	<u></u> Brent L. Rewis, P.E. Deputy Secretary for Intermodal Planning	<u></u> Leland D. Colvin, P.E. Deputy Secretary for Engineering
---	--	---

Secretary Approval: 
 Christy A. Hall, P.E.
 Secretary of Transportation

Date: 7/8/20

Intentionally Left Blank

Summary of Public Comments Received for SCDOT's Public Notification of:

A STIP Amendment to Include the South Main Streetscaping Improvement Program
A STIP Amendment to Include Improvements for Two Corridor Safety Projects
A STIP Amendment to Include Safety Programs Intersection List, Road Safety Audits, and
Pedestrian Road Safety Audit Lists

Comment Period: June 1, 2020 – June 22, 2020

Consistent with the Department's Public Participation Plan and STIP Administration Process, the following items were made available for public comment following the approval of the Commission at the May 21, 2020 meeting. SCDOT's Public Notification of:

1. A STIP Amendment to Include the South Main Streetscaping Improvement Project

Summary: The South Carolina Department of Transportation (SCDOT) is providing public notification of the Commission approved 21-day public comment to amend the 2017-2022 Statewide Transportation Improvement Program (STIP) to include the construction phase for the South Main Street Streetscaping Improvements between Blossom Street and Pendleton Street in Richland County. The amendment consists of a construction phase to be conducted in Fiscal Year 2020. The project will have a combination of Enhancement, State, Federal and local funding with a total estimated cost of \$8,137,000.

- **One comment in favor of the project was received during THE 21-DAY COMMENT PERIOD.**

2. A STIP Amendment to Include Improvements for Two Corridor Safety Projects in Lexington and Richland Counties

Summary: The South Carolina Department of Transportation (SCDOT) is providing public notification of the Commission approved 21-day public comment to amend the 2017-2022 Statewide Transportation Improvement Program (STIP) to include Right of Way and Construction phases for two (2) Safety Corridor Improvement Projects at US 1-S-1508 (Ermine Road) to S-74 (Alexandra Street) in Lexington County and US 1-S-1720 (Atrium Way) to S-2271 (Risdon Way) in Richland County.

- **No comments were received for this project during THE 21-DAY COMMENT PERIOD.**

3. A STIP Amendment to Include Safety Programs Intersection List, Road Safety Audits, and Pedestrian Road Safety Audit Lists

SUMMARY: The South Carolina Department of Transportation (SCDOT) is providing public notification of the Commission approved 21-day public comment period. The public has the opportunity to comment on an action to amend the 2017-2022 Statewide Transportation Improvement Program (STIP) to include the preliminary engineering, right of way and construction phases for projects included on the Safety Program Intersection List, Road Safety Audits and Pedestrian Road Safety Audit Lists.

The purpose of the request is to set schedules and budgets for these projects which were previously approved by the Commission. The total cost estimate of these intersections is \$66,850,000 with the use of Highway Safety funding.

- **Two (2) comments were received for this project during THE 21-DAY COMMENT PERIOD.**
 - **One (1) comment was not substantive**
 - **One (1) comment from a citizen was in support of the project for safety purposes as shown in his statement below:**

➤ **A citizen stated:** These need to be done sooner rather than later. In reference to the Pedestrian issues along Harden St Blossom St in Columbia, I would say good luck and please move the sidewalks further away from the travel lanes. Have your engineers look at these 2 locations during Friday Saturday nights around midnight or later when 5 points is packed with people staggering in and out of the roadways. Some intoxicated, some not. Remember Strom Thurmond's daughter was killed in 5 pts years ago. Keep in mind of the line of sight issues for both drivers and pedestrians especially at night.

✓ **Below is a the response from a staff member in the Safety Office:**

“In an effort to improve transportation safety, the SCDOT identifies roadway segments that experience high crash rates (pedestrian, bicycle, motor vehicle) to undergo a Road Safety Audit (RSA) to identify potential improvements. Based on SCDOT ranking criteria, the 0.45-mile section of Harden Street (S-10) from Pendleton Street (Local) to Blossom Street (S-198) and the 2.9-mile section of US 21 (Blossom Street and Devine Street) from the Lexington County line through Sims Avenue (Local) in Columbia, SC were both ranked in the top 10 of bicycle/pedestrian crash corridors in South Carolina. The SCDOT recently completed the Road Safety Audits on both locations and we are in the process of finalizing the document. According to the Federal Highway Administration (FHWA), an RSA is the formal safety performance examination of an existing or future road or intersection by an independent, multidisciplinary team. It qualitatively estimates and reports on potential road safety issues and identifies opportunities for improvements in safety for all road users. The objective of an RSA is to address the following questions:

- What elements of the road may present a safety concern, as well as to what extent, to which road user, and under what circumstances these safety concerns arise?
- What opportunities exist to eliminate or mitigate the identified safety concerns?

This audit was performed to coincide with peak pedestrian and vehicular traffic. An evening rush hour review was performed, as well as late night on a Thursday to evaluate pedestrian issues at its peak. Due to the differing safety recommendations that typically come from these reports, implantation time could be anywhere for 6 months to 2 years depending upon the level of design needed for each recommendation. Budge availability will also dictate the time frame of implementing specific recommendations. Once the study is finalized, I am available to discuss specific of the report that would address issues that currently exist at both location”.



SCDOT Commission Recommendation Transmittal Form

For Commission Meeting of: July 16, 2020

- APPROVAL
- RATIFICATION
- FINDING
- FOR INFORMATION ONLY
- CUFF ITEM

Location: Statewide

Initial Commission Approval: _____

Current STIP Page: _____

Project Ranking Within Program Category: _____

Project Number: _____

Major Budget Category: _____

Program Category: _____

Other: Changes to the State Highway System

2-A

DETAILED DESCRIPTION

Request Commission approval of the additions, deletions, and revisions to the State Highway Systems as shown on the attached pages and the authority to convey right of way to appropriate entities. This request includes 28 segments of the Secondary Road System resulting in a reduction to the Secondary System of -1.20 centerline miles equating to -2.40 lane miles.

Recommended By: Todd Anderson
 Todd Anderson, P.E.
 Director of Road Data Services

Deputy Secretary Concurrence:
Justin P. Powell
 Justin P. Powell
 Deputy Secretary for Finance and Administration

Brent L. Rewis
 Brent L. Rewis, P.E.
 Deputy Secretary for Intermodal Planning

Leland D. Colvin
 Leland D. Colvin, P.E.
 Deputy Secretary for Engineering

Secretary Approval: Christy A. Hall
 Christy A. Hall, P.E.
 Secretary of Transportation

Date 7/8/20

Commission Mileage Change Report

County	Secondary System			Primary System		
	6/18/2020	7/16/2020	Change	6/18/2020	7/16/2020	Change
Abbeville	472.50			183.42		
Aiken	1,155.77	1,155.62	-0.15	307.21		
Allendale	376.51			107.27		
Anderson	872.68			350.47		
Bamberg	415.33			136.12		
Barnwell	444.82			146.71		
Beaufort	392.69			138.00		
Berkeley	748.33	748.39	0.06	237.79		
Calhoun	385.73			125.07		
Charleston	865.42	864.97	-0.45	247.36		
Cherokee	563.63			154.10		
Chester	595.94			197.06		
Chesterfield	806.04			229.39		
Clarendon	611.50			129.01		
Colleton	766.44			250.22		
Darlington	839.20			154.24		
Dillon	519.39			122.01		
Dorchester	498.59			149.50		
Edgefield	467.25			136.11		
Fairfield	519.95			168.11		
Florence	1,085.64			241.93		
Georgetown	500.25			155.12		
Greenville	1,050.03	1,050.02	-0.01	348.91		
Greenwood	530.48			205.91		
Hampton	437.99			131.24		
Horry	937.36			387.14		
Jasper	307.02			176.53		
Kershaw	829.21			173.49		
Lancaster	704.61			187.31		
Laurens	758.00			255.74		
Lee	466.64			118.45		
Lexington	1,217.57	1,217.50	-0.07	240.46		
McCormick	348.08			101.28		
Marion	429.16			142.84		
Marlboro	555.62			162.05		
Newberry	646.50			178.39		
Oconee	604.06			219.33		
Orangeburg	1,121.83			429.94		
Pickens	473.93	473.64	-0.29	225.44		
Richland	1,259.92	1,259.63	-0.29	284.93		
Saluda	483.58			160.45		
Spartanburg	904.70			384.06		
Sumter	799.87			228.32		
Union	465.92			149.38		
Williamsburg	769.26			207.50		
York	975.00			311.40		
Total	30,979.94	6,769.77	-1.20	9,476.71	0.00	0.00

Removal of Roads on the State Highway Secondary System

The Department recommends Commission approval for the removal of certain sections of secondary roads from the State Highway Secondary System. These sections of roads may be removed for one of the following reasons:

1. Abandonment of section of relocated highway – In accordance with Section 57-5-120 of the Code-of-Laws of South Carolina, the department may abandon as a part of the state highway system any section of highway which may be relocated, and every such section so abandoned as a part of the state highway system shall revert to the jurisdiction of the respective appropriate local authorities involved or be abandoned as a public way.
2. Highway transfers from the state secondary system - In accordance with Section 57-5-80 of the Code-of-Laws of South Carolina, The department may transfer from the state highway secondary system any road under its jurisdiction, determined by the department to be of low traffic importance, to a governmental or non-governmental entity if mutual consent is reached between the department and the party that the road is being transferred to.
3. Court ordered closure – In accordance with Section 57-9-20 of the Code-of-Laws of South Carolina, an entity may petition the circuit court to have a road closed. The Department is notified of the petition if the road is maintained by the Department, and has an opportunity to contest the petition if the road is of high traffic importance. If the court shall determine that it is in the best interest of all concerned that such street, road or highway be abandoned or closed, the court shall then determine in whom the title thereto shall be vested and issue an appropriate order.

Revision of Description of State Highways

The Department recommends Commission approval of the revision of the description of sections of State Highway previously added to the State Highway System. The description of roads currently in the State Highway System may be changed for relocation purposes, to revise the description of the termini to show what was actually constructed by contract, county line changes, or a change in the road number.

Additions to State Highway Secondary System

The Department recommends Commission approval to add sections of road to the State Highway Secondary. On June 21, 2007, the commission implemented a policy to reduce the secondary road system by:

- Seeking legislative changes to the system laws;
- Lowering county road caps when a secondary road is removed from the system¹;
- Exchanging roads with local governments; and
- Accepting only roads into the system that are necessary for interconnectivity of the state system or is a road considered a major collector with significant traffic volumes

- The secondary road cap for a county may be increased when a road meeting the above criteria is added to the system at the Department's request or when corrections to the existing road mileage is made and results in an increase in the total mileage above the cap.

¹County caps were previously implemented by the commission in 1994.

Rescind Action Adding Roads to State Highway Secondary System

The Department recommends the Commission rescind its previous actions adding roads to the State Highway Secondary System for construction and maintenance. The Department may rescind action on roads, which have not been constructed and formally accepted into the State Highway Secondary System. Roads may be rescinded due to right-of-way being unavailable, problems arising during construction, or funding issues.

Transfer between Secondary and Primary Systems

The Department recommends Commission approval to transfer sections of road from the Secondary System to the Primary System, or vice versa. Pursuant to the provisions of Section 57-5-50 of the Code-of-Laws of South Carolina, the Commission may transfer any route or section of route from the state highway secondary system to the state highway primary system, or vice versa, when, in its judgment, such transfer is advisable to better serve the traveling public. However, pursuant to the provisions of Section 57-5-30, the Primary System shall not exceed ten thousand centerline miles.

Detailed information concerning each of these requests is attached.

Aiken County

REMOVAL OF ROADS ON THE STATE HIGHWAY SECONDARY SYSTEM

Route Number: S-85
Description: South Boundary Avenue SW, In Aiken, From the beginning of state maintenance East to S-182 (Laurens Street).
Approximate Length: 0.15 miles
Addition: 1545
Added To System: 2/19/1970
Mileage: -0.15 miles

Note: The above road removal is being requested by the City of Aiken and they will accept maintenance responsibility for this section of road. It qualifies under the law (SC Code 57-5-80) that allows SCDOT to transfer roads from the Secondary System to other entities or persons. SCDOT is also authorized to take the necessary steps to transfer its title to the requestor.

Change: -0.15 miles

Berkeley County

ADDITION OF ROADS ON THE STATE HIGHWAY SECONDARY SYSTEM

Route Number: S-28
Description: A section of road, In Moncks Corner, From S-5 (Pinopolis Road) West to S-315 (Sugar Hill Road).
Approximate Length: 0.06 miles
Addition: 1516
Mileage: 0.06 miles

Note: The above road addition is being recommended to accurately reflect what was constructed with file 8.259

Change: 0.06 miles

Charleston County

REMOVAL OF ROADS ON THE STATE HIGHWAY SECONDARY SYSTEM

Route Number: S-1348

Description: Pinehaven Drive, In North Charleston, From SC 642 (Dorchester Road) Northwestery and Southwestery to a Dead End.

Approximate Length: 0.15 miles

Addition: 1348

Added To System: 3/18/1965

Mileage: -0.15 miles

Route Number: S-1606

Description: Headquarters Road, In North Charleston, From S-475 (Leeds Avenue) East to Dead End.

Approximate Length: 0.30 miles

Addition: 1606

Added To System: 9/21/1967

Mileage: -0.30 miles

Note: The above road removals are being requested by Charleston County and they will accept maintenance responsibility for these sections of road. They qualify under the law (SC Code 57-5-80) that allows SCDOT to transfer roads from the Secondary System to other entities or persons. SCDOT is also authorized to take the necessary steps to transfer its title to the requestor.

Change: -0.45 miles

Greenville County

REMOVAL OF ROADS ON THE STATE HIGHWAY SECONDARY SYSTEM

Route Number: S-423

Description: Sentell Road, Adjacent to Greenville, From SC 124 (Old Easley Highway) Southeast and Southwest to US 123 (New Easley Highway).

Approximate Length: 1.11 miles

Addition: 423

Added to System: 7/20/1961

Mileage: -1.11 miles

Route Number: S-778

Description: Forest Circle, Adjacent to Greenville, From S-777 (Monaghan Avenue) Northwest and Southwest to Crane Ave (L- 1182).

Approximate Length: 0.23 miles

Addition: 778

Added to System: 3/21/1968

Mileage: -0.23 miles

Route Number: S-779

Description: Crest Street, Adjacent to Greenville, From Crane Ave (L- 1182) Northwest to S-778 (Forest Circle).

Approximate Length: 0.13 miles

Addition: 779

Added to System: 3/21/1968

Mileage: -0.13 miles

Route Number: S-1297

Description: Maloy Street, Adjacent to Greenville, From S-1293 (Jenkins Street) South to S-1540 (Sterling Street).

Approximate Length: 0.10 miles

Addition: Portion of 196

Added to System: 1/20/1955

Mileage: -0.10 miles

Greenville County

REMOVAL OF ROADS ON THE STATE HIGHWAY SECONDARY SYSTEM

Route Number: S-609

Description: Maloy Street, Adjacent to Greenville, From S-475 (Valentine Street) Northeast to S-1540 (Sterling Street).

Approximate Length: 0.14 miles

Addition: Portion of 609

Added to System: 4/16/1964

Mileage: -0.14 miles

Route Number: S-1540

Description: Sterling Street, Adjacent to Greenville, From S-1294 (Minus Street) Southeast to S-609 (Maloy Street).

Approximate Length: 0.10 miles

Addition: 197

Added to System: 1/20/1955

Mileage: -0.10 miles

Route Number: S-487

Description: Loop Street, O' Jones Street and Arcadia Drive, Adjacent to Greenville, From US 276 (Poinsett Hwy) Northeast, Southeast and East to S-21 (Rutherford Road).

Approximate Length: 1.00 miles

Addition: 487

Added to System: 6/21/1962

Mileage: -1.00 miles

Route Number: S-798

Description: Arcadia Drive, Adjacent to Greenville, From S-487 (O' Jones Street) Northwest, Northeast and Southeast to Worley Road (L- 310).

Approximate Length: 0.36 miles

Addition: 798

Added to System: 9/19/1968

Mileage: -0.36 miles

Greenville County

REMOVAL OF ROADS ON THE STATE HIGHWAY SECONDARY SYSTEM

Route Number: S-1136

Description: Perimeter Road, Adjacent to Greenville, From Perimeter Road (L-448) Northwest, North and Northeast to Perimeter Road (L-1136).

Approximate Length: 3.60 miles

Addition: 1136

Added to System: 4/20/1989; Portion Removed: 9/20/1990; Revised: 12/20/1990

Mileage: -3.60 miles

Route Number: S-1138

Description: Exchange Street, Adjacent to Greenville, From S-27 (Donaldson Road) Easterly to S-1136 (Perimeter Road).

Approximate Length: 0.11 miles

Addition: 1138

Added to System: 4/20/1989

Mileage: -0.11 miles

Route Number: S-448

Description: Ashmore Bridge Road (Access ramp), Adjacent to Greenville, From S-1136 (Perimeter Road) Southwest to S-331 (Antioch Church Road).

Approximate Length: 0.15 miles

Addition: 739

Added to System: 3/21/1968

Mileage: -0.15 miles

Greenville County

REMOVAL OF ROADS ON THE STATE HIGHWAY SECONDARY SYSTEM

Route Number: S-1137

Description: Kitty Hawk Road and Echelon Road, Adjacent to Greenville, From Perimeter Road (L-448) West to S-70 (Augusta Arbor Way).

Approximate Length: 1.30 miles

Addition: 1137

Added to System: 4/20/1989

Mileage: -1.30 miles

Note: The above road removals are being requested by Greenville County per a Road Swap Agreement and they will accept maintenance responsibility for these sections of road. This is part of a road swap where SCDOT will accept maintenance responsibility for the new secondary roads in exchange for Greenville County accepting an approximately equal number of Secondary route lane miles. They qualify under the law (SC Code 57-5-80) that allows SCDOT to transfer roads from the Secondary System to other entities or persons. SCDOT is also authorized to take the necessary steps to transfer its title to the requestor.

ADDITION OF ROADS ON THE STATE HIGHWAY SECONDARY SYSTEM

Route Number: S-1155

Description: E. Standing Springs Road, Adjacent to Greenville, From S-272 (W. Georgia Road) North to S-1155 (E. Standing Springs Road).

Approximate Length: 1.92 miles

Addition: 1201

Mileage: 1.92 miles

Route Number: S-273

Description: Howell Road and Edwards Road, Adjacent to Greenville, From S-273 (Howell Road) North to S-166 (E. Lee Road).

Approximate Length: 1.87 miles

Addition: 1202

Mileage: 1.87 miles

Greenville County

ADDITION OF ROADS ON THE STATE HIGHWAY SECONDARY SYSTEM

Route Number: S-23

Description: Smith Hines Road, Adjacent to Greenville, From S-564 (Miller Road) Northeast to SC 146 (Woodruff Road).

Approximate Length: 1.36 miles

Addition: 1203

Mileage: 1.36 miles

Route Number: S-123

Description: Jug Factory Road, Adjacent to Greenville, From S-157 (Becky Gibson Road) North and Northeast to S-134 (Bomar Road).

Approximate Length: 0.94 miles

Addition: 1204

Mileage: 0.94 miles

Route Number: S-36

Description: McCall Road, Adjacent to Greenville, From S-272 (W. Georgia Road) Northwesterly to S-316 (Log Shoals Road).

Approximate Length: 1.90 miles

Addition: 1205

Mileage: 1.90 miles

Route Number: S-727

Description: Rushmore Drive, Adjacent to Greenville, From S-304 (Edwards Road) Northwest to US 29 (Wade Hampton Blvd.).

Approximate Length: 0.33 miles

Addition: 1206

Mileage: 0.33 miles

Note: The above road additions are being recommended as part of a road swap with Greenville County.

Change: -0.01 miles

Lexington County

REMOVAL OF ROADS ON THE STATE HIGHWAY SECONDARY SYSTEM

Route Number: S-1294

Description: Laurens Street, in Irmo, From S-1295 (Laurens Street) East and Southeast to SC 60 (Lake Murray Blvd).

Approximate Length: 0.07 miles

Addition: Portion of 1294

Added to System: 3/21/1974; Revised: 3/18/2004

Mileage: -0.07 miles

Notes: The above road removal is being requested by the Town of Irmo and they will accept maintenance responsibility for this section of road. It qualifies under the law (SC Code 57-5-80) that allows SCDOT to transfer roads from the Secondary System to other entities or persons. SCDOT is also authorized to take the necessary steps to transfer its title to the requestor.

Change: -0.07 miles

Pickens County

REVISION OF ROADS ON THE STATE HIGHWAY SECONDARY SYSTEM

Route Number: S-100

Description: Cleo Chapman Highway, Adjacent to Pickens, From the gated entrance to The Cliffs at Keowee, Northeast for 5.64 miles to US 178 (Moorefield Memorial Highway).

Approximate Length: 5.64 miles

Addition: 1-Revision-Portion Removed

Added To System: 8/1/1920; Portion Removed: 6/21/2002

Mileage: -0.46 miles

Note: The above road revision is being recommended to accurately reflect what is being maintained.

Pickens County

REVISION OF ROADS ON THE STATE HIGHWAY SECONDARY SYSTEM

Route Number: S-28
S-432

Description: Old Easley Bridge Road, Adjacent to Easley, From S-39 (Powdersville Road) Northeasterly for 1.97 miles to S-432 (Old Pendleton Road) (To Remain S-28); Old Easley Bridge Road, From S-432 (Old Pendleton Road) Northeasterly for 0.55 miles to S-37 (S. Fish Trap Road) (To Be Designated S-432).

Approximate Length: 2.52 miles

Addition: 38

Added To System: 6/28/1945

Mileage: 0.00 miles

Note: The above road revision is being recommended to re-number a section of Old Easley Bridge Road and to accurately reflect what is being maintained.

ADDITION OF ROADS ON THE STATE HIGHWAY SECONDARY SYSTEM

Route Number: S-432

Description: Old Pendleton Road, Adjacent to Easley, From the Anderson County Line Northeast to S-28 (Old Easley Bridge Road).

Approximate Length: 0.17 miles

Addition: 432

Mileage: 0.17 miles

Note: The above road addition is being recommended to accurately reflect what was constructed by file 4.278

Change: -0.29 miles

Richland County

REVISION OF ROADS ON THE STATE HIGHWAY PRIMARY SYSTEM

Route Number: SC 768 Conn
Description: Shop Road Extension, Adjacent to Columbia, From SC 768 (Shop Road) Southeast to S-960 (Longwood Road), (To Be Designated SC 768 CON)
Approximate Length: 1.06 miles
Addition: 3056
Added to System: 6/18/2020
Mileage: 0.00 miles

Note: The above revision is being recommended to correct the common road name which was incorrectly listed as Bluff Road Extension in the June 2020 recommendations.

REVISION OF ROADS ON THE STATE HIGHWAY SECONDARY SYSTEM

Route Number: S-2883
Description: A frontage road East of I-77 from S-1695 (Marthan Road) North, West and North to Dead End.
Approximate Length: 0.10 miles
Addition: 2883- Revision-Portion Removed
Added to System: 3/16/1989
Mileage: -0.29 miles

Note: The above road revisions are being recommended to accurately reflect what is being maintained.

Change: -0.29 miles

SCDOT Commission Recommendation Transmittal Form

For Commission Meeting of: July 2020

- APPROVAL**
- RATIFICATION**
- FINDING**
- FOR INFORMATION ONLY**
- CUFF ITEM**

Location: District One

Initial Commission Approval: June 20, 2019

Current STIP Page: N/A

Project Ranking Within Program Category: N/A

Project Number: P038946/P038955

Major Budget Category: Maintenance & System Preservation

Program Category: Pavements

Other: 2020 Pavement Improvement and Preservation

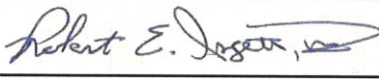
3

DETAILED DESCRIPTION

It is requested that the Commission approve this extension to include full depth patching, milling, and resurfacing on Jefferson Davis Hwy (US-1) from MP 7.96 to 9.06 for approximately 1.10 miles in Kershaw County (P038946) and shoulder widening, milling, and resurfacing on Lynchburg Hwy (SC 341) from MP 19.21 to MP 19.61 for approximately 0.40 mile in Lee County (P038955).

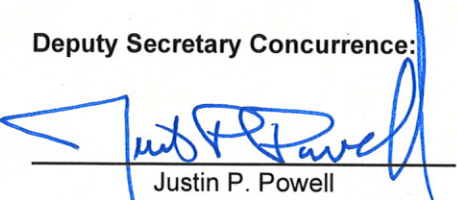
Total cost of the extension is \$635,381.21. (Original contract amount \$6,393,935.56).

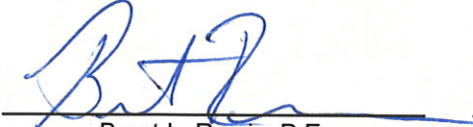
This extension is being funded by 2020 Pavement Improvement and Preservation Funds. The contractor, Lynches River Contracting, Inc., is actively working on Contract ID 5153740. We find it in the best interest of the public and the Department to take advantage of the competitively bid unit prices and extend this work to Contract ID 5153740, in accordance with the Code of Laws of South Carolina, Section 57-5-1630, and the SCDOT Standard Specifications of Highway Construction 2007, Section 104.4.


Recommended By:  Digitally signed by Robert E. Isgett, III
DN: cn=Robert E. Isgett, III, o=SCDOT, ou=Director of Construction, email=isgett@scdot.org, c=US
 Date: 2020.07.06 14:44:42 -04'00'

Robert E. Isgett, III
Director of Construction

Deputy Secretary Concurrence:


 Justin P. Powell
 Deputy Secretary for
 Finance and Administration


 Brent L. Rewis, P.E.
 Deputy Secretary for
 Intermodal Planning


 Leland D. Colvin, P.E.
 Deputy Secretary for
 Engineering

Secretary Approval: 
 Christy A. Hall, P.E.
 Secretary of Transportation

Date: 7/8/20

MEMORANDUM

TO: Robbie E. Isgett, Director of Construction
Robert Dickinson Digitally signed by Robert Dickinson
Date: 2020.06.16 10:57:07 -04'00'

FROM: Robert C. Dickinson, District One Engineering Administrator

DATE: June 15, 2020

RE: Contract ID 5153740 – Project ID P038946, P038955
Full Depth Patching, Shoulder Widening, and Resurfacing
Extension – For Commission Information
Kershaw and Lee Counties

District One would like to submit for the Commission's information the final cost estimate of an approved extension request to the referenced contract so that full depth patching, milling, and resurfacing on Jefferson Davis Hwy (US-1) and shoulder widening, milling, and resurfacing on Lynchburg Hwy (SC 341) can be completed. This past year, the Commission reallocated funding for the 2020 Pavement Improvement and Preservation Program. Roadways were selected and submitted for proposals for the original budget, and the resurfacing budget was increased and the preservation budget was decreased. This allowed for additional resurfacing, but some of the original proposals were already in the Pre-Let schedule. It was determined to obtain extensions on roadways that were already submitted instead of revising the proposals and starting the Pre-Letting schedule over again.

US 1 in Kershaw County from MP 7.96 to 9.06 and SC 341 in Lee County from MP 19.21 to 19.61 were the only two extensions that District 1 requested approval. My staff has contacted the contractor for the referenced project, Lynches River Contracting, Inc., to solicit prices with the intent of adding this work to their existing contract. These two roadways are in Contract 5153740 which was let in November of 2019 and Lynches River Contracting, Inc. has agreed to perform this work at existing contract prices. It should be noted that additional mobilization, traffic control, and several minor items (8" fast dry paint and 8" thermoplastic) are also included in this estimate. The total estimated cost to complete this work is \$635,381.21. Since the contractor is actively working on this contract, I have determined that it is in the best interest of the Department to take advantage of the competitively bid unit prices available and extend the contract to include this work.

Attached are location maps and a cost estimate for each route. This extension will increase the contract by 9.94%. The revised contract amount will be \$7,029,316.76. Additional contract time will not be required.

I recommend this work be added to Contract ID 5153740.

RCD:djf
Attachments

cc: Will Fulton, Resident Construction Engineer
David Rogers, Assistant Road Construction Engineer





South Carolina Department of Transportation

Secretary Approvals for Commission Information July 16, 2020

For Information Only

TAB	ITEM	ACTION RECOMMENDED	PAGE(S)
1	Surplus Property		
	Surplus Property Relinquished	For Information Only	69-76
2	Procurement Contracts		
	Contracts > \$500,000 (Individual or Aggregate)	For Information Only	77-78
3	Construction Contracts		
	A. Execution of Regular Letting -June 2020	For Information Only	79-84
	B. Execution Design-Build Contract		
	C. Execution (by locals)		
	D. Change Order > \$250,000 - June 2020	For Information Only	85-88
	E. Emergency Contracts	For Information Only	89-96
4	Professional Services Contracts		
	A. Execution	For Information Only	97-98
	B. Execution (by locals)		
	C. Extension/Modification	For Information Only	99-100
5	Transportation Alternative Program (TAP)		
	Funding Requests		

Intentionally Left Blank



SCDOT Commission Recommendation Transmittal Form

For Commission Meeting of: July 16, 2020

- APPROVAL
- RATIFICATION
- FINDING
- FOR INFORMATION ONLY
- CUFF ITEM

Initial Commission Approval: _____

Current STIP Page: _____

Project Ranking Within Program Category: _____

Project Number: _____

Major Budget Category: _____

Program Category: _____

Other: _____

Location: _____

DETAILED DESCRIPTION

Pursuant to South Carolina Code of Laws Section 57-5-340, the South Carolina Department of Transportation provides to the Commission information on the prior sales of surplus property.

ICB
D2

Recommended By: Michael W. Barbee
 Michael W. Barbee
 Director, Rights of Way

Deputy Secretary Concurrence:

Justin P. Powell
 Justin P. Powell
 Deputy Secretary for
 Finance and Administration

Brent L. Rewis
 Brent L. Rewis, P.E.
 Deputy Secretary for
 Intermodal Planning

Leland D. Colvin
 Leland D. Colvin, P.E.
 Deputy Secretary for
 Engineering

Secretary Approval: Christy A. Hall
 Christy A. Hall, P.E.
 Secretary of Transportation

Date 7/8/20

Surplus Property Submittal
July 16, 2020

Number of Parcels Conveyed: 17
Total Amount: \$50,500

SC Route 170 - File 7.036938A - Beaufort County – First District

The Department acquired right of way for SC Route 170 by Title to Real Estate from Beaufort County dated April 9, 2019, under File 7.036938A.

Upon receipt of a request from the adjacent landowner to reduce the right of way along SC Route 170. The parcel of land was circulated to the engineering sections and determined to be surplus by the Department. The Secretary of Transportation's approval to convey the property was obtained on January 6, 2020. Therefore, a quitclaim deed conveying approximately 0.08 of an acre of land to Parcel 8C, LLC was executed on April 22, 2020, in consideration of \$6,000.00.

US Route 278 – File 7.408 - Beaufort County – First District

Right of way was added to the State Highway System for Road S-44 (a/k/a SC Route 46) pursuant to Legislative Act 167 of 1945 and action of the Commission dated June 27, 1946, and for Road S-302 pursuant to Legislative Act 36 of 1959 and action of the Commission dated June 16, 1960, and for SC Route 46 under File Number 7.348 by Right of Way Easement from Honey Horn Plantation dated December 14, 1961.

A request was received from the Town of Hilton Head Island for a parcel of land containing approximately 1.25 acres of land at the intersection of US Route 278 and Automobile Place, in order to facilitate roadway improvements. This parcel contains portions of old abandoned Road S-44 (a/k/a SC Route 46), old abandoned Road S-302, and an intersectional area. This parcel of land was determined to be surplus by the Department. The Secretary of Transportation's approval to convey the property was obtained on April 22, 2020. Therefore, a gratis quitclaim deed conveying approximately 1.25 acres of land to the Town of Hilton Head Island was executed on June 17, 2020.

US Route 52 Spur – File 10.840 – Charleston County – First District

The Department acquired right of way for US Route 52 Spur under File 10.840, by Title to Real Estate from S.C.L. R. R. dated September 6, 1979.

A Memorandum of Understanding was executed wherein SCDOT would convey a reduction in right of way along Morrison Drive (US Route 52) in exchange for a new right of way easement for the on-ramp from East Bay/Morrison Drive. The Secretary of Transportation's approval to convey the property was obtained on September 11, 2019. Therefore, a gratis quitclaim deed conveying approximately 0.03 of an acre, to ODP Morrison, LLC was executed on December 27, 2019.

Road S-1748 (Bender Street) - File 10.655 – Charleston County – First District

The Department acquired right of way for Road S-1748 under File 10.655 as follows:

- from Isabell C. McWilliams by Right of Way Easement dated January 13, 1971 (Tract 1);
- from Estate of William Bradley by Condemnation dated February 18, 1971 (Tract 2);
- from Margret S. Shine by Right of Way Easement dated December 23, 1970 (Tract 3);
- from Bertha F. Carr by Right of Way Easement dated January 4, 1971 (Tract 4);
- from Gaylords, Incorporated by Right of Way Easement dated December 16, 1970 (Tract 5);
- from John B. Laroche by Condemnation dated February 18, 1971 (Tract 5-A);
- from Estate of Abraham Brown by Condemnation dated February 18, 1971 (Tract 6);
- from Isabell Simmons by Right of Way Easement dated December 23, 1970 (Tract 7);
- from Owls Whist Club by Right of Way Easement dated January 22, 1970 (Tract 8);
- from Matthew and Grace H. Murray by Condemnation dated February 18, 1971 (Tract 9);
- from Charlie Gordon by Condemnation dated February 18, 1971 (Tract 10),
- from Estate of Mary A. Ricks by Condemnation dated February 18, 1971 (Tract 10-A);
- from Leola G. Ezekiel by Condemnation dated February 18, 1971 (Tract 11);
- from Estate of J. J. Judon by Condemnation dated February 18, 1971 (Tract 12);
- from Estate of Shedrick Deas by Condemnation dated February 18, 1971 (Tract 12-A); and
- from Mu Alpha Chapter of Omega PSI PHI Fraternity, Incorporated by Right of Easement dated January 4, 1971 (Tract 13).

Upon request from the City of Charleston, approval was obtained from the South Carolina Department of Transportation Commission for both the formal removal of Road S-1748 (Bender Street) from the State Highway System and for conveying the right of way of same on September 19, 2019. Therefore, a gratis quitclaim deed conveying approximately 0.15 of a mile of road right of way to the City of Charleston was executed on November 15, 2019.

Road S-218 - File 19.338 – Edgefield County - Third District

The Department acquired right of way for Road S-218 under File 19.338 from the Town of Johnston by Letter of Dedication dated June 13, 1958.

Upon request from Edgefield County School District, approval was obtained from the South Carolina Department of Transportation Commission for both the formal removal of Road S-218 from the State Highway System and for conveying the right of way of same on December 5, 2019. Therefore, a gratis quitclaim deed conveying approximately 0.05 of a mile of road right of way to Edgefield County School District was executed on April 22, 2020.

Road S-338 (Drive at W.E. Parker High School) - File 19.398 – Edgefield County - Third District

The Department acquired right of way for Road S-338 under File 19.398 from Edgefield School District by Right of Way Easement dated May 7, 1968.

Upon request from Edgefield County School District, approval was obtained from the South Carolina Department of Transportation Commission for both the formal removal of Road S-338 (Drive at W.E. Parker High School) from the State Highway System and for conveying the right of way of same on December 5, 2019. Therefore, a gratis quitclaim deed conveying approximately 0.14 of a mile of road right of way to the Edgefield County School District was executed on April 14, 2020.

Road S-401, File 19.411 – Edgefield County - Third District

The Department acquired right of way for Road S-401 under File 19.411 from the Edgefield County Board of Trustees by Right of Way Easement dated January 12, 1972.

Upon request from the Edgefield County School District, approval was obtained from the South Carolina Department of Transportation Commission for both the formal removal of Road S-401 from the State Highway System and for conveying the right of way of same on December 5, 2019. Therefore, a gratis quitclaim deed conveying approximately 0.15 of a mile of road right of way to the Edgefield County School was executed on March 23, 2020.

Road S-256 (Strom Thurmond Drive), File 19.414 and 19.364 – Edgefield County - Third District

The Department acquired right of way for Road S-256 under File 19.364 from the Edgefield County by Right of Way Easement dated July 24, 1961, and under File 19.414 from the Edgefield County Board of Education by Right of Way Easement dated June 6, 1972.

Upon request from Edgefield County School District, approval was obtained from the South Carolina Department of Transportation Commission for both the formal removal of Road S-256 (Strom Thurmond Drive) from the State Highway System and for conveying the right of way of

same on December 5, 2019. Therefore, a gratis quitclaim deed conveying a total of approximately 0.40 of a mile of road right of way to the Edgefield County School District was executed on April 22, 2020.

Road S-71 – Project ID 0043027 – Anderson County – Third District

The Department acquired right of way for SC Route 129, under File 42.327, by Title to Real Estate from Dennis R. Glenn dated March 2, 2016, by Title to Real Estate from Anderson School District Five dated March 10, 2016, and by Title to Real Estate from Ronnie C. Jenkins dated February 10, 2016.

Upon receiving a request from Anderson School District Five for right of way that was obtained along Road S-71 and High School Drive for a sidewalk project, it was determined that the right of way was surplus to the Department's needs. The engineering sections concurred with relinquishing the parcel. The Secretary of Transportation's approval to sell the parcel was received on January 6, 2020. Therefore, a gratis quitclaim deed conveying approximately 0.23 of an acre of land to Anderson School District Five was executed on March 23, 2020.

SC Route 93 – File Number 39.579 - Pickens County – Third District

The Department acquired right of way for SC Route 93, File Number 39.579 by Title to Real Estate from Joe A. Martin and Linda W. Martin dated August 16, 1990 (Tract 31), and Title to Real Estate from Charles A. Brewer and Willie Mae Brewer dated November 28, 1990 (Tract 32).

Upon request for a reduction of right of way along SC Route 93, a tract of land containing approximately 0.586 of an acre was determined to be surplus by the Department. The Secretary of Transportation's approval to convey the property was obtained on April 8, 2020. Therefore, a quitclaim deed conveying a total of approximately 0.586 of an acre of land to Cambridge Creek, LLC was executed on June 3, 2020, in consideration of \$20,000.00.

Road S-660 (Hedge Street) - File 23.603 and 23.408 - Greenville County – Fourth District

The Department acquired right of way for Road S-660 under File 23.603 from the Town of Simpsonville by Letter of Dedication dated November 20, 1969 and under File 23.408 from Town of Simpsonville by Letter of Dedication dated April 1, 1957.

Upon request from City of Simpsonville, approval was obtained from the South Carolina Department of Transportation Commission for both the formal removal of portions of Road S-660 (Hedge Street) from the State Highway System and for conveying the right of way of same on September 19, 2019. Therefore, a gratis quitclaim deed conveying approximately 0.41 of a mile of road right of way to the City of Simpsonville was executed on February 23, 2020.

Road S-64 (Anderson Mill Road) – File Number 42.037189A - Spartanburg County – Fourth District

This being a portion of the right of way added to the State Highway System as a pursuant to Legislative Act 167 of 1945 and action of the Commission dated July 27, 1946, and by Condemnation of James Mason Anderson, Individually, John L. Anderson and Mark Anderson dated June 2, 2014.

Pursuant to a Financial Participation Agreement between the South Carolina Department of Transportation and Spartanburg County, upon completion of the relocation of Road S-64, approval was obtained from the South Carolina Department of Transportation Commission for both the formal removal of the old location of Road S-64 from the State Highway System and for conveying the right of way of same on December 3, 2015. The old right of way was to be quitclaimed to Spartanburg County but they advised that they would prefer to convey the portions of this old road right of way to the adjacent landowners.

The adjacent landowner also requested a reduction in right of way along Road S-64. The engineering sections concurred with relinquishing this right of way. The Secretary of Transportation's approval to convey the right of way was obtained on January 6, 2020.

Therefore, a quitclaim deed conveying a total of approximately 1.36 acres of land to The Tyger River Foundation was executed on April 22, 2020, in consideration of \$1,500.00.

Road S-64 (Anderson Mill Road) – File Number 42.037189A - Spartanburg County – Fourth District

This being a portion of the right of way added to the State Highway System as a pursuant to Legislative Act 167 of 1945 and action of the Commission dated July 27, 1946.

Pursuant to a Financial Participation Agreement between the South Carolina Department of Transportation and Spartanburg County, upon completion of the relocation of Road S-64, approval was obtained from the South Carolina Department of Transportation Commission for both the formal removal of the old location of Road S-64 from the State Highway System and for conveying the right of way of same on December 3, 2015. The old right of way was to be quitclaimed to Spartanburg County but they advised that they would prefer to convey the portions of this old road right of way to the adjacent landowners. Therefore, a gratis quitclaim deed conveying approximately 0.10 of an acre of land to the Estate of Nettie A. Atkins was executed on April 22, 2020.

Road S-64 (Anderson Mill Road) – File Number 42.037189A - Spartanburg County – Fourth District

This being a portion of the right of way added to the State Highway System as a pursuant to Legislative Act 167 of 1945 and action of the Commission dated July 27, 1946.

Pursuant to a Financial Participation Agreement between the South Carolina Department of Transportation and Spartanburg County, upon completion of the relocation of Road S-64,

approval was obtained from the South Carolina Department of Transportation Commission for both the formal removal of the old location of Road S-64 from the State Highway System and for conveying the right of way of same on December 3, 2015. The old right of way was to be quitclaimed to Spartanburg County but they advised that they would prefer to convey the portions of this old road right of way to the adjacent landowners. Therefore, a gratis quitclaim deed conveying approximately 0.07 of an acre of land to Frances I. Deer was executed on April 22, 2020.

Route I-26 – File Number 42.487 - Spartanburg County – Fourth District

The Department acquired right of way for Route I-26 under File Number 42.487 by Title to Real Estate from Republic Creosoting Company dated June 9, 1958.

Two tracts of land containing a total of approximately 3.7 acres of land along Route I-26 were determined to be surplus by the Department. A public bid sale was held for these parcels on December 20, 2012, with no acceptable bids being received. The Department continued to market the property and an acceptable offer was received. Commission approval to convey the property was obtained on January 20, 2011, and FHWA concurrence was obtained on August 29, 2012. Therefore, a quitclaim deed conveying a total of approximately 3.7 acres of land to GSP Capital LLC was executed on June 4, 2020, in consideration of \$20,000.00.

Road S-106 (Twin Church Road) – PIN# 0037376 – Florence County – Seventh District

The Department acquired right of way for Road S-106 (Twin Church Road) under File 21.422 by Right of Way Easement from the Edward L. Young, dated October 21, 1957, and Right of Way Easement from Fred H. Young dated October 21, 1957.

A request was received from the City of Florence on behalf of the adjacent landowner to acquire the abandoned portion of Road S-106 (Twin Church Road), due to its relocation and realignment. The engineering sections concurred with relinquishing the property. The Secretary of Transportation's approval to convey the property was obtained on May 8, 2018. Therefore, a gratis quitclaim deed conveying approximately 1.03 acres to Asset Holdings Trust, LLC was executed on January 30, 2020.

SC Route 31 (Carolina Bays Parkway) – File Number 26.036775A – Horry County – Seventh District

The Department acquired right of way for SC Route 31 (Carolina Bays Parkway) under File 26.036775A by Title to Real Estate from The Monster, Inc., dated April 22, 2010.

A request was received from the adjacent landowner to acquire a small triangle outside of the right of way limits. The request was circulated to the engineering sections and determined to be surplus by the Department. The Secretary of Transportation's approval to convey the property was obtained on October 10, 2019. Therefore, a quitclaim deed conveying approximately 0.07 of an acre to WEN LLC was executed on December 18, 2019, in consideration of \$3,000.00.

Intentionally Left Blank



SCDOT Commission Recommendation Transmittal Form

For Commission Meeting of: 07/16/2020

- APPROVAL
- RATIFICATION
- FINDING
- FOR INFORMATION ONLY
- CUFF ITEM

Location: Statewide

Initial Commission Approval:	<u>N/A</u>
Current STIP Page:	<u>N/A</u>
Project Ranking Within Program Category:	<u>N/A</u>
Project Number:	<u>N/A</u>
Major Budget Category:	_____
Program Category:	_____
Other:	<u>See Attached</u>

2

DETAILED DESCRIPTION

Two(2) Indefinite Delivery/Indefinite Quantity Procurement Contracts over \$500,000 (Individual or Aggregate) were approved for award by the Secretary of Transportation for the period of June 1, 2020 through June 30, 2020. The total value of the contracts was \$8,245,518.40.

Recommended By: *Emmett J. Kincaid for J. Darrin Player*
 J. Darrin Player
 Chief Procurement Officer

Deputy Secretary Concurrence:

Justin P. Powell
 Justin P. Powell
 Deputy Secretary for
 Finance and Administration

Brent L. Rewis
 Brent L. Rewis, P.E.
 Deputy Secretary for
 Intermodal Planning

Leland D. Colvin
 Leland D. Colvin, P.E.
 Deputy Secretary for
 Engineering

Secretary Approval: *Christy A. Hall*
 Christy A. Hall, P.E.
 Secretary of Transportation

Date 7/18/2020

Procurement Contracts Over \$500,000.00 (Individual or Aggregate)

June 1 - June 30, 2020

Contracts						
Firm Name	Contract Amount	Description	Maximum Term	Major Budget Category	Program Category	
Total	\$0.00					
Indefinite Delivery / Indefinite Quantity Contracts						
Firm Name	Contract Amount	Description	Maximum Term	Program	Funding	
Carolina Industrial Equipment	\$7,600,918.40	Truck Mounted Pipe Cleaners	5 Years	Maintenance & System Preservation	Preventive Maintenance & Operations	
Ozark Material	\$644,600.00	Glass Beads for Traffic Paint	1 Year	Maintenance & System Preservation	Preventive Maintenance & Operations	
Total	\$8,245,518.40					
DBE Total	\$0.00		0%			



SCDOT Commission Recommendation Transmittal Form

For Commission Meeting of: July 2020

- APPROVAL
- RATIFICATION
- FINDING
- FOR INFORMATION ONLY
- CUFF ITEM

Location: _____

Initial Commission Approval: N/A

Current STIP Page: N/A

Project Ranking Within Program Category: N/A

Project Number: _____

Major Budget Category: _____


Program Category: _____

Other: _____

3-A

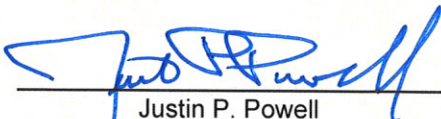
DETAILED DESCRIPTION

Secretary of Transportation approval for the award and execution of the projects in the regular June 2020 Highway Letting. The letting consisted of eight (8) projects. Seven (7) projects were awarded and one (1) project was withdrawn. The projects recommended for award and execution have a total value of \$15,620,369.62.

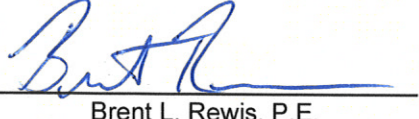
Recommended By: 
Digitally signed by Robert E. Isgett, III
 DN: cn=Robert E. Isgett, III, o=SCDOT, ou=Director of Construction, email=isgett@scdot.org, c=US
 Date: 2020.06.22 15:29:10 -04'00'

Robert E. Isgett III, P.E.
Director of Construction

Deputy Secretary Concurrence:



Justin P. Powell
Deputy Secretary for
Finance and Administration



Brent L. Rewis, P.E.
Deputy Secretary for
Intermodal Planning



Leland D. Colvin, P.E.
Deputy Secretary for
Engineering

Secretary Approval:



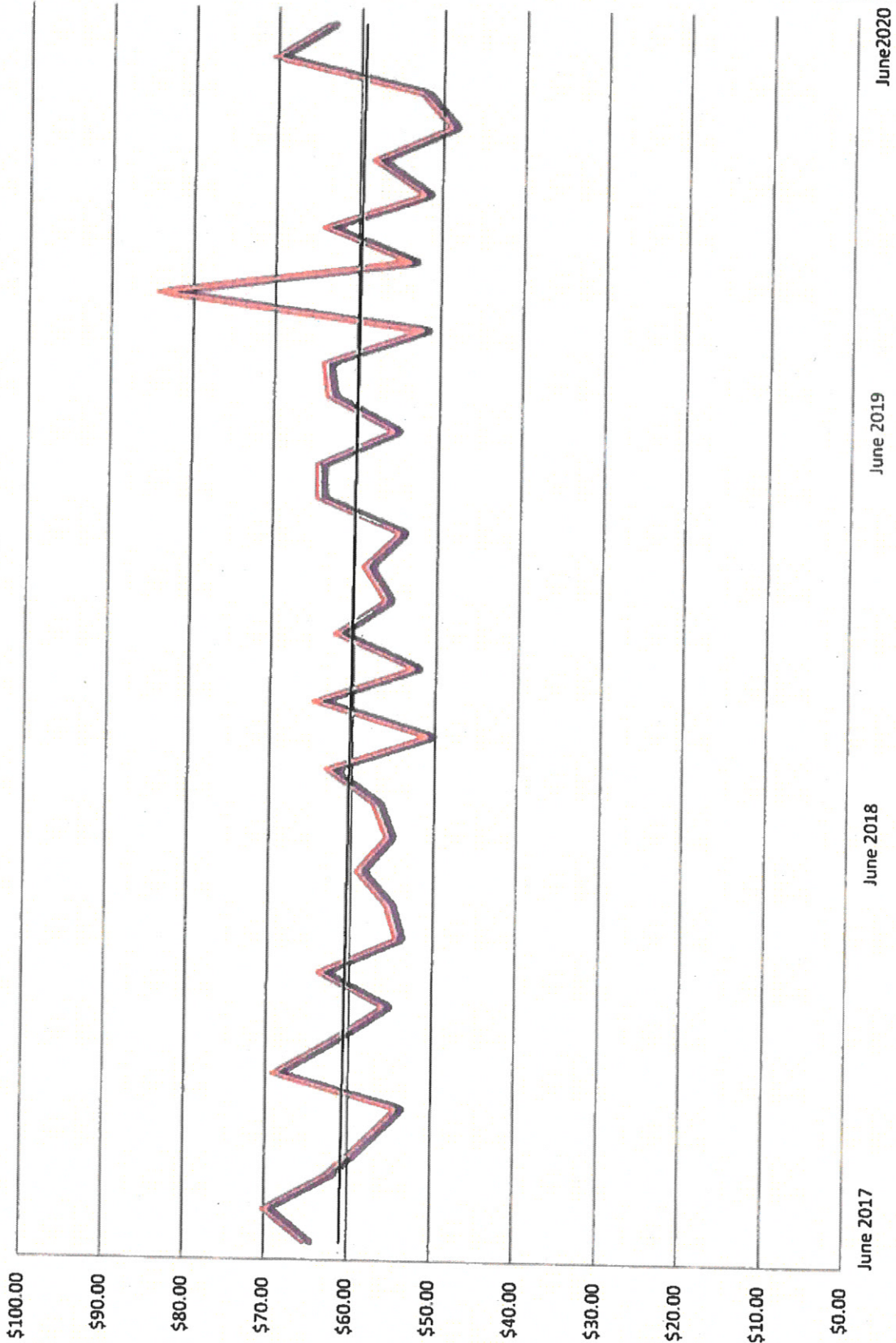
Christy A. Hall, P.E.
Secretary of Transportation

Date 6/30/2020

John Kevin Baker
Digitally signed by John Kevin Baker
Date: 2020.06.22 15:50:11 -04'00'

Madeleine Hendry
Digitally signed by Madeleine Hendry
Date: 2020.06.24 14:50:29 -04'00'

HMA Surface Course Average Bid Price



SUMMARY OF RECOMMENDATIONS FOR EIGHT (8) PROJECTS FROM THE REGULAR HIGHWAY LETTING OF

JUNE 09, 2020

The following **Seven (7)** projects are recommended for **AWARD**:

SC FILE NO.	COUNTY	FUNDING CATEGORY	MILEAGE	CONTRACTOR	CONTRACT AMOUNT	PROJECT DESCRIPTION
0208170	Aiken	CTC & Other	0.83	SATTERFIELD CONSTRUCTION COMPANY, INC.	\$2,368,781.99	Intersection Improvements - S-144/S-33/S-780
0255180	Aiken	CTC & Other	4.4	REEVES CONSTRUCTION COMPANY	\$980,798.73	Resurface - Aiken County
0405500	Anderson	MPO/COG	0.739	THRIFT DEVELOPMENT CORPORATION	\$2,107,009.91	Corridor Improvements - SC 153, DBE goal: 8.5%
0488410	Anderson	CTC & Other, Other Misc	1.211	THRIFT DEVELOPMENT CORPORATION	\$826,144.41	Corridor Improvement S-403, DBE goal: 17.5%
1855340	Dorchester	Safety	14.65	BANKS CONSTRUCTION COMPANY	\$7,790,639.50	Safety Improvements - SC 61
3049350	Laurens	Safety	0.459	EAGLE CONSTRUCTION COMPANY	\$1,368,350.78	Intersection Improvement-US 76 at S-72, DBE goal: 13%
3853671	Orangeburg	Pavement	1.69	EUROVIA ATLANTIC COAST LLC	\$178,644.30	Preservation - Orangeburg County

APPROVED



Secretary of Transportation



Date

The following One (1) project was **WITHDRAWN** from the letting:

SC FILE NO.	COUNTY	FUNDING CATEGORY	MILEAGE	CONTRACTOR	CONTRACT AMOUNT	PROJECT DESCRIPTION
2603440	Horry		2.764			Widen US 501 SB, DBE goal: 8.5%

APPROVED


Secretary of Transportation


Date

SCDOT Awarded Construction Projects for State Fiscal Year 2019-20																
Monthly Bids Received	Rural Road Safety Program			Pavements: Rehabilitation & Reconstruction				Bridges: Replacements			Interstate Widening	MPO/COG Projects	Other Misc Projects	SCDOT Program Totals	CTC & Other Projects Administered by SCDOT	GRAND TOTAL
	Other Safety Projects	SAFETY TOTAL	Pavements: Preservation	Pavements: Additional Safety Features	PAVEMENTS TOTAL	Bridges: Maintenance	BRIDGES TOTAL									
2019-07	\$15,603,357		\$15,603,357	\$19,996,414			\$19,996,414	\$5,376,024		\$5,376,024		\$60,549	\$8,128,201	\$49,164,546	\$1,377,035	\$50,541,581
2019-08	\$2,639,541	\$3,882,260	\$6,521,801	\$3,320,291	\$7,514,187		\$10,834,478	\$6,118,027	\$872,715	\$6,990,742			\$2,427,943	\$26,774,964	\$4,894,959	\$31,669,923
2019-09	\$52,423	\$2,820,167	\$2,872,590	\$2,318,628	\$49,689,472	\$180,624	\$52,188,724	\$11,151,234		\$11,151,234		\$3,223,184		\$69,435,732	\$3,577,829	\$73,013,561
2019-10				\$7,869,865			\$7,869,865		\$495,636	\$495,636			\$1,523,466	\$9,888,967		\$9,888,967
2019-11	\$110,186	\$12,651,260	\$12,761,446	\$1,305,808	\$37,271,344		\$38,577,152	\$2,687,494	\$744,350	\$3,431,844		\$13,988,511	\$3,901,682	\$72,660,634	\$2,271,286	\$74,931,920
2019-12				\$5,282,113	\$910,102		\$6,192,215					\$5,898,294	\$4,018,973	\$16,109,482	\$548,504	\$16,657,986
2020-01	\$3,413,955		\$3,413,955		\$75,473,583		\$75,473,583	\$6,744,273		\$6,744,273	\$29,970,000		\$798,825	\$116,400,636	\$1,613,512	\$118,014,147
2020-02				\$17,539,607			\$17,539,607	\$6,893,055		\$6,893,055		\$4,717,651	\$1,335,275	\$30,485,589		\$30,485,589
2020-03	\$10,472,177	\$1,216,003	\$11,688,180	\$891,818	\$54,904,302		\$55,796,120	\$38,090,000	\$1,362,345	\$39,452,345			\$1,797,335	\$108,733,981	\$16,125,497	\$124,859,478
2020-04	\$4,928,523	\$7,272,378	\$12,200,901	\$6,498,125	\$20,836,177	\$31,314	\$27,365,616	\$7,189,668		\$7,189,668		\$17,213,216	\$3,490,460	\$67,459,861	\$2,506,484	\$69,966,345
2020-05		\$10,397,704	\$10,397,704					\$8,757,026	\$451,349	\$9,208,374		\$993,151	\$10,762,774	\$31,362,004	\$3,249,222	\$34,611,226
2020-06*	\$7,790,639	\$1,368,351	\$9,158,990	\$178,644			\$178,644	\$17,990,000		\$17,990,000		\$2,107,010	\$734,972	\$30,169,616	\$3,786,155	\$33,955,771
State Fiscal Year to-Date	\$45,010,803	\$39,608,123	\$84,618,926	\$65,201,314	\$246,599,166	\$211,938	\$312,012,418	\$110,996,800	\$3,926,395	\$114,923,195	\$29,970,000	\$48,201,566	\$38,919,908	\$628,646,012	\$39,950,481	\$668,596,493
TOTAL Active Construction Program	\$58,266,869	\$47,907,001	\$106,173,870	\$68,223,121	\$814,410,603	\$4,771,506	\$887,405,229	\$304,915,800	\$23,631,291	\$328,547,091	\$1,350,435,672	\$228,142,491	\$68,593,813	\$2,969,298,167	\$372,056,568	\$3,341,354,735

*: Includes one design-build and two emergency culvert repair contracts awarded in June 2020: 8850470 (Closed and Load Restricted Design Build Package 2020-1) with low bid of \$17.99M; 2356910 (S-113 in Greenville) with low bid of \$272K; and 2256950 (S131 and S-244 in Georgetown) with low bid of \$73.2K.

Disadvantaged Business Enterprise Statistics State FYTD*

Month Bids Received	Commitments for DBE Subcontracting Work	DBE Prime Contracts
2019-07	\$1,326,401	
2019-08	\$1,034,903	
2019-09	\$1,815,827	\$1,628,339
2019-10	\$257,267	\$1,278,879
2019-11	\$2,832,242	\$3,357,021
2019-12	\$17,476	
2020-01	\$173,926	\$682,060
2020-02	\$1,432,850	\$1,659,371
2020-03	\$354,819	\$712,558
2020-04	\$4,192,578	\$646,469
2020-05	\$2,232,717	\$199,694
2020-06	\$562,918	
State Fiscal Year-to-Date	\$16,233,924	\$10,164,391
TOTAL DBE Active Constr. Contracts	\$252,493,279	\$15,498,423

144 DBE firms serving as subcontractors and 8 DBE Prime Contractors

*: Does not include Design Build projects.

Intentionally Left Blank

**SCDOT Commission
Recommendation Transmittal Form**

For Commission Meeting of: July 2020

- APPROVAL
- RATIFICATION
- FINDING
- FOR INFORMATION ONLY
- CUFF ITEM

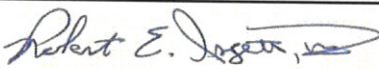
Location: _____

Initial Commission Approval:	_____
Current STIP Page:	_____
Project Ranking Within Program Category:	_____
Project Number:	_____
Major Budget Category:	_____
Program Category:	_____
Other:	_____

DETAILED DESCRIPTION


In accordance with Act 114, Section 57-1-490(c), the Legislative Audit Council shall contract for an independent performance and compliance audit of the Department's Finance and Administration Division, Mass Transit Division, and the Construction Engineering and Planning Division. MGT of America, Inc. performed the audit and provided recommendation 2-3 "The SCDOT should provide a report to the Commission of all material change orders - those that exceed a set dollar or percentage value."

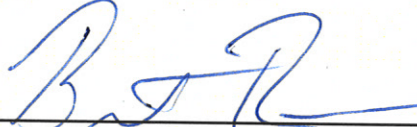
3-D

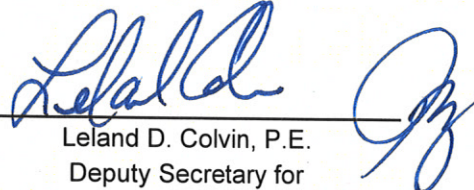
Recommended By: 
Digitally signed by Robert E. Isgett, III
 DN: cn=Robert E. Isgett, III, o=SCDOT, ou=Director of Construction, email=isgett@scdot.org, c=US
 Date: 2020.07.06 11:34:44 -04'00'

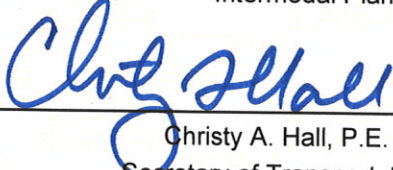
Robert E. Isgett III, P.E.
Director of Construction

Deputy Secretary Concurrence:


 Justin P. Powell
Deputy Secretary for
Finance and Administration


 Brent L. Rewis, P.E.
Deputy Secretary for
Intermodal Planning


 Leland D. Colvin, P.E.
Deputy Secretary for
Engineering

Secretary Approval: 
 Christy A. Hall, P.E.
Secretary of Transportation

Date 7/8/20

Change Orders over \$250,000 June 2020

File Number 4607530	Project Number	0041538
SC 97 Rehab in York Co. from Town of Hickory Grove to Smyrna		
EAGLE CONSTRUCTION COMPANY	Total Bid Amount	\$9,487,699.90
Change Order #012	Change Order Amount	\$634,971.95
Correction of item overruns		

Remarks

Unclassified Excavation, Borrow Excavation, and Geotextile Fabric exceeded original quantities due to the multiple areas of poor subgrade requiring removal. In addition, the majority of the existing crossline drainage in phases 1, 2, and 3 (Railroad Ave. to Nimitz Rd.) was in disrepair and required replacement.

This change order will increase the contract amount by \$634,971.95 which is 6.69% over the original contract amount.

Change Orders over \$250,000 June 2020

File Number 5651910	Project Number	P038253
I-526 over Wando River Bridge Rehabilitation		
FREYSSINET, INC.	Total Bid Amount	\$3,934,200.60
Change Order #010	Change Order Amount	\$2,835,400.00
Span 16 Repairs		

Remarks

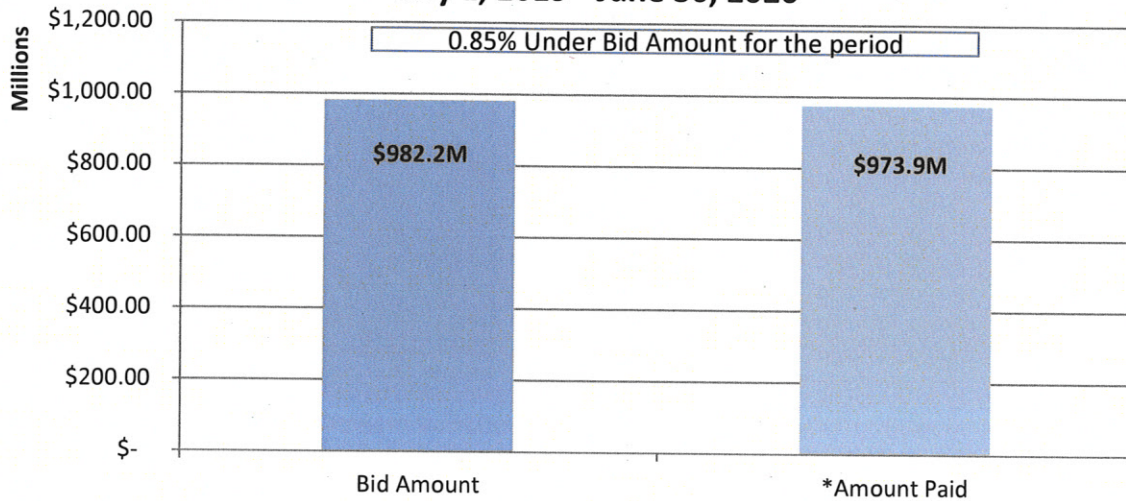
The purpose of this change order is to provide compensation for all work related to the repair of slack tendon 3S in Span 16 of the west bound bridge. The work includes the addition of a pair of tendons to replace the effect of the detensioned tendon and also provides accommodation for an additional tendon along the north web if required in the future. This work also consists of material testing, procurement or manufacture of custom post-tensioning anchorage components, and post-tensioning anchorage.

This change order will increase the contract amount by \$2,835,400.00 which is 72.07% over the original contract amount. An additional 328 calendar days are being added to the contract resulting in an adjusted contract completion date of February 18, 2021.

12 Month On-Budget Summary

Completed Projects**

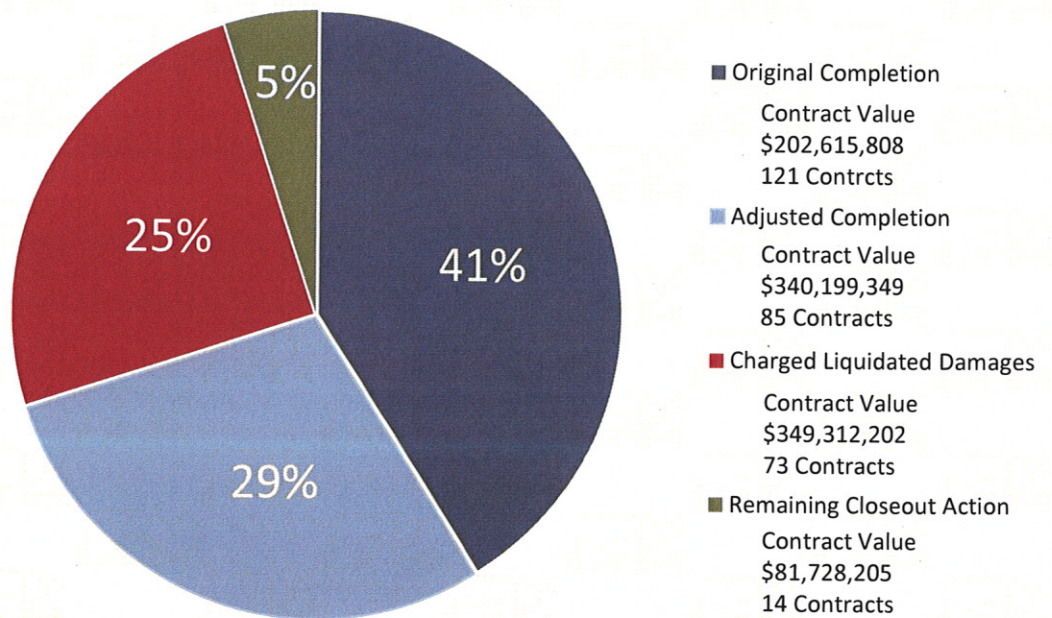
July 1, 2019 - June 30, 2020



*Amount paid includes: Change Orders plus Line Item Adjustments (fuel, liquid binder, incentives, disincentives, etc.) minus Contract Extensions

As of 7/2/20
Source: DOC

12 Month Construction On-Time by Number of Contracts Substantial Work Completed: July 1, 2019 to June 30, 2020



Notes:
Graph percentages are based on the number of contracts
Includes contracts only in SCDOT's name

As of 7/02/20
Source: DOC

Intentionally Left Blank

**SCDOT Commission
Recommendation Transmittal Form**

For Commission Meeting of: July 2020

- APPROVAL
- RATIFICATION
- FINDING
- FOR INFORMATION ONLY
- CUFF ITEM

Initial Commission Approval:	<u>N/A</u>
Current STIP Page:	<u>N/A</u>
Project Ranking Within Program Category:	<u>N/A</u>
Project Number:	<u>2256950</u>
Major Budget Category:	<u>Maintenance & System Preservation</u>
Program Category:	<u></u>
Other:	<u>State Maintenance</u>

Location: Georgetown


DETAILED DESCRIPTION

Secretary of Transportation approval for the award and execution of an emergency contract for a roadway and drainage repairs at the intersection of S-22-131 (Myrtle Road) and S-22-244 (S. Beech Avenue) in Georgetown County as a result of a pipe failure caused by heavy rains experienced during Tropical Storm Bertha.

SCDOT followed Section 57-5-1620 of the Code of Laws which allows the Secretary of Transportation the authority to employ contractors without the formalities of advertising in cases of an emergency. SCDOT contacted four contractors with resources readily available to deliver the required work under this emergency procurement. These firms submitted price proposals to expeditiously repair this roadway damage. Southern Asphalt, Inc. submitted the lowest price proposal and was selected to begin work on these repairs.

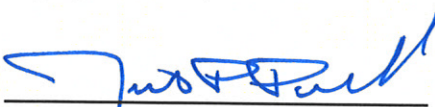
This project has a total value of \$73,200.00 and is located in the 5th Congressional District


3-E


Recommended By: 
Digitally signed by Robert E. Isgett, III
DN: cn=Robert E. Isgett, III, o=SCDOT, ou=Director of Construction, email=isgett@scdot.org, c=US
Date: 2020.06.19 11:00:40 -04'00'


Robert E. Isgett III, P.E.
Director of Construction

Deputy Secretary Concurrence:


Justin P. Powell
Deputy Secretary for Finance and Administration *RQ*


Brent L. Rewis, P.E.
Deputy Secretary for Intermodal Planning



Leland D. Colvin, P.E.
Deputy Secretary for Engineering

Secretary Approval: 
Christy A. Hall, P.E.
Secretary of Transportation

Date: 7/5/20

MEMORANDUM

TO: Christy A. Hall, P.E., Secretary of Transportation

FROM: Robert E. Isgett III, P.E., Director of Construction  Digitally signed by Robert E. Isgett, III
DN: cn=Robert E. Isgett, III, o=SCDOT,
ou=Director of Construction,
email=risgett@scdot.org, c=US
Date: 2020.06.05 13:06:37 -0400

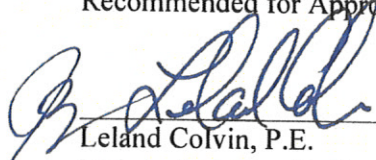
Date: June 5, 2020

RE: Pipe Collapse at Intersection of Myrtle Road (S-22-131) and S. Beech Avenue (S-22-244) – Emergency Repair -- Georgetown County

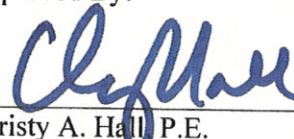
As a result of heavy rains experienced during Tropical Storm Bertha, a 48" galvanized sideline pipe has collapsed at the intersection of Myrtle Road and South Beech Avenue in the Town of Andrews. The collapse has resulted in damage to the sidewalk and roadway shoulder at the location. The soils in the area are unstable, and the roads will be compromised if repairs are not undertaken soon. It was determined that this work is beyond the capability of our local forces. It is recommended that SCDOT request the following contractors to submit price proposals for these emergency repairs: Southern Asphalt, Inc., C. R. Jackson, Inc., Palmetto Corp of Conway, and R. E. Goodson Construction Co. Inc. These four contractors have the available resources to deliver the required repairs under this emergency procurement. In addition, the selected contractors have successfully completed numerous past contracts in South Carolina. Please let me know if you have any questions or would like to discuss further.

Please indicate below as to your concurrence to these recommendations.

Recommended for Approval:


Leland Colvin, P.E.
Deputy Secretary for Engineering

Approved By:


Christy A. Hall, P.E.
Secretary of Transportation

REI:cwr

cc: Leland Colvin, P.E., Deputy Secretary for Engineering
Randall Young, P.E., Chief Engineer for Project Delivery
Andrew Leaphart, P.E., Chief Engineer for Operations
Justin Powell, Deputy Secretary for Finance & Administration
David Cook, P.E., Director of Maintenance
Kyle Berry, P.E., District Five Engineering Administrator

File: Con



MEMORANDUM

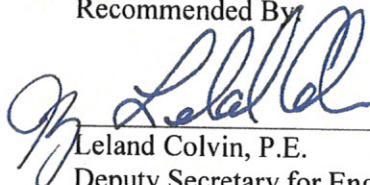
TO: Christy A. Hall, P.E., Secretary of Transportation
FROM: Kyle Berry, P.E., District Five Engineering Administrator *WKB*
DATE: June 2, 2020
RE: Emergency Repair Request – Georgetown County
Pipe collapse at intersection of Myrtle Road (S-22-131)
and S. Beech Avenue (S-22-244)

As a result of heavy rains experienced during Tropical Storm Bertha last week, a 48" galvanized sideline pipe has collapsed at the intersection of Myrtle Road and South Beech Avenue in the Town of Andrews. The collapse has resulted in damage to the sidewalk and roadway shoulder at the location. The soils in the area are unstable, and the roads will be compromised if repairs are not undertaken soon.

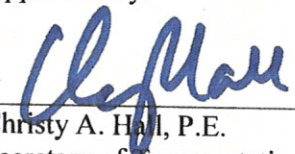
The scope of the repair work is beyond the capabilities of our maintenance forces, so it is requested that authorization be granted to proceed with an emergency procurement of construction services in accordance with Engineering Directive 35 in order to complete the repairs as quickly as possible. At least three qualified contractors capable of performing the repairs will be contacted to provide quotes to perform the work.

Please indicate below if you are in agreement with this recommendation.

Recommended By:


Leland Colvin, P.E.
Deputy Secretary for Engineering

Approved By:


Christy A. Hall, P.E.
Secretary of Transportation

cc: Leland Colvin, P.E., Deputy Secretary for Engineering
Randall Young, P.E., Chief Engineer for Project Delivery
Andrew T. Leaphart, P.E., Chief Engineer for Operations
Justin Powell, Deputy Secretary for Finance and Administration
David Cook, P.E., Director of Maintenance
Robbie Isgett, P.E., Director of Construction
Ray George, P.E., District Five Maintenance Engineer
Timmy Britt, Resident Maintenance Engineer
David Johnson, P.E., District Five Construction Engineer



Intentionally Left Blank

SCDOT Commission Recommendation Transmittal Form

For Commission Meeting of: July 2020

- APPROVAL
- RATIFICATION
- FINDING
- FOR INFORMATION ONLY
- CUFF ITEM

Initial Commission Approval: N/A

Current STIP Page: N/A

Project Ranking Within Program Category: N/A

Project Number: 2356910

Major Budget Category: Maintenance & System Preservation

Program Category: _____

Other: State Maintenance

Location: Greenville


DETAILED DESCRIPTION

Secretary of Transportation approval for the award and execution of an emergency contract for roadway and drainage repairs to S-23-113 (Fews Chapel Road) in Greenville County as result of a roadway washout caused by the Severe Weather Event of May 20, 2020.

SCDOT followed Section 57-5-1620 of the Code of Laws which allows the Secretary of Transportation the authority to employ contractors without the formalities of advertising in cases of an emergency. SCDOT contacted six contractors with resources readily available to deliver the required work under this emergency procurement. These firms submitted price proposals to expeditiously repair this roadway damage. Sloan Construction Company submitted the lowest price proposal and was selected to begin work on these repairs.

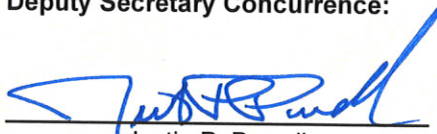
This project has a total value of \$272,201.75 and is located in the 3rd Congressional District.

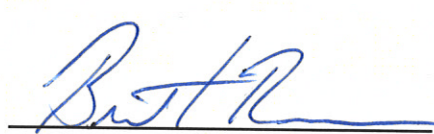
3-E


Recommended By:  Digitally signed by Robert E. Isgett, III
DN: cn=Robert E. Isgett, III, o=SCDOT, ou=Director of Construction, email=isgettre@scdot.org, c=US
 Date: 2020.06.19 09:15:35 -04'00'

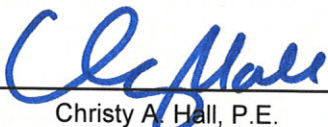
Robert E. Isgett III, P.E.
Director of Construction

Deputy Secretary Concurrence:


 Justin P. Powell *RQ*
 Deputy Secretary for
 Finance and Administration


 Brent L. Rewis, P.E.
 Deputy Secretary for
 Intermodal Planning


 Leland D. Colvin, P.E.
 Deputy Secretary for
 Engineering


Secretary Approval: 
 Christy A. Hall, P.E.
 Secretary of Transportation

Date: 7/8/20



South Carolina
Department of Transportation

MEMORANDUM

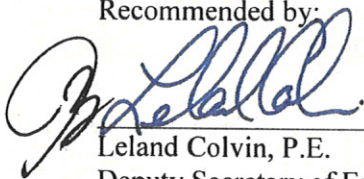
TO: Christy A. Hall, P.E., Secretary of Transportation
FROM: Robert E. Isgett III, P.E., Director of Construction 
Date: June 10, 2020
RE: S-23-113 (Fews Chapel Road) MP 2.28 – Emergency Repair – Greenville County

Digitally signed by Robert E. Isgett, III
DN: cn=Robert E. Isgett, III, o=SCDOT,
ou=Director of Construction,
email=risgett@scdot.org, c=US
Date: 2020.06.10 07:37:18 -04'00'

As a result of the Severe Weather Event on May 20, 2020, a roadway washout has occurred on S-23-113 (Fews Chapel Road). This failure has resulted in SCDOT closing this section of roadway until repairs can be completed to replace the embankment and cross line pipe under the roadway. It was determined that this work is beyond the capability of our local forces. It is recommended that SCDOT request the following contractors to submit price proposals for these emergency repairs; S&S Construction Inc. of Anderson, Eagle Construction Co. Inc., Sloan Construction, a Div. of Reeves Construction Company, NHM Constructors, ES Wagner Company, and GLF Construction Corporation. These six contractors have the available resources to deliver the required repairs under this emergency procurement. In addition, the selected contractors have successfully completed numerous past contracts in South Carolina. Please let me know if you have any questions or would like to discuss further.

Please indicate below as to your concurrence to these recommendations.

Recommended by:



Leland Colvin, P.E.
Deputy Secretary of Engineering

Approved by:



Christy A. Hall, P.E.
Secretary of Transportation

REI:ntw

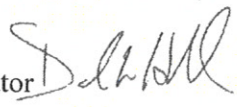
ec: Leland Colvin, P.E., Deputy Secretary for Engineering
Randall Young, P.E., Chief Engineer for Project Delivery
Andrew Leaphart, P.E., Chief Engineer for Operations
Justin Powell, Deputy Secretary for Finance & Administration
David Cook, P.E., Director of Maintenance
David Hebert, P.E., Interim District Three Engineering Administrator

File: Const/EmgProc



MEMORANDUM

TO: Christy A. Hall, P.E., Secretary of Transportation

FROM: David L Hebert, P.E., Inter. District 3 Engineering Administrator 

Date: May 21, 2020

RE: S-23-113 MP 2.28 (Fews Chapel Road) – Emergency Repair – Greenville County


As a result of the Severe Weather Event on May 20, 2020, it is recommended that an emergency procurement of services be initiated in accordance with Engineering Directive 35. Heavy rainfall and flooding have caused a roadway washout on S-23-113 (Fews Chapel Road) in Greenville County. These emergency repairs are beyond the capability of the Department's maintenance forces. Competitive quotes from three or more prequalified contractors will be obtained prior to entering into an emergency contract. This approach will provide the most expeditious solution.

See attached for additional information.


Please indicate below as to your concurrence to these recommendations.

Recommended for Approval:

Approved By:



Leland Colvin, P.E.
Deputy Secretary for Engineering



Christy A. Hall, P.E.
Secretary of Transportation

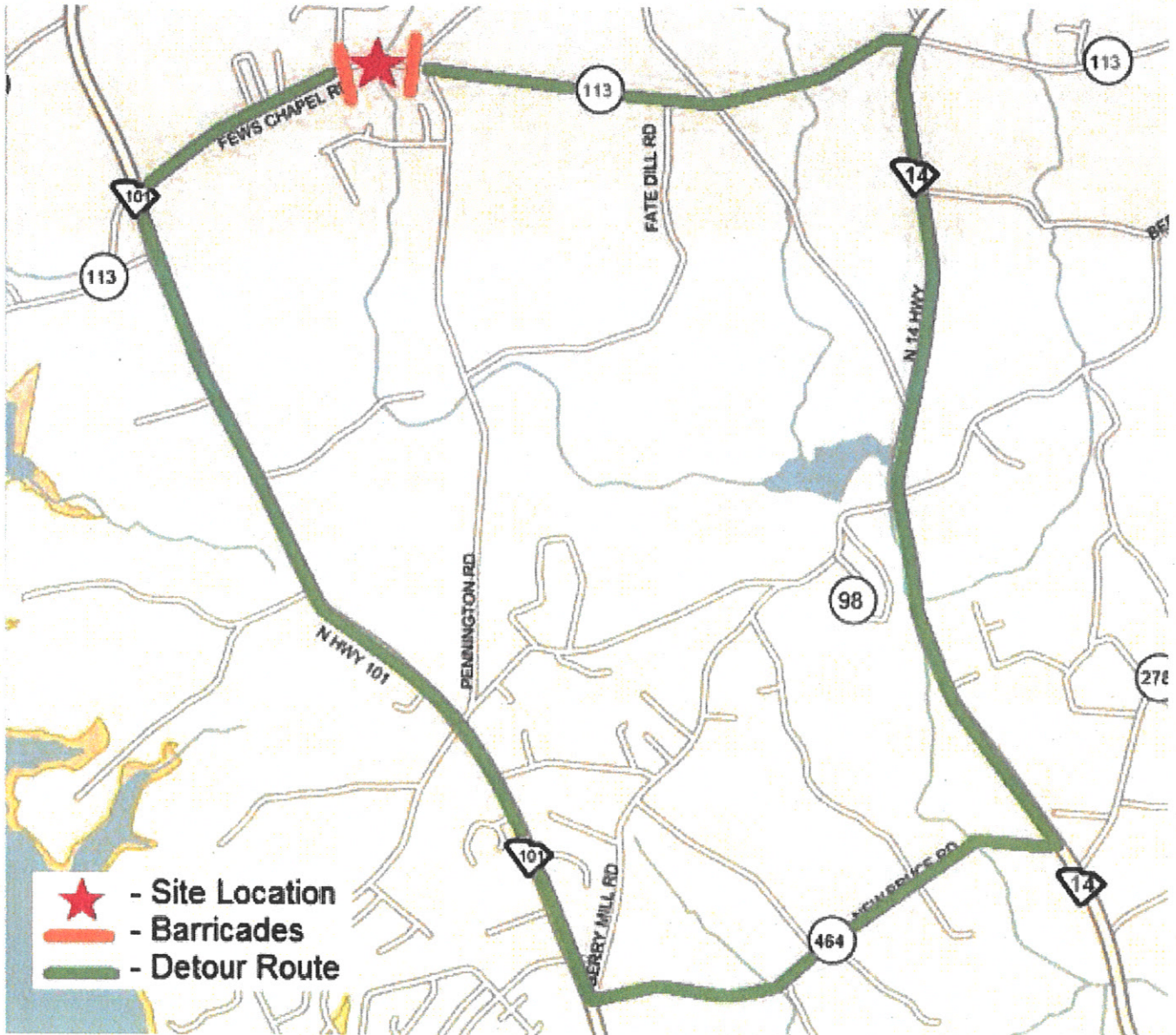
DLH/dlh

ec: Leland Colvin, P.E., Deputy Secretary for Engineering
Randall Young, P.E., Chief Engineer for Project Delivery
Andrew Leaphart, P.E., Chief Engineer for Operations
Justin Powell, Deputy Secretary for Finance & Administration
David Cook, P.E., Director of Maintenance
Robbie Isgett, P.E., Director of Construction
Nick Waites, P.E., Assist Director of Construction

Detour Route for Few's Chapel Road (S-23-113)

Detour Length – 8.16 miles

ADT – 3800





SCDOT Commission Recommendation Transmittal Form

For Commission Meeting of: 07/16/2020

- APPROVAL
- RATIFICATION
- FINDING
- FOR INFORMATION ONLY
- CUFF ITEM

Location: _____

Initial Commission Approval: Various

Current STIP Page: Various

Project Ranking Within Program Category: Various

Project Number: Various

Major Budget Category: _____

Program Category: _____

Other: See Attached

DETAILED DESCRIPTION

Three (3) Project Specific Professional Services Contracts were approved for execution by the Secretary of Transportation for the period of June 1, 2020 through June 30, 2020. The total value of the contracts was \$10,762,246.58, of which \$6277,138.82 is committed to DBE firms.

4-A

Recommended By: *Ernest L. Kiva for J. Darrin Player*
 J. Darrin Player
 Chief Procurement Officer

Deputy Secretary Concurrence:

Justin P. Powell
 Justin P. Powell
 Deputy Secretary for
 Finance and Administration

Brent L. Rewis
 Brent L. Rewis, P.E.
 Deputy Secretary for
 Intermodal Planning

Leland D. Colvin
 Leland D. Colvin, P.E.
 Deputy Secretary for
 Engineering

Secretary Approval: *Christy A. Hall*
 Christy A. Hall, P.E.
 Secretary of Transportation

Date 7/8/20

Professional Services Contracts
June 1, 2020 - June 30, 2020

98 Firm Name	Contract Amount	Description	Estimated Completion	Major Budget Category	Program Category
Infrastructure Consulting and Engineering	\$3,859,998.32	Project Specific Basic Agreement and Contract to provide Construction Engineering and Inspection services for the I-85 over Rocky Creek design build project in Greenville County.	September 2023	Capacity & Operational Improvements	System Upgrade - Interstate
HDR Engineering	\$859,567.13	Task Order #3 to Contract #1922 for design build review services for US 1 over I-20 in Lexington County - \$450,133.64 and I-85 over Rocky Creek Bridge in Greenville County -\$409,433.49.	June 2024	Capacity & Operational Improvements	System Upgrade - Interstate
TranSystems	\$6,042,681.13	Project Specific Basic Agreement and Contract to provide engineering services related to assisting SCDOT in completing the scour assessment, development and implementation of an improved management system for approximately 8,000 bridges over water to ensure compliance with FHWA and SCDOT guidelines.	December 2021	Preventive Maintenance and Operations	Bridge Inspections
Total	\$10,762,246.58				
DBE Total	\$277,138.82				

2.6%



SCDOT Commission Recommendation Transmittal Form

For Commission Meeting of: 07/16/2020

- APPROVAL
- RATIFICATION
- FINDING
- FOR INFORMATION ONLY
- CUFF ITEM

Location: Statewide

Initial Commission Approval: Various

Current STIP Page: Various

Project Ranking Within Program Category: Various

Project Number: Various

Major Budget Category: _____

Program Category: _____

Other: See Attached

DETAILED DESCRIPTION

One(1) Professional Services Contract Modification was approved for execution by the Secretary of Transportation for the period June 1, 2020 through June 30, 2020. The total value of the contract modifications was \$499,904.78, of which \$74,658.96 is committed to DBE firms.

4-C

Recommended By: Emmett L. Kinner for J. Darrin Player
 J. Darrin Player
 Chief Procurement Officer

Deputy Secretary Concurrence:

<u>Justin P. Powell</u> Justin P. Powell Deputy Secretary for Finance and Administration	<u>Brent L. Rewis</u> Brent L. Rewis, P.E. Deputy Secretary for Intermodal Planning	<u>Leland D. Colvin</u> Leland D. Colvin, P.E. Deputy Secretary for Engineering
---	--	--

Secretary Approval: Christy A. Hall
 Christy A. Hall, P.E.
 Secretary of Transportation

Date: 7/16/20

Professional Services Contract Modifications
June 1, 2020 - June 30, 2020

Firm Name	Contract Amount	Description	Estimated Completion	Major Budget Category	Program Category
Infrastructure Consulting and Engineering	\$499,904.78	Contract Modificaton #1 to Contract #2052 to include the design of the replacement of the North Bound I-95 Bridge over SC-46. The Basic Agreement for the I-95 Bridge Replacement (Contract #2052) was executed on 06/17/2018 in the amount of \$2,392,472.43.	December 2023	Maintenance and System Preservation	Bridges
Total	\$499,904.78				
DBE Total	\$74,658.96				

PLEASE NOTE:

**THE FINANCIAL
UPDATE WILL BE
DISTRIBUTED AT THE
MEETING AS A
HANDOUT**

Intentionally Left Blank



SCDOT

Commission Consideration of SIB Approved Projects

Act 275 of 2016

104

Before providing a loan or other financial assistance to a qualified borrower on a qualified project, the [SIB] board of directors must submit the decision to the Department of Transportation Commission for its consideration. The Department of Transportation Commission can approve or reject the board of directors' decisions or request additional information from the board of directors. SECTION 11-43-150 (D)

What processes does the Commission use to “approve” projects?

- Act 114 of 2007 requires that the Commission select projects considering objective and quantifiable factors such as financial viability, safety, economic development, traffic volumes and congestion, truck traffic, pavement condition, environmental impacts, transportation alternatives and consistency with local land use plans.
- This is accomplished through the existing ranking processes within the various program categories such as:
 - Bridge Program
 - Paving Program
 - Safety Program
 - Interstate Programs
 - Metropolitan Planning Organization (MPO) and Council of Government (COG) Programs



What processes does the Commission use to “approve” projects?

106

- SCDOT Regulations 63-10, Transportation Project Prioritization, also set forth the circumstances upon which the Commission may deviate from the project order on ranked lists. Those circumstances are significant financial or engineering considerations, delayed permitting, *force majeure*, pending legal actions directly related to the proposed project that is bypassed, federal law or regulation, or economic growth.



Recommended Approval Framework for the Commission:

Utilize the existing SCDOT processes for approving the SIB projects.



Recommended Approval Framework for the Commission

108

- Since the MPO/COG's serve as the Commission's designee for identifying, prioritizing and ranking regional transportation projects, is the project selected by the SIB identified as a need and/or ranked in the appropriate MPO/COG currently approved plan?
- Is the project selected by the SIB identified as a need and/or ranked by SCODT in any statewide program category or listed in a needs assessment conducted by SCODT?
- In accordance with SCODT Regulations, consider invoking the ability to deviate based on significant financial considerations, to approve SIB actions to increase funding in order to complete previously approved SIB projects.

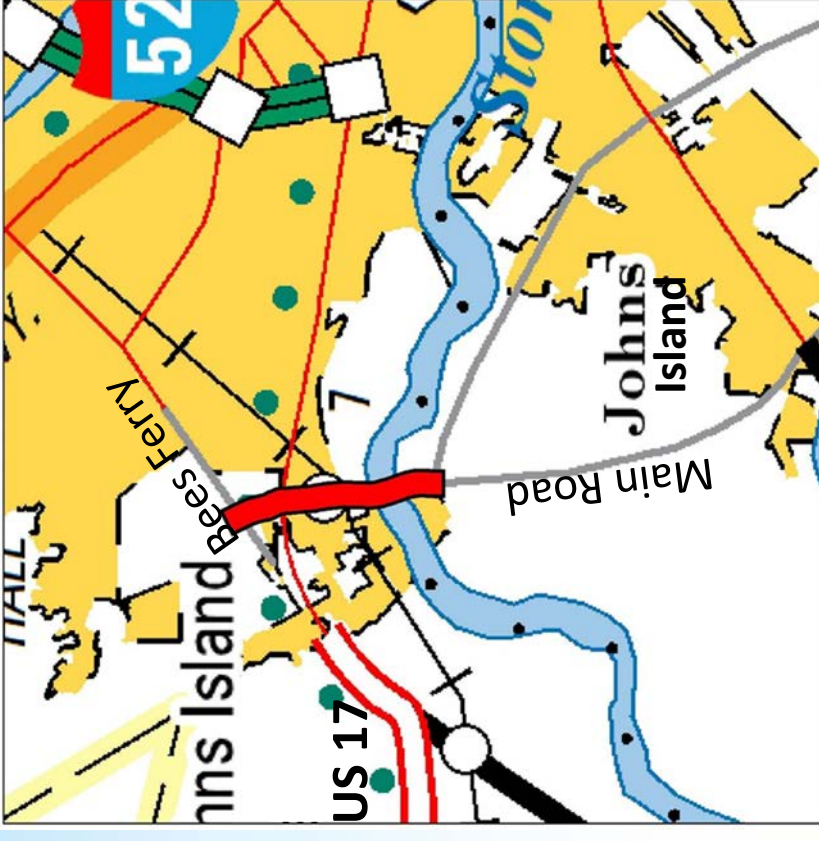
SIB Board Action on July 7, 2020

Approved 7 projects:

- Main/Bohicket Road Project in Charleston County
- US 278 Project in Beaufort County
- Woodruff Road Congestion Relief Project in Greenville County
- I-77 @ Exit 82 Interchange Upgrade in York County
- I-77 @ Exit 85 Interchange Upgrade in York County
- I-95 @ Exit 3 New Interchange Construction in Jasper County
- US 17/Septima Clark Parkway Project in the City of Charleston

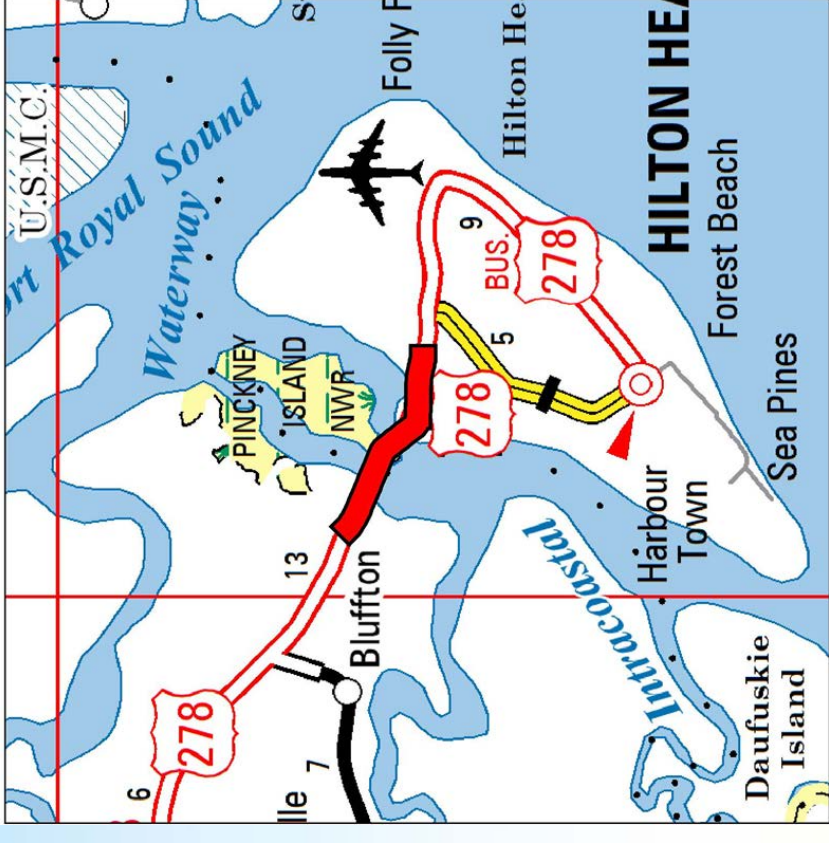
410 Main/Bohicket Road Project Information:

- SIB Applicant:** Charleston County
- Program Category:** Charleston Area Transportation Study (CHATS) MPO
SCDOT Safety Program
- Plan Identification:** CHATS 2040 Long Range Transportation Improvement Plan,
Committed Roadway Projects and included in SCDOT's 2015
Highway Safety Improvement Program.
- Project Description:** This project includes a grade separated interchange at US 17
(Savannah Highway) and Main Road (S-20).
In addition, Main/Bohicket Road (S-20) will be widened from
Bees Ferry Road to River Road.



US 278 Project Information:

- SIB Applicant:** Beaufort County
- Program Category:** Lowcountry Area Transportation Study (LATS) MPO
SCDOT Interstate/NHS Bridge
- Plan Identification:** LATS 2040 Long Range Transportation Improvement Plan – #1
2016 Interstate/NHS Bridge Ranking - #2 (US 278 EB over Mackay Creek)
- Project Description:** This project includes the widening of US 278 from Moss Creek Drive to Spanish Wells Road and includes the replacement/widening of both the EB & WB bridges over Mackay Creek and Skull Creek.



Woodruff Road Congestion Relief Project Information:

SIB Applicant: Greenville County

112

Program Category: Greenville-Pickens Area Transportation Study (GPATS) MPO

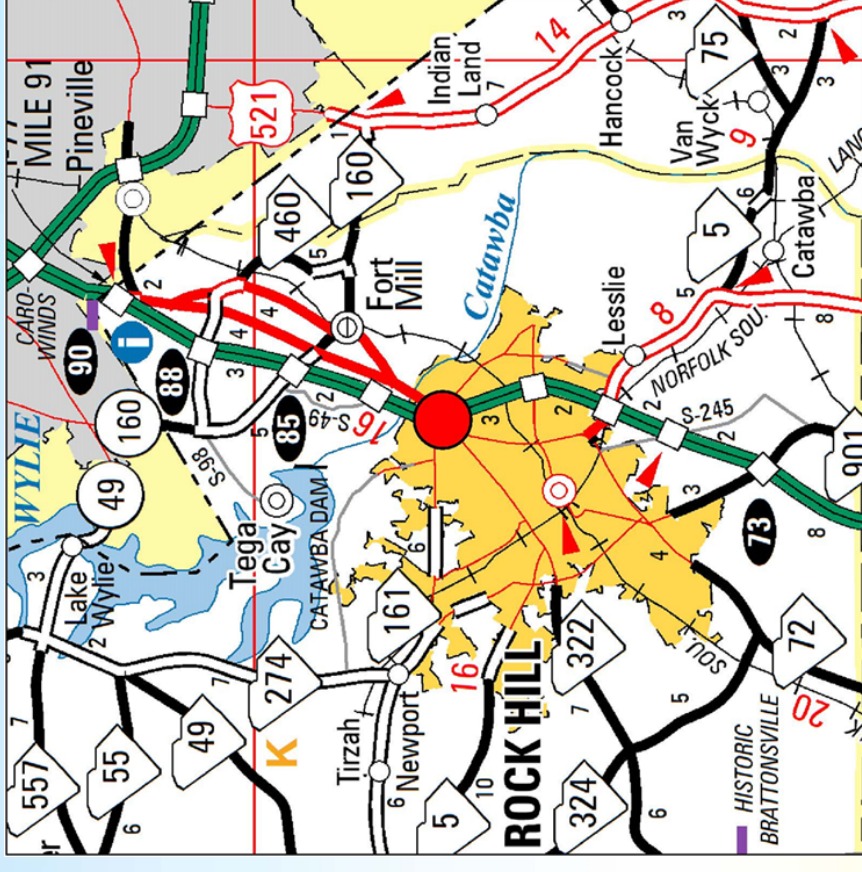
Plan Identification: GPATS 2021 – 2026 Transportation Improvement Plan – #1

Project Description: This project includes a 4-lane new location roadway parallel to existing Woodruff Road from Roper Mountain Road/Verdae Boulevard to Smith Hines Road.



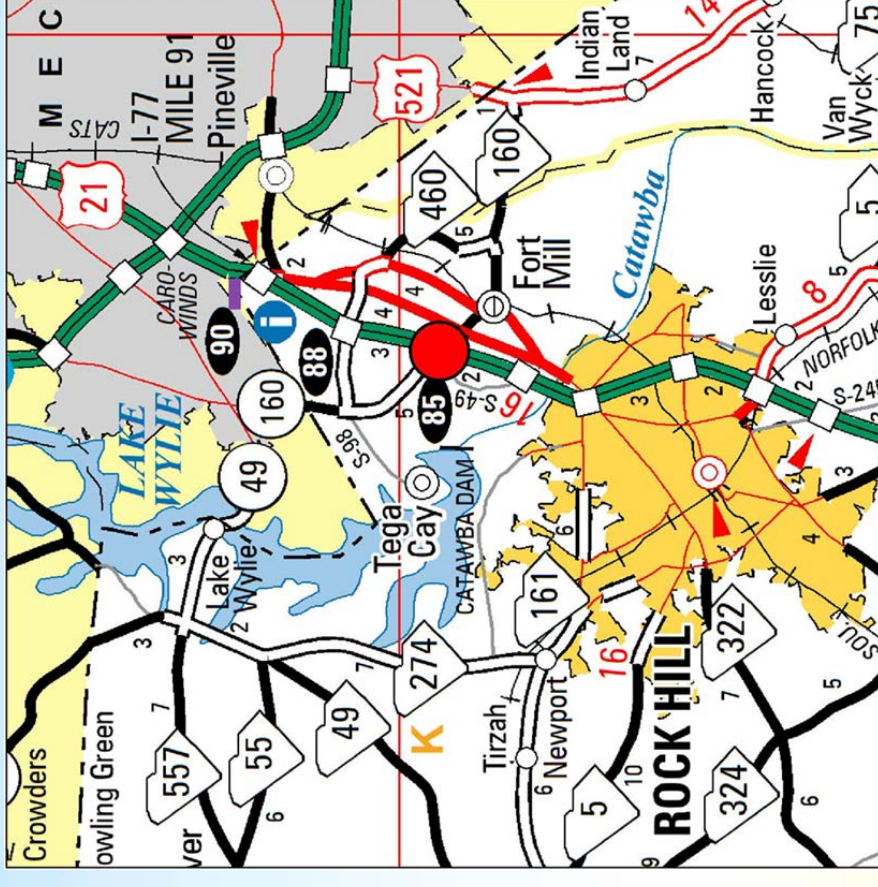
I-77 @ Exit 82 Project Information:

- SIB Applicant:** York County
- Program Category:** Rock Hill-Fort Mill Area Transportation Study (RFATS) MPO
SCDOT 2007 Interstate Interchange
- Plan Identification:** RFATS 2045 Long Range Transportation Plan -- #5
2007 SCDOT Interstate Interchange Ranking - #47
- Project Description:** This project includes interchange improvements to the existing interchange of I-77 with Celanese/Cherry Road (Exit 82 A, B, &C).



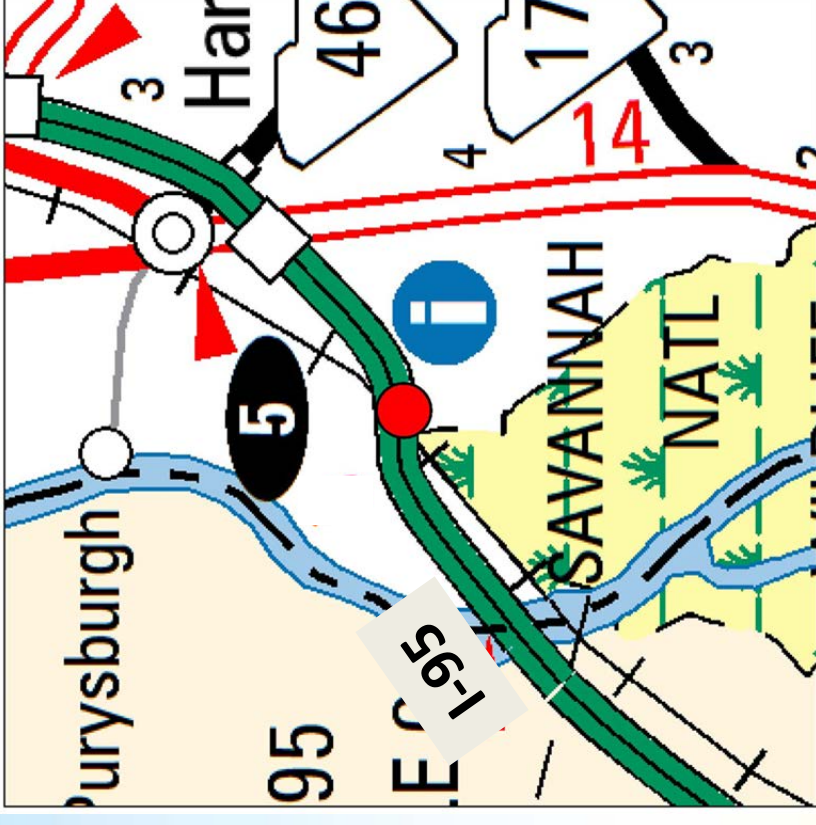
I-77 @ Exit 85 Project Information:

SIB Applicant:	York County
Program Category:	Rock Hill-Fort Mill Area Transportation Study (RFATS) MPO SCDOT 2007 Interstate Interchange
Plan Identification:	RFATS 2045 Long Range Transportation Plan – #1 2007 SCDOT Interstate Interchange Ranking - #76
Project Description:	This project includes interchange improvements to the existing interchange of I-77 @ SC 160 (Exit 85). It is anticipated that this project will include 2 new bridges spanning I-77 and replacing/widening the existing SC 160 bridge over I-77.



I-95 @ Exit 3 Project Information:

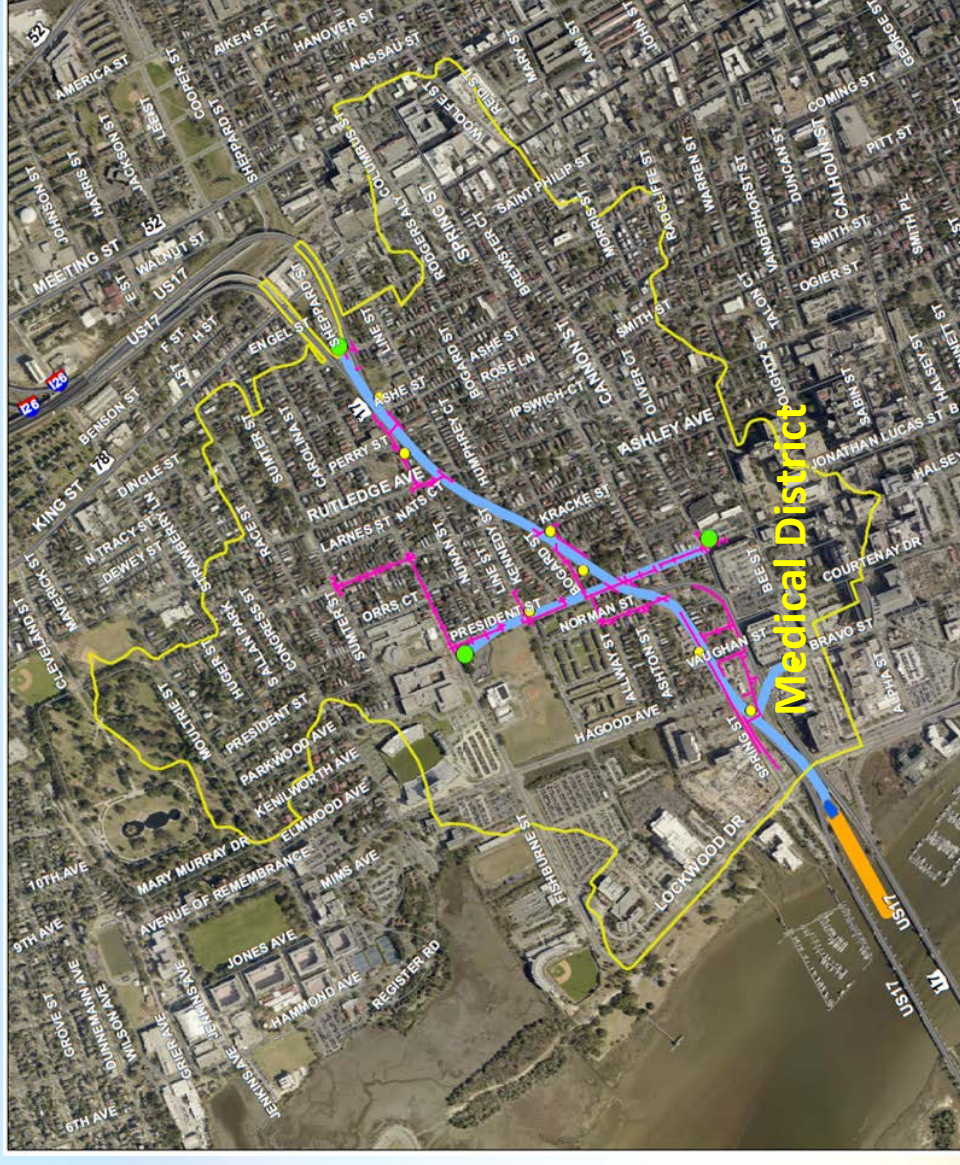
- SIB Applicant:** City of Hardeeville/Jasper County
- Program Category:** Lowcountry Area Transportation Study (LATS) MPO
SCDOT Rural Interstate Freight Network
- Plan Identification:** LATS 2040 Long Range Transportation Improvement Plan,
(Interchange Imp.) #3
2018 SCDOT Rural Interstate Freight Network - #2
- Project Description:** This project includes a new interchange at Exit 3 to include a new connecting road (Riverport Parkway) generally along the exiting Purrysburg Road alignment. The existing Purrysburg Road Bridge over I-95 will be replaced as well as a new bridge over the CSX rail line parallel to I-95.



US 17 / Septima Clark Parkway Project Information:

11

- SOB Applicant:** City of Charleston
- Program Category:** Charleston Area Transportation Study (CHATS) MPO
- Plan Identification:** CHATS 2017 - 2022 Transportation Improvement Plan
- Project Description:** This project is a drainage project along US 17 (Septima Clark) between the Ashley River and I-26. It includes a tunnel conveyance, pump stations, drop shafts, and surface drainage improvements. This project is being completed in five phases. Phases one through three are complete and phase four is under construction. Phase 5 is the last phase to be completed and includes the installation of multiple pump stations and associated infrastructure to increase the gravity flow capacity provided by the previous phases and to assist in relieving flooding issues in the Medical District.



Commission Approval is Recommended Utilizing the Framework

The following SIB approved projects are in the relevant MPO/COG and/or SCDOT transportation plans:

- ✓ Main & Bohicket Road Project is listed in the CHATS MPO Long Range Transportation Plan, included in the 2017-2022 CHATS Transportation Improvement Program, and was included in SCDOT's 2015 Highway Safety Improvement Program.
- ✓ US 278 Project in Beaufort County is listed 1st in the LATS MPO Long Range Transportation Plan, included in the 2017-2024 LATS Transportation Improvement Program and identified in SCDOT's Bridge Replacement Program (ranked 2nd in the statewide 2016 Interstate/NHS Bridge program).
- ✓ Woodruff Road Congestion Relief Project is listed 1st in the 2035 GPATS MPO Long Range Transportation Plan, included in the 2021-2026 GPATS Transportation Improvement Program.

Commission Approval is Recommended Utilizing the Framework

118

The following SIB approved projects are in the relevant MPO/COG and/or SCDOT transportation plans:

- ✓ I-77 @ Exit 82 (Celanese/Cherry Rd) Interchange Upgrade is listed 5th in the 2045 RFATS MPO Long Range Transportation Plan, included in the 2017-2022 RFATS Transportation Improvement Program and previously identified as a deficient interchange by SCDOT as early as 2007.
- ✓ I-77 @ Exit 85 (SC 160) Interchange Upgrade is listed 1st in the 2045 RFATS MPO Long Range Transportation Plan, included in the 2017-2022 RFATS Transportation Improvement Program and previously identified as a deficient interchange by SCDOT as early as 2007.
- ✓ I-95 @ Exit 3 Interchange Construction is listed 3rd in the LATS MPO Long Range Transportation Plan, included in the 2017-2024 LATS Transportation Improvement Program and the proposed project is within the limits of the planned I-95 phase 1 project as part of SCDOT's Rural Interstate Freight Network Mobility Improvement Program.

Commission Approval is Recommended Utilizing the Framework

The following SIB approved project is adding funding to a previously approved project:

- ✓ US 17/Septima Clark Parkway Project in the City of Charleston. Various phases of this project have been completed and have been included in the CHATS MPO Plan since 2009. The recent SIB Board action proposes to amend an August 2012 project agreement by increasing the funding level of the SIB by \$21.5 Million for this financially significant \$197 Million phase of the project.



Proposed Resolution:

A RESOLUTION OF THE SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION COMMISSION APPROVING THE JULY 7, 2020 DECISION BY THE SOUTH CAROLINA STATE TRANSPORTATION INFRASTRUCTURE BANK BOARD OF DIRECTORS TO PROVIDE LOANS AND FINANCIAL ASSISTANCE TO VARIOUS APPLICANTS.

120

WHEREAS, South Carolina Code Section 11-43-150(D) requires the Board of Directors of the South Carolina State Transportation Infrastructure Bank (STIB) to submit decisions to provide loans or other financial assistances to a qualified borrowers on a qualified project to the South Carolina Department of Transportation (SCDOT) Commission for its consideration; and

WHEREAS, South Carolina Code Section 11-43-150(D) further requires the SCDOT Commission to approve or reject the decisions of the STIB Board of Directors, or request additional information; and

WHEREAS, the STIB Board approved two resolutions on July 7, 2020 approving loans and other financial assistance in the amount of \$362,144,705 for the following projects and as noted in Attachment A; and

Project	Applicant	Financial Assistance
Main / Bohicket Road	Charleston County	\$40,785,500 (Grant)
US 278	Beaufort County	\$120,000,000 (Grant)
Woodruff Road Congestion Relief	Greenville County	\$49,010,199 (Grant)
I-77, Exit 82	York County	\$32,486,150 (Grant)
I-77, Exit 85	York County	\$42,171,050 (Grant)
I-95, Exit 3	Jasper/Hardeeville	\$28,095,903 (Loan) \$28,095,903 (Grant)
US 17/Septima Clark Parkway	City of Charleston	\$21,500,000 (Grant)

WHEREAS, Act 114 of 2007 requires that the SCDOT Commission select projects considering objective and quantifiable factors such as financial viability, safety, economic development, traffic volumes and congestion, truck traffic, pavement condition, environmental impacts, transportation alternatives and consistency with local land use plans; and

WHEREAS, the SCDOT Commission utilizes the Council of Governments and Metropolitan Planning Organizations transportation planning processes to identify and prioritize the regional transportation needs in accordance with the Act 114 requirements within their geographic regions; and

WHEREAS, the SCDOT Commission utilizes statewide ranking lists in accordance with Act 114 requirements for statewide strategic program categories such as Interstate Widening, Bridge Replacements and Safety Projects; and

WHEREAS, in accordance with SC Code of State Regulations 63-10 (C) 2, the SCDOT Commission may deviate from the order in the ranked lists based on significant financial or engineering considerations, delayed permitting, *force majeure*, pending legal actions, federal law or regulation, or economic growth; and

WHEREAS, the SCDOT Commission finds that the Main/Bohicket, US 278, Woodruff Road Congestion Relief, I-77 Exit 82, I-77 Exit 85 and I-95 Exit 3 projects are all included in the appropriate Council of Government's or Metropolitan Planning Organization's currently approved regional transportation plans or appropriate SCDOT statewide strategic program category ranked lists as shown in Attachment B; and

WHEREAS, the SCDOT Commission further finds that due to significant financial considerations it is appropriate to deviate from the regional or statewide lists in order to complete the US 17 / Septima Clark Parkway project through an additional investment by the STIB;

THEREFORE, BE IT RESOLVED that in meeting assembled this 16th day of July, 2020 the SCDOT Commission approves the July 7, 2020 decision of the STIB Board of Directors to select and fund the projects described above and as noted in Attachment A; and

BE IT FURTHER RESOLVED THAT a true copy of this resolution be forwarded to the STIB Board and the Joint Bond Review Committee.



SCDOT

Commission Consideration of SIB Approved Projects



Intentionally Left Blank

A RESOLUTION

A RESOLUTION OF THE SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION COMMISSION APPROVING THE JULY 7, 2020 DECISION BY THE SOUTH CAROLINA STATE TRANSPORTATION INFRASTRUCTURE BANK BOARD OF DIRECTORS TO PROVIDE LOANS AND FINANCIAL ASSISTANCE TO VARIOUS APPLICANTS.

WHEREAS, South Carolina Code Section 11-43-150(D) requires the Board of Directors of the South Carolina State Transportation Infrastructure Bank (STIB) to submit decisions to provide loans or other financial assistances to a qualified borrowers on a qualified project to the South Carolina Department of Transportation (SCDOT) Commission for its consideration; and

WHEREAS, South Carolina Code Section 11-43-150(D) further requires the SCDOT Commission to approve or reject the decisions of the STIB Board of Directors, or request additional information; and

WHEREAS, the STIB Board approved two resolutions on July 7, 2020 approving loans and other financial assistance in the amount of \$362,144,705 for the following projects and as noted in Attachment A; and

Project	Applicant	Financial Assistance
Main / Bohicket Road	Charleston County	\$40,785,500 (Grant)
US 278	Beaufort County	\$120,000,000 (Grant)
Woodruff Road Congestion Relief	Greenville County	\$49,010,199 (Grant)
I-77, Exit 82	York County	\$32,486,150 (Grant)
I-77, Exit 85	York County	\$42,171,050 (Grant)
I-95, Exit 3	Jasper/Hardeeville	\$28,095,903 (Loan) \$28,095,903 (Grant)
US 17/Septima Clark Parkway	City of Charleston	\$21,500,000 (Grant)

WHEREAS, Act 114 of 2007 requires that the SCDOT Commission select projects considering objective and quantifiable factors such as financial viability, safety, economic development, traffic volumes and congestion, truck traffic, pavement condition, environmental impacts, transportation alternatives and consistency with local land use plans; and

WHEREAS, the SCDOT Commission utilizes the Council of Governments and Metropolitan Planning Organizations transportation planning processes to identify and prioritize the regional transportation needs in accordance with the Act 114 requirements within their geographic regions; and

WHEREAS, the SCDOT Commission utilizes statewide ranking lists in accordance with Act 114 requirements for statewide strategic program categories such as Interstate Widening, Bridge Replacements and Safety Projects; and

WHEREAS, in accordance with SC Code of State Regulations 63-10 (C) 2, the SCDOT Commission may deviate from the order in the ranked lists based on significant financial or engineering considerations, delayed permitting, *force majeure*, pending legal actions, federal law or regulation, or economic growth; and

WHEREAS, the SCDOT Commission finds that the Main/Bohicket, US 278, Woodruff Road Congestion Relief, I-77 Exit 82, I-77 Exit 85 and I-95 Exit 3 projects are all included in the appropriate Council of Government’s or Metropolitan Planning Organization’s currently approved regional transportation plans or appropriate SCDOT statewide strategic program category ranked lists as shown in Attachment B; and

WHEREAS, the SCDOT Commission further finds that due to significant financial considerations it is appropriate to deviate from the regional or statewide lists in order to complete the US 17 / Septima Clark Parkway project through an additional investment by the STIB;

THEREFORE, BE IT RESOLVED that in meeting assembled this 16th day of July, 2020 the SCDOT Commission approves the July 7, 2020 decision of the STIB Board of Directors to select and fund the projects described above and as noted in Attachment A; and

BE IT FURTHER RESOLVED THAT a true copy of this resolution be forwarded to the STIB Board and the Joint Bond Review Committee.

Tony K. Cox, SCDOT Commission Chairman
Seventh Congressional District

Robert D. Robbins, SCDOT Commissioner
First Congressional District

John B. Fishburne, SCDOT Commission Vice-chair
Sixth Congressional District

John H. Burriss, Sr., SCDOT Commissioner
Second Congressional District

Dr. Ben H. Davis, SCDOT Commissioner
Third Congressional District

Woodrow W. Willard, SCDOT Commissioner
Fourth Congressional District

David E. Branham, Sr. SCDOT Commissioner
Fifth Congressional District

James T. McLawhorn, Jr.
Governor’s At-Large Appointee

ATTACHMENT A

Intentionally Left Blank

BOARD OF DIRECTORS

John B. White, Jr., *Chairman*

Ernest Duncan, *Vice Chairman*

Tony K. Cox

Senator Hugh K. Leatherman, Sr.

H.B. "Chip" Limehouse, III

David B. Shehan

Representative J. Gary Simrill

**South Carolina
Transportation Infrastructure Bank**



955 Park Street
Room 120 B
Columbia, SC 29201
P: (803) 737-2875
Fax: (803) 737-2014

July 16, 2020

The Honorable Tony Cox, Chairman
South Carolina Department of Transportation
955 Park Street
Columbia, South Carolina 29201

RE: SCTIB Project Approval Requests

Dear Chairman Cox:

The South Carolina Transportation Infrastructure Bank ("SCTIB" or "Bank") submits to the Department of Transportation Commission ("Commission") for its consideration of the Bank's decision to provide financial assistance to seven projects. The Bank makes its request based on the statutory language requiring the Bank to submit its decisions on financial assistance or loans to the Commission prior to the Bank providing the loan or financial assistance to a qualified project. South Carolina Code Section 11-43-150 (D).

On July 7, 2020, the Bank Board unanimously approved financial assistance and one loan to seven projects. The Bank approved these projects in two separate Resolutions. See enclosed Resolutions with Appendix. The Bank's Evaluation Committee heard presentations from each of the project applicants. The Committee ranked the project requests based on the Bank's established evaluation criteria and Operating Guidelines and recommended the following financial assistance.

Applicant	Project	Financial Assistance
Beaufort County	US 278	\$120,000,000 (Grant)
Charleston County	Main Road and Bohicket Road	\$ 40,785,500 (Grant)
City of Charleston	US 17/Septima Clark	\$ 21,500,000 (Grant)
Jasper/Hardeeville	I-95, Exit 3	\$ 28,095,903 (Loan) \$ 28,095,903 (Grant)
Greenville County	Woodruff Road	\$ 49,010,199 (Grant)
York County	I-77, Exit 85	\$ 42,171,050 (Grant)
York County	I-77, Exit 82	\$ 32,486,150 (Grant)

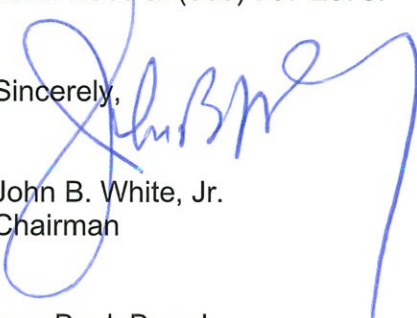
The projects approved were not all of the applications considered by the Committee and Board. The SCTIB Board will consider a Phase 2 of the pending applications before the end of the year based on the Bank's capacity and economic conditions.

Therefore, the Bank is requesting the SCDOT Commission take the following action:

Approve the Bank Board of Directors' decisions to provide grants and one loan to the respective applicants for the projects as listed above.

Thank you for your consideration of this request. Should you have any questions, please contact Tami Reed at (803) 737-2875.

Sincerely,


John B. White, Jr.
Chairman

cc: Bank Board

SOUTH CAROLINA TRANSPORTATION INFRASTRUCTURE BANK

RESOLUTION ON

APPLICATIONS FOR FUNDING

WHEREAS, at its meeting on June 26, 2018, the Bank Board voted to recommence its acceptance and consideration of applications.

WHEREAS, at its meeting on August 7, 2019, the Bank Board voted to approve an amended Application to reflect certain recommendations of the Evaluation Committee.

WHEREAS, the Bank invited applications from project sponsors or owners to be submitted by September 1, 2019, and did receive such applications.

WHEREAS, at its meeting on July 6, 2020, the Evaluation Committee reviewed the applications for funding and has made recommendations concerning those applications.

WHEREAS, the Bank Board has reviewed and considered its available funding capacity, the project applications for funding, and the Evaluation Committee's recommendations.

NOW, THEREFORE, the Board of the Bank hereby resolves that:

Section 1. The Bank will make available no more than \$367 million to be reserved and set aside for the applications submitted as part of this round of applications for funding.

Section 2. The Bank will provide funding for the following projects in the following amounts, subject to the conditions specified in Section 3 below:

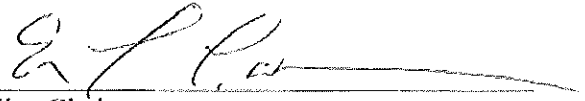
Applicant	Project	Score	Financial Assistance
Greenville County	Woodruff Road	66.9	\$49,010,199 (Grant)
York County	I-77, Exit 85	65	\$42,171,050 (Grant)
York County	I-77, Exit 82	65	\$32,486,150 (Grant)

Section 3. The approval of the foregoing funding amounts is subject to the following conditions:

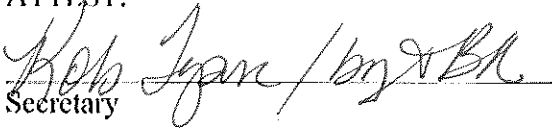
- a. the Bank, the project sponsor, and any other appropriate parties entering into an Agreement, and any other instruments, in a form and with contents acceptable to the Bank, including the Standard Conditions attached hereto as Appendix A;
- b. the Joint Bond Review Committee of the General Assembly, the South Carolina Department of Transportation Commission, and any other federal or state governmental entity granting any approvals necessary for the Bank to provide funding and for the project to be fully funded and completed; and
- c. the foregoing funding approvals having no adverse impact on the Bank or its obligations to projects previously approved for financial assistance by the Bank.

Section 4. The Chairman and Vice Chairman are hereby authorized, upon the advice of legal counsel for the Bank, to sign any agreements or documents and undertake any other measures necessary to implement the foregoing actions, and the Chairman's or Vice Chairman's signature shall be conclusive evidence of the form and content of each such agreement or document signed by him.

Adopted July 7, 2020.


Vice Chairman

ATTEST:


Secretary

Appendix A

South Carolina Transportation Infrastructure Bank

STANDARD CONDITIONS

- (1) The Bank, project sponsor, and SCDOT (if participating in the Project) must enter into an Intergovernmental Agreement ("IGA") and any other instruments or agreements required by the Bank, all in a form and with contents and terms acceptable to the Bank, to implement the provision of financial assistance by the Bank and these conditions.
- (2) To implement financial assistance provided by the Bank, the Joint Bond Review Committee of the General Assembly, SCDOT and any other governmental authorities required by South Carolina law or regulation must provide its approval.
- (3) The Bank must determine that the provision of financial assistance by the Bank will not have any adverse impact on the Bank or its financial assistance obligations to projects previously approved by the Bank.
- (4) The Bank must receive all financial contributions, assistance, grants or matches for the Project from all sources and participants other than the Bank on such schedule as the Bank shall establish.
- (5) The Bank may require the project sponsor to pledge some or all of its financial contributions to the project to the payment of debt issued by the Bank, and the project sponsor shall enter into and execute all agreements, instruments, documents, provisions and terms deemed necessary by the Bank to meet this requirement.
- (6) Any funds committed to the project by the Bank remaining after completion of the project must be transferred to the Bank unless this condition is waived or modified by the Bank.
- (7) Any material change in scope of the Project must be approved by Bank, may require an amendment to the IGA, and may be subject to the JBRC or other government approvals.
- (8) At request of the Bank, any entities, agencies or firms providing financial contributions, grants or assistance to, or otherwise participating in, the project shall execute any other documents, agreements or instruments that are required by the Bank to evidence or establish their obligations to the Bank and/or the project. The documents, agreements or instruments must be in a form and with contents acceptable to the Bank.
- (9) The project sponsor warrants that it has full power and authority to execute, deliver and perform and to enter into and carry out the transactions contemplated by the IGA.
- (10) The project sponsor warrants that no further authorizations, consents or approvals of governmental bodies or agencies are required for the performance of the obligations in the IGA.

(11) If requested by the Bank, the project sponsor shall provide a written opinion addressed to the Bank by legal counsel to the project sponsor in a form and with conclusions satisfactory to the Bank.

(12) The project sponsor shall defend, indemnify and hold the Bank harmless from and against any and all liabilities, claims, or actions arising out of or relating to the project.

(13) Upon default to the Bank, the project sponsors and other entities, agencies or firms providing financial contributions, grants or assistance to the project acknowledge the statutory authority of the State Treasurer to withhold funds allotted or appropriated by the State to them and to apply those funds to make or complete any committed/required payments to the Bank.

(14) The project sponsor warrants that no litigation, nor any proceeding before any governmental agency involving the project sponsor is pending, or to the knowledge of the project sponsor, threatened, in which any potentially adverse outcome would have a materially adverse impact on the ability of the project sponsor to meet its obligations under its financial assistance arrangement with the Bank.

(15) The Bank shall be reimbursed for costs that are discovered not to be eligible costs.

(16) These Standard Conditions incorporate by reference the conditions and requirements set forth in the Operating Guidelines, Procedures, and Standard Conditions adopted by the Bank Board on May 26, 2016, and revised on December 19, 2016 and May 3, 2019.

(17) These are Standard Conditions, and the Bank reserves the right to require additional conditions on a project-by-project basis.

Intentionally Left Blank

SOUTH CAROLINA TRANSPORTATION INFRASTRUCTURE BANK

RESOLUTION ON

APPLICATIONS FOR FUNDING

WHEREAS, at its meeting on June 26, 2018, the Bank Board voted to recommence its acceptance and consideration of applications.

WHEREAS, at its meeting on August 7, 2019, the Bank Board voted to approve an amended Application to reflect certain recommendations of the Evaluation Committee.

WHEREAS, the Bank invited applications from project sponsors or owners to be submitted by September 1, 2019, and did receive such applications.

WHEREAS, at its meeting on July 6, 2020, the Evaluation Committee reviewed the applications for funding and has made recommendations concerning those applications.

WHEREAS, the Bank Board has reviewed and considered its available funding capacity, the project applications for funding, and the Evaluation Committee's recommendations.

NOW, THEREFORE, the Board of the Bank hereby resolves that:

Section 1. The Bank will make available no more than \$367 million to be reserved and set aside for the applications submitted as part of this round of applications for funding.

Section 2. The Bank will provide funding for the following projects in the following amounts, subject to the conditions specified in Section 3 below:

Applicant	Project	Score	Financial Assistance
Beaufort County	US 278	86	\$120,000,000 (Grant)
Charleston County	Main Road and Bohicket Road	92.85	\$40,785,500 (Grant)
City of Charleston	US 17/Septima Clark	65	\$21,500,000 (Grant)
Jasper/Hardeeville	I-95, Exit 3	65	\$28,095,903 (Loan) \$28,095,903 (Grant)

Section 3. The approval of the foregoing funding amounts is subject to the following conditions:

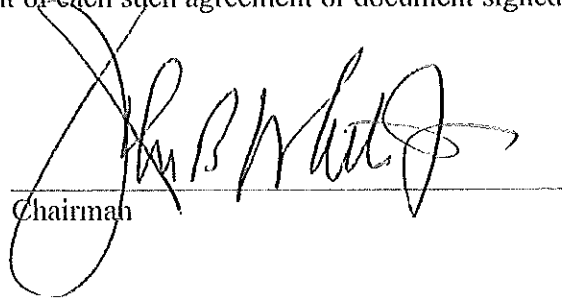
- a. the Bank, the project sponsor, and any other appropriate parties entering into an Agreement, and any other instruments, in a form and with contents acceptable to the Bank, including the Standard Conditions attached hereto as Appendix A and the final terms of the loan to Jasper/Hardeeville being acceptable to the Bank;
- b. the Joint Bond Review Committee of the General Assembly, the South Carolina Department of Transportation Commission, and any other federal or state

governmental entity granting any approvals necessary for the Bank to provide funding and for the project to be fully funded and completed; and

- c. the foregoing funding approvals having no adverse impact on the Bank or its obligations to projects previously approved for financial assistance by the Bank.

Section 4. The Chairman and Vice Chairman are hereby authorized, upon the advice of legal counsel for the Bank, to sign any agreements or documents and undertake any other measures necessary to implement the foregoing actions, and the Chairman's or Vice Chairman's signature shall be conclusive evidence of the form and content of each such agreement or document signed by him.

Adopted July 7, 2020.



Chairman

ATTEST:



Secretary

Appendix A

South Carolina Transportation Infrastructure Bank

STANDARD CONDITIONS

- (1) The Bank, project sponsor, and SCDOT (if participating in the Project) must enter into an Intergovernmental Agreement (“IGA”) and any other instruments or agreements required by the Bank, all in a form and with contents and terms acceptable to the Bank, to implement the provision of financial assistance by the Bank and these conditions.
- (2) To implement financial assistance provided by the Bank, the Joint Bond Review Committee of the General Assembly, SCDOT and any other governmental authorities required by South Carolina law or regulation must provide its approval.
- (3) The Bank must determine that the provision of financial assistance by the Bank will not have any adverse impact on the Bank or its financial assistance obligations to projects previously approved by the Bank.
- (4) The Bank must receive all financial contributions, assistance, grants or matches for the Project from all sources and participants other than the Bank on such schedule as the Bank shall establish.
- (5) The Bank may require the project sponsor to pledge some or all of its financial contributions to the project to the payment of debt issued by the Bank, and the project sponsor shall enter into and execute all agreements, instruments, documents, provisions and terms deemed necessary by the Bank to meet this requirement.
- (6) Any funds committed to the project by the Bank remaining after completion of the project must be transferred to the Bank unless this condition is waived or modified by the Bank.
- (7) Any material change in scope of the Project must be approved by Bank, may require an amendment to the IGA, and may be subject to the JBRC or other government approvals.
- (8) At request of the Bank, any entities, agencies or firms providing financial contributions, grants or assistance to, or otherwise participating in, the project shall execute any other documents, agreements or instruments that are required by the Bank to evidence or establish their obligations to the Bank and/or the project. The documents, agreements or instruments must be in a form and with contents acceptable to the Bank.
- (9) The project sponsor warrants that it has full power and authority to execute, deliver and perform and to enter into and carry out the transactions contemplated by the IGA.
- (10) The project sponsor warrants that no further authorizations, consents or approvals of governmental bodies or agencies are required for the performance of the obligations in the IGA.

(11) If requested by the Bank, the project sponsor shall provide a written opinion addressed to the Bank by legal counsel to the project sponsor in a form and with conclusions satisfactory to the Bank.

(12) The project sponsor shall defend, indemnify and hold the Bank harmless from and against any and all liabilities, claims, or actions arising out of or relating to the project.

(13) Upon default to the Bank, the project sponsors and other entities, agencies or firms providing financial contributions, grants or assistance to the project acknowledge the statutory authority of the State Treasurer to withhold funds allotted or appropriated by the State to them and to apply those funds to make or complete any committed/required payments to the Bank.

(14) The project sponsor warrants that no litigation, nor any proceeding before any governmental agency involving the project sponsor is pending, or to the knowledge of the project sponsor, threatened, in which any potentially adverse outcome would have a materially adverse impact on the ability of the project sponsor to meet its obligations under its financial assistance arrangement with the Bank.

(15) The Bank shall be reimbursed for costs that are discovered not to be eligible costs.

(16) These Standard Conditions incorporate by reference the conditions and requirements set forth in the Operating Guidelines, Procedures, and Standard Conditions adopted by the Bank Board on May 26, 2016, and revised on December 19, 2016 and May 3, 2019.

(17) These are Standard Conditions, and the Bank reserves the right to require additional conditions on a project-by-project basis.

Intentionally Left Blank

ATTACHMENT B

Main/Bohicket Road (Charleston County)

CHATS 2040 Long Range Transportation Plan

ID	Location	Project Type	Potential Laneage	Limits
BERKELEY COUNTY				
B-01	Clements Ferry Rd (Phase I)	Widening	4-Lane Divided	I-526 Interchange to Jack Primus Rd
B-02	Clements Ferry Rd (Phase II)	Widening	4-Lane Divided	Jack Primus Rd to SC-41
B-03	College Park Rd	Widening	4-Lane Divided	US-17A to Corporate Prkwy
B-04	Henry Brown Blvd (Phase I)	Widening	4-Lane Divided	Red Bank Rd to Liberty Hall Rd
B-05	Henry Brown Blvd (Phase II)	Widening	2-Lane Divided	Liberty Hall Rd to US-52 (Old Mt. Holly Rd)
B-06	I-26 - Jedburg Rd Interchange	Redesign Interchange	1-Lane Ramps	-
B-07	Jedburg Rd	Widening	4-Lane Divided	Drop Off Dr to Old Dairy Rd
B-08	I-26 - North Maple St / Nexton Pkwy Interchange	New Interchange	1-Lane Ramps	-
B-09	Interstate - 26	Widening	6-Lane Divided	US-17A to jedburg Rd Interchange
B-10	Railroad Ave Extension	New Roadway	2-Lane Divided	Mabeline Rd to Eagle Landing Dr
B-11	Nexton Pkwy	New Roadway	4-Lane Divided	N. Maple St to Nexton Elementary School
B-12	US-176 / State Rd	Widening	4-Lane Divided	US-17A to Volvo Car Dr
B-13	US-176 - US-52 Interchange	New Interchange	1-Lane Ramps	-
B-14	Interstate-26	Widening	6-Lane Divided	Jedburg Rd to Ridgeville Rd (SC-27)
B-15	Drop Off Dr Extension	New Roadway	2-Lane Undivided	Drop Off Dr to Nexton Pkwy
B-16	Red Bay Rd Extension	New Roadway	2-Lane Undivided	Red Bay Rd to N. Maple St Extension
CHARLESTON COUNTY				
C-17	Airport Connector Rd	New Roadway	4-Lane Divided	W. Montague Ave to Michaux Pkwy to Terminal
C-18	Cosgrove Ave Overpass	New Roadway	2-Lane Undivided	Spruill Ave to McMillan Ave
C-19	Dorchester Rd	Widening	6-Lane Divided	Michaux Pkwy to County Line (Patriot Blvd)
C-20	Glenn McConnell Pkwy	Widening	6-Lane Divided	Bees Ferry Rd to Rutherford Way
C-21	I-26 - Meeting St Interchange	Removal	Not Applicable	-
C-22	I-26 Port Access Rd Interchange	New Interchange	1-Lane Ramps	-
C-23	I-26 - Spruill Ave Interchange	Removal	Not Applicable	-
C-24	I-26 - PCP (Weber Dr) Interchange	New Interchange	1-Lane Ramps	-
C-25	Interstate-526	Widening	6/8-Lane Divided	Paul Cantrell Blvd to Rivers Ave
C-26	Johnie E. Brown Rd	New Roadway	4-Lane Divided	US-17 to Rifle Range Rd
C-27	Long Point Rd	Removal	Not Applicable	-
C-28	Long Point Rd	Realign Roadway	2-Lane Divided	US-17 to Silent Harbor Court
C-29	Main Rd (Phase I)	Widening/New Interchange	4-Lane Divided/1-Lane Ramps	Bees Ferry Rd to River Rd / US-17 and Main Rd Intersection
C-30	Maybank Highway	Widening	3-Lane Undivided	River Rd to Stono River Bridge



2017 – 2022 CHATS Transportation Improvement Plan

TY2017-2022 TIP - Amendment 36 (06/16/2022)

PIN #	PROJECTS EXEMPT FROM GUIDESHARE	Previous Years	FFY 2017	FFY 2018	FFY 2019	FFY 2020	FFY 2021	FFY 2022	TIP COST (2017-2022)	REMAINING COST (2023+)	TOTAL PROJECT COST	FUNDING SOURCE
003296X	US 59 near Cooper River - Berkeley County	16,803									16,803	FEDERAL AID BRIDGE PROGRAM
003296X	SC 41 Bridge Replacement (over Wando River)	30,900									30,900	FEDERAL AID BRIDGE PROGRAM
003844R01	S-13-32 Nouvelle Creek - Charleston County	4,304									4,304	FEDERAL AID BRIDGE PROGRAM
003844R01	S-10-32 Nouvelle Creek - Charleston County	7,119									7,119	FEDERAL AID BRIDGE PROGRAM
003844R01	S-10-32 Todd Stream (Hogstack) - Charleston County	2,308									2,308	FEDERAL AID BRIDGE PROGRAM
003844R01	S-2-971 Old Hwy 21 Over N. Mulberry Creek - Berkeley County	444	50 R		4,435 C				\$4,485	\$3,000	\$7,110	FEDERAL AID BRIDGE PROGRAM
0037132	Old Pond Rd (S-1633) Over Simons Creek - Charleston County				1,250 PE		400 R		\$1,650	\$5,250	\$6,900	FEDERAL AID BRIDGE PROGRAM
0037132	Old Mt. Holly Road (S-46) Bridge Replacement - Berkeley County					1,200 PE		1,050 R	\$2,250	\$6,600	\$8,850	FEDERAL AID Non-NHS Bridges/STBS
0037132	Harts Bluff Road (S-89) Bridge Replacement - Charleston County			846 PE		317 R			\$877	\$3,459	\$4,336	FEDERAL AID Non-NHS Bridges/STBS
0037132	Statewide Pavement Resurfacing Projects	20,306									\$20,306	STATEWIDE PAVEMENT RESURF/PRESERV PROJ
004107R001	Statewide Safety Projects (Intersection Projects)	-									\$6,888	STATEWIDE SAFETY PROGRAM (HSIP)
004107R001	College Park Rd (S-62) & Berkeley Farms Rd (S-567) & US 17A	1,250										
004107R001	Liberty Hill Rd (S-528) & Lindy Creek Rd (S-1216)	665										
004107R001	Rivers Ave (US 52) & Red Bank Rd (S-37)	743			1,570 C				\$1,570			
004204R001	Camp Rd (S-28) & Riverland Dr (S-53)	44										
004204R001	Riverland Dr (S-53) & Central Park Rd (S-47)	620										
004204R001	Rivers Ave (US 52) & Gunwood Blvd (S-1343)	625										
004204R001	Orangeburg Rd (S-22) & W. Butternut (S-56)	1,915										
004204R001	N. Main St (US 17A) & Farmington Rd (S-1268)	283										
004204R001	Miles Jamison Rd (S-377) & Beverley Dr	700			353 C				\$353			
004204R001	Ashley Phosphate (S-62) & Hunters Ridge Ln	175				393 C			\$393			
004204R001	South Live Oak Dr (US 17A) and State Rd (US 176)	-	50 PE	200 C								
004204R001	S-70 (Ladson Rd) & S-2421 (College Park Rd)	-				50 PE			\$50		\$50	
004204R001	S-150 (Von Ohren Rd) & S-681 (Lynchville Rd)	-				250 PE			\$250		\$250	
004204R001	(Section/Corridor Improvements)	-										
004204R001	St James Ave (US 176) from Old Monks Corner Rd to US 52	-	100 PE						\$100		\$100	
004204R001	Dorchester Rd (SC 842) from State Park Rd (S-373) to Near Parlor Dr (S-256)	-	150 PE						\$150		\$150	
004204R001	Red Bank Road (S-39) from Eagle Rd (S-251) to near Sycamore Dr (S-586)	-		300 PE					\$300		\$300	
0032098	Statewide Safety Program (2016 Commission-Approved Safety Projects)	1,727	150		420				\$670		\$2,297	STATEWIDE SAFETY PROGRAM (HSIP)
0032098	Intersection Improvements	-										
0032098	US 17A @ Pine Grove Ave (S-211) in Summerville	-										
0032098	Section/Corridor Improvements	-										
0032098	Orangeburg Rd / Dawson Branch Rd (S-22) MP 8.40 - MP 8.82	-										
0032098	Interstate Safety Improvements	-										
0032098	I-26 MP 200.00 TO 221.00	-										
0032098	I-26 MP 10.40 TO 20.40	-										
0032098	I-26 WITH I-226	-										
0032098	I-26 w/Mortgage Ave (S-62)	-										
0032098	I-26 w/Ashley Phosphate Rd (S-75)	-										
0032098	I-26 Clear Zone Improvements from near MM 180 to near MM 221	-			400 PE	5,000 C			\$5,400		\$5,400	
0032098	I-26 Cable Guardrail Project from near MM 188 to near MM 199 (Phase II) (I-95 to US 17A)	-			10,000 C				\$10,000		\$10,000	
0032098	Statewide Safety Program (2016 Commission-Approved Safety Projects)	1,727	150		420				\$670		\$2,297	STATEWIDE SAFETY PROGRAM (HSIP)
0032098	Section/Corridor Improvements	-										
0032098	US 176 - Old Monks Corner Rd (S-728) to US 52	-			50 R	3,000 C			\$3,050		\$3,050	
0037886	Safety Improvements (Bike)	-										
0037886	US 78 (MP 4.0-7.3) - Safety Improvements	-				300 PE	50 R	2,000 C	\$2,350	\$3,000	\$5,350	
0037886	S-75 (Ashley Phosphate) (MP 0-2.200) / S-62 (MP 0-1.82) - Road Safety and Bike/Ped Safety	-				300 PE	50 R	2,000 C	\$2,350	\$3,000	\$5,350	
0037886	US 17A (MP 1.36-4.25) - Safety Improvements	-				300 PE	50 R	2,000 C	\$2,350	\$3,000	\$5,350	
0037886	S-107 (Meeting St) (MP 0-1.42) - Bike/Ped Safety Improvements	-				150 PE	50 R	800 C	\$1,000	\$1,000	\$2,000	
0037886	S-104 (King St) (MP 0-1.84) - Bike/Ped Safety Improvements	-				50 R	1,000 C	\$1,000	\$1,000	\$2,000		
0037886	S-404 (Calloway St) (MP 0-1.45) - Bike/Ped Safety Improvements	-				50 R	1,000 C	\$1,000	\$1,000	\$2,000		
0037886	S-100 (S. Philip St) (MP 0-1.07) - Bike/Ped Safety Improvements	-				150 PE	50 R	\$200	\$750	\$950		
0027607	Act 175 - Funding for Bypass and Interstates	-										
0027607	I-526 Widening & Interchange Improvements from near Virginia Avenue to near Paul Cantrell Rd (Exit 11)		2,100 R					10,000 C	\$13,100		\$13,100	Interstate Program (NHPP)
0027607	I-526 Widening & Interchange Improvements from near Virginia Avenue to near Paul Cantrell Rd (Exit 11)							796,363 AC	\$796,363		\$796,363	Interstate Program (NHPP)
0027607	I-526 Widening & Interchange Improvements from near Virginia Avenue to near Paul Cantrell Rd (Exit 11)							10,000 C	\$18,670		\$18,670	Interstate Program (NHPP)
0027607	I-526 Widening & Interchange Improvements from near Virginia Avenue to near Paul Cantrell Rd (Exit 11)							207,040 AC	\$212,040		\$212,040	Interstate Program (NHPP)
0027607	I-526 Widening & Interchange Improvements from near Virginia Avenue to near Paul Cantrell Rd (Exit 11)								\$207,039		\$207,039	Interstate Program (NHPP)
0027607	I-526 Widening & Interchange Improvements from near Virginia Avenue to near Paul Cantrell Rd (Exit 11)								\$708,625		\$708,625	Interstate Program (NHPP)
0025263	I-28 Widening & Interchange Improvements from near F-628 (Exit 212) to near Port Access Rd (Exit 217)	683							\$10,000		\$10,000	Interstate Program (NHPP)
0025263	I-28 Widening & Interchange Improvements from near F-628 (Exit 212) to near Port Access Rd (Exit 217)								\$16,356		\$16,356	SC Transportation Infrastructure Bank
0025263	I-28 Widening & Interchange Improvements from near F-628 (Exit 212) to near Port Access Rd (Exit 217)		8,355 PE						\$191,056		\$191,056	Interstate Program (NHPP)
0025263	I-28 Widening & Interchange Improvements from near F-628 (Exit 212) to near Port Access Rd (Exit 217)								\$2,000		\$2,000	Interstate Program (NHPP)
0025263	I-28 Widening & Interchange Improvements from near F-628 (Exit 212) to near Port Access Rd (Exit 217)								\$138,412		\$138,412	SC Transportation Infrastructure Bank
0025263	I-28 Widening & Interchange Improvements from near F-628 (Exit 212) to near Port Access Rd (Exit 217)								\$12,500		\$12,500	National Highway Freight (NHF)
0025263	I-28 Widening & Interchange Improvements from near F-628 (Exit 212) to near Port Access Rd (Exit 217)								\$2,000		\$2,000	Interstate Program (NHPP)
0025263	I-28 Widening & Interchange Improvements from near F-628 (Exit 212) to near Port Access Rd (Exit 217)								\$1,500		\$1,500	Interstate Program (NHPP)
0025263	I-28 Widening & Interchange Improvements from near F-628 (Exit 212) to near Port Access Rd (Exit 217)								\$1,500		\$1,500	Interstate Program (NHPP)
0025263	I-28 Widening & Interchange Improvements from near F-628 (Exit 212) to near Port Access Rd (Exit 217)								\$1,500		\$1,500	Interstate Program (NHPP)
0025263	I-28 Widening & Interchange Improvements from near F-628 (Exit 212) to near Port Access Rd (Exit 217)								\$1,500		\$1,500	Interstate Program (NHPP)
0025263	I-28 Widening & Interchange Improvements from near F-628 (Exit 212) to near Port Access Rd (Exit 217)								\$1,500		\$1,500	Interstate Program (NHPP)
0025263	I-28 Widening & Interchange Improvements from near F-628 (Exit 212) to near Port Access Rd (Exit 217)								\$1,500		\$1,500	Interstate Program (NHPP)
0025263	I-28 Widening & Interchange Improvements from near F-628 (Exit 212) to near Port Access Rd (Exit 217)								\$1,500		\$1,500	Interstate Program (NHPP)
0025263	I-28 Widening & Interchange Improvements from near F-628 (Exit 212) to near Port Access Rd (Exit 217)								\$1,500		\$1,500	Interstate Program (NHPP)
0025263	I-28 Widening & Interchange Improvements from near F-628 (Exit 212) to near Port Access Rd (Exit 217)								\$1,500		\$1,500	Interstate Program (NHPP)
0025263	I-28 Widening & Interchange Improvements from near F-628 (Exit 212) to near Port Access Rd (Exit 217)								\$1,500		\$1,500	Interstate Program (NHPP)
0025263	I-28 Widening & Interchange Improvements from near F-628 (Exit 212) to near Port Access Rd (Exit 217)								\$1,500		\$1,500	Interstate Program (NHPP)
0025263	I-28 Widening & Interchange Improvements from near F-628 (Exit 212) to near Port Access Rd (Exit 217)								\$1,500		\$1,500	Interstate Program (NHPP)
0025263	I-28 Widening & Interchange Improvements from near F-628 (Exit 212) to near Port Access Rd (Exit 217)								\$1,500		\$1,500	Interstate Program (NHPP)
0025263	I-28 Widening & Interchange Improvements from near F-628 (Exit 212) to near Port Access Rd (Exit 217)								\$1,500		\$1,500	Interstate Program (NHPP)
0025263	I-28 Widening & Interchange Improvements from near F-628 (Exit 212) to near Port Access Rd (Exit 217)								\$1,500		\$1,500	Interstate Program (NHPP)
0025263	I-28 Widening & Interchange Improvements from near F-628 (Exit 212) to near Port Access Rd (Exit 217)								\$1,500		\$1,500	Interstate Program (NHPP)
0025263	I-28 Widening & Interchange Improvements from near F-628 (Exit 212) to near Port Access Rd (Exit 217)								\$1,500		\$1,500	Interstate Program (NHPP)
0025263	I-28 Widening & Interchange Improvements from near F-628 (Exit 212) to near Port Access Rd (Exit 217)								\$1,500		\$1,500	Interstate Program (NHPP)
0025263	I-28 Widening & Interchange Improvements from near F-628 (Exit 212) to near Port Access Rd (Exit 217)								\$1,500		\$1,500	Interstate Program (NHPP)
0025263	I-28 Widening & Interchange Improvements from near F-628 (Exit 212) to near Port Access Rd (Exit 217)								\$1,500		\$1,500	Interstate Program (NHPP)
0025263	I-28 Widening & Interchange Improvements from near F-628 (Exit 212) to near Port Access Rd (Exit 217)								\$1,500		\$1,500	Interstate Program (NHPP)
0025263	I-28 Widening & Interchange Improvements from near F-628 (Exit 212) to near Port Access Rd (Exit 217)								\$1,500		\$1,500	Interstate Program (NHPP)
0025263	I-28 Widening & Interchange Improvements from near F-628 (Exit 212) to near Port Access Rd (Exit 217)								\$1,500		\$1,500	Interstate Program (NHPP)
0025263	I-28 Widening & Interchange Improvements from near F-628 (Exit 212) to near Port Access Rd (Exit 217)								\$1,500		\$1,500	Interstate Program (NHPP)
0025263	I-28 Widening & Interchange Improvements from near F-628 (Exit 212) to near Port Access Rd (Exit 217)								\$1,500		\$1,500	Interstate Program (NHPP)
0025263	I-28 Widening & Interchange Improvements from near F-628 (Exit 212) to near Port Access Rd (Exit 217)								\$1,500		\$1,500	Interstate Program (NHPP)
0025263	I-28 Widening & Interchange Improvements from near F-628 (Exit 212) to near Port Access Rd (Exit 217)								\$1,500		\$1,500	Interstate Program (NHPP)
0025263	I-28 Widening & Interchange Improvements from near F-628 (Exit 212) to near Port Access Rd (Exit 217)								\$1,500		\$1,500	Interstate Program (NHPP)
0025263	I-28 Widening & Interchange Improvements from near F-628 (Exit 212) to near Port Access Rd (Exit 217)								\$1,500		\$1,500	Interstate Program (NHPP)
0025263	I-28 Widening & Interchange Improvements from near F-628 (Exit 212) to near Port Access Rd (Exit 217)								\$1,500		\$1,500	Interstate Program (NHPP)
0025263	I-28 Widening & Interchange Improvements from near F-628 (Exit 212) to near Port Access Rd (Exit 217)											

SCDOT 2015 Highway Improvement Safety Plan

2015 South Carolina Highway Safety Improvement Program



NT	roundabout	ers			n 148)	Arterial			Agency		
US 17 INTERSEC. IMPROVEMENTS	Intersection geometry Intersection geometry - other	1 Numbers	661600	661600	HSIP (Section 148)	Urban Principal Arterial - Other	513	0	State Highway Agency	Intersections	
S- 529 INTERSEC. IMPROVEMENT	Intersection traffic control Intersection traffic control - other	1 Numbers	129042.04	129042.04	HSIP (Section 148)	Urban Principal Arterial - Other	164	0	State Highway Agency	Intersections	
RUMBLE STRIPS ON VARIOUS ROUTES IN DISTRICT 5	Roadway Rumble strips - edge or shoulder	320.66 Miles	62406.04	62406.04	HSIP (Section 148)	Varies	0	0	State Highway Agency	Roadway Departure	
HFSC on Various Routes (I-20, I-26, & I-77)	Roadway Pavement surface - high friction surface	8 Numbers	96000	96000	HSIP (Section 148)	Varies	0	0	State Highway Agency	Roadway Departure	
SC 24 INTERSEC. IMPROVEMENTS	Intersection geometry Intersection geometrics - modify skew angle	1 Numbers	223007.51	223007.51	HSIP (Section 148)	Rural Principal Arterial - Other	121	0	State Highway Agency	Intersections	
S- 955 INTERSEC. IMPROVEMENT	Alignment Horizontal curve realignment	1 Numbers	23763.14	23763.14	HSIP (Section 148)	Urban Major Collector	381	0	State Highway Agency	Intersections	

US 278 (Beaufort County)

LATS 2040 Long Range Transportation Plan

LATS 2040 Long Range Transportation Plan
Roadway Corridor Prioritization

Project ID	Spot/Corridor	Type	Source	Location	Congestion Mitigation	Liability / Complete Streets	Barriers to Mobility	Multimodal Integration	Economic Vitality / Tourism	Environmental Stewardship	Consistency with Comprehensive Plans	Financial Viability	Total Score
C-5	Corridor	ITS/Access Management	SC 170/US 278 Corridor Study; N Beaufort City Plan	SC 170 from US 278 to US 21 Bus	15	10	18	5	15	5	Yes	3	71
C-18	Corridor	ITS/Access Management	Kimley-Horn - congestion	SC 315 / SC 46 from SC 170 to Pin Oak St	15	10	19	5	15	5	Yes	0	69
C-19	Corridor	Bridge Widening and related improvements	Bfirt City Comp Plan, US 278 Long Term Needs Study	US 278 from Buckingham Plantation Dr to Square Pope Rd	25	10	14	5	15	0	Yes	9	74
C-22	Corridor	ITS/Access Management	Beaufort County Comprehensive Plan	US 278 / US 278 Bus in Hilton Head Island	15	10	18	5	10	5	Yes	0	63
C-1	Corridor	ITS/Access Management	Kimley-Horn - congestion	SC 802 from US 21 to Brickyard Point Rd / Holly Hall Rd	5	10	19	5	10	10	Yes	0	59
C-21	Corridor	ITS/Access Management	Kimley-Horn - congestion	SC 315 / SC 46 from US 17 to SC 170	15	10	15	5	5	5	Yes	0	55
C-8	Corridor	ITS/Access Management	Vision Beaufort	Ribaut Rd (US 21 / SC 281) from Lenora Rd to US 21 Bus	5	10	19	5	5	10	Yes	0	54
C-7	Corridor	ITS/Access Management	Northern Beaufort County Plan	US 21 from Mink Point Blvd to SC 170	5	10	15	5	10	5	Yes	3	53
C-4	Corridor	ITS/Access Management	Kimley-Horn - congestion	Joe Frazier Rd from SC 116 to Broad River Blvd	5	10	16	5	10	5	Yes	0	51
C-12	Corridor	ITS/Access Management	Beaufort County Comprehensive Plan	Back Island Rd from Bluffton Pkwy to US 278	5	10	18	5	0	10	Yes	3	51
C-23	Corridor	Roadway Widening	Kimley-Horn - congestion	SC 315 / SC 46 from US 17 to SC 170	10	10	15	5	5	5	Yes	0	50
C-9	Corridor	Roadway Widening	Kimley-Horn - congestion	Argent Blvd from US 278 to SC 170	10	5	14	0	15	5	Yes	0	49
C-10	Corridor	Roadway Widening	Kimley-Horn - congestion	US 278 from I-95 to Argent Blvd	10	10	9	5	5	5	Yes	0	46
C-11	Corridor	Roadway Widening	H'ville 2009 Comp Plan	US 321 from US 17 to Honey Hill Rd	0	5	20	0	5	10	Yes	3	43
C-16	Corridor	Roadway Widening	H'ville 2009 Comp Plan	I-95 from Georgia line to US 278	10	5	12	0	15	0	Yes	0	42
C-2	Corridor	New Location	Boundary Street Master Plan, Civic Master Plan	From S-281 to S-167	15	5	10	0	5	0	Yes	0	35
C-15	Corridor	New Location	Bluffton Parkway Phases 6 & 7	from Bluffton Pkwy to SC 46	0	5	10	0	10	5	Yes	3	33
C-20	Corridor	New Location	Kimley-Horn - connectivity	Stroop Lane extension from Burnt Church Rd to Buckingham Plantation Dr	0	5	10	0	10	5	Yes	0	30
C-13	Corridor	New Location	Bluffton Pkwy Access Mgmt Plan, Phase 98	Bluffton Pkwy from Buckwalter Pkwy to Buck Island Rd	0	10	10	5	0	5	Yes	0	30
C-3	Corridor	New Location	Civic Master Plan	From US 21 to S-73	0	5	10	0	5	5	Yes	5	30
C-24	Corridor	Roadway Widening	lowcountry LRTP	US 17 from Georgia line to SC 170	0	10	9	5	5	0	Yes	0	29
C-14	Corridor	New Location	Bluffton Parkway Phases 6 & 7	Bluffton Pkwy from Riverport Pkwy to SC 170	0	5	10	0	10	0	Yes	0	25
C-6	Corridor	New Location	Civic Master Plan	From Myrtle St to Reynolds St	0	5	10	0	5	0	Yes	3	23
C-17	Corridor	New Location	H'ville 2009 Comp Plan	from SC 170 to US 321	0	5	10	0	0	0	Yes	0	15



2017 – 2024 LATS Transportation Improvement Plan



Project Description	County	Federal Program	FY 2017 Planned	FY 2018 Planned	FY 2019 Planned	FY 2020 Planned	FY 2021 Planned	FY 2022 Planned	FY 2023 Planned	FY 2024 Planned	2017-2024 Project Cost	Remaining Cost	
Outfalls													
System Upgrade													
US 17 (Georgia State Line to SC 315), Widening- LATS urban portion	Jasper	STDFP				13,253 CON					13,253		
US 17 (Georgia State Line to SC 315), Widening- LOGG rural portion	Jasper	STDFP		500 RW		36,182 CON					36,682		
US 278 Corridor Improvements from Buckingham Plantation Dr to Squire Pope Rd, including replacement of the Ed Mackay Creek Bridge, intersection improvements on Pitkey Island and improvements to Jenkins Island	Seaford	NRP		2000 PE							2,000		
Outfalls Project Subtotal				2,500		49,435					51,935		
Sublet/Lease			1,375	1,306	1,342	1,005	1,007	375	0	0			
Sublet/Lease/Rebate			4,625	4,625	4,625	4,625	4,625	4,625	4,625	4,625			
Sublet/Lease/Rebate/Fuel						995	4,781	0	0	0			
Sublet/Lease/Rebate/Fuel/Fleet								4,247				1,130	
Other			9,145	12,363	0	0	0	0	0	0			
Non-Outfalls													
Bridges													
I-95 SB over SC 460 Bridge Replacement	Jasper	STP	1,100 PE					13,300			14,400		
I-95 SB over Bagshaw Swamp Bridge Replacement	Jasper	STP	1,300 PE					4,300			5,600		
Widening of US 278 from 4 to 6 lanes from Buckingham Plantation Dr to Squire Pope Rd, including replacement of the Ed Mackay Creek Bridge, intersection improvements on Pitkey Island and improvements to Jenkins Island	Seaford	NRP		2,000 PE		5,900 PE	500 RW			240,000 C	250,443,450		
		LOC		2543 PE									
Bridge Project Subtotal			2,400	4,643,450		5,900	500	17,600		240,000	270,432,450	0	
Safety													
Section 1 Corridor Improvement-US 278 Near Jasper County Line to S-70 (Spanish Wells Road)	Seaford	HGP	100 PE					500 CON			600		
Intersection Improvements/ SC 201 and Reynolds Street	Seaford	HGP	150 PE		50 RW	350 CON					550		
US 17 (Georgia State Line to SC 315) (P003R15)	Jasper	HGP				1,000 CON					1000		
Tree Clearing I-95 MP 0.00- MP 33.9	Jasper	HGP	11,000 CON								11,000		
Safety Program Subtotal			11,500	1,000	50	1,350	35	500			13,150		
Preventative and Maintenance Operations													
Signal System Program	Seaford	STDFP		600							600		
Signal Upgrade Program	Seaford	STDFP	360								360		
Signal Upgrade Program	Jasper	STDFP	90								90		
PMD Subtotal			450	600							1,050		
Public Transit													
Seaford County Double Island Ferry Service	Seaford	SMTF	200 AD	200 AD	200 AD						600		
Seaford County (SND) Mass Transit Project FTA Section 5310 Purchase of Service for FY 2017 FTA Section 5310 Rural for FY 17 Vehicle Replacement	Seaford	5310	50 VA		50 PS						100		
Lowcountry Regional Transportation Authority		5311-R	803 OP	1,338 OP	1,338 OP						3481		
		5310-R	50 CA	40 CA							90		
		5339-R	116 CA	530 VA							646		
		5307-SU	246 AD	230 AD	237 AD	280 AD					493		
			400 PL	125 PL	112 PL							537	
			381 OP	440 OPS	221 OPS	500 OP						1,542	
Public Transit Subtotal			8,195	1,896	1,126	1,199					13,167		
Interstates													
Widening on I-95 beginning at the Georgia State Line and ending at US-17 (Ridgeland) (North) Exit 33	Jasper				1,000 PL						1,000		
Interstates Subtotal					1,000						1,000		
State Infrastructure Bank													
New Interchange/ Exit 3	Jasper	SB	3,900 PE								3,900		
State Infrastructure Bank Subtotal			3,900								3,900		

2016 Interstate/NHS Bridge Replacement Priority List



<u>Rank</u>	<u>County</u>	<u>Route</u>	<u>Crossing</u>
2016-1	Orangeburg	US 301	NORTH EDISTO RIVER
2016-2	Beaufort	US 278 EBL	MACKAY CREEK
2016-3	Kershaw	US 521	BIG PINE TREE CREEK
2016-4	Richland	US 76	U.S. 601
2016-5	Richland	US 21	SOU & S C L RR (BLOSSOM)
2016-6	Orangeburg	US 301 NB	SNAKE SWAMP
2016-7	Richland	SC 277 NB	I-77
2016-8	Lexington	US 378	TWELVE MILE CREEK
2016-9	Lexington	US 1	I-20
2016-10	Kershaw	I-20 WB	WATEREE SWP OVERFLOW (2)
2016-11	Lexington	I-26	SOUTHERN RWY (NO. 1)
2016-12	Jasper	I-95 SB	BAGSHAW SWAMP
2016-13	Aiken	I-20 EB	S-980 & ABANDOND RR
2016-14	Richland	I-26	C.N. AND L. RAILROAD
2016-15	Kershaw	I-20 EB	WATEREE SWP OVERFLOW (2)
2016-16	Lexington	I-26	US 1
2016-17	Aiken	I-20 WB	S-980 & ABANDOND RR
2016-18	Lexington	I-26	SC 302

SCDOT Commission approval date - May 19, 2016

Woodruff Road Congestion
Relief Project
(Greenville County)

GPATS 2035 Long Range Transportation Plan

Table 1: GPATS Highway Projects

		County	Project Name	Termini	Project Scope	Score	Project Length (MI)	Total Project Cost (\$k)
1	L RTP, New	Greenville	Woodruff Road Parallel	Verdae to Miller	New 4-lane Divided Parkway	58	1.45	\$27,200
2	L RTP	Greenville	Woodruff Road	Woodruff Industrial to Smith Hines	7 lane	54	1.44	\$31,900
3	L RTP, New	Anderson	SC-153	US-123 to I-85	LTLs and functional Improvements	52	6.30	\$10,680
4	L RTP	Anderson	SC 153	Three Bridges Road to I-85	6 lane divided	52	2.00	\$10,250
5	L RTP	Greenville	Grove Road	White Horse Rd. (US 25) to Faris Rd.	3 lane and 5 lane	45	1.30	\$10,400
6	L RTP	Pickens	Farrs Bridge Road	Groce Road to Hamburg Road	4 lane with median	45	3.50	\$26,400
7	L RTP	Pickens	SC 8	St Paul Rd to SC 135	3 lane	44	4.20	\$18,200
8	L RTP, New	Anderson	US 29	I-85 to Brezeale/Cheddar	Widen; bridge clearance at Cherokee	44	1.54	\$7,550
9	L RTP, New	Greenville	Howell Road	E. North to Edwards	3/5 Lanes	43	0.97	\$7,850
10	L RTP	Greenville	Park Woodruff Ext	Carolina Point to Miller Rd	New 2 lane Secondary	43	0.60	\$4,950
11	L RTP	Greenville	Miller Road	Woodruff Rd to Old Mill Rd	Improved 2 lane	41	2.65	\$5,120
12	L RTP	Greenville	Fairview Road	Harrison Bridge to SC 418	Improved 2 lane	41	3.10	\$6,700
13	L RTP	Greenville	Conestee Road	Mauldin Rd to Fork Shoals	3 lane	40	1.50	\$6,000
14	L RTP, New	Greenville	Harrison Bridge Road	Fairview to Neely Ferry	5 lanes	39	1.20	\$8,600
15	L RTP	Greenville	Verdae Point Drive	Verdae to Carolina Point	New 2 lane Secondary	39	0.85	\$6,150



2021 – 2026 GPATS Transportation Improvement Plan

GPATS TRANSPORTATION IMPROVEMENT PROGRAM - FY 2021-2026 FINANCIAL STATEMENT											
Amendment/Correction Version AC #0A											
TIP Approved 05/18/2020 | AC #0A Approved 05/19/2020											
TIP											
(COST IN THOUSANDS)		FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	TIP COST (2021-2026)		
	GUIDESHARE ALLOCATION	\$18,078	\$18,078	\$18,078	\$18,078	\$18,078	\$18,078	\$18,078	\$108,468		
	DEBT SERVICE	(\$2,402)	(\$2,407)	(\$420)	(\$420)	\$0	\$0	\$0	(\$3,249)		
	SCOTT SIGNAL RETIERS	(\$152)	(\$152)	(\$152)	(\$152)	(\$900)	(\$900)		(\$2,256)		
	ALLOCATION AVAILABLE FOR PROJECTS	\$15,524	\$15,521	\$17,506	\$17,506	\$17,178	\$17,178	\$18,078	\$102,972		
	CARRYOVER AVAILABLE FROM PREVIOUS FY	\$20,293	\$10,969	\$ 6,831	\$ 12,240	\$ 13,798	\$ 9,726	\$24,899			
	GUIDESHARE SUBTOTAL	\$ (24,852)	\$ (15,859)	\$ (11,902)	\$ (15,950)	\$ (21,262)	\$ (2,005)	\$ (1,800)	(\$72,764)		
	SCOTT GUIDESHARE ADVANCEMENT										
	GUIDESHARE PAYBACK										
	BALANCE	20,293	10,969	6,831	12,240	13,798	9,728	24,899	41,177		

FY20-26 GUIDESHARE SUMMARY												
										REVENUES	ALLOCATION	\$108,468
											CARRYOVER	\$20,293
										EXPENDITURES	PROJECTS	(\$72,764)
											DEBT	(\$3,246)
											OTHER	(\$2,250)
										BALANCE		\$41,177

KEY: P- PRELIMINARY ENGINEERING, R- RIGHT OF WAY, C- CONSTRUCTION, CA- CAPITAL PURCHASE, PL- PLANNING AND FEASIBILITY
 * - IDENTIFIED IN THE INTERSTATE LONG RANGE PLAN FOR DESIGN PLANS ONLY
 ** - ENVIRONMENTAL TO BE COMPLETED FOR PHASES 1 & 2 (Vehicle to Mileston)
 *** - Projects to be merged with L&S @ I-385 Design/Build
 **** - Projects may be combined for cost saving, if possible.

PIN #	Priority	GUIDESHARE PROJECTS	Previous Obligations	TIP							TIP COST (2021-2026)	REMAINING COST (2027+)	FUNDING	
				FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026				
Road Improvement Projects Currently in the TIP with Updated Schedule and Cost Estimates														
		DEBT SERVICE	\$ 67,548	\$2,402	\$2,407	\$420	\$420						DTBSP	
		DC 183 INTERSECTION IMPROVEMENTS	1,548										Fully Obligated	DTBSP
37728RD01	2629	ALEX RD	1,548										Fully Obligated	DTBSP
37728RD02		JIM HUNT RD	2,543										Fully Obligated	DTBSP
37728RD03		JAMESON RD	100		109	R		2,000	C					
		BATESVILLE ROAD (D-164)	1,650	P										DTBSP
37666RD01	17	SC 14 TO ROPER MOUNTAIN RD (THREE LANES WITH MEDIAN, BIKE LANES, SIDEWALK NORTH OF PELHAM FALLS DRIVE)	2,300	R	6,500	C								DTBSP
		SC 123 EXTENSION	4,800	P										DTBSP
39309RD02	27	US 123 TO DALUDA DAM ROAD (TWO LANES, LIMITED ACCESS, LEFT TURN LANES, 2 FT PAVED SHOULDERS)	2,078	R	24,000	C							Fully Obligated	DTBSP
		WOODRUFF ROAD (D-148)	750	P										DTBSP
39460RD01	6	IMPROVEMENTS FROM NEAR SCUFFLETOWN RD (D-23146) TO BENNETTS BRIDGE (D-296) WITH IMPROVEMENTS TO INTERSECTIONS	1,500	R	5,000	C								DTBSP
		ROPER MOUNTAIN EXTENSION (D-247)	1,550	P										DTBSP
304147RD01	6	PELHAM ROAD TO ROPER MOUNTAIN ROAD (THREE LANES, BIKE LANES, AND SIDEWALK ON ONE SIDE)	1,300	R	4,300	C	5,000	C				\$5,500		DTBSP

I-77 @ Exit 82 (Celanese/Cherry
Road) Interchange
York County

RFATS 2045 Long Range Transportation Plan



Table 4.1 – Federally Funded Projects in the 2045 LRTP

Project ID	Project Description	Funding Source	Cost (millions)	Length (miles)	Horizon Year
1	Improve I-77 Interchange at SC 160	Guideshare	\$24.8	-	2025
2	Widen SC 160 from Rosemont-McMillan to Springfield Parkway (SC 460) from 3 to 5 lanes	Guideshare	\$25.8	2.1	2035
3	Improve I-77 interchange at Anderson Road (SC 5/US 21)	Guideshare	\$5.2	-	2025
4	Widen SC 160 from 4 to 6 lanes from US 21 to Sutton Road	Guideshare	\$8.8		2025
5	Improve I-77 Interchange at Celanese Road (SC 161) and Cherry Road (US 21) (Exits 82 A, B & C)	Guideshare	\$62.1	-	2025
6	Widen Cel-River/Red River Road to 5 lanes from Eden Terrace (S-645) to Dave Lyle Boulevard (SC 122)	Guideshare	\$46.2	0.9	2025
-	System Improvement Projects (Bridge Replacements, Safety, Road Widening, Interstate Program)	FHWA, SCDOT	\$19.0	-	Throughout
-	CMAQ (Congestion Mitigation & Air Quality Improvement Program)	FHWA, SCDOT	\$5.2	-	Throughout
-	TAP (Transportation Alternatives Program)	FHWA, SCDOT, Local	\$4.0	-	Throughout
Total			\$201.1		

2017 – 2022 RFATS Transportation Improvement Plan

RFATS FINANCIAL STATEMENT															
											Approved 6-19-20				
GUIDESHARE PROJECTS	TRAFFIC COUNTS	FY 2014 - 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	TIP COST 2017 - 2022	REMAINING COST	FUNDING				
SC 160 I-177 INTERCHANGE RECONFIGURATION (4 TO 6 LANE WIDENING FROM IUS 21 TO SUITON ROAD)	29,200	\$3,070,261	PE						\$1,000,000	R		\$1,000,000	\$30,400,000	STP	
EXIT 82 A, 82B, 82C (I-177 INTERCHANGE RECONFIGURATION) (***) REFLECTS \$4.3M ADVANCE IN GUIDESHARE FROM FY 17****)	47,200	\$4,000,000	PE						\$2,000,000	R		\$2,000,000	\$56,100,000	STP	
SC 160 WIDENING PROJECT (PHASE II) (S-157 TO YORK COUNTY LINE) (\$8,400,000 C from CRCOG) (**\$2,851,850 in non-guideshare local funding provided by Lancaster County Water and Sewer District in 2017)	16,400	\$25,408	PE	\$2,851,850**	C	\$600,000	ROW					\$15,017,457		STP	
DEL-RIVER WIDENING PROJECT (PHASE I) (US 21 TO 0.100 MILES NORTH OF S-945)	12,200	\$8,425,000	C											STP	
US 521 / MARVIN ROAD INTERSECTION IMPROVEMENT PROJECT	27,700/10,000	\$300,000	PE			\$462,400	R		\$2,842,954	C		\$3,335,354		STP	
CARROWING / PLEASANT ROAD INTERSECTION IMPROVEMENT PROJECT (COST \$2.1 M) (\$1.5M CMAQ FUNDING) (9000' GS)	39,000 / 13,000	\$250,000	PE			\$350,000	R					\$350,000		STP	
INDIA HOOK / CELANESE ROAD INTERSECTION IMPROVEMENT PROJECT (COST \$7.9M) (\$8M CMAQ FUNDING) (\$1.425 M GS)	21,500 / 42,500	\$560,000	PE	\$540,000	P			\$525,000	R			\$1,065,000	\$5,000,000	STP	
RIVERVIEW / RIVERCHASE INTERSECTION IMPROVEMENT 20% RESURFACING / INTERSECTION REQUIREMENT (\$2,450 M CMAQ)	47,200			\$1,956,500	C							\$1,956,500		STP	
DAM ROAD SEBEWALK PROJECT (Stonestret Blvd to Coralbell Way) (\$140,000 in TAP Funding FY 19) (Local Component of Guideshare = \$55,419)	4,500					\$342,097	C					\$342,097		STP	
DEBT SERVICE		\$3,681,000	\$1,234,000	\$1,216,000	\$1,198,000	\$842,925	\$844,262	\$180,266				\$5,515,453			
ADVANCEMENT PAYBACK				\$238,000	\$1,291,000							\$1,529,000			
GUIDESHARE PROJECT SUBTOTALS		\$8,425,667	\$15,557,457	\$1,956,500	\$1,709,497	\$5,842,954	\$5,844,262	\$180,266				\$25,066,408			
DEBT SERVICE SUBTOTAL		\$1,125,000	\$1,234,000	\$1,216,000	\$1,198,000	\$842,925	\$844,262	\$180,266				\$5,515,453			
7% GUIDESHARE REDUCTION SUBTOTAL															
EMMA'S LAW SUBTOTAL															
PROGRAM UNDERRUNS FROM PROGRAM CONTROLS UNIT		(\$328,000)													
GUIDESHARE SUBTOTAL		\$9,550,667	\$16,791,457	\$3,410,500	\$4,198,497	\$842,925	\$6,687,216	\$180,266				\$32,110,861			
GUIDESHARE ALLOCATION		\$6,035,144	\$6,035,144	\$6,035,144	\$6,035,144	\$6,035,144	\$6,035,144	\$6,035,144				\$36,210,864			
GUIDESHARE FUNDING TRANSITIONED FROM CRCOG (2016)		\$9,400,000													
UNCOMMITTED GUIDESHARE (CARRYOVER)		\$2,652,000	2015	\$7,864,477	2016	(\$1,382,836)	2017	\$1,261,808	2018	\$3,068,455	2019	\$8,280,674	2020	\$7,638,002	2021
GUIDESHARE ADVANCEMENT				\$1,529,000											
GUIDESHARE SUBTOTAL		(\$9,222,867)	(\$10,791,457)	(\$3,410,500)	(\$4,198,497)	(\$842,925)	(\$6,687,216)	(\$180,266)							
BALANCE		\$7,864,477	(\$1,382,836)	\$1,261,808	\$3,068,455	\$8,280,674	\$7,638,002	\$13,463,480							



I-77 @ Exit 85 (SC 160)
Interchange
York County

RFATS 2045 Long Range Transportation Plan



Table 4.1 – Federally Funded Projects in the 2045 LRTP

Project ID	Project Description	Funding Source	Cost (millions)	Length (miles)	Horizon Year
1	Improve I-77 Interchange at SC 160	Guideshare	\$24.8	-	2025
2	Widen SC 160 from Rosemont-McMillan to Springfield Parkway (SC 460) from 3 to 5 lanes	Guideshare	\$25.8	2.1	2035
3	Improve I-77 interchange at Anderson Road (SC 5/US 21)	Guideshare	\$5.2	-	2025
4	Widen SC 160 from 4 to 6 lanes from US 21 to Sutton Road	Guideshare	\$8.8		2025
5	Improve I-77 Interchange at Celanese Road (SC 161) and Cherry Road (US 21) (Exits 82 A, B & C)	Guideshare	\$62.1	-	2025
6	Widen Cel-River/Red River Road to 5 lanes from Eden Terrace (S-645) to Dave Lyle Boulevard (SC 122)	Guideshare	\$46.2	0.9	2025
-	System Improvement Projects (Bridge Replacements, Safety, Road Widening, Interstate Program)	FHWA, SCDOT	\$19.0	-	Throughout
-	CMAQ (Congestion Mitigation & Air Quality Improvement Program)	FHWA, SCDOT	\$5.2	-	Throughout
-	TAP (Transportation Alternatives Program)	FHWA, SCDOT, Local	\$4.0	-	Throughout
Total			\$201.1		

2017 – 2022 RFATS Transportation Improvement Plan

RFATS FINANCIAL STATEMENT																
GUIDESHARE PROJECTS	TRAFFIC COUNTS	FY 2014 - 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	TIP COST 2017 - 2022	REMAINING COST	FUNDING					
SC 160 I-177 INTERCHANGE RECONFIGURATION (4 TO 6 LANE WIDENING FROM IUS 21 TO SUITON ROAD)	29,200	\$3,070,261	PE				\$1,000,000	R		\$1,000,000	\$30,400,000	STP				
EXIT 82 A, 82B, 82C (I-177 INTERCHANGE RECONFIGURATION) (***) REFLECTS \$4.3M ADVANCE IN GUIDESHARE FROM FY 17****)	47,200	\$4,000,000	PE				\$2,000,000	R		\$2,000,000	\$56,100,000	STP				
SC 160 WIDENING PROJECT (PHASE II) (S-157 TO YORK COUNTY LINE) (\$8,400,000 C from CRCOG) (\$2,851,850** in non-guideshare local funding provided by Lancaster County Water and Sewer District in 2017)	16,400	\$25,408	PE	\$2,851,850**	C	\$600,000				\$15,017,457		STP				
DEL-RIVER WIDENING PROJECT (PHASE I) (US 21 TO 0.100 MILES NORTH OF S-945)	12,200	\$8,425,000	C									STP				
US 521 / MARVIN ROAD INTERSECTION IMPROVEMENT PROJECT	27,700/10,000	\$300,000	PE			\$462,400	R		\$2,842,954	C	\$3,335,354	STP				
CARROWING / PLEASANT ROAD INTERSECTION IMPROVEMENT PROJECT (COST \$2.1 M) (\$1.5M CMAQ FUNDING) (9000' GS)	39,000 / 13,000	\$250,000	PE			\$350,000	R				\$350,000	STP				
INDIA HOOK / CELANESE ROAD INTERSECTION IMPROVEMENT PROJECT (COST \$7.9M) (\$6M CMAQ FUNDING) (\$1.925 M GS)	21,500 / 42,500	\$560,000	PE	\$540,000	P		\$525,000	R			\$1,065,000	\$5,000,000	STP			
RIVERVIEW / RIVERCHASE INTERSECTION IMPROVEMENT 20% RESURFACING / INTERSECTION REQUIREMENT (\$2,459 M CMAQ)	47,200			\$1,956,500	C						\$1,956,500	STP				
DAM ROAD SEBEWALK PROJECT (Stonestrest Blvd to Coralbell Way) (\$140,000 in TAP Funding FY 19) (Local Component of Guideshare = \$55,419)	4,500						\$342,097	C			\$342,097	STP				
DEBT SERVICE		\$3,681,000	\$1,234,000	\$1,216,000	\$1,198,000	\$842,925	\$844,262	\$180,266			\$5,515,453					
ADVANCEMENT PAYBACK				\$238,000	\$1,291,000						\$1,529,000					
GUIDESHARE PROJECT SUBTOTALS		\$8,425,667	\$15,557,457	\$1,956,500	\$1,709,497		\$5,842,954				\$25,066,408					
DEBT SERVICE SUBTOTAL		\$1,125,000	\$1,234,000	\$1,216,000	\$1,198,000	\$842,925	\$844,262	\$180,266			\$5,515,453					
7% GUIDESHARE REDUCTION SUBTOTAL																
EMMA'S LAW SUBTOTAL																
PROGRAM UNDERRUNS FROM PROGRAM CONTROLS UNIT		(\$328,000)														
GUIDESHARE SUBTOTAL		\$9,550,667	\$16,791,457	\$3,410,500	\$4,198,497	\$842,925	\$6,687,216	\$180,266			\$32,110,861					
GUIDESHARE ALLOCATION		\$6,035,144	\$6,035,144	\$6,035,144	\$6,035,144	\$6,035,144	\$6,035,144	\$6,035,144			\$36,210,864					
GUIDESHARE FUNDING TRANSITIONED FROM CRCOG (2016)		\$9,400,000														
UNCOMMITTED GUIDESHARE (CARRYOVER)		\$2,652,000	2015	\$7,864,477	2016	(\$1,382,836)	2017	\$1,261,808	2018	\$3,068,455	2019	\$8,280,674	2020	\$7,638,002	2021	
GUIDESHARE ADVANCEMENT				\$1,529,000												
GUIDESHARE SUBTOTAL		(\$9,222,667)	(\$10,791,457)	(\$3,410,500)	(\$4,198,497)	(\$842,925)	(\$6,687,216)	(\$180,266)								
BALANCE		\$7,864,477	(\$1,382,836)	\$1,261,808	\$3,068,455	\$8,280,674	\$7,638,002	\$13,463,480								

I-95 @ Exit 5 Interchange

Jasper County

LATS 2040 Long Range Transportation Plan

LATS 2040 Long Range Transportation Plan
Intersection and Interchange Prioritization



Project ID	Type	Location	Congestion Mitigation	Livability / Complete Streets	Barriers to Mobility	Multimodal Interaction	Economic Vitality / Tourism	Environmental Stewardship	Consistency with Comprehensive Plans	Financial Viability	Total Score
S-6	Interchange	US 278 and SC 170	0	10	35	5	10	10	Yes	0	70
S-11	Interchange	I-95 and Riverport Pkwy	10	5	20	0	10	10	Yes	0	55
S-5	Interchange	I-95 and US 278	0	10	5	5	10	10	Yes	0	40
S-9	Interchange	I-95 and US 17	0	10	5	5	5	10	Yes	0	35
S-8	Intersection	US 278 and Buck Island Rd	0	10	21	5	5	10	Yes	5	56
S-3	Intersection	US 21 and S-7-23	0	10	18	5	0	10	Yes	5	48
S-4	Intersection	US 278 and Argent Blvd	10	5	6	0	10	10	Yes	5	46
S-10	Intersection	US 278 and S-7-474 (Simmonsville Rd)	0	5	21	0	5	10	Yes	5	46
S-2	Intersection	US 21 and SC 802	0	10	12	5	0	10	Yes	5	42
S-12	Intersection	US 17 and SC 170	0	5	5	0	5	10	Yes	5	30
S-7	Intersection	US 321 and SC 46	0	5	8	0	0	10	Yes	5	28

2017 – 2024 LATS Transportation Improvement Plan

Project Description	County	Federal Program	FY 2017 Planned	FY 2018 Planned	FY 2019 Planned	FY 2020 Planned	FY 2021 Planned	FY 2022 Planned	FY 2023 Planned	FY 2024 Planned	2017-2024 Project Cost	Remaining Cost	
Outfalls													
System Upgrade													
US 17 (Georgia State Line to SC 315), Widening- LATS urban portion	Jasper	STDFP				13,253 CON					13,253		
US 17 (Georgia State Line to SC 315), Widening- LOGG rural portion	Jasper	STDFP		500 RW		36,182 CON					36,682		
US 278 Corridor Improvements from Buckingham Plantation Dr to Spinks Pope Rd, including replacement of the Old Mackay Creek Bridge, intersection improvements on Pitkin Island and improvements to Jenkins Island	Seaford	NRP		2000 PE							2,000		
Outfalls Project Subtotal				2,500		49,435					51,935		
Deliveries			1,375	1,306	1,342	1,005	1,007	375	0	0			
Sublettees/Retain			4,625	4,625	4,625	4,625	4,625	4,625	4,625	4,625			
Sublettees/Management						995	4,781	0	0	0			
Sublettees/Management/Retain								4,247				1,130	
Balance			9,145	12,362	0	0	0	0	0	0			
Non-Outfalls													
Bridges													
I-95 SB over SC 460 Bridge Replacement	Jasper	STP	1,100 PE					13,300			14,400		
I-95 SB over Bagshaw Swamp Bridge Replacement	Jasper	STP	1,300 PE					4,300			5,600		
Widening of US 278 from 4 to 6 lanes from Buckingham Plantation Dr to Spinks Pope Rd, including replacement of the Old Mackay Creek Bridge, intersection improvements on Pitkin Island and improvements to Jenkins Island	Seaford	NRP		2,000 PE		5,900 PE	500 RW			240,000 C	250,440,450		
		LOC		2543 PE									
Bridge Project Subtotal			2,400	4,643,450		5,900	500	17,600		240,000	270,432,450	0	
Safety													
Section 1 Corridor Improvement-US 278- Near Jasper County Line to S-70 (Spanish Wells Road)	Seaford	HGP	100 PE					500 CON			600		
Intersection Improvements/ SC 201 and Reynolds Street	Seaford	HGP	150 PE		50 RW	350 CON					550		
US 17 (Georgia State Line to SC 315) (POCS/HS)	Jasper	HGP				1,000 CON					1000		
Tree Clearing I-95 MP 0.00- MP 33.9	Jasper	HGP	11,000 CON								11,000		
Safety Program Subtotal			11,250	1,000	50	1,350	35	500			13,150		
Preventative and Maintenance Operations													
Signal System Program	Seaford	STDFP		600							600		
Signal Upgrade Program	Seaford	STDFP	360								360		
Signal Upgrade Program	Jasper	STDFP	90								90		
PMD Subtotal			450	600							1,050		
Public Transit													
Seaford County Ducklake Island Ferry Service	Seaford	SMTF	200 AD	200 AD	200 AD						600		
Seaford County (S/N) Mass Transit Project FTA Section 5310 Purchase of Service for FY 2017 FTA Section 5310 Rural for FY 17- Vehicle Replacement	Seaford	5310	50 VA		50 PS						100		
Lowcountry Regional Transportation Authority		5311-R	803 OP	1,338 OP	1,338 OP						3481		
		5310-R	50 CA	40 CA							90		
		5339-R	116 CA	530 VA							646		
		5307-SU	246 AD	230 AD	237 AD	280 AD					496		
			400 PL	125 PL	112 PL							537	
			381 OP	440 OPS	221 OPS	500 OP						1,542	
		6,024 CA	601 CA	280 CA	360 CA					7,065			
Public Transit Subtotal			8,195	1,896	1,126	1,199					13,167		
Interstates													
Widening on I-95 beginning at the Georgia State Line and ending at US-17 (Ridgeland) (North) Exit 33	Jasper				1,000 PL						1,000		
Interstates Subtotal					1,000						1,000		
State Infrastructure Bank													
New Interchange/ Exit 3	Jasper	SB	3,900 PE								3,900		
State Infrastructure Bank Subtotal			3,900								3,900		



Rural Interstate Freight Corridor Projects



Rank	Freight Corridor Designation	Begin	End	Length	Score
2018-1	I-26 M2N	Old Sandy Run Road/Exit 125	I-95/Exit 169	43 Mi.	836
2018-2	I-95 AB	GA State Line	US-17 (Ridgeland) (North)/Exit 33	33 Mi.	731
2018-3	I-26 O	I-95/Exit 169	Ridgeville Rd/Exit 187	18 Mi.	727
2018-4	I-85 A	GA State Line	US-76/SC-28/Exit 19	19 Mi.	722
2018-5	I-77 F	SC-9/Exit 65	US-21/Exit 77	12 Mi.	718



US 17/Septima Clark Parkway
Charleston County

2017 – 2022 CHATS Transportation Improvement Plan

FY2017-2022 TIF - Amendment 36 (06/16/2022)



PIN #	LOCALLY FUNDED PROJECTS	Previous Years	FFY 2017	FFY 2018	FFY 2019	FFY 2020	FFY 2021	FFY 2022	TIF COST (2017-2022)	REMAINING COST (2023+)	TOTAL PROJECT COST	FUNDING SOURCE	
	Newton Pkwy, Sheep Island Interchange (I-26), I-26 Widening (Inclusive of Newton Pkwy from N. Maple to Newton Elementary)	21,500 8,230 54,000 5,700									\$89,430	SC Transportation Infrastructure Bank SC Ports Authority BC T37 Local Funding	
	US 17 Seaford Clark Pkwy (End of I-26 to Ashley River Bridges)	10,000 15,000 12,500 118,800									\$155,300	SCDOT TIGER PROGRAM - LOCAL MATCH CITY OF CHARLESTON SCDOT FEDERAL MATCH PROGRAM INNOVATIVE FUNDING	
00339R020	Henry Brown Blvd Extension - Phase I Liberty Hall Rd to Red Bank Rd System Capacity Improvement	5,974 350 15,500 21,120									\$42,974	FEDERAL EARMARK BERKELEY COUNTY LOCALLY FUNDED TRANSP. SALES TAX	
	Henry Brown Blvd Extension - Phase II Liberty Hall Rd to US 52 Const. Additional Capacity Improvement	- -									\$2,000	BERKELEY COUNTY LOCALLY FUNDED TRANSPORTATION SALES TAX PROJECT	
	Mark Clark Expressway Completion US 17 to James Island Connector Const. Separate New Alignment Facility	12,000 37,671	49,529 C						\$49,529		\$69,000	SC Transportation Infrastructure Bank	
	Delemer Hwy (SC 165) Ashley River Rd (SC 611) to near Ashley Ridge Highschool Safety Improvement	500 12,200 2,250									\$15,250	SC Transportation Infrastructure Bank SC Transportation Infrastructure Bank Dorchester County School District	
	Airport Connector Road		508 P	1,441 P 836 R 1,200 C	1,302 P 4,104 R	885 P 2,650 R				\$43,190	\$43,190	SC Department of Commerce SC Department of Commerce Charleston County Transpo. Sales Tax SC Department of Commerce	
	Palmetto Commerce Interchange		1,488 P	2,254 P	789 P 2,400 R	9,800 R 14,720 C	10,773 C			\$53,308	\$53,308	Charleston County Revenue Bonds Charleston County Revenue Bonds Charleston County Transpo. Sales Tax Charleston County Revenue Bonds	
	Palmetto Commerce Phase III		472 P	2,202 P	2,875 P 7,659 R	1,731 P 26,042 R	14,720 C 787 P 30,837 R 10,100 C	7,360 C		\$130,920	\$185,440	Charleston County Transpo. Sales Tax Charleston County Revenue Bonds Charleston County Revenue Bonds Charleston County Transpo. Sales Tax Charleston County Revenue Bonds SC Department of Commerce	
	Maybank Hwy Improvement Phase I, II & III	4,100	2,800 C	5,000 C	3,100 C						\$10,000	\$10,000	Charleston Co. Sales Tax
P028111	SC 41 (US17 to Wando River Bridge)	-					2,000 C				\$2,000	\$2,000	Berkeley County Transportation Sales Tax
	LOCALLY FUNDED PROGRAM TOTAL	359,725	54,385	12,339	24,506	74,615	67,917	55,975	285,647	\$4,540	763,912		

*SCDOT is managing this project on behalf of Charleston County through a three-party agreement between SCDOT, 618, and Charleston County.

PIN #	SAFETEA-LU EARMARK PROJECTS	Previous Years	FFY 2017	FFY 2018	FFY 2019	FFY 2020	FFY 2021	FFY 2022	TIF COST (2017-2022)	REMAINING COST (2023+)	TOTAL PROJECT COST	FUNDING SOURCE
003024X	Railroad Ave Extension Berkeley County	990 716				12,300 C					\$12,300	Berkeley Co T37 Federal Earmark - \$1,334,700.77
003734R001	Port Access Rd Design/Build Project (Connecting to I-26) SAFETEA-LU # 419	8,200				13,000 C					\$21,200	Includes SCDOT Match
	Port Access Rd Design/Build Project (Connecting to I-26) SAFETEA-LU # 4872 *	10,000 318,544									\$328,544	SAFETEA-LU FEDERAL EARMARK, SC Ports
	SAFETEA-LU EARMARK PROJECTS TOTAL	338,656				\$ 13,635			\$ 13,635	\$ 352,685	Authority General Assembly SCDOT	

*SCDOT is managing this project on behalf of the SC Ports Authority through an intergovernmental agreement. Two funding allocations have been made by the SC General Assembly (\$1.0 million to SCDOT and \$197.2 million + interest to SCSPA).

2020

SOUTH CAROLINA STATEWIDE FREIGHT PLAN UPDATE



SOUTH CAROLINA DEPARTMENT
OF TRANSPORTATION

CONTENTS

1	Introduction.....	1
1.1	FAST Act and the South Carolina Statewide Freight Plan	1
1.2	Freight Transportation Goals and Objectives for South Carolina	3
1.3	Stakeholder Input	5
1.3.1	Survey Audience	6
1.3.2	Survey Structure	7
1.3.3	Respondent Demographics.....	7
1.3.4	Survey Highlights	7
1.3.4.1	Freight Infrastructure	7
1.3.4.2	Truck Parking	9
1.3.4.3	Freight Survey Interactive Map	10
1.4	Freight Advisory Committee / South Carolina Logistics Council.....	14
1.4.1	Purpose for the State Freight Advisory Committee	14
1.4.2	Duties and Responsibilities of the State Freight Advisory Committee	15
2	Freight Infrastructure, Conditions and The Statewide Freight Network.....	17
2.1	Interim National Multimodal Freight Network.....	17
2.2	Profile of South Carolina Freight Transportation Assets	18
2.2.1	Highway	18
2.2.1.1	Infrastructural Features.....	19
2.2.1.2	Interstates.....	21
2.2.1.3	Arterial	24
2.2.1.4	Collector.....	24
2.2.1.5	Bridges	24
2.2.1.6	Railroad Crossings.....	28
2.2.2	Rail	30
2.2.2.1	Class I	32
2.2.2.2	Short Line or Class III.....	33
	Aiken Railway Company, LLC (AIKR).....	33
	Carolina Piedmont (CPDR).....	33
	Greenville & Western Railway Company (GRLW)	33
	Lancaster and Chester Railway Company (LC)	33
	Palmetto Railways	33
	Pee Dee River Railway Corporation (PDRR)	34
2.2.3	Water	35
2.2.4	Air.....	38
2.2.5	Freight Transfer Facilities.....	41
2.3	Statewide Freight Network.....	41
2.3.1	National Highway Freight Network.....	41
2.3.1.1	Critical Rural and Urban Freight Corridors.....	43
2.3.2	Freight Movement in South Carolina.....	45
2.3.3	Freight Transportation Goals and Objectives for South Carolina	46
2.3.4	South Carolina Statewide Freight Network	46
2.3.4.1	Statewide Network Evaluation Criteria	47

2.3.4.2	Airports, Water Ports and Inland Port	47
2.3.4.3	Statewide Freight Network.....	47
2.3.4.4	Rail	48
2.3.5	Current Conditions of the Statewide Freight Network.....	50
2.3.5.1	Interstate System.....	50
3.1	Current Freight Trends.....	56
3.1.1	Overview.....	56
3.1.2	Freight Summary.....	57
3.1.3	Current Freight Flows	60
3.1.3.1	Truck Freight.....	60
3.1.3.2	Rail Freight.....	70
3.1.3.3	Port Freight.....	79
3.1.3.4	Air Freight	83
3.1.3.5	Pipeline Flows	85
3.1.4	Freight Growth.....	86
3.1.4.1	Truck Forecasts	87
3.1.4.2	Rail Forecast.....	91
3.1.4.3	Port Forecast.....	95
3.1.4.4	Air Freight Forecast.....	96
3.1.4.5	Pipeline Forecast.....	98
4	Freight Policy Review and Performance Measures.....	99
4.1	The National Focus on Freight	99
4.2	Framework for Freight Policy.....	100
4.2.1	Charting a Course to 2040: South Carolina’s Statewide Multimodal Plan.....	100
4.2.1.1	MTP Goals and Objectives	100
4.3	SCDOT Strategic Plan	101
4.4	Moving Ahead for Progress in the 21st Century (MAP-21) and Fixing America’s Surface Transportation (FAST) Act.....	101
4.4.1	FAST Act Statewide Freight Plans	103
4.5	Partnership and Coordination	103
4.5.1	Airports	103
4.5.2	Councils of Government	104
4.5.3	Economic Development Organizations and Chambers of Commerce.....	104
4.5.4	Freight Railroads.....	104
4.5.5	Metropolitan Planning Organizations.....	105
4.5.6	Other State Agencies	105
4.5.7	Professional Associations.....	105
4.5.8	South Carolina Ports Authority	105
4.5.9	Multijurisdictional Partnerships.....	106
4.6	A New Way to Look at Freight	106
4.6.1	Recognize the Multimodal Freight Transportation System	106
4.6.1.1	Potential Strategies.....	106
4.6.2	Approach Freight as a Mode in the SCDOT Project Prioritization Process	107
4.6.2.1	Act 275 and Potential Strategy	107
4.6.3	Dedication of a Flexible Funding Source for Freight Projects	108
4.7	Transportation Asset Management.....	109
4.7.1	SCDOT’s Strategic Plan goals.....	110
4.7.2	SCDOT’s 10-year Performance Strategies.....	110

4.8	Freight Strategies.....	111
4.8.1	Goal 1: Mobility and System Reliability	111
4.8.1.1	Guiding Principles:	112
4.8.1.2	Strategies:.....	112
4.8.2	Goal 2: Safety.....	113
4.8.2.1	Guiding Principles	114
4.8.2.2	Strategies.....	114
4.8.3	Goal 3: Infrastructure Condition	114
4.8.3.1	Guiding Principles	114
4.8.3.2	Strategies.....	115
4.8.4	Goal 4: Economic and Community Vitality	115
4.8.4.1	Guiding Principles	115
4.8.4.2	Strategies.....	116
4.8.5	Goal 5: Environmental	117
4.8.5.1	Guiding Principles	117
4.8.5.2	Strategies.....	117
4.8.6	Goal 6: Equity.....	117
4.8.6.1	Guiding Principles	117
4.8.6.2	Strategies.....	117
4.9	Freight Performance Measures	118
4.9.1	Freight Performance Measures for South Carolina	119
4.9.2	Details of Performance Measures	121
5	Economic Context of Freight Transportation in South Carolina.....	123
5.1	Importance of Meeting Supply Chain Needs	125
5.2	Modal Selection Process within the Supply Chain.....	125
5.3	Application of Criteria.....	126
5.3.1.1	Case Study of Modal Selection and Usage.....	127
6	Corridor Level Strategies and Continued Freight Planning	129
6.1	The Freight Planning Process.....	129
6.2	Corridor Level Strategies	129
6.3	Modal Shift Potential	131
6.4	Framework for Continuing Freight Planning.....	132
6.4.1	State Rail Plan	132
6.4.2	Long Range Statewide Multimodal Transportation Plan (SC MTP).....	132
6.4.3	Metropolitan Area Freight Plans.....	132
6.4.4	Plans for Adjacent States	132
6.4.5	Collaborative Planning Throughout Supply Chain	133
7	Freight Investment Planning	135
7.1	Funding for Freight Infrastructure	135
7.1.1	Administrative Structure of SCDOT.....	135
7.1.2	Funding Challenges	135
7.1.3	Freight Investment - Moving Forward	135
7.1.4	Federal Funding Sources.....	136
7.1.4.1	National Highway Freight Program (NHFP)	136
7.1.4.2	National Highway Performance Program (NHPP).....	136
7.1.5	State Funding Sources.....	137
7.1.5.1	State Highway Fund (SHF).....	137

7.1.5.2	Non-Federal Aid Highway Account (NFAHA)	137
7.1.5.3	Infrastructure Maintenance Trust Fund (IMTF)	137
7.1.5.4	C-Fund	137
7.1.5.5	South Carolina Transportation Infrastructure Bank (SCTIB)	137
7.1.5.6	Local and Non-Traditional Funding Sources	138
7.1.6	House Bill 3516 (Act 40)	139
7.1.7	State Funding Limitations on Freight	139
7.2	National Highway Freight Program Planning	140
7.2.1	Freight Investment Plan	140
APPENDIX A: SCDOT FREIGHT MOBILITY SURVEY		142
APPENDIX B: SCDOT FREIGHT MOBILITY SURVEY COMMENTS		150
APPENDIX C: CRITICAL URBAN & RURAL FREIGHT CORRIDORS		158
	Critical Urban Freight Corridors	160
	Critical Rural Freight Corridors	162
APPENDIX D: FINANCIAL INVESTMENT SUMMARY		164

LIST OF TABLES

TABLE 1-1: METHODS USED TO FIND TRUCK PARKING	9
TABLE 2-1: MILEAGE, BY CLASSIFICATION IN SOUTH CAROLINA (2018).....	19
TABLE 2-2: POSTED SPEED LIMITS, INTERSTATE AND OTHER LIMITED ACCESS, SOUTH CAROLINA.....	22
TABLE 2-3: LOAD RESTRICTION CATEGORIES.....	25
TABLE 2-4: RAILROAD CROSSINGS, BY FUNCTIONAL CLASSIFICATION	28
TABLE 3-1: SOUTH CAROLINA TOTAL FREIGHT TRAFFIC BY MODE AND DIRECTION (2016).....	59
TABLE 3-2: SOUTH CAROLINA TRUCK FREIGHT BY DIRECTION (2016)	60
TABLE 3-3: SOUTH CAROLINA TRUCK INBOUND FREIGHT BY MAJOR COMMODITIES (2016).....	63
TABLE 3-4: SOUTH CAROLINA TRUCK OUTBOUND FREIGHT BY MAJOR COMMODITIES (2016)	66
TABLE 3-5: SOUTH CAROLINA TRUCK THROUGH-STATE FREIGHT BY MAJOR COMMODITIES (2016)	69
TABLE 3-6: SOUTH CAROLINA TRUCK INTRASTATE FREIGHT BY MAJOR COMMODITIES (2016)	70
TABLE 3-7: SOUTH CAROLINA RAIL FREIGHT BY DIRECTION (2016)	70
TABLE 3-8: SOUTH CAROLINA RAIL INBOUND FREIGHT BY MAJOR COMMODITIES (2016).....	72
TABLE 3-9: SOUTH CAROLINA RAIL OUTBOUND FREIGHT BY MAJOR COMMODITIES (2016)	75
TABLE 3-10: SOUTH CAROLINA RAIL THROUGH-STATE BY MAJOR COMMODITIES (2016)	78
TABLE 3-11: SOUTH CAROLINA RAIL INTRASTATE BY MAJOR COMMODITIES (2016)	79
TABLE 3-12: SOUTH CAROLINA PORT FREIGHT BY DIRECTION (2016), EXCLUDING FOREIGN NON-NAFTA MOVEMENTS.....	80
TABLE 3-13: SOUTH CAROLINA PORT INBOUND FREIGHT BY MAJOR COMMODITIES (2016)	80
TABLE 3-14: SOUTH CAROLINA PORT OUTBOUND FREIGHT BY MAJOR COMMODITIES (2016)	81
TABLE 3-15: SOUTH CAROLINA PORT THROUGH FREIGHT BY MAJOR COMMODITIES (2016)	81
TABLE 3-16: SOUTH CAROLINA PORT INTRASTATE FREIGHT BY MAJOR COMMODITIES (2016).....	82
TABLE 3-17: SOUTH CAROLINA PORT TONNAGE DISCREPANCY SUMMARY (2016).....	82
TABLE 3-18: SOUTH CAROLINA AIR FREIGHT BY DIRECTION (2016)	83
TABLE 3-19: SOUTH CAROLINA AIR INBOUND FREIGHT BY MAJOR COMMODITIES (2016).....	84
TABLE 3-20: SOUTH CAROLINA AIR OUTBOUND FREIGHT BY MAJOR COMMODITIES (2016).....	84
TABLE 3-21: SOUTH CAROLINA AIR THROUGH FREIGHT BY MAJOR COMMODITIES (2016)	85
TABLE 3-22: SOUTH CAROLINA AIR INTRASTATE FREIGHT BY MAJOR COMMODITIES (2016).....	85
TABLE 3-23: SOUTH CAROLINA FREIGHT TON FORECAST BY MODAL DIRECTION (2016 AND 2040)	86
TABLE 3-24: SOUTH CAROLINA TRUCK FREIGHT TONNAGE AND VALUE BY YEAR AND DIRECTION.....	87
TABLE 3-25: SOUTH CAROLINA TRUCK FREIGHT TONNAGE FORECAST BY MAJOR COMMODITY (TONS)	88
TABLE 3-26: SOUTH CAROLINA TRUCK FREIGHT FORECAST – TONS, UNITS, AND VALUE BY COMMODITY (2040 UNITS).....	88
TABLE 3-27: SOUTH CAROLINA RAIL FREIGHT TONNAGE AND VALUE BY YEAR AND DIRECTION	91
TABLE 3-28: SOUTH CAROLINA RAIL TONNAGE FREIGHT FORECAST BY COMMODITY (2016, 2040).....	92
TABLE 3-29: SOUTH CAROLINA RAIL FREIGHT FORECAST – TONS, UNITS, AND VALUE BY COMMODITY.....	92
TABLE 3-30: SOUTH CAROLINA PORT FREIGHT TONNAGE AND VALUE BY YEAR AND DIRECTION	95
TABLE 3-31: SOUTH CAROLINA PORT FREIGHT TONNAGE FORECAST BY COMMODITY	96
TABLE 3-32: SOUTH CAROLINA AIR FREIGHT TONNAGE AND VALUE BY YEAR AND DIRECTION.....	97
TABLE 3-33: SOUTH CAROLINA AIR FREIGHT TONNAGE FORECAST BY COMMODITY (2016, 2040)	97
TABLE 4-1: ACT 114 REQUIRED PROJECT PRIORITIZATION CATEGORIES.....	107
TABLE 4-2: MOBILITY AND SYSTEM RELIABILITY GOAL.....	120
TABLE 4-3: SAFETY GOAL	120
TABLE 4-4: INFRASTRUCTURE CONDITION GOAL.....	121
TABLE 4-5: ECONOMIC AND COMMUNITY VITALITY GOAL.....	121
TABLE 4-6: ENVIRONMENTAL GOAL.....	121
TABLE 4-7: EQUITY GOAL	121

LIST OF FIGURES

FIGURE 1-1: SOUTH CAROLINA FREIGHT MOBILITY SURVEY	6
FIGURE 1-2: STRATEGIES TO IMPROVE INFRASTRUCTURE DESIGN.....	8
FIGURE 1-3: SCDOT FREIGHT MOBILITY SURVEY - INTERACTIVE MAP.....	11
FIGURE 1-4: SCDOT FREIGHT MOBILITY SURVEY - CONGESTION MARKER LOCATIONS.....	11
FIGURE 1-5: SCDOT FREIGHT MOBILITY SURVEY - SAFETY MARKER LOCATIONS.....	12
FIGURE 1-6: SCDOT FREIGHT MOBILITY SURVEY - CONGESTION & SAFETY ISSUES - CHARLESTON REGION	12
FIGURE 1-7: SCDOT FREIGHT MOBILITY SURVEY - CONGESTION & SAFETY ISSUES - COLUMBIA.....	13
FIGURE 1-8: SCDOT FREIGHT MOBILITY SURVEY - CONGESTION & SAFETY ISSUES - GREENVILLE/SPARTANBURG.....	13
FIGURE 1-9: SCDOT FREIGHT MOBILITY SURVEY - ROAD DESIGN & BRIDGE HEIGHT MARKERS.....	14
FIGURE 2-1: SOUTH CAROLINA INTERIM MULTIMODAL FREIGHT NETWORK	17
FIGURE 2-2: FUNCTIONAL CLASSIFICATIONS, SOUTH CAROLINA.....	20
FIGURE 2-3: 2016 INTERSTATE TRUCK VOLUMES.....	23
FIGURE 2-4: BRIDGES, VERTICAL CLEARANCES (LESS THAN 16 FEET).....	26
FIGURE 2-5: BRIDGES, LOAD RESTRICTIONS.....	27
FIGURE 2-6: RAILROAD CROSSINGS, AT-GRADE AND GRADE SEPARATED, INTERSTATE, ARTERIAL, COLLECTOR	29
FIGURE 2-7: RAILROAD INFRASTRUCTURE WITH OWNER ASSIGNMENTS.....	31
FIGURE 2-8: NORFOLK SOUTHERN AND CSX COVERAGE AREAS	32
FIGURE 2-9: WATER PORTS OF SOUTH CAROLINA	37
FIGURE 2-10: PROPOSED JASTER OCEAN TERMINAL (JOT)	38
FIGURE 2-11: AIRPORTS AND AIRFIELDS, PUBLIC ACCESS, SOUTH CAROLINA	39
FIGURE 2-12: AIRPORTS AND AIRFIELDS, PRIVATE ACCESS, SOUTH CAROLINA.....	40
FIGURE 2-13: LOCATION OF EXISTING AND PROPOSED INLAND PORTS/TERMINAL IN SOUTH CAROLINA.....	41
FIGURE 2-14: NATIONAL HIGHWAY FREIGHT NETWORK – PRIMARY HIGHWAY FREIGHT SYSTEM.....	42
FIGURE 2-15: NATIONAL HIGHWAY FREIGHT NETWORK (SOUTH CAROLINA)	43
FIGURE 2-16: STATEWIDE FREIGHT NETWORK	49
FIGURE 2-17: BRIDGES WITH CLEARANCE ISSUES.....	51
FIGURE 2-18: FREIGHT BOTTLENECK LOCATIONS (2011/2019)	54
FIGURE 3-1: SOUTH CAROLINA FREIGHT TRAFFIC BY MODE AND DIRECTION (2016 TONS).....	59
FIGURE 3-2: SOUTH CAROLINA FREIGHT TRAFFIC BY MODE AND DIRECTION (2016 VALUE).....	60
FIGURE 3-3: SOUTH CAROLINA TRUCK FREIGHT TONNAGE (2016).....	62
FIGURE 3-4: SOUTH CAROLINA TRUCK INBOUND FREIGHT BY STATE OF ORIGIN (2016)	64
FIGURE 3-5: SOUTH CAROLINA TRUCK INBOUND FREIGHT BY COUNTY DESTINATION (2016)	65
FIGURE 3-6: SOUTH CAROLINA TRUCK OUTBOUND FREIGHT BY COUNTY ORIGIN (2016)	67
FIGURE 3-7: SOUTH CAROLINA TRUCK OUTBOUND FREIGHT BY STATE DESTINATION (2016)	68
FIGURE 3-8: SOUTH CAROLINA RAIL FREIGHT TONNAGE (2016).....	71
FIGURE 3-9: SOUTH CAROLINA RAIL INBOUND FREIGHT BY STATE OF ORIGIN (2016)	73
FIGURE 3-10: SOUTH CAROLINA RAIL INBOUND FREIGHT BY COUNTY DESTINATION (2016)	74
FIGURE 3-11: SOUTH CAROLINA RAIL OUTBOUND FREIGHT BY COUNTY ORIGIN (2016)	76
FIGURE 3-12: SOUTH CAROLINA RAIL OUTBOUND FREIGHT BY STATE OF DESTINATION (2016)	77
FIGURE 3-13: SOUTH CAROLINA TRUCK FREIGHT TONNAGE (2040).....	89
FIGURE 3-14: SOUTH CAROLINA TRUCK FREIGHT TONNAGE GROWTH (2016-2040)	90
FIGURE 3-15: SOUTH CAROLINA RAIL FREIGHT DENSITY (2040).....	93
FIGURE 3-16: SOUTH CAROLINA RAIL FREIGHT TONNAGE GROWTH (2016-2040)	94
TABLE 5-1: MODAL COMPARISONS BY SELECTION CRITERIA	126

This page intentionally left blank

1 INTRODUCTION

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. On December 4, 2015, President Obama signed into law the Fixing America's Surface Transportation Act, or "FAST Act." On October 14, 2016 the U.S. Department of Transportation published Guidance on State Freight Plans and State Freight Advisory Committees. The purpose of this amendment of South Carolina's Statewide Freight Plan (SFP) is to satisfy the requirements as outlined in the FAST Act and respond to the critical role of transportation infrastructure and freight movement to the economy of the state.

The SFP includes an inventory of transportation assets that contribute to the movement of goods in South Carolina complete with all modes of transportation, regardless of asset ownership. The inventory also includes a profile of goods movement for South Carolina, summarizing the tonnages and commodities for both historical years and forecast years of data, aligning data analyses for the MTP and the SFP.

Similar to the national freight focus, a Statewide 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 South Carolina. The identification of a Statewide 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 Multimodal 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 Multimodal Freight Network, need particular attention to support efficient and safe goods movement.

Taking the overarching goals and objectives of the MTP, the SFP begins to address those performance measures identified for the MTP as well as expand upon the overall goals and incorporate the needs of the freight community of South Carolina, reflecting input from freight stakeholders and information derived from other elements of the MTP. The SFP identifies the freight system and infrastructure available for goods movement, presents estimated demands on the freight system, and recommends potential project and policy level strategies to accomplish these goals.

1.1 FAST Act and the South Carolina Statewide Freight Plan¹

The National Multimodal Freight Policy (Section 70101 of Title 49 of the United States Code (U.S.C.)) states that it is the policy of the United States to maintain and improve the condition and performance of the National Multimodal Freight Network established under Section 70103

¹ <https://www.federalregister.gov/documents/2016/10/14/2016-24862/guidance-on-state-freight-plans-and-state-freight-advisory-committees>

to ensure that the Network provides a foundation for the United States to compete in the global economy and achieve the following goals:

1. Identify infrastructure improvements, policies, and operational innovations that-
 - a. strengthen the contribution of the National Multimodal Freight Network to the economic competitiveness of the United States;
 - b. reduce congestion and eliminate bottlenecks on the National Multimodal Freight Network; and
 - c. increase productivity, particularly for domestic industries and businesses that create high-value jobs;
2. Improve the safety, security, efficiency, and resiliency of multimodal freight transportation;
3. Achieve and maintain a state of good repair on the National Multimodal Freight Network;
4. Use innovation and advanced technology to improve the safety, efficiency, and reliability of the National Multimodal Freight Network;
5. Improve the economic efficiency and productivity of the National Multimodal Freight Network;
6. Improve the reliability of freight transportation;
7. Improve the short- and long-distance movement of goods that-
 - a. travel across rural areas between population centers;
 - b. travel between rural areas and population centers; and
 - c. travel from the Nation's ports, airports, and gateways to the National Multimodal Freight Network;
8. Improve the flexibility of States to support multi-State corridor planning and the creation of multi-State organizations to increase the ability of States to address multimodal freight connectivity;
9. Reduce the adverse environmental impacts of freight movement on the National Multimodal Freight Network; and
10. Pursue the goals described in Title 23 U.S.C. 167 in a manner that is not burdensome to State and local governments.

49 U.S.C. 70202 lists ten required elements that all State Freight Plans must address for each of the transportation modes:

1. An identification of significant freight system trends, needs, and issues with respect to the State;
2. A description of the freight policies, strategies, and performance measures that will guide the freight-related transportation investment decisions of the State;
3. When applicable, a listing of—

- a. multimodal critical rural freight facilities and corridors designated within the State under 49 U.S.C. 70103 (National Multimodal Freight Network);
 - b. critical rural and urban freight corridors designated within the State under 23 U.S.C. 167 (National Highway Freight Program);
4. A description of how the plan will improve the ability of the State to meet the national multimodal freight policy goals described in 49 U.S.C. 70101(b) and the national highway freight program goals described in 23 U.S.C. 167;
 5. A description of how innovative technologies and operational strategies, including freight intelligent transportation systems, that improve the safety and efficiency of the freight movement, were considered;
 6. In the case of roadways on which travel by heavy vehicles (including mining, agricultural, energy cargo or equipment, and timber vehicles) is projected to substantially deteriorate the condition of the roadways, a description of improvements that may be required to reduce or impede the deterioration;
 7. An inventory of facilities with freight mobility issues, such as bottlenecks, within the State, and for those facilities that are State owned or operated, a description of the strategies the State is employing to address those freight mobility issues;
 8. Consideration of any significant congestion or delay caused by freight movements and any strategies to mitigate that congestion or delay;
 9. A freight investment plan that, subject to 49 U.S.C. 70202(c), includes a list of priority projects and describes how funds made available to carry out 23 U.S.C. 167 would be invested and matched; and
 10. Consultation with the State Freight Advisory Committee, if applicable.

The SFP addresses these elements and continues to identify strategies for incorporating freight planning into regular practice for SCDOT and partner agencies. This SFP also includes a statewide freight network for the state and relative performance measures to identify and prioritize projects impacting the performance of the freight transportation system of South Carolina.

1.2 Freight Transportation Goals and Objectives for South Carolina

The SFP is intended to function as a stand-alone supplement to the MTP. The development of the MTP began with a comprehensive process of Vision development and the development of overarching goals, objectives and performance measures. The project management team for the MTP executed an integrated process of data collection, information and survey data gathering, and analysis. This SFP reflects and references elements of the MTP as well as the Statewide Interstate Plan, Statewide Strategic Corridor Plan, the Statewide Transit and Human Services Coordination Plan, and the Statewide Rail Plan.

The vision statement of the MTP is as follows:

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

In addition to this vision statement, a series of goals were identified to further develop the statewide plan. For each of these goals, an additional series of itemized metrics were developed as performance measures to implement throughout the statewide plan.

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

Each of these goals has a series of objectives, guiding principles, and performance measures that tie the conceptual elements of the vision and goals to actual program and project implementation.

From a federal perspective, additional goals for a statewide freight plan are identified in the **FAST Act**. The national goals established in 23 U.S.C. 167 are incorporated into the South Carolina SFP:

1. to invest in infrastructure improvements and to implement operational improvements on the highways of the United States that-
 - a) strengthen the contribution of the National Highway Freight Network to the economic competitiveness of the United States;
 - b) reduce congestion and bottlenecks on the National Highway Freight Network;
 - c) reduce the cost of freight transportation;
 - d) improve the year-round reliability of freight transportation; and
 - e) increase productivity, particularly for domestic industries and businesses that create high-value jobs;
2. to improve the safety, security, efficiency, and resiliency of freight transportation in rural and urban areas;

3. to improve the state of good repair of the National Highway Freight Network;
4. to use innovation and advanced technology to improve the safety, efficiency, and reliability of the National Highway Freight Network;
5. to improve the efficiency and productivity of the National Highway Freight Network;
6. to improve the flexibility of States to support multi-State corridor planning and the creation of multi-State organizations to increase the ability of States to address highway freight connectivity; and
7. to reduce the environmental impacts of freight movement on the National Highway Freight Network.

The following pages contain a series of recommendations that will advance both national freight goals and SCDOT's own transportation goals and assist in improving the efficient movement of freight on the National Highway Freight Network. As a planning and programming tool, this plan will be utilized as a guide in addressing statewide freight program investment priorities. As a dedicated document associated with the statewide multimodal planning process, the Statewide Freight Plan will improve the ability of the State to meet the national multimodal freight policy goals described in Section 49 U.S.C. 70101(b) and the National Highway Freight Program goals described in 23 U.S.C. 167.

1.3 Stakeholder Input

Utilizing the *MetroQuest* online public engagement product, in September 2019 the South Carolina Department of Transportation (SCDOT) launched the South Carolina Freight Mobility Survey (**Appendix A**) specifically targeted at freight industry partners who operate and travel the transportation infrastructure in South Carolina (**Figure 1-1**). The online survey was broadcast to members of the transportation industry active in South Carolina, intermodal partners, state and local government agencies. The interactive survey addressed the following topics:

- **ROADWAY INFRASTRUCTURE:** Feedback included roadway design, design impacts, oversize/overweight freight, and requested suggestions for improvement.
- **TRUCK PARKING:** Questions included location of parking, amenities, unauthorized parking and parking challenges, and a request for truck parking improvement ideas.
- **INTERACTIVE ISSUES/FREIGHT NETWORK MAP:** Participants were asked to identify at least three or more freight mobility improvement or concern areas that affect day-to-day operation/freight mobility. Through the use of interactive map markers SCDOT sought input on Truck Parking, Safety, Road and Bridge, Congestion, and Oversize/Overweight issues within South Carolina. Additionally, requested comment on proposed updates to the Statewide Freight Network.

A limitation to the accuracy of this information was the sample size, rate of survey completion, and with general anonymity of the respondent, the ability to clarify or fact check responses. The value of stakeholder input posed significant benefit for the plan by providing practical operator experience in comparison to the policy and investment outcomes of previous planning efforts.

Figure 1-1: South Carolina Freight Mobility Survey



1.3.1 Survey Audience

A link to the survey was provided to various partners including freight and logistics stakeholders, Metropolitan Planning Organizations (MPOs), Councils of Governments (COGs), the South Carolina Freight Logistics/Advisory Council and trucking industry partner outlets. The intended audience was, but was not limited to:

- Carriers among the transportation modes, e.g. air, highway, rail, water
- Manufacturers and industrial facilities
- 3PL, 4PL, logistics, freight forwarders
- Distributors

- Shippers/Receivers
- Advocacy groups, associations
- State and Local Government Offices
- Planning organizations/Freight Planners

A total of 66 participants completed the survey in the four-week period that the survey was available through a dedicated link on the SCDOT website.

1.3.2 Survey Structure

The interactive survey utilized an online form consisting of twenty-two multiple choice and open-ended/comment questions. The survey was formatted into five sections (or screens), listed below:

- Introduction to and purpose of the South Carolina Freight Mobility Survey
- Freight Infrastructure and design impacts input
- Truck Parking availability and challenges
- Interactive map to identify specific locations for infrastructure and/or truck parking improvement
- A final screen requesting basic demographic and operations area questions

1.3.3 Respondent Demographics

While completing demographic questions was not required, among the forty-one respondents who participated in the online survey and provided demographic information, the following business sectors were represented: trucking business owners, transportation and warehousing sector, manufacturing, shipper-receiver, truck driver, ports and state or local government. The majority of responders indicated that they operated in the Southeast Region while others indicated that they operated in South Carolina only. A small number indicated that their operating area was national or global or that the question related to operating area did not apply. Industry served by respondents was overwhelmingly described as “freight of all kinds.” Other industries represented included construction and building materials, automotive, transportation equipment, retail, petroleum, lumber or wood products and furniture. The major types of service provided by survey respondents included truck load, less than truck load, intermodal, logistics services and “other,” followed by tanker, motor vehicle carrier, household goods and flatbed services.

1.3.4 Survey Highlights

1.3.4.1 Freight Infrastructure

Survey participants were asked to help SCDOT better understand issues surrounding roadway infrastructure as it relates to truck mobility. Feedback topics included roadway design, design impacts, oversize/overweight freight and requested suggestions for improvement.

Participants were asked to select the top three significant roadway infrastructure design issues that affect the movement of freight in South Carolina. The top three issues collected from respondents indicated that high traffic volume in urban areas was a significant concern (26%), having alternative route options during road closures (17%) and highway ramp design (16%).

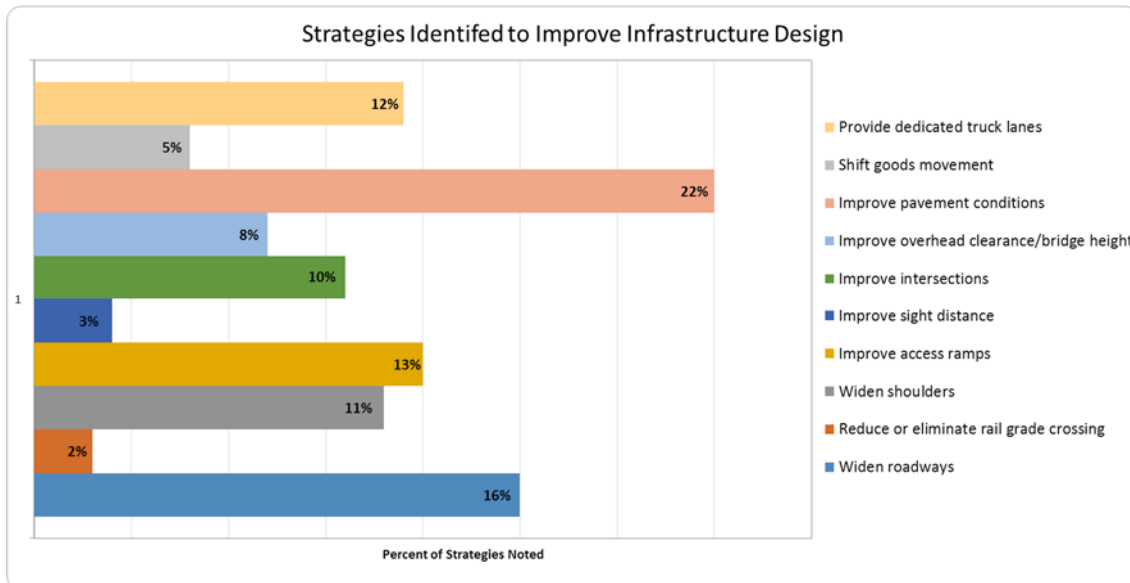
Other infrastructure design concerns included limited access highway design (15%), off interstate road design (13%), construction work zone design (9%) and frontage road design (3%).

The follow-on question to infrastructure design concerns asked participants to select the top three ways roadway design may impact freight operations. The top three responses were: reduces safety (25%), reduces reliability (24%), and impacts hours of service (22%). Other impacts included slow response to road closures (10%), impact to routing efficiency of oversized/overweight trucks (9%) and reduces fuel efficiency (9%). When asked for comments on design impacts to freight mobility, feedback included concerns regarding “weight limits on interstates,” “tight interstates,” “bottlenecks on the South Carolina I-85 corridor,” “reduced lane size during construction,” capacity in general, and safety issues such as incident management and speed enforcement.

Questions regarding infrastructure continued by asking participants to identify their top three challenges transporting oversized/overweight (OSOW) freight. The top three challenges identified by respondents were absent or narrow shoulders (19%), lane widths (17%) and bridge height and weight restrictions (16%). Rough pavement was also a ranking concern at 15% response selection. Remaining concerns were access ramp design (7%), construction work zones (6%), vertical clearance (utilities) (6%), line of site (3%) and lack of frontage roads (1%). Comments related to OSOW included concern regarding the length of time that it takes to get an OSOW permit in South Carolina (“longer than neighboring states”), pot holes and privately owned vehicle (POV) driver behavior (“darting around big trucks”).

As shown in **Figure 1-2**, respondents were asked to select their top three strategies for improving infrastructure design (overall) which could result in increased efficiency of freight operations in South:

Figure 1-2: Strategies to Improve Infrastructure Design



1.3.4.2 Truck Parking

Survey participants were asked to help SCDOT understand issues surrounding truck parking. Questions were asked regarding location of parking, amenities, unauthorized parking, parking challenges and truck parking improvement ideas. It is interesting to note that of the responders for this section of survey questions, thirty-seven (70%) indicated that they were truck drivers or carrier. The remaining indicated that they were not a truck driver or carrier.

Truck drivers/carriers were asked to select all methods use to find truck parking (**Table 1-1**):

Table 1-1: Methods Used To Find Truck Parking

How Do You Find Truck Parking?	Response Count	Percent
Drive around the area to look for available parking	19	24%
Use a parking app to find available parking	10	13%
Utilize reserved parking with a private truck parking facility	17	22%
Utilize state rest areas	23	29%
Utilize ramps or shoulders	10	13%
Total	79	100%

Participants shared the top truck parking challenges and sources of parking frustration for truck drivers: lack of overnight parking options (21%), hours of service limitations (17%), no authorized parking at the shipper/receiver location (17%) and limited parking available at state rest areas (13%). Responses also indicated lack of long term parking options (10%), lack of or limited alternative parking sites (10%), limited emergency parking for weather or unexpected closures (8%) and lastly, the lack of availability of advance reserved parking (5%).

Truck drivers/carriers were asked what the primary reason was that might force them to park in an unauthorized area. Hours of service demands was the number one reason a driver would choose to park in an unauthorized area (57%) followed by emergency weather/road closures and limited access to truck parking (both at 15% response rate). Seven percent (7%) of responders indicated that they were unaware of available parking areas. When asked how frequently they are forced to use unauthorized parking on average, most respondents stated that did not apply (29%). However, 21% of responders shared that they are forced to use unauthorized parking multiple times per week and 18% responded that they park in unauthorized areas once a week.

When asked how to improve truck parking in South Carolina as well as a canvas of responders for preferred amenities, a majority of responders shared that safety features such as lighted areas and patrolled locations were important as well as parking locations with restroom facilities. Participants also desired rest areas that were easy to navigate when pulling in, parking and pulling out, areas that are close to restaurants. Other comments included suggestions to reopen closed truck parking and rest areas, increase the amount of truck only parking areas, expand current rest areas to increase truck parking spaces, and increased truck parking near the Port.

1.3.4.3 Freight Survey Interactive Map

Finally, participants were offered an opportunity to utilize an interactive map of the state to identify locations affecting freight mobility and to suggest changes (add/remove) to the proposed 2040 Statewide Freight Network (**Figure 1-3**). We asked responders to drag and drop at least three topical markers onto the map and to provide additional clarifying information when placing a marker by using the comment box following each suggestion. Topical issue markers were: Truck Parking, Safety Issue, Road/Bridge Issue, Congestion, Oversize/Overweight Limitation, and a Freight Network Comment marker.

A total of 168 map markers were placed in the interactive map by participants. The majority of feedback concerned congestion issues/locations (38%) and safety issues/locations (30%). Most congestion issues were predominantly specified on the South Carolina interstates as shown in **Figure 1-4**. There was some correlation to the placement of the safety issue markers (**Figure 1-5**) to congestion markers on interstates or metropolitan locations (Charleston, Columbia and Greenville). Significant congestion and safety concerns were identified in the Charleston region, specifically on the I-526 east and west corridors (**Figure 1-6**); the Columbia metropolitan area (**Figure 1-7**) and the Greenville/Spartanburg region along and adjacent to the I-85 corridor (**Figure 1-8**). The other significant area of concern was road design and bridge height issues at various locations around the state (**Figure 1-9**). While not all participants provided specific information or comment when placing a marker, a listing of all comments received through the interactive map marker placement exercise is included as **Appendix B** of this document.

Figure 1-3: SCDOT Freight Mobility Survey - Interactive Map

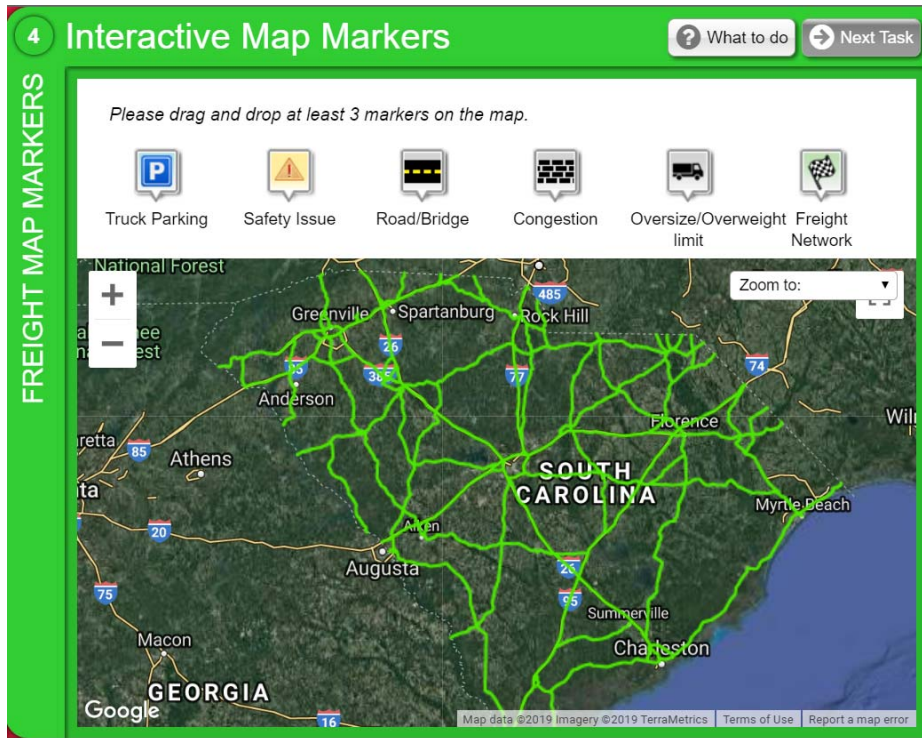


Figure 1-4: SCDOT Freight Mobility Survey - Congestion Marker Locations

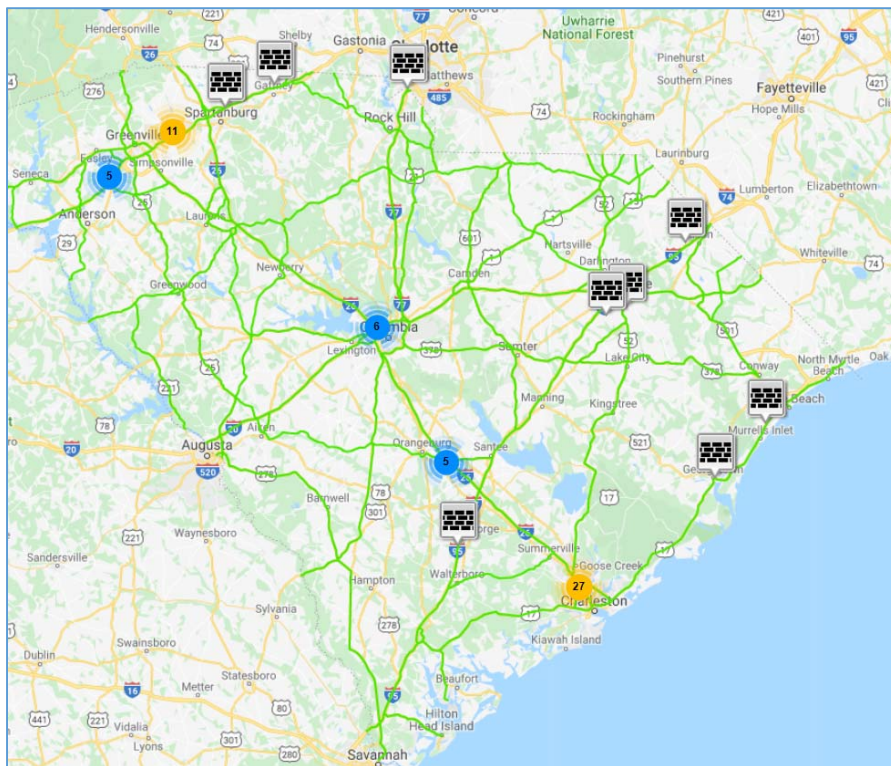


Figure 1-5: SCDOT Freight Mobility Survey - Safety Marker Locations

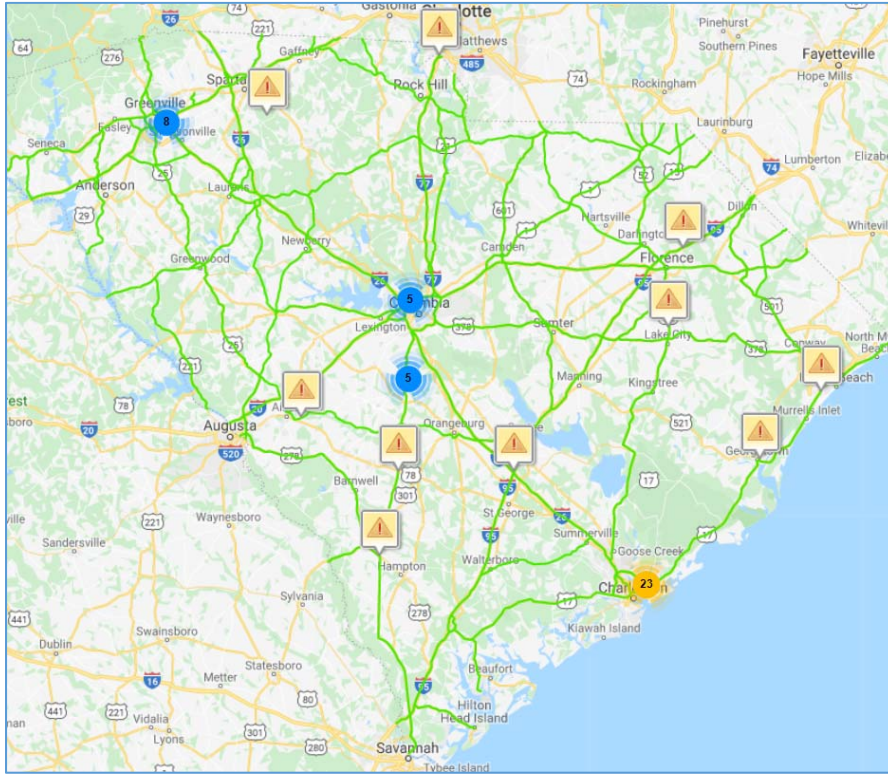


Figure 1-6: SCDOT Freight Mobility Survey - Congestion & Safety Issues - Charleston Region

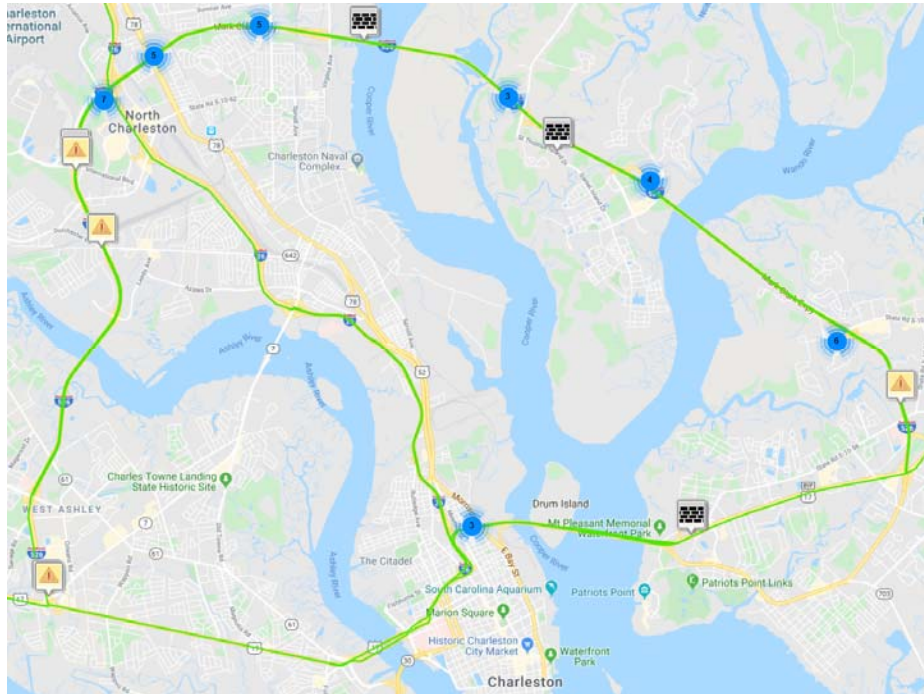


Figure 1-7: SCDOT Freight Mobility Survey - Congestion & Safety Issues - Columbia

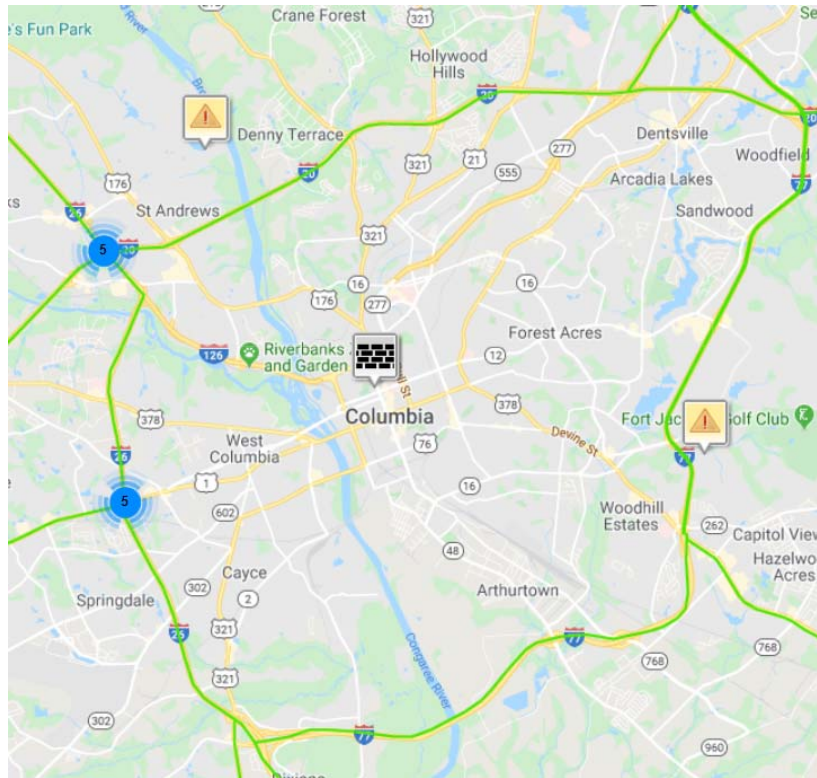


Figure 1-8: SCDOT Freight Mobility Survey - Congestion & Safety Issues - Greenville/Spartanburg

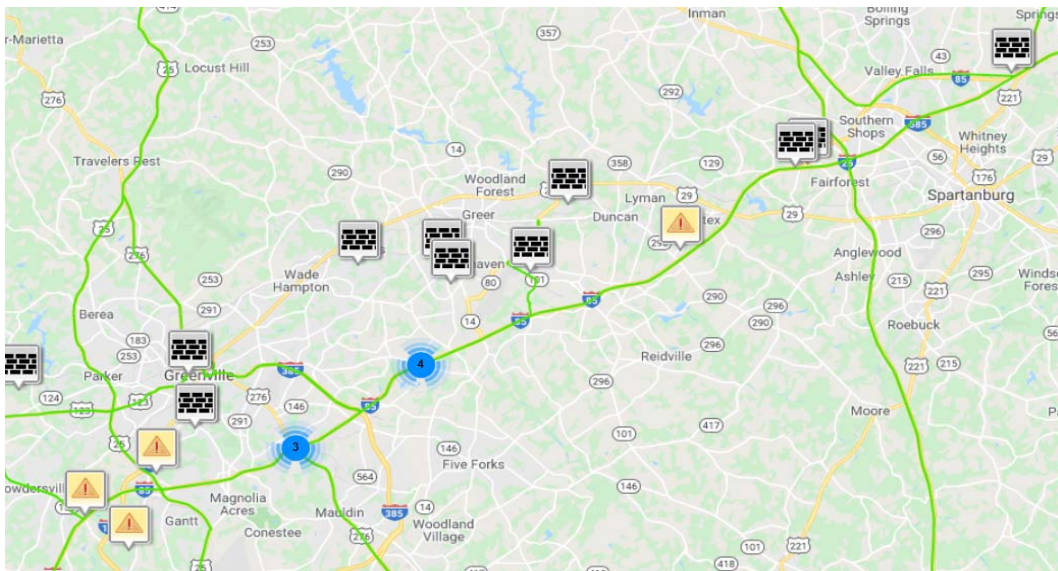
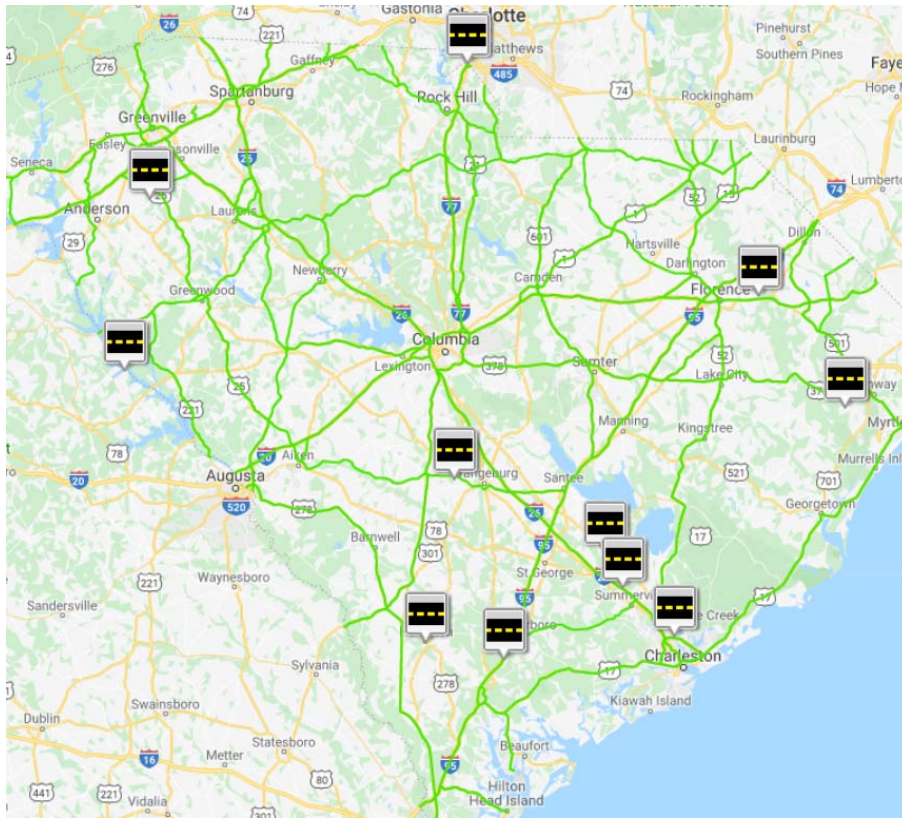


Figure 1-9: SCDOT Freight Mobility Survey - Road Design & Bridge Height Markers



1.4 Freight Advisory Committee / South Carolina Logistics Council

The FAST Act provides guidance for the development of a SFP to establish a State Freight Advisory Committee to assist in the development of the plan and provide an ongoing advisory role in statewide freight planning. While USDOT has no statutory requirement that a State Freight Advisory Committee approve a State Freight Plan, SCDOT partners with the “South Carolina Logistics Council” which will support SCDOT Freight planning efforts as the Freight Advisory Committee (FAC), participate in the late phases of the development of the SFP and continue monitoring on-going freight related planning activities. The inaugural meeting of this committee was held in May 2014. The Logistics Council meets on a quarterly basis.

1.4.1 Purpose for the State Freight Advisory Committee

As recommended by the FAST Act and USDOT-published *Guidance on State Freight Plans and State Freight Advisory Committees (October 2016)*, the purpose of the South Carolina State Freight Advisory Committee is twofold:

- As drafts of the Statewide Freight Plan become available, the SFAC would be consulted for review and to assist in the finalization of the SFP;

- After the completion of the SC MTP and SFP, the Committee's long term purpose is to continue to provide guidance to SCDOT on freight transportation matters, issues, trends, and needs.

1.4.2 Duties and Responsibilities of the State Freight Advisory Committee

A list of proposed duties and responsibilities of a State Freight Advisory Committee follows. The SFAC's proposed duties and responsibilities are intended to compliment and not duplicate the roles or responsibilities of existing state mandated committees.

Through a consultative process, the State Freight Advisory Committee will:

- 1) Make recommendations and propose methods, strategies, or technologies to improve, promote, and preserve the freight rail, water, highway, air cargo, and intermodal facilities and transportation systems in South Carolina;
- 2) Provide guidance on freight-related transportation issues including priorities, projects, and funding needs;
- 3) Promote freight related transportation systems and capital infrastructure improvements throughout South Carolina;
- 4) Assist SCDOT in ensuring that the department's program prioritization process and methods for determining priorities among locations remain accurate and responsive to freight needs;
- 5) Guide SCDOT's continuous state transportation systems planning processes;
- 6) Provide a forum for exchange of information concerning the public and private sectors' view of needs and requirements in the state's transportation systems; and
- 7) Participate in future statewide freight planning efforts.

This page intentionally left blank

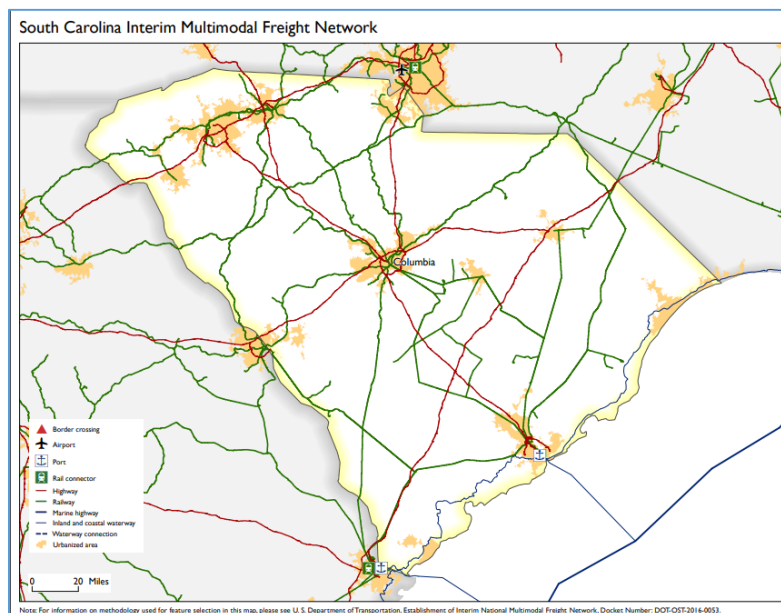
2 FREIGHT INFRASTRUCTURE, CONDITIONS AND THE STATEWIDE FREIGHT NETWORK

Preserving and enhancing the infrastructure that moves goods through and within South Carolina for all modes is important. Continuing to provide important connections for freight generators/attractors to the routes moving freight and connections between modes is critical in retaining existing industries and attracting new industries in the state. Identifying a Statewide Freight Network (SFN) including roadway and railway networks and the modes they connect is an important step in identifying what corridors and assets are important to the movement of freight.

2.1 Interim National Multimodal Freight Network

The Interim Multimodal Freight Network is based on the statutory requirements identified in 49 U.S.C. 70103(b)(2) and includes the National Highway Freight Network, the freight rail systems of Class I railroads, the public ports of the United States that have total annual foreign and domestic trade of at least 2,000,000 short tons, the inland and intracoastal waterways of the United States, the Great Lakes, the St. Lawrence Seaway, and coastal and ocean routes along which domestic freight is transported, the 50 airports located in the United States with the highest annual landed weight, and other strategic freight assets such as railroad connectors and border crossings. The Under Secretary of Transportation announced the Interim National Multimodal Freight Network via Federal Register on June 6, 2016 which also serves as the Interim NMFN. **Figure 2-1** illustrates the South Carolina Interim National Multimodal Freight Network identified by the Under Secretary.

Figure 2-1: South Carolina Interim Multimodal Freight Network



Source: <https://www.transportation.gov/Freight/South-Carolina-State-Map>, accessed December 2019

2.2 Profile of South Carolina Freight Transportation Assets

Reemergence of high volumes of waterborne traffic at the Port of Charleston facilities in recent decades has and is continuing to shape the current multimodal infrastructure within the state. Investment has occurred, publicly and privately funded, generating a network reflective of the modal needs of the freight transportation system user. As the needs of the user change or shift in priority, the current system will serve as the foundation on which investments will be applied. This section will provide a catalogue of each mode's specific infrastructural features.

2.2.1 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. The lack of immediate access to other modes extends beyond the individual user. Resulting from geography, consolidations or bankruptcies, and operational decisions within the individual modes, communities and regions have been left without direct service by the other modes of water, rail or air. This lack of access to alternative modes has resulted in 80 percent of those communities, across the country, singularly dependent on trucking for access to goods and materials.

Availability is a second factor in this mode's dominant position in the freight transportation system. The "barrier to entry" or level of start-up and continuing costs for trucking is the lowest of all the modes. This characteristic has generated an extremely high number of providers. The lower operating costs, as compared to rail or air, and the elevated number of participants in this mode has produced a trend of lower costs to users accompanied by a higher level of service customization to meet the individual user's needs. As a result, users engage highway transport, in many cases, where alternative modes are accessible, as a part of or encompassing the entire transportation solution.

Highway infrastructure consists of several key elements. The key associated features of the infrastructure can be examined through a comprehensive examination of:

- Functional Class
- Bridges
 - Minimum Vertical Clearance
 - Weight or Load Restrictions
- Railroad Crossings
 - At-grade
 - Grade Separated

2.2.1.1 Infrastructural Features

The dominant feature utilized by trucking is the publicly available roadway network. This network consists of multiple classifications, each assigned to a specific roadway in a collaborative manner by the involved jurisdictions. Assignment of the specific classification is dependent upon the intended use. The major functional systems, as defined by American Association of State Highway and Transportation Officials (AASHTO) Design Policy Manual, are Freeway, Arterial, Collectors, and Local Streets. As local streets are typically not intended to carry truck traffic, except to accommodate immediate access for pick-up or delivery functions, the focus for truck movements are Collector and above. These three classifications have additional sub-classifications within each, providing further definition, e.g. urban versus rural, principle versus minor.

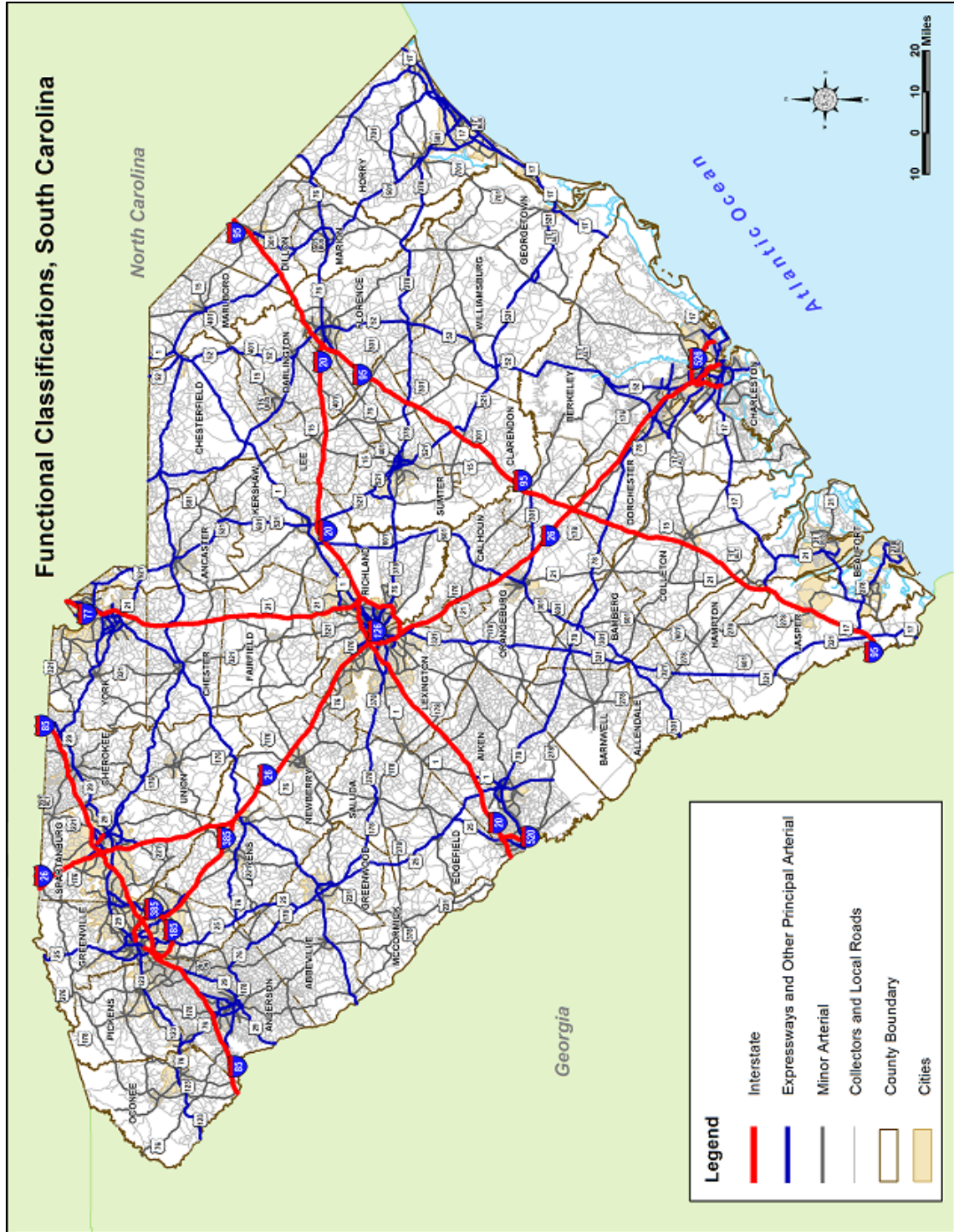
SCDOT maintains the fourth largest center line miles measured state network in the nation. **Table 2-1** notes the total mileage for each of the classifications inclusive of state-maintained mileage, with Figure 2-2 illustrating the presence of each of these classifications within the state.

Table 2-1: Mileage, by Classification in South Carolina (2018)

Road Classification		
	Miles	Lane Miles
Rural Roads		
Rural Interstates	546.3	2,239.9
Rural Expressway	44.6	186.8
Rural Principal Arterials	1,545.6	4,655.2
Rural Minor Arterials	2,985.1	6,310.2
Rural Major Collectors	10,020.3	20,124.2
Rural Minor Collectors	2,031.2	4,062.5
Rural Local Roads	37,955.6	75,642.7
Rural Totals	55,128.7	113,221.5
Urban Roads		
Urban Interstates	304.3	1,606.1
Urban Expressway	83.8	366.5
Urban Principal Arterials	1,064.1	4,113.6
Urban Minor Arterials	1,775.8	4,921.0
Urban Major Collectors	2,811.1	5,886.5
Urban Minor Collectors	77.4	155.8
Urban Local Roads	16,746.7	33,622.9
Urban Totals	22,863.2	50,672.4
Rural + Urban	77,991.9	163,893.9

Source: 2018 SCDOT - Road Data Services - RIMS (Roadway Information Management System)

Figure 2-2: Functional Classifications, South Carolina



Functional classification and the associated characteristics may be used as a predictor of truck usage. Though final construction may be inconsistent with the design characteristics, as a whole, the intended use and design vehicle will guide features that may induce commercial operator usage.

2.2.1.2 Interstates

The first and most identified functional class for truck use is the interstate system. This limited access highway provides a reliable and safe roadway to transport goods typically over long distances. Though restricted by the ability to access other roadways, local or shorter distance trips may gravitate to these systems. This classification is described as:

- Designed for uninterrupted flow
- Access to the freeway facility is controlled and limited to ramp locations. A freeway experiencing extreme congestion differs greatly from a non-freeway facility experiencing extreme congestion, in that the conditions creating the congestion are commonly internal to the facility, not external to the facility.
- May have interactions with other freeway facilities as well as other classes of roads in the vicinity. The performance of a freeway may be affected when demand exceeds capacity on these nearby road systems.

Five interstates travel through the state; I-20, I-26, I-77, I-85, and I-95.

- I-20
 - Termini
 - Near Florence, SC, at the junction with I-95
 - Near Kent, TX, at the junction with I-10
 - Total distance is 1,539 miles with 141 miles within the state
 - Major municipalities
 - Florence, SC
 - Columbia, SC
 - Augusta, GA
 - Atlanta, GA
 - Birmingham, AL
 - Jackson, MS
 - Dallas/Ft Worth, TX
- I-26
 - Termini
 - In Charleston, SC, at the junction with U.S. 17
 - In Kingsport, TN, at the junction with U.S. 11W
 - Total distance is 347 miles with 221 miles within the state
 - Major municipalities
 - Charleston, SC
 - Columbia, SC
 - Spartanburg, SC
 - Asheville NC

- I-77
 - Termini
 - Near Columbia, SC at the junction with I-26
 - In Cleveland, OH, at the junction with I-90
 - Total distance is 611 miles with 90 miles within the state
 - Major municipalities
 - Columbia, SC
 - Charlotte, NC
 - Charleston, WV
 - Cleveland, OH

- I-85
 - Termini
 - In Montgomery, AL, at the junction with I-65
 - In Petersburg, VA, at the junction with I-95
 - Total distance is 669 miles with 106 miles within the state
 - Major municipalities
 - Montgomery, AL
 - Atlanta, GA
 - Greenville/Spartanburg, SC
 - Charlotte, NC
 - Greensboro, NC
 - Petersburg, VA

- I-95
 - Termini
 - In Miami, FL, at the junction with U.S. 1
 - Near Houlton, ME, at the Canadian border
 - Total distance is 1,924 miles with 199 miles within the state

The posted speed limit for interstates and other limited access facilities in the state is noted in **Table 2-2**. The design vehicle² for this classification is wheelbase-67, or WB-67, with a design speed of 70 mph. The WB-67 is defined as a tractor-trailer, instate combination vehicle with an overall wheelbase of 67 feet.

Table 2-2: Posted Speed Limits, Interstate and Other Limited Access, South Carolina

State	Rural Interstates		Urban Interstates		Other Limited Access Roads	
	Cars (mph)	Trucks (mph)	Cars (mph)	Trucks (mph)	Cars (mph)	Trucks (mph)
South Carolina	70	70	70	70	55	55

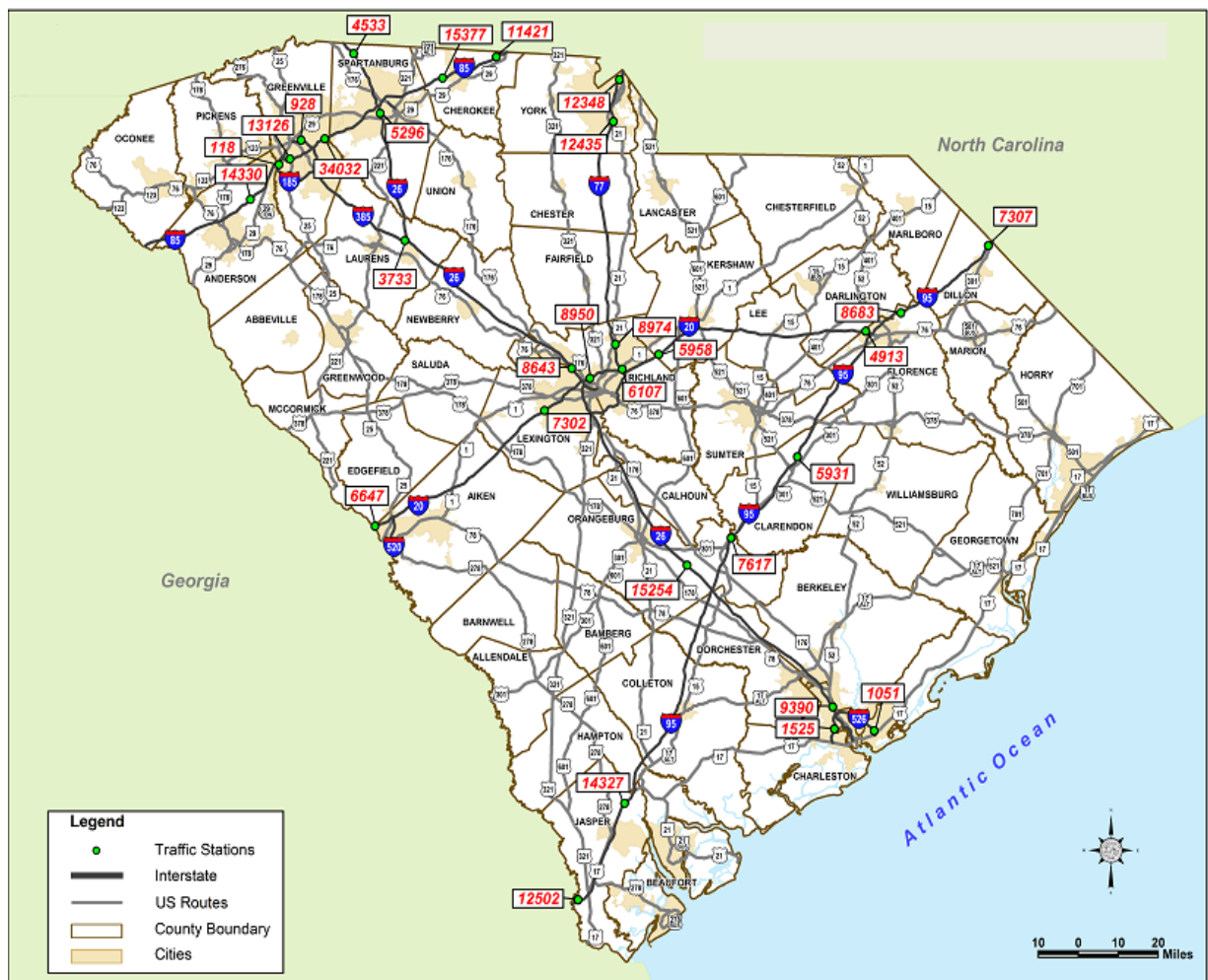
Source: GHSA, http://www.ghsa.org/html/stateinfo/laws/speedlimit_laws.html, January 14, 2019

² Vehicle type with defined operational characteristics utilized in the design of features on a roadway. Design vehicle represents the vehicle with the most significant performance needs for the intended use of the roadway.

Truck Traffic

The amount of traffic carried by a roadway is measured by volume and is expressed as Average Annual Daily Traffic (AADT). According to the Federal Highway Administration (FHWA), AADT is “estimated as the total traffic volume passing a point of a road in both directions for a year divided by the number of days in the year”.³ In a similar way, the volume of truck movements on a road can also be measured as AADT. FHWA defines trucks “as vehicles of classes 4 through 13 in the FHWA’s 13-category vehicle classification system”.⁴ Truck AADT is computed in the same manner as AADT except that only volumes related to trucks are used to make the calculation. Being aware of truck AADT has a variety of uses including “. . . design and analysis of pavement, freight, air quality, crash data, highway planning and performance assessment”.⁵ Within the Statewide Freight Plan, truck volumes highlighted are for Class 8 and above. Truck volumes on South Carolina interstates for 2018 are shown in **Figure 2-3**.

Figure 2-3: 2016 Interstate Truck Volumes



³ Traffic Computation Method (FHWA-PL-18-027, Federal Highway Administration, August, 2018

⁴ Traffic Computation Method (FHWA-PL-18-027, Federal Highway Administration, August, 2018

⁵ Traffic Computation Method (FHWA-PL-18-027, Federal Highway Administration, August, 2018

2.2.1.3 Arterial

The arterial class represents a set of roadways intended to be used for longer trips and accommodate greater traffic volumes than collectors or local roads. Arterials can provide for more efficient through trips, which are longer than trips on collector facilities and local streets.

This classification provides access to areas not adjacent to the interstate system and between non-adjacent areas of freight activity, not immediately accessible by the interstate system.

Arterial posted speeds are designated in coordination between relevant jurisdictions. This applies to existing and future roadways.

The design vehicle for this classification consists of three types, corresponding to the sub-classification. For Interstate Principle Arterial the design vehicle is WB-67 with a design speed of 65 mph. Primary or Principal Arterial, rural and urban, range from WB-40 to WB-62, with rural design speed of 65 mph and urban of 55 mph. Minor arterial, rural, the SU or single unit truck is the design vehicle at 65 mph. The urban sub-classification differs, using the WB-40 at 40 mph.

2.2.1.4 Collector

This classification provides traffic circulation patterns in commercial, residential areas and distributes traffic from arterials to local destinations. Truck utilization of these roadways typically reflects local truck trips.

The design vehicle for rural and urban collector is the SU or single-unit truck. Design speed varies from 55 mph for rural to 35 mph for urban.

2.2.1.5 Bridges

Two physical characteristics of bridges located on or spanning the roadway impact the inclusion as part of a commercial motor vehicle (CMV) operator's route: Vertical Minimum Clearance and Weight-Load Restrictions. Vertical minimum clearance is the distance from the road surface to the lowest point on the overhead obstruction (bridge) within the confines of the travel lane. The larger CMV, class 8, which includes interstate tractor-trailer combinations and many of those combinations used for pick-up and delivery, has an operating height of 13 feet and 6 inches.⁶ Interstate design standards have a minimum vertical clearance standard of 16 feet for existing bridges and 17 feet for new or replaced bridges. Other functional classes may not define clearance standards or include structures built prior to standards being introduced. As of 2018⁷, on collector, arterial and interstate roadways within the state, there are 276 bridges reported as having less than 16 feet clearance. 199 bridges are on the classification itself, presenting less than 16 feet clearance to vehicles traveling on roadways passing beneath. 77 bridges pass over the classified roadways with less than 16 feet clearance. **Figure 2-4** illustrates the location of these bridges.

Weight-load restrictions limit the gross vehicle weight (GVW) of a vehicle driving across the structure. These restrictions may be a function of the bridge design and intended purpose or use. Another factor may be the level of previous use or structural age. In combination, a restriction placed on a bridge may

⁶ Equipment in excess of this height, dependent upon state and local regulations, are subject to permitting requirements. Those requirements have a route selection component that must account for and avoid low clearances.

⁷ SCDOT Road Data Services

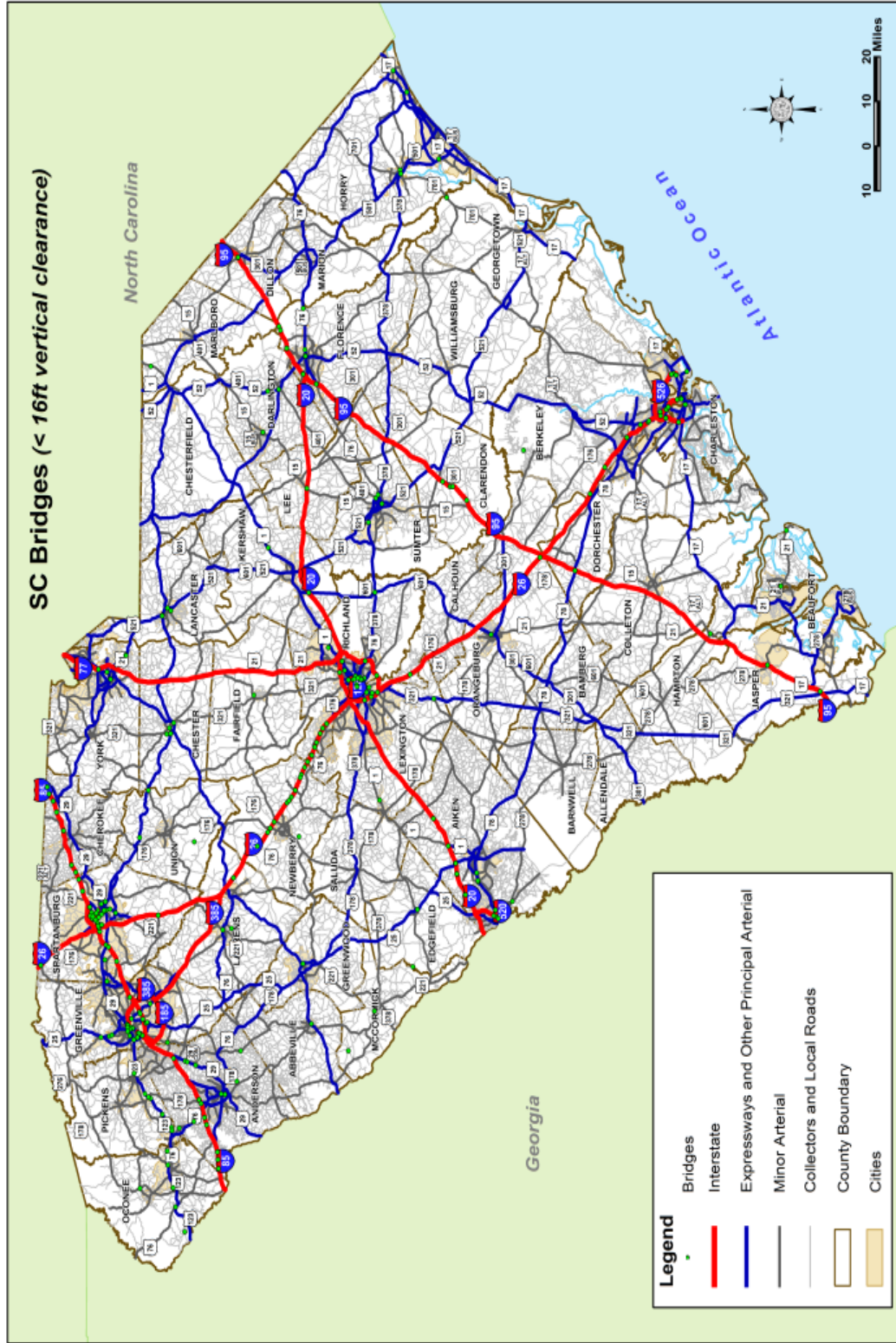
range from a simple notation, without any formal limitations, to a more defined restriction on what weight and types of vehicles may use the structure. As of the 4th quarter of 2018, SCDOT Road Data Services reports that there were 664 bridges with specific load restrictions assigned. Three are categorized as a “B,” 76 are “K,” and 585 are “P.” Relevant categories for this inventory are described in **Table 2-3**. These are illustrated in **Figure 2-5**.

Table 2-3: Load Restriction Categories

Load Restriction Categories	Description
B	Open, posting recommended but not legally implemented (all signs not in place or not correctly implemented)
K	Bridge closed to all traffic
P	Posted for load (may include other restrictions such as temporary bridges which are load posted)

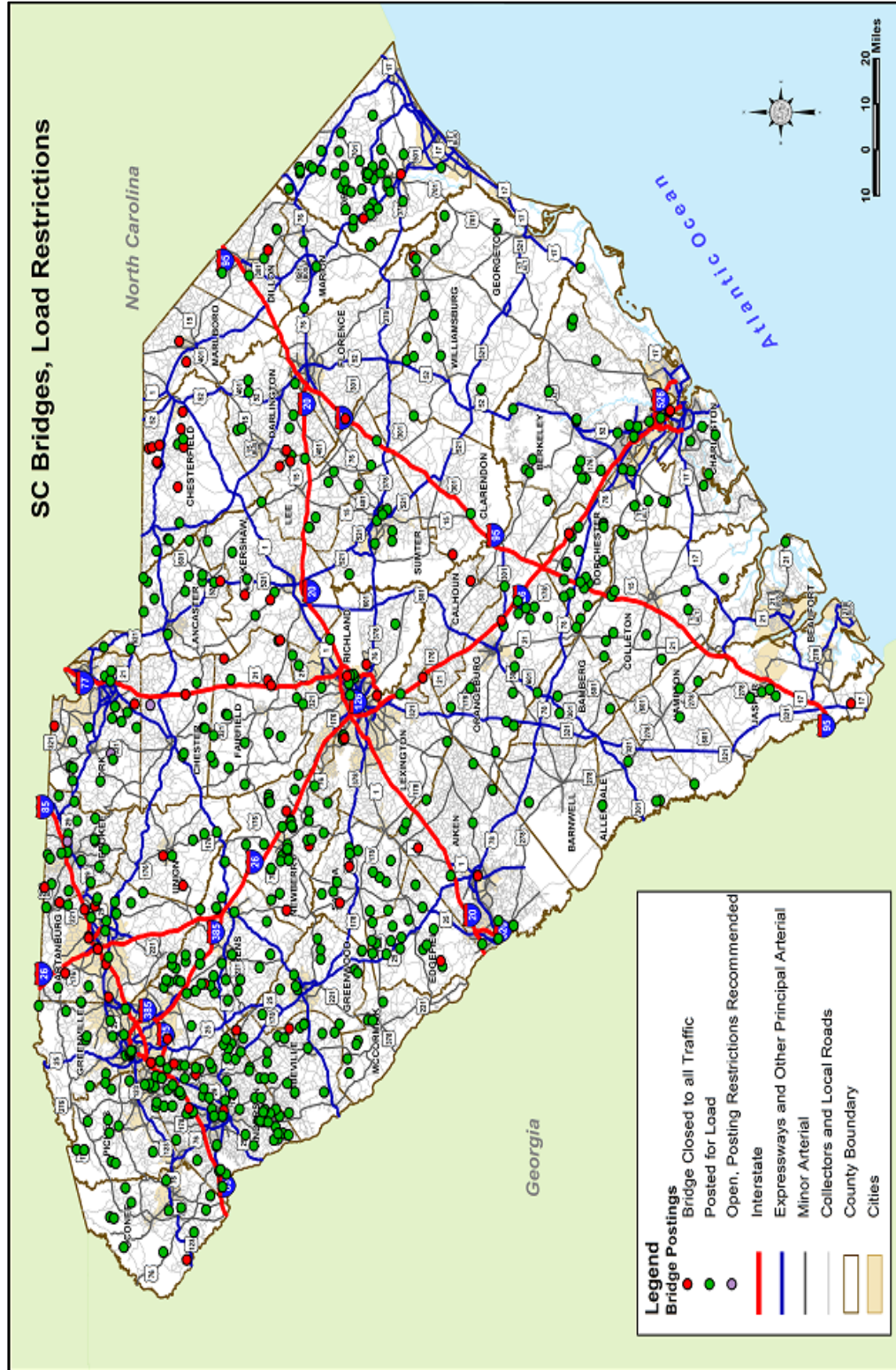
Source: SCDOT Director of Maintenance

Figure 2-4: Bridges, Vertical Clearances (less than 16 feet)



Source: SCDOT, Road Data Services and GIS

Figure 2-5: Bridges, Load Restrictions



Source: SCDOT Office of Road Data Services, Bridge Data as of Quarter 4, 2018

2.2.1.6 Railroad Crossings

The presence of railroad crossings, more specifically at-grade, on roadways has the potential to offer safety or operational concerns to those CMV utilizing the roadway. Grade separated crossings, where the roadway and rail are at different elevations, pose a concern of clearance versus an actual CMV and train interaction. The ability for the CMV to travel across a raised track, to fully exit the path of a potential train before reaching a stop bar, or have the line of sight to identify warning signalization are three leading causes of CMV and train related accidents. Depending on the type of cargo being transported, CMV operators may be required to come to a complete stop before proceeding across an at-grade crossing. This has the potential to adversely affect the flow of CMV and passenger vehicles.

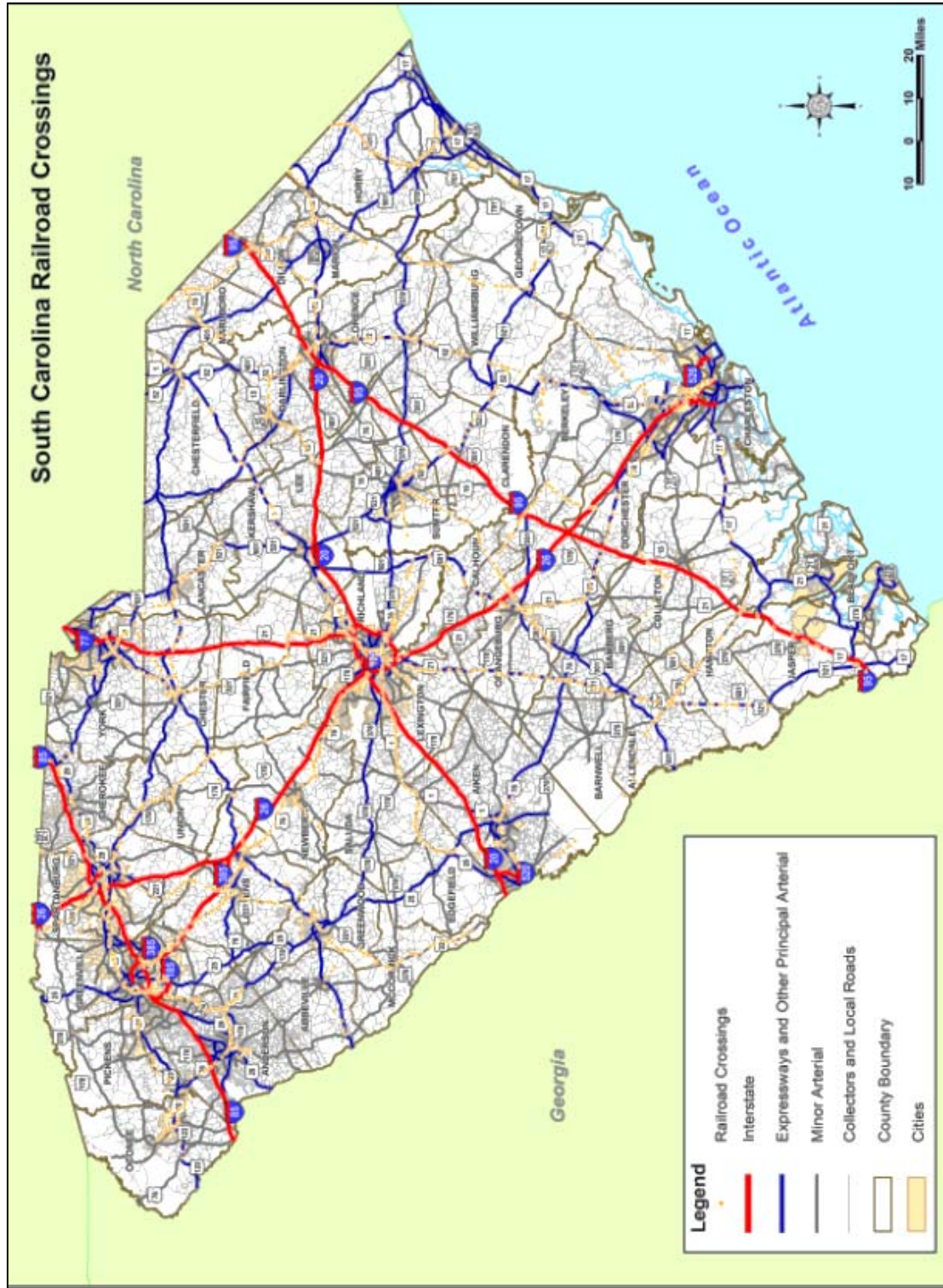
There are 712 grade separated crossings located within the state. At-grade crossings are more prevalent at 3,627. **Table 2-4** notes the number of crossings by functional classification. A high number of crossings lack a detailed road classification. The absence of this field, in the Federal Railroad Administration’s data base for railroad crossings, results from individual inspectors failing to notate the proper or any classification at the time of the inspection. **Figure 2-6** illustrates the locations of known grade separated and at-grade crossings.

Table 2-4: Railroad Crossings, by Functional Classification

Highway Classification	Total Crossings	At Grade	Grade Separated
Urban Interstate	9	0	9
Urban -- Principal Arterial - Other Freeways & Expressways	1	1	0
Urban -- Principal Arterial - Other	134	126	8
Urban -- Minor Arterial	304	292	12
Urban – Collector	266	260	6
Rural Interstate	1	0	1
Rural -- Principal Arterial - Other	54	50	4
Rural -- Minor Arterial	140	136	4
Rural -- Major Collector	406	403	3
Rural -- Minor Collector	184	184	0
Total Known	1,499	1,452	47
Classification Unknown	2,840	2,175	665
Total	4,339	3,627	712

Source: SCDOT Road Data Services

Figure 2-6: Railroad Crossings, At-grade and Grade Separated, Interstate, Arterial, Collector



Source: SCDOT, Road Data Services and GIS

2.2.2 Rail

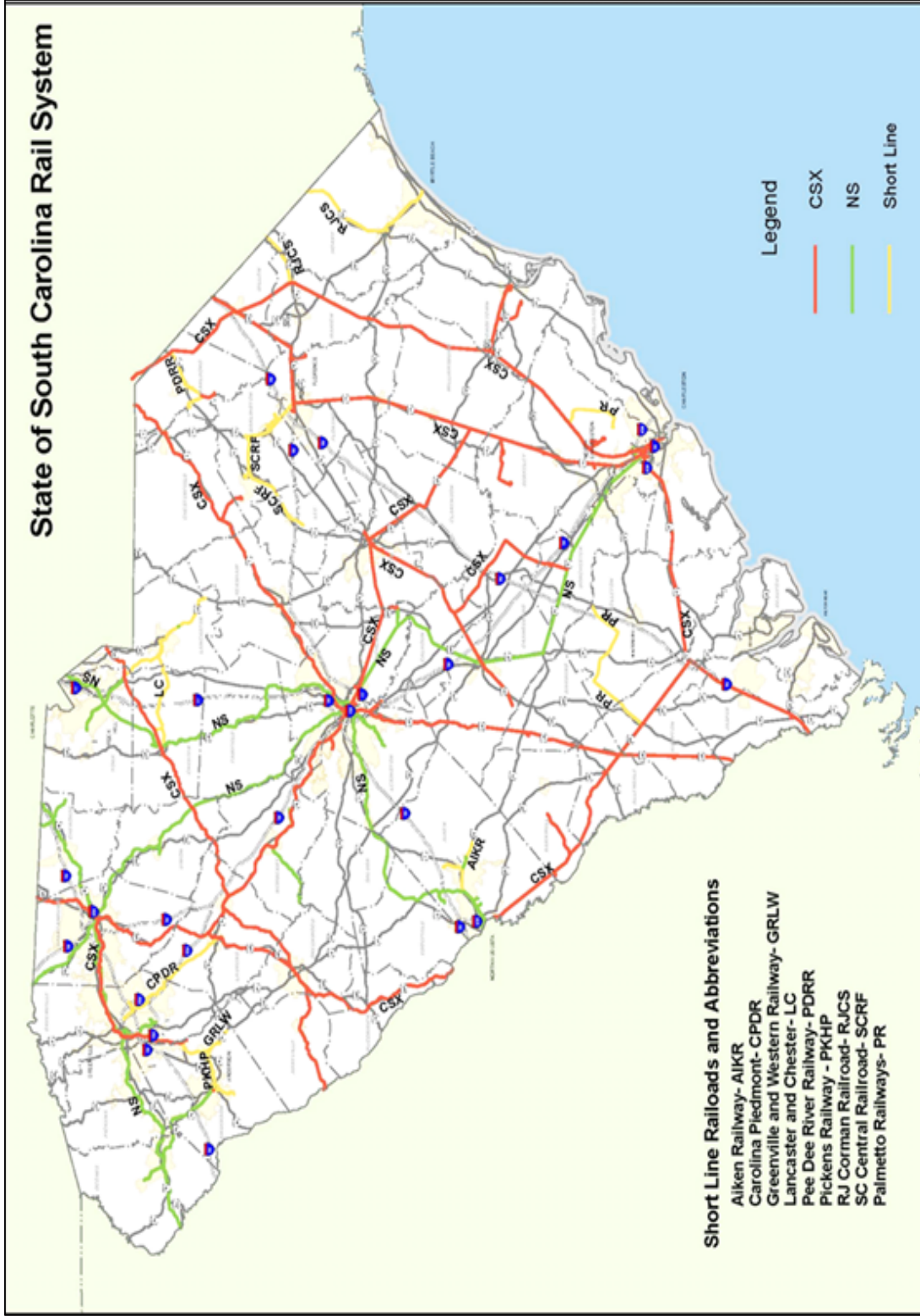
Railroad transport provides a relatively lower cost, higher capacity and low environmental impact landside solution to the long distance movement of goods. Operating a variety of rail car configurations, (e.g. tanker, open top hopper, side load, closed boxcar, flatcar) and the ability to compile trains 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.

Intermodal traffic on today's railroads has been the fastest growing segment of all the cargo types. Around 50 percent of the tonnages transported as intermodal rail are imports or exports.⁸

Railroads, unlike trucking, operate on infrastructure primarily owned by the railroad company. Though regulated by the federal government, the railroad has the opportunity to make all operational decisions regarding services and market place without outside influences. **Figure 2-7:** illustrates the current rail infrastructure in the state, noting Class I and Class III (Short Lines).

⁸ <https://www.aar.org/wp-content/uploads/2018/07/AAR-Rail-Intermodal.pdf>, March 7, 2019

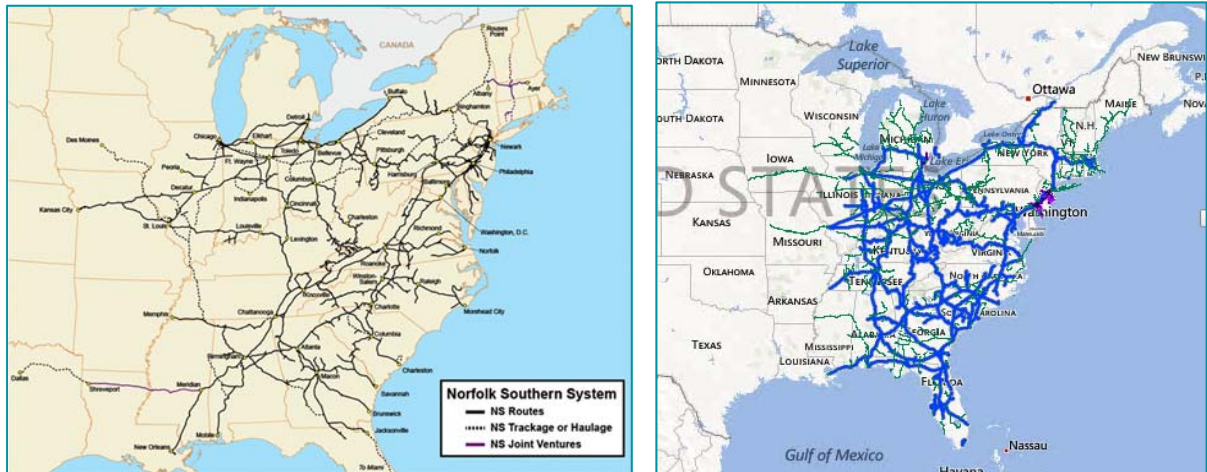
Figure 2-7: Railroad Infrastructure with Owner Assignments



2.2.2.1 Class I

There are seven Class I⁹ railroads in operation within the U.S. Two Class I railroads operate in South Carolina: Norfolk Southern (NS) and CSX Transportation (CSX). Each operates exclusively east of the Mississippi River. Illustrations of the individual coverage or service areas are presented in **Figure 2-8**:

Figure 2-8: Norfolk Southern and CSX Coverage Areas



Source: www.nscorp.com, www.csx.com

CSX Transportation (CSXT)

This Class I railroad, a transportation unit of CSX Corporation (CSX), operates approximately 23,000 route miles and serves 23 states, the District of Columbia and two Canadian provinces. As South Carolina's largest railroad with 1,307 route miles, it covers much of the state. The railroad has a division office in Florence. In addition to the mileage it owns, it also has trackage rights over NS between Columbia and Charleston. Major South Carolina commodities for CSX include petroleum and coal products, lumber and wood products, chemicals and allied products, coal, and miscellaneous mixed shipments (intermodal). CSX Intermodal is the intermodal arm of CSX Corporation.

Norfolk Southern Railway (NS)

This Class I railroad operates a total of approximately 21,500 route miles and serves 22 states, the District of Columbia, and one Canadian province. In South Carolina, NS operates 762 route miles and has trackage rights over CSXT from Newberry to Spartanburg. The Norfolk Southern Railway Company is owned by the Norfolk Southern Corporation. The railroad has a division office in Greenville. Major commodities transported over the NS system in South Carolina are coal; lumber and wood products; chemicals; pulp, paper, and allied products; and, transportation equipment.

⁹ Based on Deflator Factor established and calculated by the Surface Transportation Board

2.2.2.2 Short Line or Class III

Aiken Railway Company, LLC (AIKR)

The Aiken Railway Company began service in December, 2012, and is a wholly-owned subsidiary of Western Carolina Railway Service Corporation, the same company that owns and operates the Greenville and Western. It leases and operates two NS branch lines in Aiken County – the 12.45-mile line between Warrentonville and Oakwood, and the 6.45-mile line running between Aiken and North Aiken – totaling 19 miles in length.

Carolina Piedmont (CPDR)

In 1990, RailTex, Inc. purchased from CSXT and began operating the 30-mile branch line between Laurens and East Greenville as its Carolina Piedmont Division (CPDR). The railroad is now owned by Genesee & Wyoming and is operated as the Carolina Piedmont Railroad. Traffic is interchanged with CSXT at Laurens. Major commodities transported include plastic resin, gas turbines and chemicals.

Greenville & Western Railway Company (GRLW)

This railroad commenced operations in late 2006 after acquiring a 13-mile-long CSXT line segment from Pelzer to Belton in Anderson County. The railroad interchanges traffic with CSXT at Pelzer and with the Pickens Railroad Company at Belton, which also provides access to NS. The railway receives unit trains for Kinder Morgan with Belton Industries and Belton Metals other on-line rail users. Principal on-line commodities are ethanol, biodiesel, plastics, scrap metal, limestone, paper, and fertilizer.

Lancaster and Chester Railway Company (LC)

Prior to 2001, the railroad ran 29 miles between Chester and Lancaster. This original line segment dates back to an 1873 charter for a three-foot narrow gauge railroad that reached Lancaster from Chester in 1894. In 2001 a NS branch line running from Catawba to Lancaster and continuing east to Kershaw was acquired extending the railroad's total length to almost 62 miles and its presence to four counties - Chester, Kershaw, Lancaster, and York.

The railroad serves a variety of shippers/receivers, including PPG, Guardian Glass, Thyssen-Krupp Steel, Mississippi Lime, ADM, Gerdau Ameristeel, GAF Materials, Circle S Mills, and Boral/Owens Corning among others. Major commodities are chemicals, sand, steel, corn, soybeans, soybean oil and meal, recycled base oil, and building materials. The railroad interchanges traffic with both CSXT and NS at Chester. It became a part of Gulf and Ohio Railways, Inc. in December, 2010.

Palmetto Railways

Palmetto Railways, previously known as South Carolina Public Railways (SCPR), provides technical assistance and consulting services in railroad matters to state, local, and municipal governments. As a division of the South Carolina Department of Commerce, Palmetto Railways operates three railroad subdivisions.

The Charleston Subdivision (Port Utilities Commission of Charleston – PUCC) and North Charleston Subdivision (Port Terminal Railroad – TPR) provide switching services to the terminals of the South Carolina State Ports Authority and other various industries in Charleston County, interchanging with CSXT and NS. As terminal switching railroads, PUCC and PTR have no mainline miles of track, but estimates of route miles are approximately 22 miles.

The Charity Church Subdivision (East Cooper and Berkley Railroad – ECBR) located in southern Berkeley County serves BP Chemical, Nucor Steel and Santee Cooper Cross Generating Station, interchanging with CSXT at State Junction. In addition, several industrial sites are available for development adjacent to the railroad. This 17-mile line, which began operations on November 15, 1978, extends from State Junction (Cordesville) to Charity Church in Berkley County.

Pee Dee River Railway Corporation (PDRR)

In 1987 Marlboro County purchased the CSXT branch line extending from McColl to Marlboro via Tatum and Bennettsville along with a spur from Bennettsville to Breeden and contracted with the Pee Dee Railway Corporation (PDRR) to provide rail service. The PDRR began operations the same year.

A 3.8-mile spur was soon constructed to a new Willamette Industries (now Domtar) pulp, paper, and board (Flakeboard) complex. The PDRR is a subsidiary of the Aberdeen and Rockfish Railroad Company, which has headquarters in Aberdeen, NC

Pulp, paper, chemicals, aggregates, fertilizer, and plastic pellets are the predominate products handled over its current 24-mile length. Its major customers are Domtar, Mohawk, Flakeboard, Hanson Aggregates, and Southern States Cooperative. Traffic is interchanged with CSXT at McColl.

Pickens Railroad Company (PICK and PKHP)

The Pickens Railway Company consists of two separate operations located in the Upstate. One is the original Pickens Railroad (PICK), which runs 8.5 miles from a connection with the NS main track at Easley to Pickens in Pickens County that began operation in 1898. The other, the railroad's Honea Path Division (PKHP), is a combination of NS and CSXT branch lines located in Anderson County running from Anderson to Honea Path, via Belton for approximately 28 miles. Service began over the first of these line segments in 1990.

The railroad's principal shippers include, among others: Owens Corning, Electrolux, Scots, Michelin, Southern States Cooperative, Crop Production Services, Carolina Recycling, PCA, and Tri-County Fertilizer. These customers account for the majority of the railroad's car-loadings comprised of limestone, plastics, rubber, carbon black, fertilizer, scrap metal, paper, grain, and borate ore. Traffic is interchanged with NS at Easley and Anderson, as well as with GRLW at Belton and hence to a CSXT connection in Pelzer. The railroad has filed an abandonment application for the 8.5-mile-long original Pickens Railroad.

R.J .Corman (RJCS)

The R. J. Corman Railroad Group national headquarters is located in Central Kentucky in the City of Nicholasville. There are 67 strategically placed field offices in 22 different states across the US. The company serves all seven Class I railroads, many regional and short line railroads as well as various rail-served industries. R. J. Corman Railroad Company purchased the former Carolina Southern Railroad (approximately 86 track miles) in August 2015, and subsequently invested more than three million dollars to restore freight service. The R. J. Corman Railroad Company Carolina Lines ran its first train on March 25, 2016, however, due to the disrepair of the track prior to the acquisition, the trains are still limited to 5 and 10 miles per hour. In February 2019 R. J. Corman Railroad Company Carolina Lines and Horry County Government (South Carolina) are breaking ground on Moving the Carolinas Forward: A Rural Freight Rail Project, which will significantly improve the value of rail service to the region. The \$17.5 million project, funded by a Federal TIGER Grant as well as significant contributions from South Carolina and R. J. Corman, is expected to be completed over four years. The project will include replacing approximately 60,000 crossties, upgrading nine miles of rail, upgrading nine bridges with a complete rebuild on a 220-foot bridge that spans the Crab Tree Swamp in Conway, SC and rehabilitating 39 at-grade crossings.

South Carolina Central Railroad Company (SCRF) (GWR)

In 1987, RailTex, Inc. purchased two disconnected segments of railroad from CSXT located in Florence, Darlington, Chesterfield, and Lee Counties. The SC Central Railroad Company, Inc. (SCRF) began operations over the two line segments in December of that year. Genesee & Wyoming Inc., now owns the railroad and operates 41 miles of mainline. The one operational segment connects and interchanges traffic with CSXT at Florence and extends to Bishopville via Darlington, Floyd, and Hartsville. It has a broad base of customers, with the largest being Nucor Steel, Sonoco Products, and Republic Services. Commodities handled by the railroad are dominated by chemicals, plastics, steel, and waste. The other segment connected and interchanged traffic with CSXT at Cheraw and extended southward to Society Hill. Service is no longer provided on this segment and abandonment has been approved but not yet implemented.

2.2.3 Water

Ocean and inland water transport provide access to markets overseas and a low cost solution via barge and short sea shipping around the state and continent. With the globalization of the supply chain over the previous decades, the ability to transport materials and goods between continents has flourished. This movement is characterized by the increasing utilization of containerization. With this method as a standard, intermodal connectivity between ocean and landside transport eases cost and increases speed across the entire supply chain. The use of inland waterway and short sea shipping, a transport method having been in decline within the U.S., has experienced a minor renaissance with recent innovations and capital investment.

Significant water ports are illustrated in **Figure 2-9**. The SCPA operates six facilities, five of which are located in or near the city of Charleston. The sixth terminal is located in Georgetown SC, approximately 60 miles north of the area.

The states of Georgia and South Carolina have entered into a partnership called the Jasper Ocean Terminal Joint Venture to develop a container port along the Savannah River in South Carolina to provide both states future expansion opportunities (**Figure 2-10**). The Joint Venture is currently conducting studies and planning efforts to bring this project to fruition in the coming years. Best estimates demand this terminal to be operational in 2035.

The proposed Jasper Ocean Terminal (JOT) includes the construction and operation of a marine container terminal on an approximately 1,500-acre site along the north bank of the Savannah River in Jasper County, South Carolina. The JOT would increase the region's capacity to efficiently handle the forecasted cargo throughput into the hinterland market region over the next 35 years. The Georgia Ports Authority (GPA) currently operates the Garden City Terminal, approximately 8 miles upriver from the proposed JOT site, while the South Carolina Ports Authority (SCPA) operates several container terminals in Charleston, South Carolina, such as Wando Welch, Columbus Street, and North Charleston. Even with the opening of SCPA's Hugh Leatherman Terminal in 2019, both ports forecast the need for additional capacity to handle projected future containerized cargo throughput and minimize future operational limitations and efficiencies at the current and future ports' facilities.

The proposed JOT would be a state-of-the-art marine container terminal using efficient and sustainable technologies to transfer containerized cargo between container ships, over-the-road trucks, and intermodal rail cars. Elements of the terminal would include a pile supported wharf to accommodate approximately eight Neo-Panamax containerships, a container storage yard, intermodal rail yard, gate facilities to process entering and exiting over-the-road truck traffic, administrative buildings, and equipment service facilities. The proposed JOT would also include elements common to industrial sites such as a water tower, underground utilities, electrical substations, backup generators, high-mast lighting, storm water management facilities, perimeter fencing, and parking areas for personal vehicles.

Figure 2-9: Water Ports of South Carolina

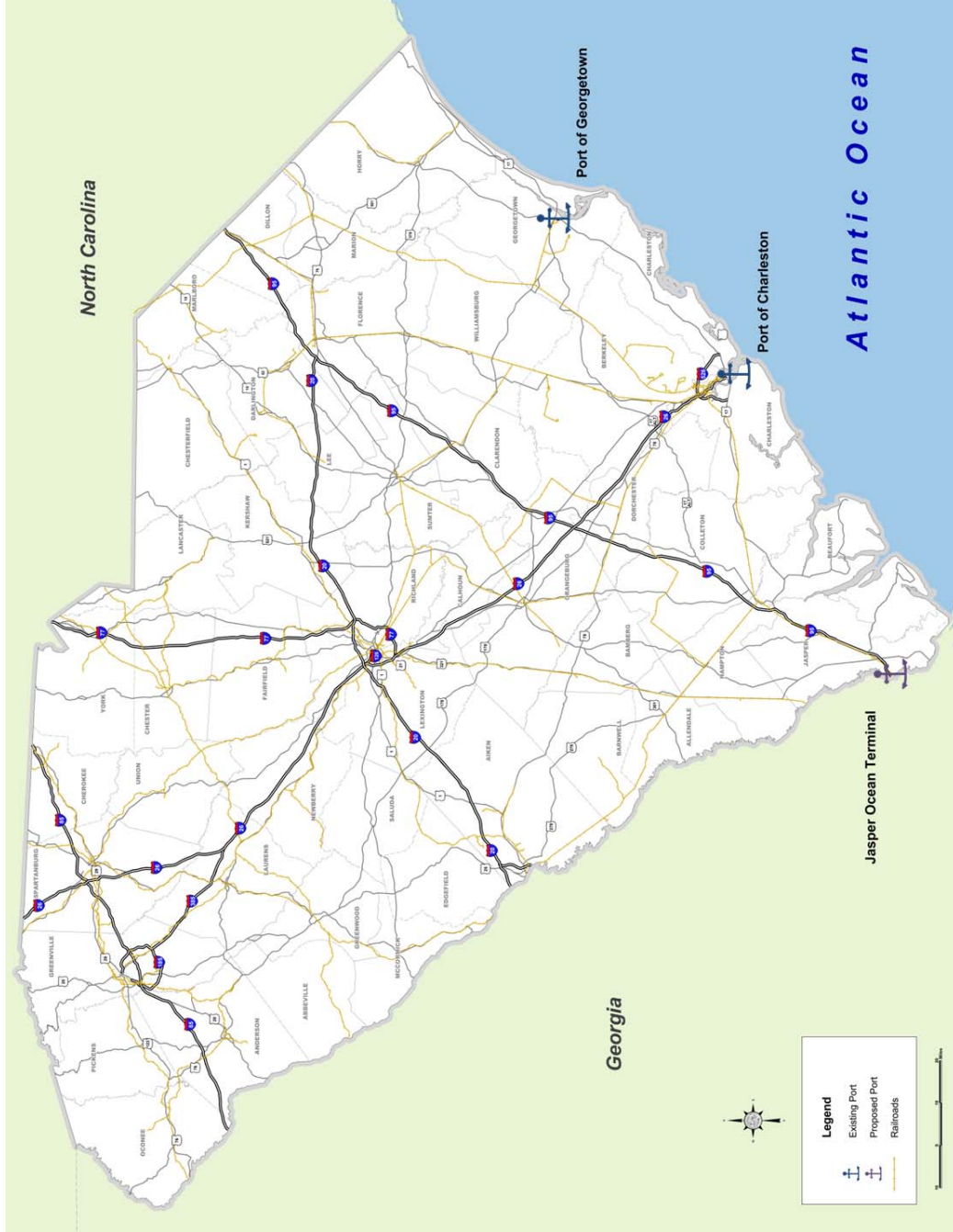
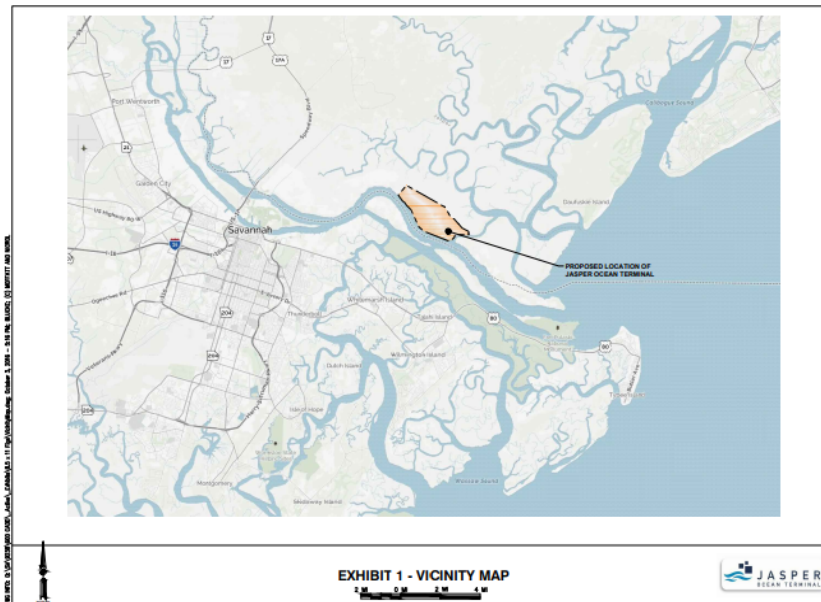


Figure 2-10: Proposed Jaster Ocean Terminal (JOT)



Source: <http://www.jasperoceanterminaleis.com/Project.aspx>

2.2.4 Air

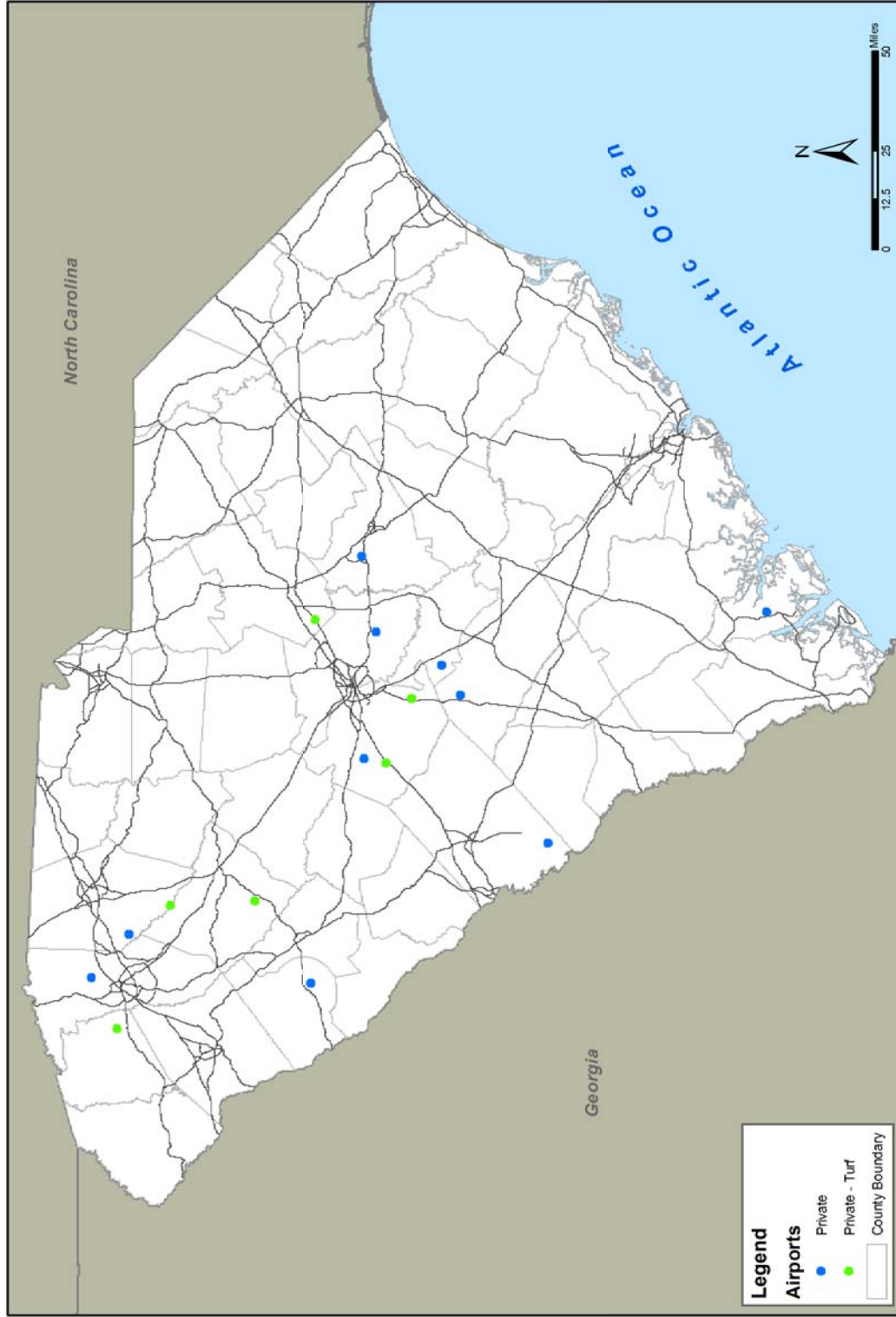
Air cargo consists of mail products and freight commodities. There are numerous entities that are participants in this mode, e.g. freight forwarders, deferred air carriers. The physical carriage of goods in this mode occurs on dedicated, cargo configured aircraft or in the “belly” or luggage compartments of passenger aircraft. With the transition to regional jets to service smaller markets (e.g. Columbia, Florence, Greenville-Spartanburg, and Charleston) major airlines and their regional partners have reduced the overall available space for air cargo. Increased requirements to satisfy elevated security for this cargo type has also decreased the amount of cargo by limiting the number of acceptable shippers at smaller airports. This reduction has shifted cargo to other modes or to consolidators or forwarders who transport these shipments to larger airports via ground transportation. A third factor in the reduction of air cargo volumes are economic conditions. As the asset costs (e.g. aircraft, fuel, and terminals) outweigh those of other modes, the cost to shippers is extremely high. As economic pressures influence transportation budgets, many former air customers shift to less costly but slower transportation modes by modifying the needs of their individual supply chains.

With the economic development pursuits of high technology industries, the need for accessible air transport, passenger and cargo, is a high priority in site selection. Other areas of the country have identified the need to understand the physicality of smaller airports and airfields located throughout their state to forecast potential investment needs to satisfy these site needs. **Figure 2-11:** illustrates those airports and fields open for public usage. Six are classified as “primary” by the FAA as they accommodate greater than 10,000 enplanements annually. There are an additional forty-five general aviation airports and two reliever airports available for public use. **Figure 2-12** illustrates the airfields that are currently designated for private use. These include both military and civilian airfields.

Figure 2-11: Airports and Airfields, Public Access, South Carolina



Figure 2-12: Airports and Airfields, Private Access, South Carolina

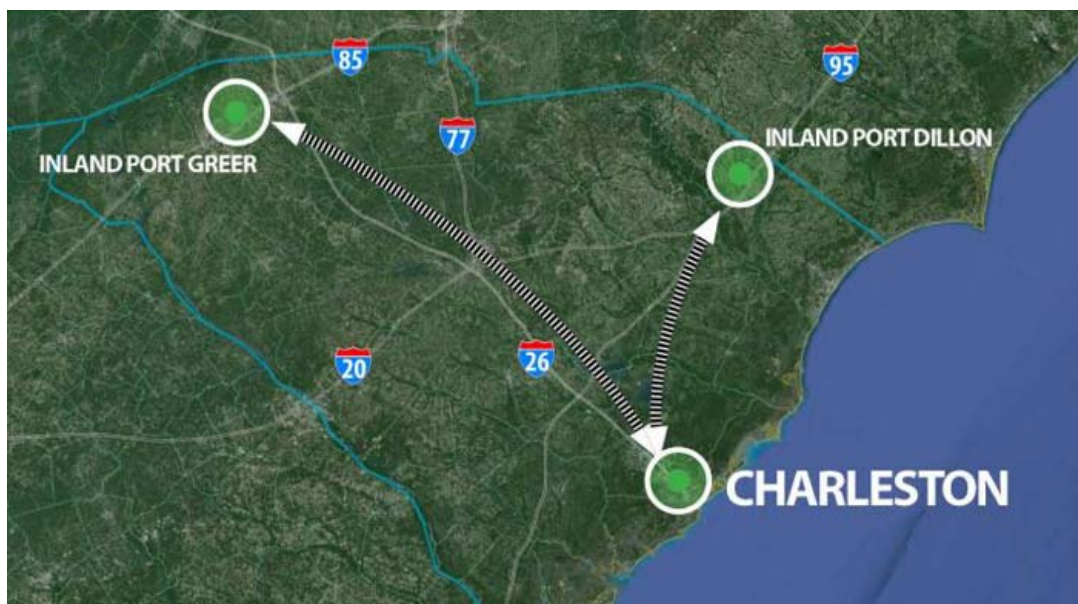


2.2.5 Freight Transfer Facilities

To facilitate the efficient usage of individual modes, in a multimodal system, nodes of interactivity are necessary. These nodes, commonly referred to as “intermodal”, provide the equipment and real estate to productively move goods from one mode to another, e.g. truck and rail. Within the state four significant examples of intermodal facilities exists

Two “rail-truck” intermodal facilities exist in North Charleston: Norfolk Southern and CSXT. A third facility has been operating in Greer since October 2013 and a fourth facility recently opened in Dillon in April 2018. Furthermore, a new container port terminal is currently under construction in Charleston. One “air-truck” facility exists in Columbia: UPS. **Figure 2-13** identifies operational Inland Ports/Terminals in South Carolina:

Figure 2-13: Location of Existing and Proposed Inland Ports/Terminal in South Carolina



An additional intermodal facility has been constructed near the Charlotte-Douglas airport in Charlotte, NC on the Norfolk Southern Crescent Corridor. While outside of South Carolina, this facility is served by I-85 and I-77 in South Carolina.

2.3 Statewide Freight Network

2.3.1 National Highway Freight Network

The FAST Act repealed both the Primary Freight Network and National Freight Network from MAP-21 and directed the FHWA Administrator to establish a National Highway Freight Network (NHFN) to strategically direct Federal resources and policies toward improved performance of highway portions of the U.S. freight transportation system. The NHFN includes the following subsystems of roadways:

- **Primary Highway Freight System (PHFS):** This is a network of highways identified as the most critical highway portions of the U.S. freight transportation system determined by measurable and objective national data. The network consist of 41,518 centerlines miles,

including 37,436 centerline miles of Interstate and 4,082 centerline miles of non-Interstate roads.

- **Other Interstate portions not on the PHFS:** These highways consist of the remaining portion of Interstate roads not included in the PHFS. These routes provide important continuity and access to freight transportation facilities. These portions amount to an estimated 9,511 centerline miles of Interstate, nationwide, and will fluctuate with additions and deletions to the Interstate Highway System.
- **Critical Rural Freight Corridors (CRFCs):** These are public roads not in an urbanized area which provide access and connection to the PHFS and the Interstate with other important ports, public transportation facilities, or other intermodal freight facilities.
- **Critical Urban Freight Corridors (CUFCs):** These are public roads in urbanized areas which provide access and connection to the PHFS and the Interstate with other ports, public transportation facilities, or other intermodal transportation facilities.

Prior to designation of CRFCs and CUFCs, the Interim NHFN consists of the PHFS and other Interstate portions not on the PHFS, for an estimated total of 51,029 centerline miles.

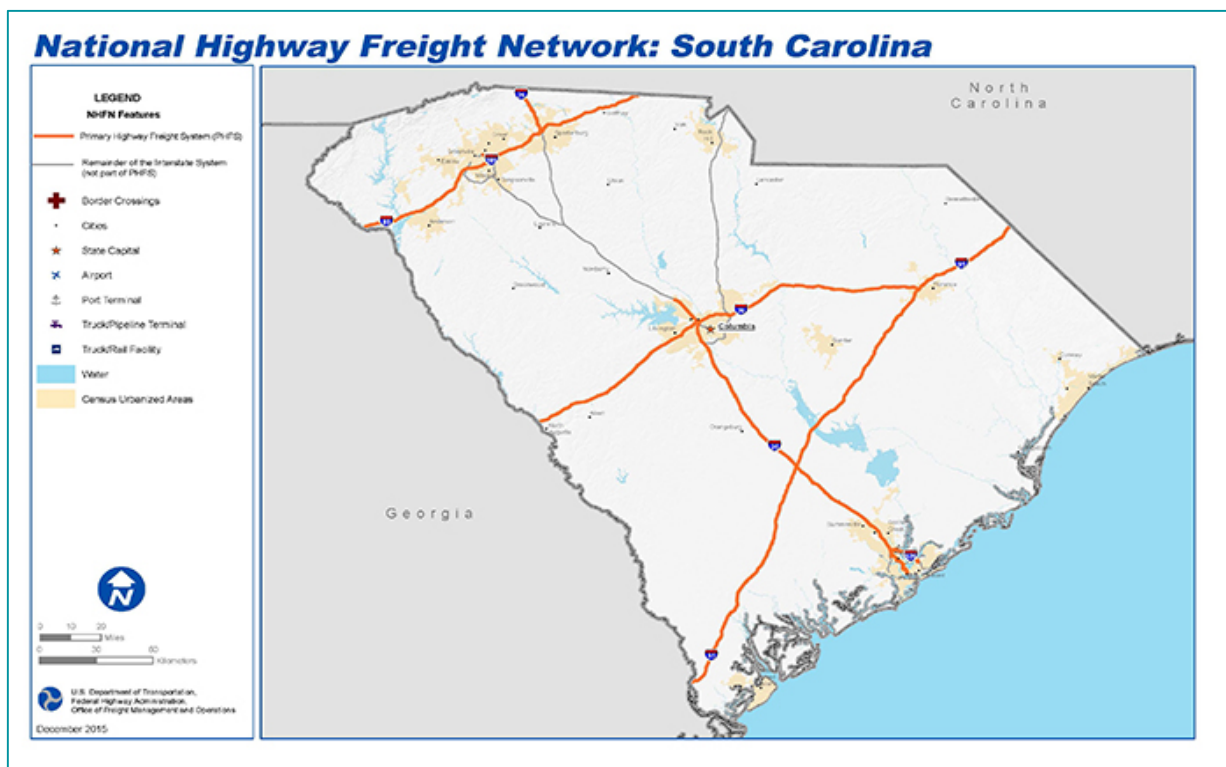
Figure 2-14: shows the Primary Highway Freight System (PHFS) plus remaining Interstates not on the HFS, approximately 51,029 miles of roads (December 2015). These routes are identified as the most critical highway portions of the U.S. freight system and that is informed by measurable and objective national data.

Figure 2-14: National Highway Freight Network – Primary Highway Freight System



Figure 2-15 indicates the portions of the National Highway Freight Network system within South Carolina.

Figure 2-15: National Highway Freight Network (South Carolina)



Source: http://ops.fhwa.dot.gov/freight/infrastructure/ismt/state_maps/states/south_carolina.htm

2.3.1.1 Critical Rural and Urban Freight Corridors

CRFCs and CUFCs are important freight corridors that provide critical connectivity to the NHFN. By designating these important corridors, States can strategically direct resources toward improved system performance and efficient movement of freight on the NHFN. The designation of CRFCs and CUFCs will increase the State's NHFN, allowing expanded use of National Highway Freight Program (NHFP) formula funds and FASTLANE or INFRA Grant Program funds for eligible projects that support national goals identified in 23 U.S.C. 167(b) and 23 U.S.C. 117(a)(2).

States and in certain cases, Metropolitan Planning Organizations (MPOs), are responsible for designating public roads for the CRFCs and CUFCs in accordance with section 1116 of the FAST Act. State designation of the CRFCs is limited to a maximum of 150 miles of highway or 20 percent of the PHFS mileage in the State, whichever is greater. South Carolina is limited to a maximum of 150 miles of designated CRFCs. State and MPO designation of the CUFC is limited to a maximum of 75 miles of highway or 10 percent of the PHFS mileage in the State, whichever is greater. South Carolina is limited to a maximum of 75 miles of designated CUFCs

Critical Rural Freight Corridors (CRFC): 23 U.S.C. 167(e) identifies the requirements for designating CRFCs. A State may designate a public road within the borders of the State as a CRFC if the public road is not in an urbanized area and meets one or more of the following seven elements:

1. is a rural principal arterial and has a minimum of 25 percent of the annual average daily traffic of the road measured in passenger vehicle equivalent units from trucks (Federal Highway Administration vehicle class 8 to 13);
2. provides access or service to energy exploration, development, installation, or production areas;
3. provides access or service to-
 - a. a grain elevator;
 - b. an agricultural facility;
 - c. a mining facility;
 - d. a forestry facility; or
 - e. an intermodal facility;
4. connects to an international port of entry;
5. provides access to a significant air, rail, water, or other freight facility in the State; or
6. has been determined by the State to be vital to improving the efficient movement of freight of importance to the economy of the State.

First and last mile connectivity is essential to an efficiently functioning freight system. These public roads provide immediate links between such freight generators as manufacturers, distribution points, rail intermodal and port facilities and a distribution pathway. FHWA encourages States, when making CRFC designations, to consider first or last mile connector routes from high-volume freight corridors to key rural freight facilities, including manufacturing centers, agricultural processing centers, farms, intermodal, and military facilities.

Critical Urban Freight Corridors (CUFC): 23 U.S.C. 167(f) identifies the requirements for designating CUFCs. In an urbanized area with a population of 500,000 or more individuals, the MPO, in consultation with the State, may designate a CUFC. In an urbanized area with a population of less than 500,000 individuals, the State, in consultation with the MPO, may designate a CUFC.

A public road designated as a CUFC must be in an urbanized area, regardless of whether the population is above or below 500,000 individuals, and meet one or more of the following four elements:

1. connects an intermodal facility to:
 - a. the PHFS;
 - b. the Interstate System; or
 - c. an intermodal freight facility;
2. is located within a corridor of a route on the PHFS and provides an alternative highway option important to goods movement;
3. serves a major freight generator, logistic center, or manufacturing and warehouse industrial land; or
4. is important to the movement of freight within the region, as determined by the MPO or the State.

FHWA encourages States, when making CUFC designations, to consider first or last mile connector routes from high-volume freight corridors to freight-intensive land and key urban freight facilities, including ports, rail terminals, and other industrial-zoned land.

The State, in consultation with urbanized areas with a population of less than 500,000 ([2010 Census Urban and Rural Classification and Urban Area Criteria webpage](#)), designated CUFC routes. The MPOs with urbanized areas population of more than 500,000 (Charleston and Columbia), consulted with the State, is designating the CUFCs in their areas. SCDOT's proposed CUFCs for this 2019 Freight Plan update are found in **Appendix C** of this document.

2.3.2 Freight Movement in South Carolina

Over 465 million tons of freight, valued at nearly \$739 billion, moved across South Carolina's freight network in 2016. While the predominant form of transport of freight in South Carolina is by truck, the state is also served by a system of Class I and short line railroads, marine port terminals, inland port terminals, six primary public airports and a range of intermodal facilities. Trucking accounts for the largest modal share: 375.1 million tons (81.0 percent) valued at \$611.8 billion (83 percent). Rail comprises the second largest modal share at 63.2 million tons (14 percent) and \$93.6 billion (13 percent). Major truck and rail tonnage movements are followed by pipeline, water and air respectively.

In 2017, the logistics sector, comprised of Retail Trade, Wholesale Trade and Transportation, Warehousing and Utilities industries, accounted for 19.1 percent of all South Carolina employment, illustrating the significance of the transportation and logistics industry in the state. In the same year, manufacturing, a freight intensive industry, accounted for 11 percent of total employment in South Carolina.¹⁰ In recent decades, multi-national companies, including BMW and Boeing as well as large tire manufacturers, including Continental, Michelin and Bridgestone have located major facilities in the state. In addition, the U.S. Department of Defense, a significant driver of freight demand, has installations for all five branches of the military in the state. With a large percentage of freight moved by truck through the state, the estimated 4.4 million trips made annually by out-of-state leisure visitors has a substantial impact on the movement of goods across the state's roadway network.¹¹ As is evident, the movement of goods along all modes is critical in South Carolina.

Understanding the supply chain and providing sufficient connections between modes is important to the economic vitality of the state. Site selection practices by current and future businesses evaluating South Carolina look to the availability and capacities of the freight transportation system to move raw materials, sub-assemblies, and finished goods along the supply chain. Modal selection is done by a process of evaluating each mode with six criteria: transit times, reliability, cost, capacity, safety and accessibility.

¹⁰ <http://www.sccommerce.com/research-data>

¹¹ <http://www.scprt.com/research>

Preserving and enhancing the infrastructure that moves goods through and within the state for all modes is important. Continuing to provide important connections for freight generators/attractors to the routes moving freight and connections between modes is critical in retaining existing industries and attracting new industries in the state. Identifying a Statewide Freight Network including roadway and railway networks and the nodes they connect is an important step in identifying what corridors and assets are important to the movement of freight.

2.3.3 Freight Transportation Goals and Objectives for South Carolina

A number of goals have been identified and developed as part of the planning process for the South Carolina Multimodal Transportation Plan (MTP) to support the vision statement of the plan. The vision statement established for the MTP is as follows:

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

The goals for the South Carolina Statewide Freight Plan (SFP) incorporate the goals of the MTP as well as goals identified for a freight plan within FAST Act legislation (23 U.S.C. 167). As a result, the goals for the SFP encompass specific goals for the state while incorporating the National Freight Policy goals to be consistent with these. The specific goals of the South Carolina SFP are as follows:

- Mobility and System Reliability Goal
- Safety Goal
- Infrastructure Condition Goal
- Economic and Community Vitality Goal
- Environmental Goal
- Equity Goal

Objectives and guiding principles have also been developed for each of the goal areas. In addition, performance measures have been developed for each objective in order to provide a base reference point and understanding of the performance of the goods movement network in South Carolina.

2.3.4 South Carolina Statewide 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, regional airports, inland ports, rail lines and highways. Preserving the infrastructure that supports the movement of goods into, through and out of the state and improving the efficiency and reliability of the existing system is important to the economy of the state.

By identifying a Statewide Freight Network, SCDOT is in a better position to make informed decisions regarding projects to improve the efficiency of the freight infrastructure. The efforts to improve the efficiency and reliability can be strategically focused on the network identified in this planning process. Performance measures identified to measure the current system and the future performance of the system can be applied to the Statewide Freight Network to focus on the performance of the strategic network. The South Carolina Statewide Freight Network identifies

those routes and assets on which to plan for funding and projects to facilitate and improve freight movement.

2.3.4.1 Statewide Network Evaluation Criteria

The South Carolina Statewide Freight Network was developed using various information sources and a number of criteria. The network takes into account all modes of transporting freight including the physical networks – roadways and railroads, as well as the nodes that they connect – airports, water ports and significant freight transfer facilities.

2.3.4.2 Airports, Water Ports and Inland Port

All six of the “primary” public airports are included in the Statewide Freight Network. Airports provide transport of goods that are often high value and require timely delivery.

The water ports described above are all included in the Statewide Freight Network, including the developing container terminal in North Charleston. These facilities provide important access of waterborne freight for exports and imports internationally as well as movements across states.

The inland ports in Greer and Dillon are included in the Statewide Freight Network for their ability to provide an important connection between truck and rail freight movement. The inland port in Greer is located in the Northwest portion of the state while the inland port in Dillon is located in the Northeast portion of the state. Both can provide important connections to the Norfolk Southern Class I railroad, CSX Class I railroad and the roadway system. Each allows for the transfer of shipping containers between rail and truck for shipment to and from the coastal water ports.

These facilities are included in the Statewide Freight Network and are used in developing the roadway and railway portions of the network. The Statewide Freight Network should include routes that provide connectivity to the overall system to and from these assets.

2.3.4.3 Statewide Freight Network

The mission of SCDOT is to connect communities and drive our economy through the systematic planning, construction, maintenance and operation of the state highway system and the statewide intermodal transportation and freight system. It is SCDOT’s vision to rebuild our transportation system in order to provide adequate, safe and efficient transportation services for the movement of people and goods in the Palmetto state.

Focusing on SCDOT’s strategic priority to “increase mobility along the freight network,” the South Carolina Statewide Freight Network (SFN) was updated with freight tonnage growth as the driving factor in determining the network. Utilizing TRANSEARCH, a comparison of truck freight tonnage growth on South Carolina roadways between 2016 and 2040 was evaluated. Truck freight tonnage is estimated to increase from 375 million tons (2016) to 600 million tons (2040); truck commodity value is forecast to increase from \$612 billion in 2016 to \$1.18 trillion by 2040. Forecasts are detailed in Chapter 3 of this plan.

While truck AADT, percent truck and freight value were considered as SFN evaluation factors, truck freight tonnage estimates for 2040 were utilized as the primary contributing factor in determining which routes should be maintained, added or deleted from the 2014 Statewide Freight Network baseline map. Connectivity to freight generators, key intermodal facilities and

South Carolina's Interstate network, along with neighboring freight networks in Georgia and North Carolina, was a determining factor as well.

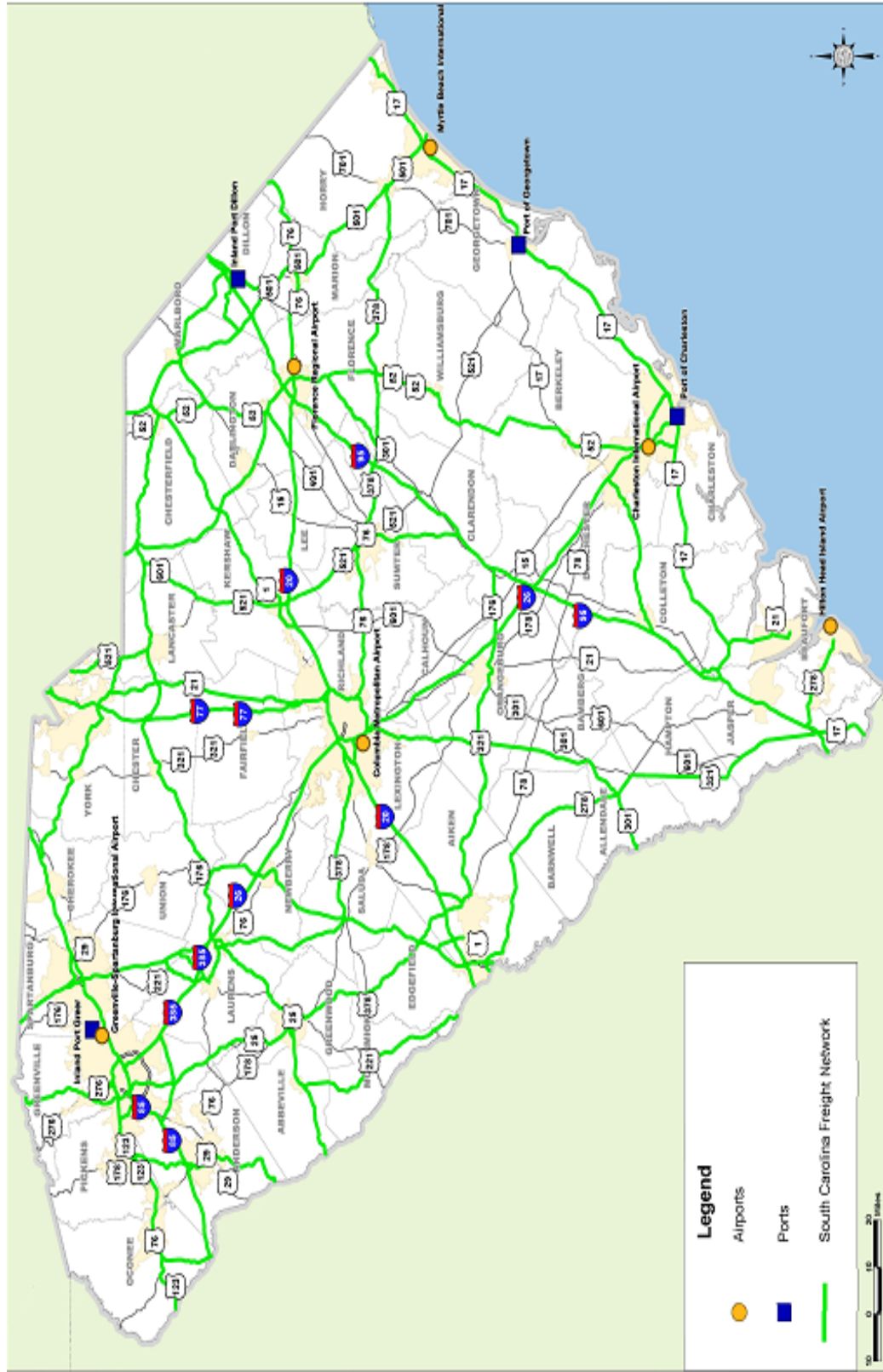
Once year 2040 tonnage was established as the sole factor to be used, a review of the pre-existing statewide freight network was undertaken to determine what currently existed. Over the course of the review, it was noted that year 2040 freight tonnage ranged from greater than 50 million tons to less than 1 million. The majority of roads were those which carried less than 1 million tons, and frequently included roads which were not useful in the movement of freight or predominantly of local importance. When highways greater than one million tons were considered, those remaining were predominantly primary and secondary routes which were designed to efficiently move freight within and through the state and typically connected with the SC interstate system or freight generator locations. Outreach regarding oversize/overweight (OSOW) needs and observations was also conducted. Most needs and route designations for OSOW corresponded with routes that were identified as carrying over 1 million tons in year 2040.

Given the evaluation as explained above, it was determined that statewide freight network designation would consist of roads and highways projected to carry at least one million tons of freight or greater in year 2040 and provided appropriate connectivity to freight generators, key intermodal facilities and South Carolina's Interstate network. Public comment on the proposed update to the Statewide Freight Network was conducted through the SCDOT Freight Mobility Survey in September/October 2019. Outreach was also accomplished by evaluating routes identified as important to regional economic growth and mobility by the Councils of Governments and Metropolitan Planning Organizations. As well, Georgia and North Carolina Freight Planning Office staff reviewed routes for connectivity. **Figure 2-16** illustrates the updated Statewide Freight Network with projected tonnage of 1 million or greater in 2040 and totals 2,362 miles.

2.3.4.4 Rail

The Statewide Freight Network includes all active lines on the Class I and Class III railroads throughout the state.

Figure 2-16: Statewide Freight Network



2.3.5 Current Conditions of the Statewide Freight Network

Preserving the assets that are part of the Statewide Freight Network is important to improve and sustain the reliability and efficiency of the goods movement network in South Carolina. Congestion, bottlenecks, weight restrictions, clearance restrictions and at-grade railroad crossings are factors that impact the reliability of a system. The Statewide Freight Network identifies the roadway and rail networks that provide through state and cross-regional movement as well as connections to the nodes of the network that include ports, airports and inland freight facilities. These networks have been identified as important to the flow of goods. This section provides information regarding the current condition of the network.

2.3.5.1 Interstate System

All interstates through South Carolina are included in the Statewide Freight Network, except I-85 Business in Spartanburg. The existing conditions of the system as well as bottlenecks and locations of recurring congestion were analyzed and evaluated.

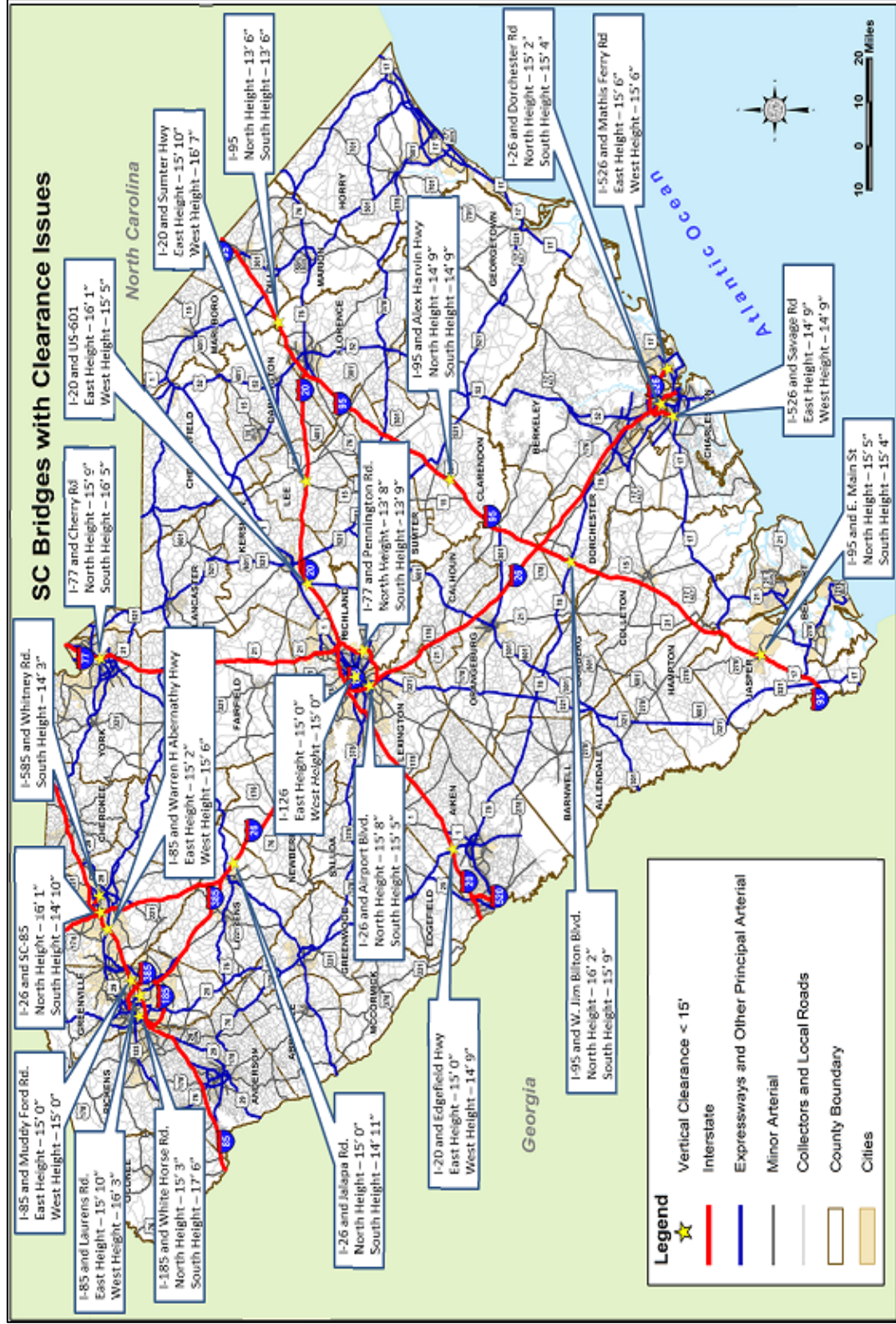
As reported by the SCDOT Planning Office, Transportation Asset Management Unit, the majority of Interstate centerline miles are categorized as being in good condition (74 percent), with 14 percent in fair condition and the remaining 12 percent in poor condition (2018). Though the majority of the Interstate system in South Carolina currently has a pavement rating of good and the state continues to add service life to the system through a resurfacing program, there has still been a net loss in service life due to deterioration. Between 2013 and 2018, the Interstate roads, gained 14,590 miles of service life year. At the same time however, the Interstate roads lost 22,798 miles of service life resulting in a net loss of 8,208 miles of service life for the five year period.

There are 544 bridges on urban interstates and 568 on rural interstates in South Carolina.¹² Of these bridges, there were seven weight restricted bridges on the statewide freight network, four along I-85 and three along I-26 as of the 4th Quarter of 2018. During this same period, there were also 122 bridges on or over the interstates which had vertical clearance restrictions less than 16 feet. Interstate 20 features 12 such bridges, 10 on the route and 2 over the interstate. Interstate 26 features 41 bridges, 13 on the route and 28 over the route. Interstate 77 features 4 bridges, all on the route. Interstate 85 features 25 bridges, 6 on the route and 19 over the route. Interstate 95 features 23 bridges; 21 on the route and 2 over the route. Interstates 126, 185, 526 and 585 respectively feature the following bridges. Interstate 126, 3 bridges total, all on the route; Interstate 185, 4 bridges total, 3 on the route and 1 over the route; Interstate 526, 8 bridges total, all on the route and Interstate 585, 2 bridges total, one on the route and one over the route. These clearance restrictions along or over the interstates impact the movement of freight along these corridors. **Figure 2-17:** illustrates these bridges with the associated cross street.

Since the initial freight plan was completed in 2014, work to reduce the number of bridges with clearance issues statewide remains an ongoing effort. Many of the bridges identified as having clearance or weight restrictions are being replaced as part of ongoing and planned Interstate capacity projects.

¹² SCDOT Road Data Services, Bridge Count for 4th quarter 2018

Figure 2-17: Bridges with Clearance Issues



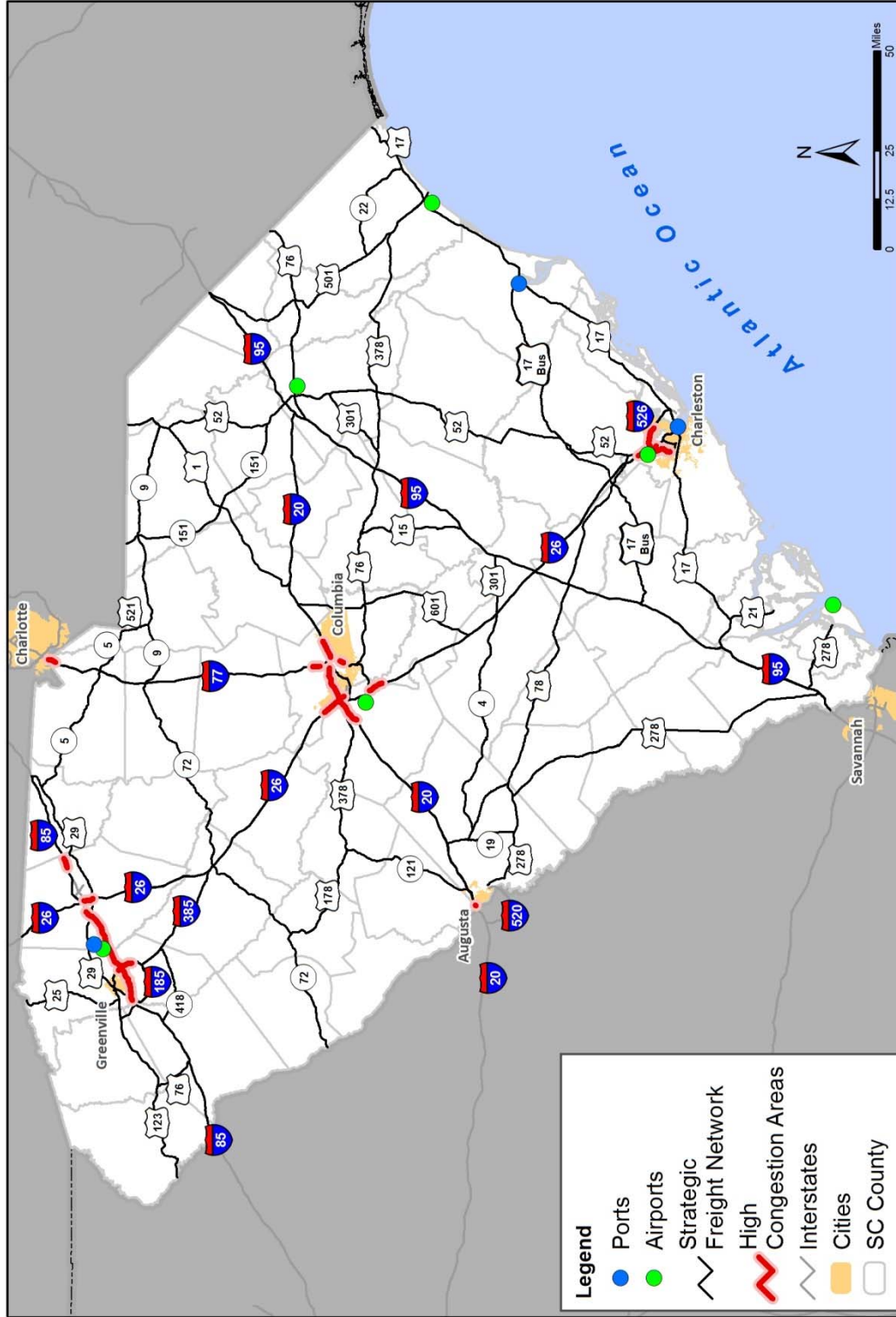
Source: SCDOT Office of Road Data Services, Bridge Data as of Quarter 4, 2018

Density and Level of Service analyses were completed for the interstate system in South Carolina as part of the SC MTP. This analysis identified bottlenecks and congested corridors along the interstates. No points of recurring congestion or bottlenecks were identified along I-95, I-185, I-520, or I-585. The following describes the congestion points and bottlenecks along the other interstates. **Figure 2-18** illustrates these locations.

- **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. It should be noted that this segment is currently under construction for widening from four to six lanes. In addition, during the PM peak hour, the bottleneck points along I-20 include the three interchanges with Broad River Road, I-26, and U.S. 378.
 - **I-77 Interchange:** No mitigation activity is presently underway or proposed for this interchange.
 - **Clemson Road Interchange:** Widening activities are taking place along Clemson Road near the Clemson Road interchange through the Richland Pennies for Progress program. These activities are expected to help improve how the interchange functions which in turn should help alleviate traffic issues through the interchange.
 - **Broad River Road Interchange-SCDOT Response:** It is expected that the bottleneck issue will be addressed through the Carolina Crossroads Project. The Carolina Crossroads Project seeks to improve mobility and enhance traffic operations by reducing existing traffic congestion within the I-20/26/126 corridor while accommodating future traffic needs. Future information regarding the Carolina Crossroad Project is seen at <http://www.scdotcarolinacrossroads.com>.
 - **I-26 Interchange:** It is expected that the bottleneck issue will be addressed through the Carolina Crossroads Project.
 - **US-378 Interchange:** Intersection improvements are proposed at US 378 and Corley Mill Road. It is expected that the improvements to the intersection will alleviate the current backups currently seen between Corley Mill Road and I-20 and will allow the interchange to better function which in turn should help alleviate traffic issues through the interchange.
- **I-26:** In the Columbia area, the I-20 interchange is the primary bottleneck point during the AM peak hour and the I-20 and St. Andrews Road interchanges are the primary bottleneck points during the PM peak hour. 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.
 - **I-20 Interchange:** It is expected that the bottleneck issue will be addressed through the Carolina Crossroads Project.
 - **St Andrews Road Interchange:** It is expected that the bottleneck issue will be addressed through the Carolina Crossroads Project.
 - **US 52 Connector/Ashley Phosphate Interchange:** No mitigation activity is presently underway or proposed for this interchange.

- I-526 Interchange: The I-526 West Project is expected to address bottlenecks along the I-526 corridor. It is anticipated that a design build contract will be entered into in 2022 and construction is initially expected to be complete by 2027. Further information regarding the I-526 West Project is seen at: <https://www.526lowcountrycorridor.com/west>
- 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.
 - I-77 Approaching Forest Drive: No mitigation activity is presently underway or proposed for this interchange.
- 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.
 - Woodruff Road/I-385 Interchange: I-85 is currently being widened from six (6) lanes to eight (8) lanes from near Exit 40 to near Exit 69. It is anticipated that the end of construction activities combined with the improvements to I-85 will help alleviate traffic issues through the interchange.
- I-126: The I-26 interchange is the primary bottleneck along I-126 westbound during the PM peak hour.
 - I-126 Interchange: It is expected that the bottleneck issue will be addressed through the Carolina Crossroads Project.
- I-385: The primary bottleneck along I-385 is the interchange with I-85.
 - I-85 Interchange: I-85 is currently being widened from six (6) lanes to eight (8) lanes from near Exit 40 to near Exit 69. It is anticipated that the end of construction activities combined with the improvements to I-85 will help alleviate traffic issues through the interchange.
- 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.
 - At I-26 Interchange: The I-526 West Project is expected to address bottlenecks along the I-526 corridor. It is anticipated that a design build contract will be entered into in 2022 and construction is initially expected to be complete by 2027.
 - At Leeds Avenue Merge: The I-526 West Project is expected to address bottlenecks along the I-526 corridor. It is anticipated that a design build contract will be entered into in 2022 and construction is initially expected to be complete by 2027.
 - At Paul Cantrell Boulevard Interchange: The I-526 West Project is expected to address bottlenecks along the I-526 corridor. It is anticipated that a design build contract will be entered into in 2022 and construction is initially expected to be complete by 2027.

Figure 2-18: Freight Bottleneck Locations (2011/2019)



This page intentionally left blank

3.1 Current Freight Trends

Over 465 million tons of freight moved across South Carolina’s infrastructure in 2016. Such freight includes finished goods, materials, and supplies. Classified as commodities, this chapter summarizes tonnage movements and their associated values. Following an overview of the commodity reporting convention and the primary data source used to evaluate freight flows and values, current year volumes are summarized by mode and direction.

3.1.1 Overview

South Carolina freight movements are evaluated by mode, direction, quantity, and year using TRANSEARCH data. Modes include truck, rail, port, air, and pipe. Directional flows include inbound (from outside the state into South Carolina), outbound (from South Carolina to another state/country), intrastate, and through-state and provide key information in assessing the role of freight in the South Carolina economy. Freight quantities include tons, units,¹³ and values (expressed in 2016 constant dollars). Movements are summarized for the most recent year available (2016) and the Statewide Freight Plan’s planning horizon year of 2040.

Standard Transportation Commodity Code (STCC) – STCC is a publication containing specific product information used on waybills and other shipping documents. A STCC is a seven digit code categorized by 38 commodity groupings. A STCC for any physical product is associated with a commodity description conforming to exact descriptions in freight transportation classifications of rail and motor carriers.¹⁴ STCC is maintained and published by the Association of American Railroads (AAR), and updated annually to meet user needs, particularly North American Freight Railroads. The Railroad Waybill, 1993 Commodity Flow Survey (CFS), and TRANSEARCH use the STCC coding system. The hierarchical STCC structure allows data collapsibility, enabling summarization of commodity information at various levels. For example, the 2-digit STCC of ‘01’ represents ‘Farm Products,’ the 3-digit of ‘011’ identifies ‘Field Crops,’ the next level ‘0112’ indicates ‘Raw Cotton.’ While freight flows are tallied at the 4-digit STCC level, information is typically reported at the 2-digit commodity level.¹⁵

TRANSEARCH® – Developed by IHS Global Insight, TRANSEARCH is a comprehensive database of North American freight flows, compiled from more than a hundred industry, commodity, and proprietary data exchange sources. TRANSEARCH combines primary shipment data obtained from some of the nation’s largest rail and truck freight carriers with information from public, commercial, and proprietary sources to generate a base year estimate of freight flows at the county level. Further, TRANSEARCH establishes market-specific production volumes by industry or commodity, drawn mostly from IHS Global Insight’s Business Markets Insights (BMI) database, and supplemented by trade association and industry reports, and U.S. government-collected data – especially from the Input/Output (I/O) tables produced by the Bureau of Economic Analysis (BEA). Note that waterborne port movements reported by TRANSEARCH exclude foreign

¹³ units are unavailable for air, port, and pipe modes

¹⁴ Rail Inc.; <https://www.railinc.com/rportal/37>

¹⁵ Freight Analysis Framework (FAF): Issues and Plans, U.S. DOT Federal Highway Administration; http://ops.fhwa.dot.gov/freight/freight_analysis/faf/faf2_reports/report4/rpt4_commodity_class.pdf

non-NAFTA movements (i.e., to/from Europe, Asia, South America, etc.), as discussed subsequently.

Freight Analysis Framework (FAF) - The Freight Analysis Framework (FAF), produced through a partnership between BTS and FHWA, integrates data from a variety of sources to create a comprehensive picture of freight movement among states and major metropolitan areas by all modes of transportation. Starting with data from the 2012 Commodity Flow Survey (CFS) and international trade data from the Census Bureau, FAF incorporates data from agriculture, extraction, utility, construction, service, and other sectors. FAF version 4 (FAF4) provides estimates for tonnage, value, and ton-miles by regions of origin and destination, commodity type, and mode. As of the development of this Freight Plan update in early 2019, FAF data are available for the base year of 2012, the recent years of 2013-2016, and forecasts from 2020 through 2045 in 5-year intervals. Data may be accessed through the Data Extraction Tool, downloaded as a complete database, or in summary files.

3.1.2 Freight Summary

Over 465 million tons of freight, valued at nearly \$739 billion, moved across South Carolina's freight network in 2016. Trucking accounts for the largest modal share: 375.1 million tons (81 percent) valued at \$611.8 billion (83 percent). Rail comprises the second largest modal share at 63.2 million tons (14 percent) and \$93.6 billion (13 percent). Major truck and rail tonnage movements are followed by pipeline, water and air, respectively.

Directionally, through traffic comprises the largest share: 229 million tons (49.2 percent) valued at \$417.5 billion (56.5 percent). State inbound tonnages (97.6 million, 21 percent) are slightly greater than outbound (87.2 million, 18.8 percent); but, outbound values (\$144.2 billion, 19.5 percent) are notably greater than inbound values (\$115.6 billion, 15.6 percent), indicating a relative trade value surplus. As such, on average, the state imports lower value-per-ton commodities and exports higher-value-per-ton commodities. This suggests that South Carolina imports raw materials used in the production of value-added goods and then exports processed goods. Lastly, intrastate goods movements comprise the smallest directional movement by volume (51.1 million tons, 11 percent) and value (\$61.7 billion, 8.4 percent).

Tonnage and value movements are summarized by mode and direction in

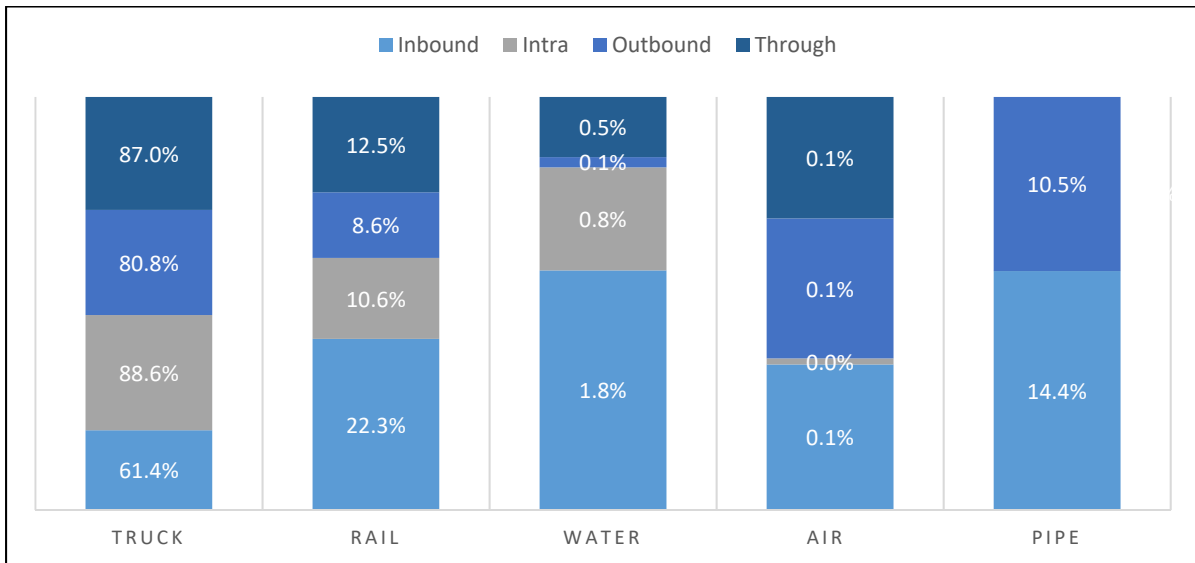
Table 3-1 and relative tonnage and value shares are illustrated in **Figure 3-1** and **Figure 3-2**. The ensuing sections aggregate the modal and directional freight flows by major commodity type and domestic trading partners with South Carolina.

Table 3-1: South Carolina Total Freight Traffic by Mode and Direction (2016)

Direction	Truck	Rail	Water	Air	Pipe	Total
Tons						
Inbound	59,934,986	21,811,904	1,767,954	66,756	14,051,968	97,633,568
Intra	45,289,394	5,404,653	397,996	1,461	353	51,093,857
Outbound	70,535,532	7,484,310	66,869	57,450	9,154,090	87,298,251
Through	199,287,208	28,539,454	1,043,533	130,925	N/A	229,001,120
Total	375,047,119	63,240,321	3,276,352	256,592	23,206,411	465,026,795
Value, in millions						
Inbound	\$87,724	\$16,867	\$180	\$7,337	\$3,447	\$115,554
Intra	\$49,863	\$11,712	\$94	\$71	\$0.086	\$61,740
Outbound	\$122,340	\$11,629	\$35	\$8,250	\$1,966	\$144,220
Through	\$351,912	\$53,391	\$272	\$11,967	N/A	\$417,542
Total	\$611,839	\$93,599	\$581	\$27,625	\$5,413	\$739,056

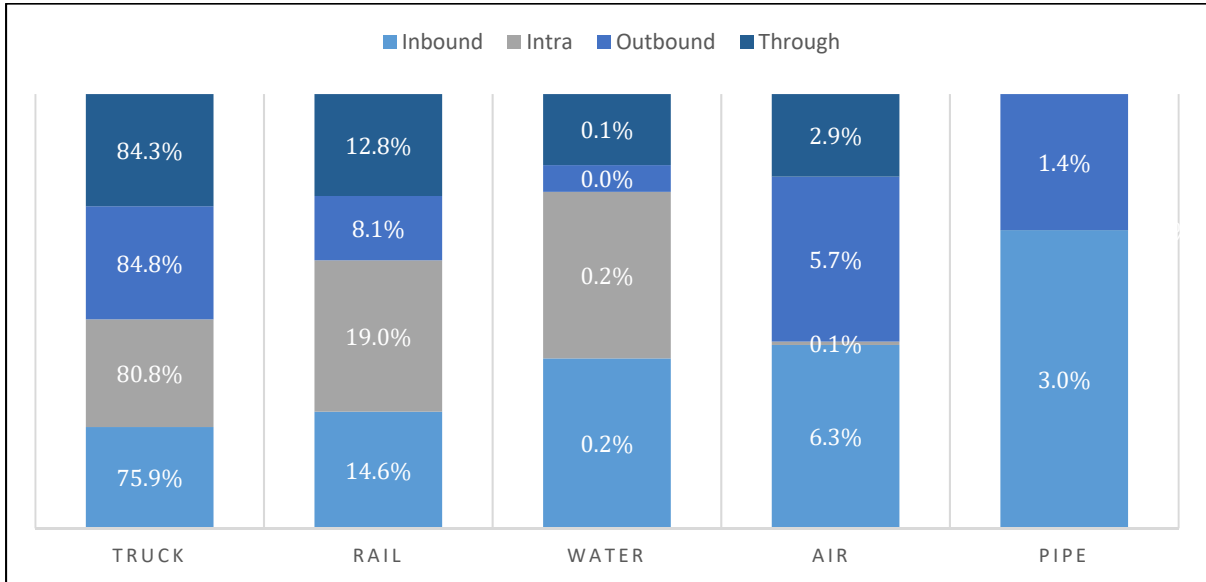
Source: TRANSEARCH and FAF 4 data for 2016

Figure 3-1: South Carolina Freight Traffic by Mode and Direction (2016 Tons)



Source: TRANSEARCH data for 2016

Figure 3-2: South Carolina Freight Traffic by Mode and Direction (2016 Value)



Source: TRANSEARCH data for 2016

3.1.3 Current Freight Flows

The following discussion presents year 2016 freight flows by mode and direction. Each subsection summarizes modal directional flows by the top ten two-digit STCC commodity movements.

3.1.3.1 Truck Freight

South Carolina truck movements in 2016 totaled 375.1 million tons, valued at \$611.9 billion, and carried within 30.8 million units, as shown in **Table 3-2**. On average, total truck commodity movements are valued at \$1,631/ton. Through truck movements are the largest directional movements, 53.1 percent of total tonnage, 48.8 percent of units, and 57.5 percent of value. At nearly \$1,766 per ton, through movements are also the most valuable per-ton (on average) of the directional movements. Outbound truck tonnage (70.5 million) and value (\$122.3 billion) are greater than inbound movements (59.9 million tons, \$87.7 billion). Intrastate movements are the smallest of the directional movements (45.3 million tons, \$49.9 billion).

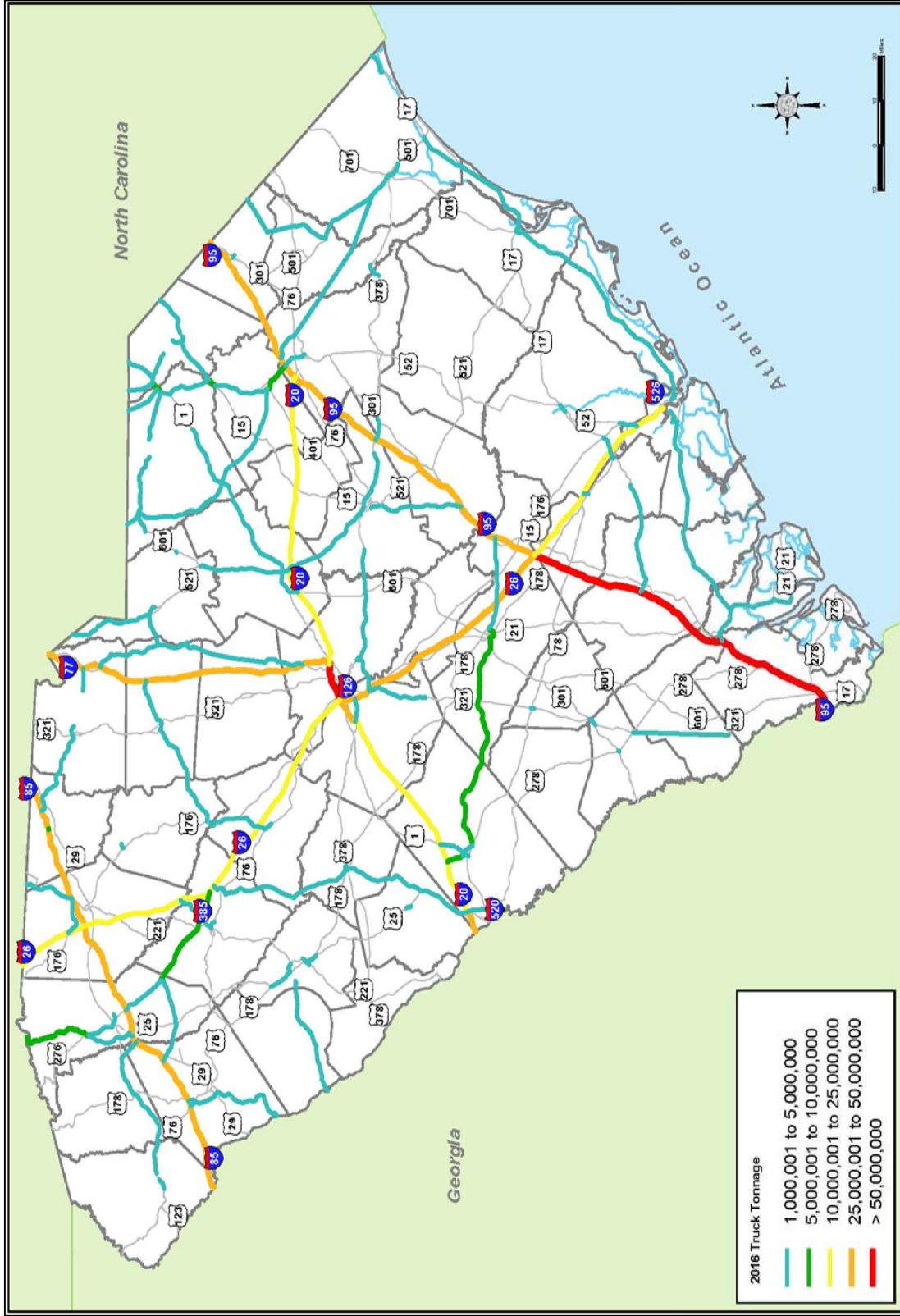
Table 3-2: South Carolina Truck Freight by Direction (2016)

Direction	Tons		Units		Value (in millions)		Average Value/Ton
	Amount	Percent	Amount	Percent	Amount	Percent	
Inbound	59,934,986	16.0%	5,231,872	17.0%	\$87,724	25.8%	\$1,464
Intra	45,289,394	12.1%	5,191,529	16.9%	\$49,863	17.2%	\$1,101
Outbound	70,535,532	18.8%	5,361,856	17.4%	\$122,340	4.7%	\$1,734
Through	199,287,208	53.1%	15,022,442	48.8%	\$351,912	52.4%	\$1,766
Total	375,047,119	100.0%	30,807,700	100.0%	\$611,839	100.0%	\$1,631

Source: TRANSEARCH data for 2016

As one might expect, the major freight corridors include the five interstates (I-20, I-26, I-77, I-85, and I-95), as seen in **Figure 3-3**. Additionally, major U.S. and state highways in the urban centers also accommodate significant freight flows.

Figure 3-3: South Carolina Truck Freight Tonnage (2016)



Source: TRANSEARCH data for 2016

Inbound Truck

Table 3-3 presents major inbound truck commodities to South Carolina in 2016. Such movements total 59.9 million tons, via 5.2 million units, valued at \$87.7 billion, with an average value/ton of \$1,464. In tonnage terms, top inbound movements include: *Nonmetallic Mineral* (10.8 million, 18.1 percent), *Chemical or Allied Products* (6.7 million, 11.1 percent), and *Clay, Concrete Glass or Stone* (6.6 million, 11.1 percent). In unit terms, *Shipping Containers* constitute almost half (2.3 million, 43.6 percent) of the total 5.2 million inbound truck units.¹⁶ In value terms, the top commodities include: *Chemicals and Allied Products* (\$15.1 billion, 17.2 percent), *Transportation Equipment* (\$11.9 billion, 13.6 percent), and *Food and Kindred Products* (\$9.9 billion, 11.3 percent).

Table 3-3: South Carolina Truck Inbound Freight by Major Commodities (2016)

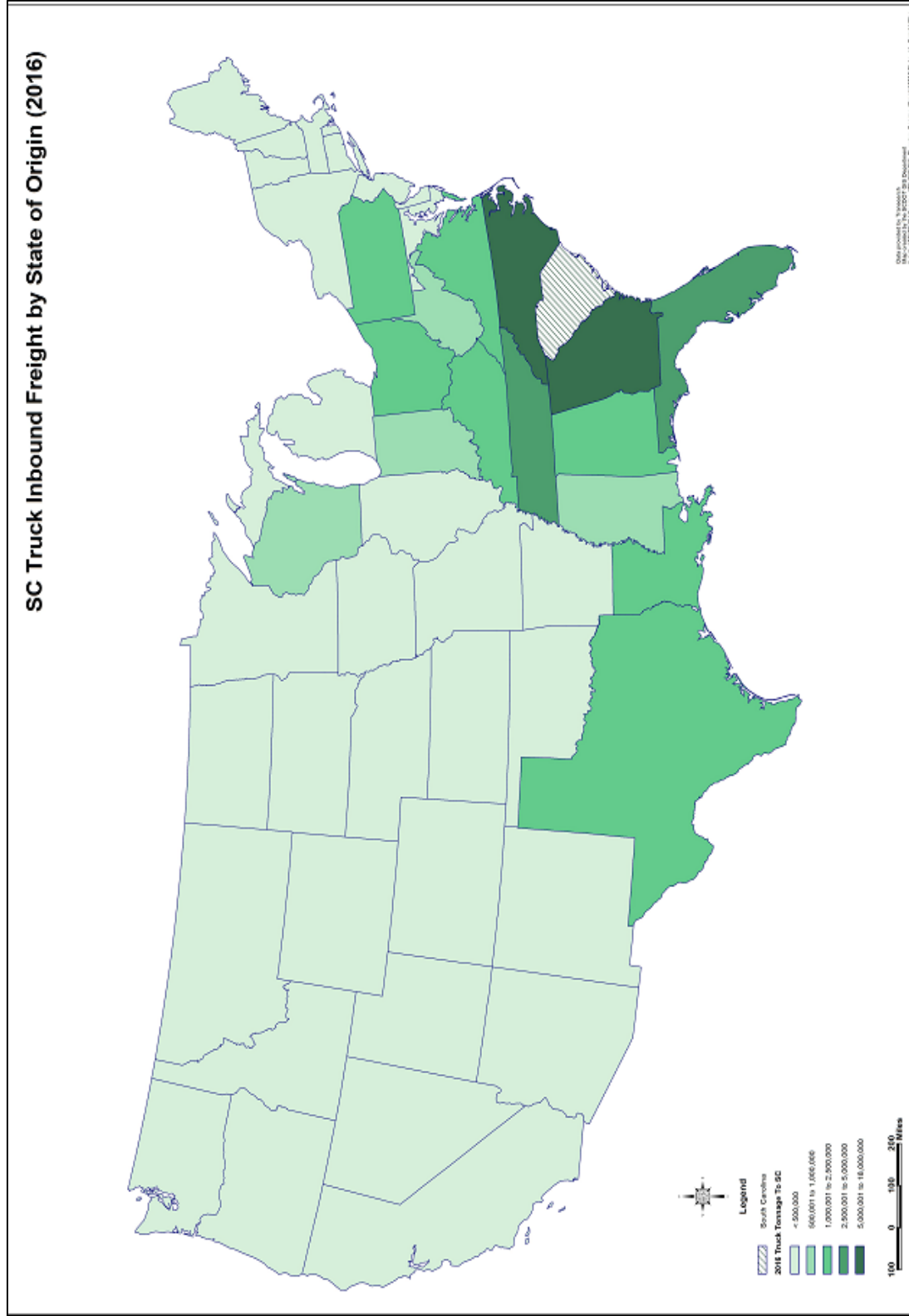
STCC2	Commodity	Tons		Units		Value (in millions)		Average Value/Ton
		Amount	Percent	Amount	Percent	Amount	Percent	
14	Nonmetallic Minerals	10,823,764	18.1%	445,233	8.5%	\$190.3	0.2%	\$18
28	Chemical or Allied Products	6,657,847	11.1%	321,224	6.1%	\$15,069	17.2%	\$2,263
32	Clay, Concrete, Glass or Stone	6,627,171	11.1%	415,444	7.9%	\$1,422	1.6%	\$215
20	Food and Kindred Products	5,904,142	9.9%	257,290	4.9%	\$9,925	11.3%	\$1,681
01	Farm Products	5,398,548	9.0%	312,970	6.0%	\$5,164	5.9%	\$957
40	Waste or Scrap Materials	4,648,759	7.8%	191,105	3.7%	\$1,453	1.7%	\$313
29	Petroleum or Coal Products	4,127,580	6.9%	171,546	3.3%	\$1,608	1.8%	\$390
50	Secondary Traffic	3,539,625	5.9%	185,715	3.5%	\$6,321	7.2%	\$1,786
24	Lumber or Wood Products	2,736,792	4.6%	107,679	2.1%	\$1,234	1.4%	\$451
33	Primary Metal Products	2,190,093	3.5%	87,727	1.7%	\$4,806	5.5%	\$2,194
	Remaining Commodities	7,280,667	12.1%	2,735,939	52.3%	\$40,531	46.2%	\$5,567
	Total	59,934,986	100.0%	5,231,872	100.0%	\$87,724	100.0%	\$1,464

Source: TRANSEARCH data for 2016

Truck Inbound Origin and Destination – Truck movements originating beyond South Carolina are primarily traveling to urban areas in South Carolina, led by port-related movements in Charleston County (8.3 million tons), and the Upstate manufacturing counties of Greenville (8.1 million tons) and Spartanburg (5.3 million tons). More than half of the inbound tonnages in 2016 to South Carolina were from Georgia and North Carolina, as shown in **Figure 3-4**. The 14.1 million tons from Georgia (23.5 percent of total inbound, valued at \$16.1 billion) are led by *Nonmetallic Minerals* (3.7 million tons, \$43.9 million), *Clay, Concrete, Glass or Stone Products* (2.4 million ton, \$456 million) and *Waste or Scrap Material* (1.2 million, \$329 million) The 17.4 million tons from North Carolina (29.1 percent of total inbound, valued at \$16.1 billion) is distributed among several commodity types including *Nonmetallic Minerals* (4.9 million, \$75.8 million), *Clay, Concrete, Glass or Stone Products* (2.5 million, \$391.7 million) and *Petroleum or Coal Products* (2.0 million, \$902 million). Major inbound tonnages in 2016 are shown by county destination in **Figure 3-5**.

¹⁶ Note, since the tonnage associated with *Shipping Containers* is not in the top ten, the associated units are not shown separately in Table 3-3, rather it is included under *Remaining Commodities*; similar occurrences are also present in other tables.

Figure 3-4: South Carolina Truck Inbound Freight by State of Origin (2016)



Source: TRANSEARCH data for 2016

Outbound Truck

Table 3-4 presents major outbound truck commodities from South Carolina in 2016. Such outbound truck movements total 70.5 million tons, via 5.4 million units, valued at \$122.3 billion, with an average value/ton of \$1,734. In tonnage terms, top outbound movements include: *Nonmetallic Minerals* (26.7 million, 37.9 percent), *Waste or Scrap Materials* (4.8 million, 6.8 percent), and *Chemicals or Allied Products* (4.7 million, 6.8 percent). In unit terms, *Nonmetallic Minerals and Shipping Containers* constitute more than half (3.1 million, 57.1 percent) of the total 5.4 million outbound truck units. In value terms, top commodities include: *Transportation Equipment* (\$25.2 billion, 20.6 percent) and *Machinery* (\$14.0 billion, 11.5 percent).

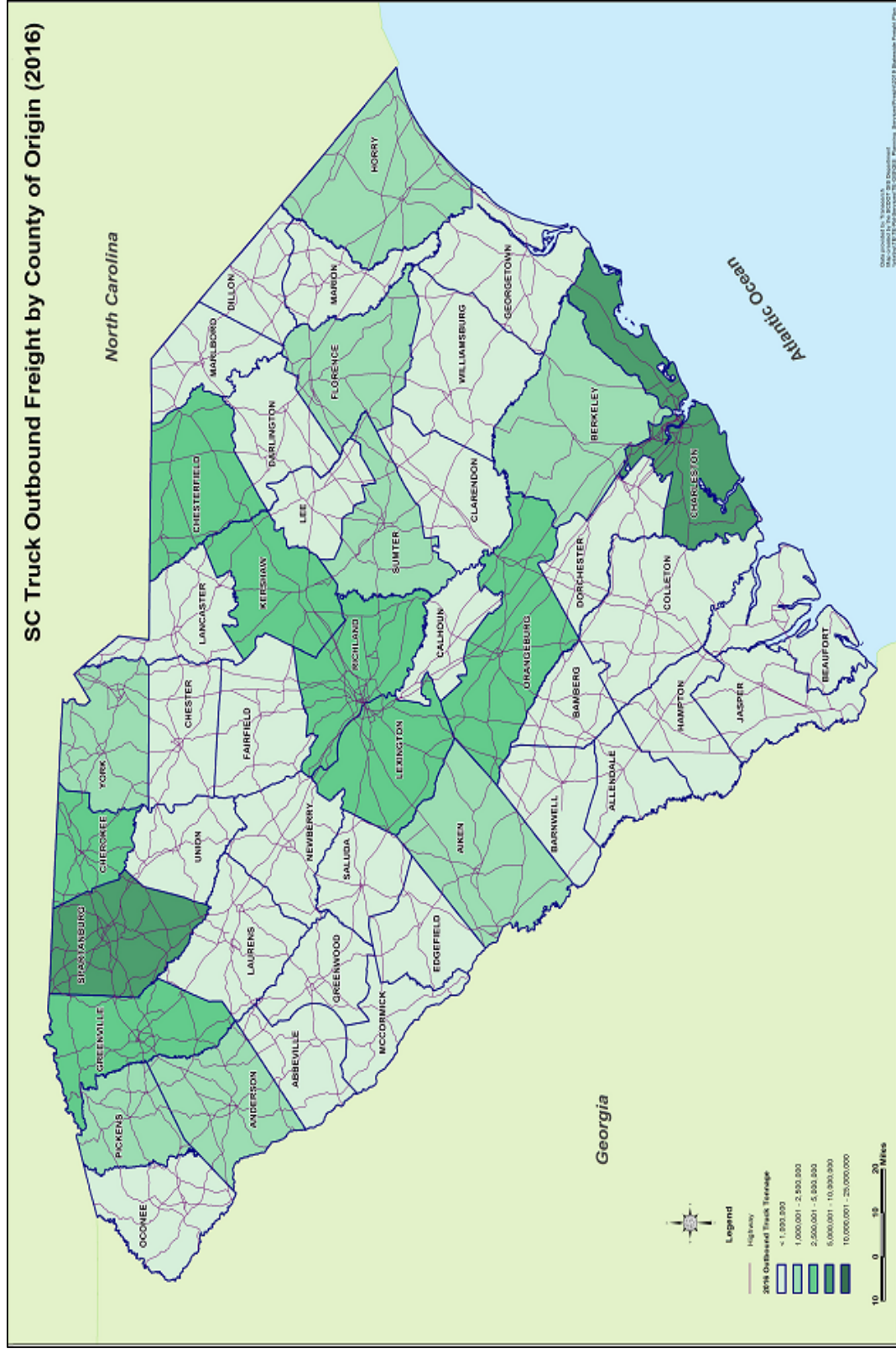
Table 3-4: South Carolina Truck Outbound Freight by Major Commodities (2016)

STCC2	Commodity	Tons		Units		Value (in millions)		Average Value/Ton
		Amount	Percent	Amount	Percent	Amount	Percent	
14	Nonmetallic Minerals	26,719,658	37.9%	1,099,107	20.5%	\$290	0.2%	\$11
40	Waste or Scrap Materials	4,804,825	6.8%	197,317	3.7%	\$1,191	1.0%	\$248
28	Chemicals or Allied Products	4,792,798	6.8%	230,562	4.3%	\$12,048	9.8%	\$2,517
20	Food or Kindred Products	4,658,702	6.6%	203,321	3.8%	\$9,115	7.5%	\$1,957
24	Lumber or Wood Products	4,335,967	6.1%	171,850	3.2%	\$1,127	0.9%	\$260
50	Secondary Traffic	4,123,312	5.8%	226,801	4.2%	\$8,104	6.6%	\$1,965
01	Farm Products	3,046,217	4.3%	188,864	3.5%	\$3,483	2.8%	\$1,143
29	Petroleum or Coal Products	2,886,075	4.1%	119,260	2.2%	\$1,299	1.1%	\$450
37	Transportation Equipment	2,598,305	3.7%	185,360	3.5%	\$25,242	20.6%	\$9,715
32	Clay, Concrete, Glass or Stone	2,347,686	3.4%	144,356	2.7%	\$935	0.9%	\$398
	Remaining Commodities	10,221,988	14.5%	2,595,058	48.4%	\$59,507	48.6%	\$5,821
	Total	70,535,532	100.0%	5,361,856	100.0%	\$122,340	100.0%	\$1,734

Source: TRANSEARCH data for 2016

Outbound Tonnage Origin and Destination – Major outbound tonnages from South Carolina in 2016 are shown by county origin in **Figure 3-6**. Truck movements destined out-of-state are primarily traveling from Charleston County (8.4 million tons), Spartanburg County (6.7 million tons), and Lexington County (4.6 million tons). Of the total outbound tonnage in 2016, 60 percent was destined to North Carolina (28.4 million tons, 40.3 percent) and Georgia (14 million tons, 19.8 percent) as shown in **Figure 3-7**. The 28.4 million tons from North Carolina (valued at \$20.1 billion) are led by *Nonmetallic Minerals* (17.8 million tons, \$176.1 million), *Petroleum or Coal Products* (1.6 million tons, \$725 million) and *Secondary Traffic* (1.5 million ton, \$3.9 billion). The 14 million tons from Georgia (valued at \$14.8 billion) is distributed among several commodity types including *Nonmetallic Minerals* (6.8 million, \$76 million), *Petroleum or Coal Products* (1.1 million, valued \$526.5 million) and *Lumber or Wood Products* (0.9 million, \$219 million).

Figure 3-6: South Carolina Truck Outbound Freight by County Origin (2016)



Source: TRANSEARCH data for 2016

Through Truck

Table 3-5 presents through-state truck commodities in 2016. Such movements totaled 199.3 million tons, via 15.0 million units, valued at \$351.9 billion, with an average value/ton of \$1,766. In tonnage terms, the top through movements include: *Nonmetallic Minerals* (31.1 million, 15.6 percent), *Clay, Concrete, Glass or Stone Products* (23.4 million, 11.7 percent), and *Secondary Traffic* (21.4 million, 10.7 percent). In unit terms, the top commodities include: *Shipping Containers* (4.8 million, 32.2 percent), *Clay, Concrete Glass and Stone Products* (1.5 million, 9.6 percent) and *Secondary Traffic* (1.3 million, 8.6 percent). In value terms, the top commodities include: *Secondary Traffic* (\$50.8 billion, 14.4 percent), *Transportation Equipment* (\$37.1 billion, 10.5 percent), and *Food or Kindred Products* (\$35.2 billion, 10.0 percent).

Table 3-5: South Carolina Truck Through-State Freight by Major Commodities (2016)

STCC2	Commodity	Tons		Units		Value (in millions)		Average Value/Ton
		Amount	Percent	Amount	Percent	Amount	Percent	
14	Nonmetallic Minerals	31,116,647	15.6%	1,279,976	8.5%	\$550,527	0.2%	\$18
32	Clay, Concrete, Glass or Stone	23,378,363	11.7%	1,446,821	9.6%	\$5,572	1.6%	\$238
50	Secondary Traffic	21,398,553	10.7%	1,297,330	8.6%	\$50,713	14.4%	\$2,370
20	Food or Kindred Products	20,240,534	10.2%	882,758	5.9%	\$35,215	10.0%	\$1,740
40	Waste or Scrap Materials	13,704,024	6.9%	569,485	3.8%	\$3,759	1.1%	\$274
24	Lumber or Wood Products	13,414,331	6.7%	523,356	3.5%	\$7,311	2.1%	\$545
01	Farm Products	12,800,033	6.4%	726,787	4.8%	\$13,934	4.0%	\$1,089
29	Petroleum or Coal Products	12,680,990	6.4%	528,149	3.5%	\$4,864	1.4%	\$384
28	Chemical or Allied Products	11,571,498	5.8%	563,197	3.7%	\$29,943	8.5%	\$2,588
26	Pulp, Paper or Allied Products	11,550,332	5.8%	478,207	3.2%	\$11,874	3.4%	\$1,028
	Remaining Commodities	27,431,902	13.8%	6,726,376	44.9%	\$188,174	53.3%	\$6,860
	Total	199,287,208	100.0%	15,022,442	100.0%	\$351,912	100.0%	\$1,766

Source: TRANSEARCH data for 2016

Intrastate Truck

Table 3-6 summarizes intrastate truck commodities in South Carolina in 2016. Such movements total 45.3 million tons, via 5.2 million units, valued at \$49.9 billion, with an average value/ton of \$1,101. In tonnage terms, top intrastate movements include: *Nonmetallic Minerals* (17.6 million, 38.8 percent), *Petroleum or Coal Products* (9.9 million, 21.9 percent), and *Secondary Traffic* (6.2 million, 13.8 percent). In unit terms, *Shipping Containers* and *Nonmetallic Minerals* together constitute nearly three-quarters (3.8 million tons, 72.1 percent) of the total 5.2 million intrastate truck units, with 3.0 million and 722,705, respectively. In value terms, the top commodities include: *Secondary Traffic* (\$4.8 billion, 98 percent), *Transportation Equipment* (\$6.5 billion, 13.1 percent), and *Chemicals and Allied Products* (\$1.6 billion, 3.3 percent). Intrastate movements are dominated by *Nonmetallic Minerals* (in tonnage terms); but, because the commodity has one of the lowest values/ton (\$10), the total value of such commodity movements is a small fraction of intrastate commodity values.

Table 3-6: South Carolina Truck Intrastate Freight by Major Commodities (2016)

STCC2	Commodity	Tons		Units		Value (in millions)		Average Value/Ton
		Amount	Percent	Amount	Percent	Amount	Percent	
14	Nonmetallic Minerals	17,569,194	38.8%	722,705	13.9%	\$183,628	0.4%	\$10
50	Secondary Traffic	9,920,525	21.9%	406,678	7.8%	\$4,866	9.8%	\$490
32	Clay, Concrete, Glass or Stone	6,240,544	13.8%	429,703	8.3%	\$18,8848	37.9%	\$3,026
24	Lumber or Wood Products	2,167,101	4.8%	137,757	2.7%	\$408	0.8%	\$188
40	Waste or Scrap Materials	2,143,077	4.7%	102,751	2.0%	\$5,228	10.5%	\$2,439
01	Farm Products	1,976,805	4.4%	78,707	1.5%	\$502	1.0%	\$254
29	Petroleum or Coal Products	1,143,393	2.5%	65,194	1.3%	\$695	1.4%	\$608
28	Chemicals or Allied Products	787,010	1.7%	34,217	0.7%	\$1,622	3.3%	\$2,061
20	Food or Kindred Products	748,823	1.7%	29,669	0.6%	\$208	0.4%	\$277
33	Primary Metal Products	700,254	1.5%	50,164	1.0%	\$6,530	13.1%	\$9,325
	Remaining Commodities	1,892,667	4.2%	3,133,983	60.2%	\$10,739	21.4%	\$5,674
	Total	45,289,394	100.0%	5,191,529	100.0%	\$49,863	100.0%	\$1,101

Source: TRANSEARCH data for 2016

3.1.3.2 Rail Freight

South Carolina rail movements in 2016 totaled 63.2 million tons, valued at \$93.6 billion, and carried within 1.4 million units, as shown in **Table 3-7**. On average, total rail commodity movements are valued at \$1,480/ton. Through-state rail movements are the largest directional movements: 45.2 percent of total tonnage, 58 percent of units, and 57.1 percent of value. Inbound rail tonnage (21.8 million) is significantly greater than outbound (7.5 million); however, in terms of value, inbound and outbound movements are closer (\$16.9 billion inbound versus \$11.6 billion outbound) due to the notably higher average value/ton of outbound (\$1,554) versus inbound (\$773).

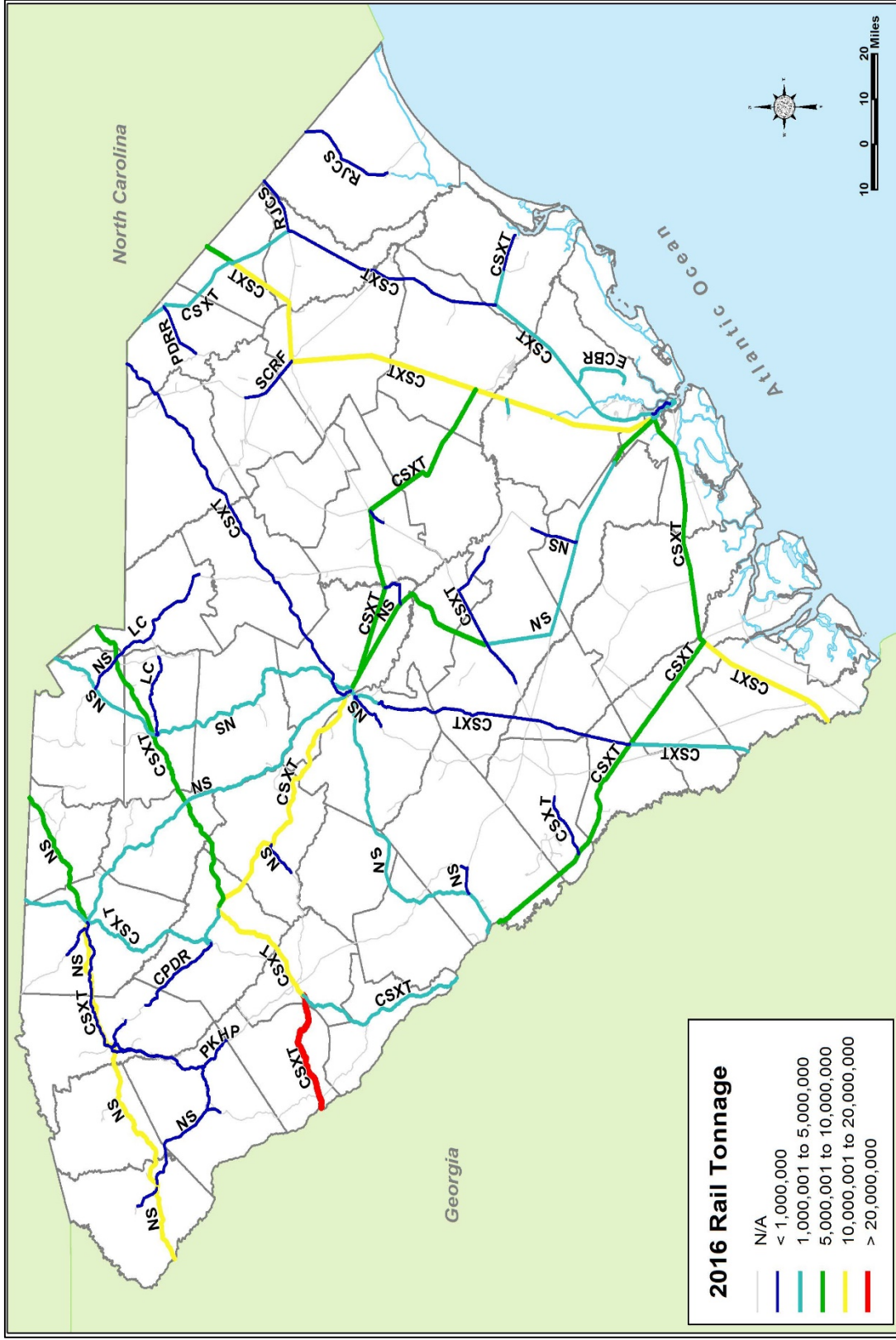
Table 3-7: South Carolina Rail Freight by Direction (2016)

Direction	Tons		Units		Value (in millions)		Average Value/Ton
	Amount	Percent	Amount	Percent	Amount	Percent	
Inbound	21,811,904	34.5%	303,927	21.7%	\$16,867	18.0%	\$773
Intra	5,404,653	8.5%	147,855	10.5%	\$11,712	12.5%	\$2,167
Outbound	7,484,310	11.8%	137,932	9.8%	\$11,629	12.4%	\$1,554
Through	28,539,454	45.2%	812,047	58.0%	\$53,391	57.1%	\$1,871
Total	63,240,321	100.0%	1,401,761	100.0%	\$93,599	100.0%	\$1,480

Source: TRANSEARCH data for 2016

As shown in Figure 3-8, the CSXT link between Greenwood, SC and Athens, GA handles the greatest rail tonnage per line. In this segment, two separate CSX lines share trackage, contributing to this high density. Other notable tonnage movements go through Laurens County, Columbia and Charleston.

Figure 3-8: South Carolina Rail Freight Tonnage (2016)



Source: TRANSEARCH data for 2016

Inbound Rail

Table 3-8 presents major inbound rail commodities to South Carolina in 2016. Such movements total 21.8 million tons, via 303,927 units, valued at \$16.9 billion, with an average value/ton of \$773. In tonnage terms, top inbound movements include: *Coal* (8.0 million, 36.9 percent), *Chemical or Allied Products* (3.8 million, 16.7 percent), and *Nonmetallic Mineral* (2.1 million, 9.7 percent). In unit terms, *Coal* and *Miscellaneous Mixed Shipments* constitute almost half (149,105, 49 percent) of the total 303,927 inbound rail units. In value terms, the top commodities include: *Chemical or Allied Products* (\$5 billion or 29.6 percent), *Miscellaneous Mixed Shipments* (\$5 billion or 29.6 percent), and *Transportation Equipment* (\$3.6 billion or 21.2 percent).

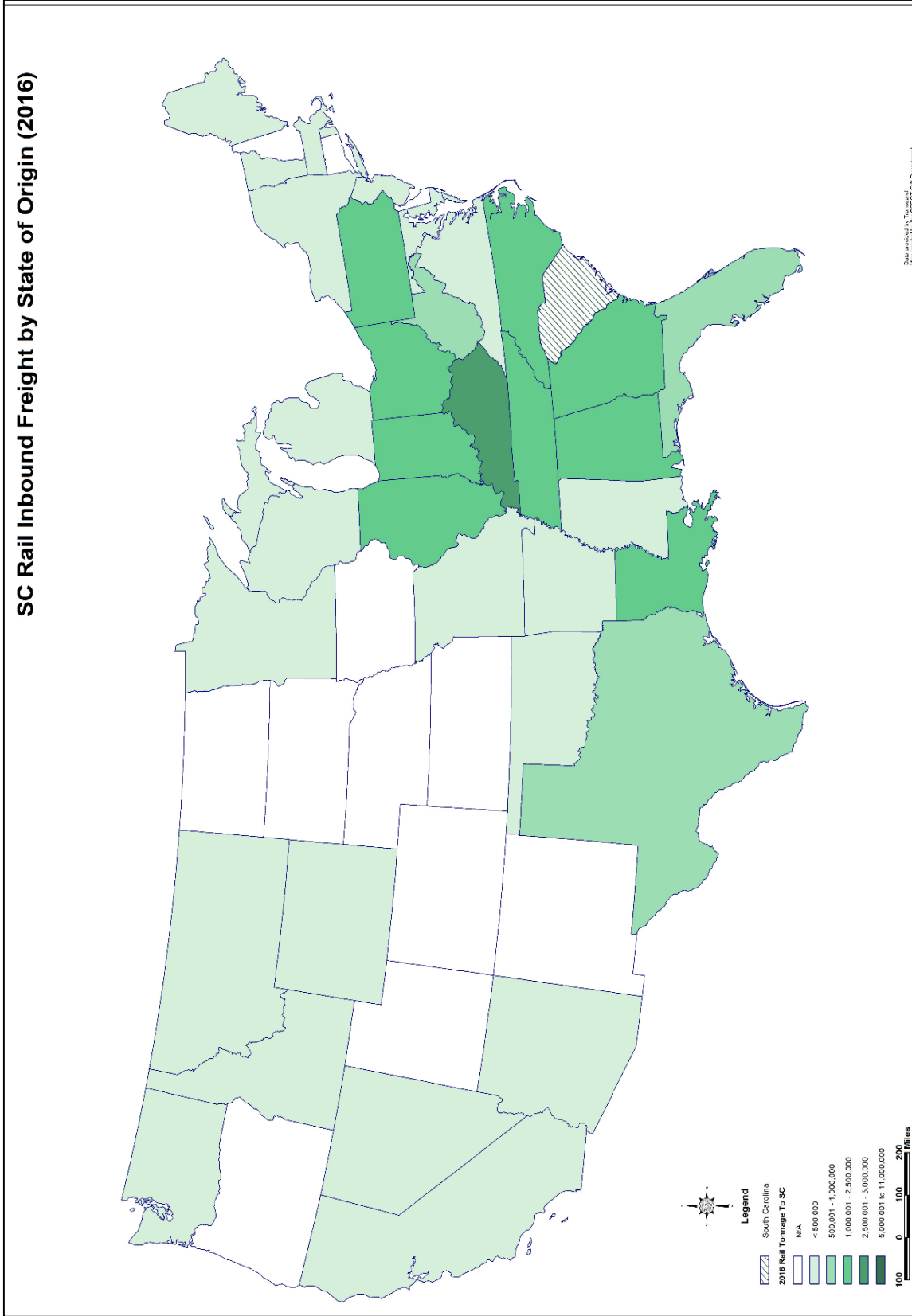
Table 3-8: South Carolina Rail Inbound Freight by Major Commodities (2016)

STCC2	Commodity	Tons		Units		Value (in millions)		Average Value/Ton
		Amount	Percent	Amount	Percent	Amount	Percent	
11	Coal	8,038,140	36.9%	69,025	22.7%	\$280	1.7%	\$35
28	Chemicals or Allied Products	3,638,412	16.7%	41,320	13.6%	\$5,000	29.6%	\$1,374
14	Nonmetallic Minerals	2,110,293	9.7%	19,272	6.3%	\$22	0.1%	\$11
01	Farm Products	1,376,168	6.3%	13,010	4.3%	\$145	0.9%	\$105
20	Food or Kindred Products	1,141,612	5.2%	13,484	4.4%	\$601	3.6%	\$526
46	Misc. Mixed Shipments	964,240	4.4%	80,080	26.3%	\$4,997	29.6%	\$5,183
40	Waste or Scrap Materials	940,008	4.3%	10,524	3.5%	\$181	1.1%	\$193
26	Pulp, Paper or Allied Products	921,520	4.2%	12,440	4.1%	\$661	3.9%	\$717
32	Clay, Concrete, Glass or Stone	723,396	3.3%	7,980	2.6%	\$124	0.7%	\$172
29	Petroleum or Coal Products	561,996	2.6%	6,852	2.3%	\$415	2.5%	\$740
	Remaining Commodities	1,396,119	6.4%	29,940	9.9%	\$3,515	26.3%	\$4,438
	Total	21,811,904	100.0%	303,927	100.0%	\$16,867	100.0%	\$773

Source: TRANSEARCH data for 2016

Rail Inbound Tonnage Origin and Destination – Rail movements originating from out-of-state are primarily traveling to Berkeley County (4.8 million tons), Charleston County (3.6 million tons), and Richland County (1.7 million tons). Inbound rail tonnage by state of origin is shown in **Figure 3-9**. The major commodity railed into South Carolina in terms of inbound tonnages is *Coal* (8 million tons, valued at \$280 million), chiefly from Kentucky (3.7 million, \$130 million), but also from Indiana (1.8 million, \$62.4 million), and Pennsylvania (1.4 million, \$49.5 million). The second major commodity railed into South Carolina is *Chemical or Allied Products* (3.6 million tons, valued at \$5 billion), led by Louisiana, Texas, Illinois, and Alabama (ranging from 0.3 million tons, \$350 million to 1.0 million tons, \$1.8 billion). Major inbound tonnage in 2016 are shown by county destination in **Figure 3-10**.

Figure 3-9: South Carolina Rail Inbound Freight by State of Origin (2016)
SC Rail Inbound Freight by State of Origin (2016)



Source: TRANSEARCH data for 2016

Outbound Rail

Table 3-9 presents the outbound major commodities by rail from South Carolina in 2016. Such outbound rail movements total 7.5 million tons, via 137,932 units, valued at \$11.6 billion, with an average value/ton of \$1,554. In tonnage terms, top outbound movements include: *Chemicals or Allied Products* (1.4 million, 18.8 percent), *Primary Metal Products* (1.4 million, 18.7 percent), and *Pulp, Paper or Products* (1.3 million, 17.4 percent). In unit terms, *Miscellaneous Mixed Shipments* and *Pulp, Paper or Allied Products* together constitute more than half (72,960, or 52.9 percent) of the total 137,932 outbound rail units. In value terms, the top commodities include: *Miscellaneous Mixed Shipments* (\$3.7 billion or 31.7 percent), *Chemicals or Allied Products* (\$2.9 billion or 24.8 percent), and *Primary Metal Products* (\$2.0 billion or 17.3 percent).

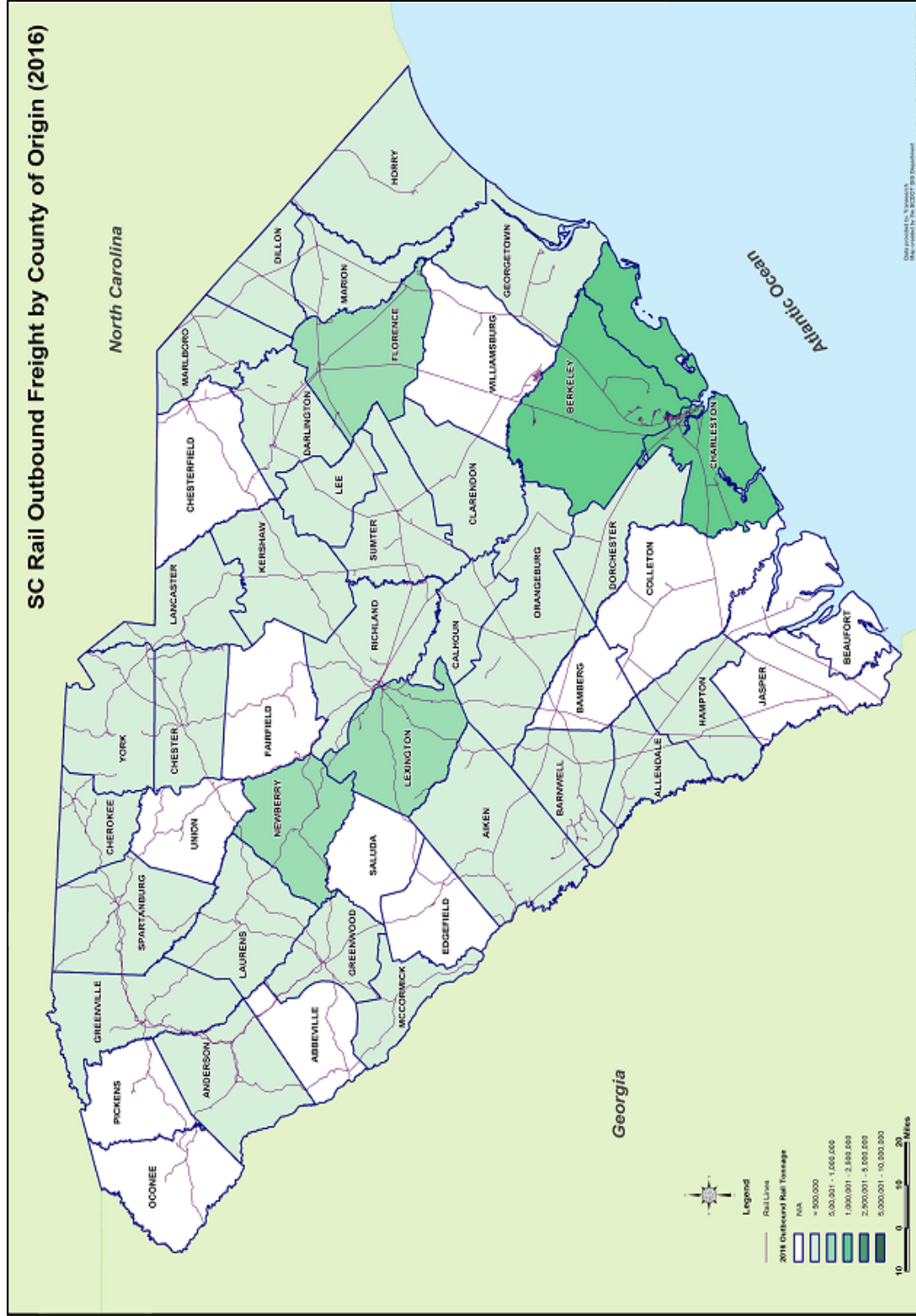
Table 3-9: South Carolina Rail Outbound Freight by Major Commodities (2016)

STCC2	Commodity	Tons		Units		Value (in millions)		Average Value/Ton
		Amount	Percent	Amount	Percent	Amount	Percent	
28	Chemical or Allied Products	1,404,760	18.8%	15,760	11.4%	\$2,882	24.8%	\$2,052
33	Primary Metal Products	1,396,828	18.7%	15,436	11.2%	\$2,014	17.3%	\$1,442
26	Pulp, Paper or Allied Products	1,299,480	17.4%	19,360	14.0%	\$1,417	12.2%	\$1,090
24	Lumber or Wood Products	1,006,364	13.4%	11,660	8.5%	\$263	2.3%	\$261
32	Clay, Concrete, Glass or Stone	764,056	10.2%	7,320	5.3%	\$96	0.8%	\$125
46	Misc. Mixed Shipments	710,720	9.5%	53,600	38.9%	\$3,682	31.7%	\$5,180
40	Waste or Scrap Materials	382,356	5.1%	4,552	3.3%	\$67	0.6%	\$174
14	Nonmetallic Minerals	155,236	2.1%	1,536	1.1%	\$8	0.1%	\$49
20	Food or Kindred Products	137,692	1.8%	1,528	1.1%	\$102	0.9%	\$737
37	Transportation Equipment	109,760	1.5%	5,380	3.9%	\$845	7.3%	\$7,694
	Remaining Commodities	117,058	1.5%	1,800	1.3%	\$257	2.0%	\$2,192
	Total	7,484,310	100.0%	137,932	100.0%	\$11,629	100.0%	\$1,554

Source: TRANSEARCH data for 2016

Outbound Tonnage Origin and Destination – Major outbound tonnages in 2016 are shown by county origin in **Figure 3-11**. Rail movements destined out-of-state primarily originated from Charleston County (1.4 million tons), Berkeley County (1.2 million tons) along with Florence County and Lexington County (0.6 million tons each). More than a quarter of outbound rail went to North Carolina (1.2 million tons, 15.4 percent) and Georgia respectively (1.1 million tons, 15.4 percent) followed by Alabama (0.6 million tons, 8.0 percent) as shown in Figure 3-12. North Carolina movements were led by *Clay, Concrete, Glass or Stone* (0.4 million tons, \$44.5 million) and *Lumber or Wood Products* (0.3 million tons, \$63.8 million). Nearly half of Georgia-bound tonnage was led by *Pulp, Paper or Allied Products* (0.3 million tons, \$195 million), and *Lumber or Wood Products* (0.3 million tons, \$45 million). Alabama-bound shipments were primarily *Miscellaneous Mixed Shipment* (0.3 million tons, \$1.5 billion) and *Waste or Scrap Materials* (0.08 million tons, \$14.1 billion).

Figure 3-11: South Carolina Rail Outbound Freight by County Origin (2016)



Through Rail

Table 3-10 presents through-state rail commodities in 2016. Such movements total 28.5 million tons, via 812,047 units, valued at \$53.4 billion, with an average value/ton of \$1,871. In tonnage terms, the top through movements include: *Chemicals or Allied Products* (6.2 million, 21.7 percent), *Miscellaneous Mixed Shipments* (4.7 million, 16.3 percent), and *Food or Kindred Products* (3.4 million tons, 12 percent). In unit terms, *Miscellaneous Mixed Shipments* constitute nearly half (355.760 or 43.8 percent) of the total 812,047 through rail units. In value terms, *Miscellaneous Mixed Shipments* and *Chemicals or Allied Products* constitute more than half of the total \$53.4 billion (\$23.9 billion, 44.7 percent and \$10.7 billion, 20.1 percent respectively).

Table 3-10: South Carolina Rail Through-State by Major Commodities (2016)

STCC2	Commodity	Tons		Units		Value (in millions)		Average Value/Ton
		Amount	Percent	Amount	Percent	Amount	Percent	
28	Chemicals or Allied Products	6,194,380	21.7%	81,588	10.0%	\$10,742	20.1%	\$1,734
46	Misc. Mixed Shipments	4,649,360	16.3%	355,760	43.8%	\$23,882	44.7%	\$5,137
20	Food or Kindred Products	3,419,493	12.0%	63,838	7.9%	\$2,757	5.2%	\$806
14	Nonmetallic Minerals	3,369,266	11.8%	30,926	3.8%	\$51	0.1%	\$15
26	Pulp, Paper or Allied Products	2,346,496	8.2%	62,088	7.6%	\$2,302	4.3%	\$981
32	Clay, Concrete, Glass or Stone	2,230,692	7.8%	28,880	3.6%	\$485	0.9%	\$218
11	Coal	1,195,733	4.2%	10,462	1.3%	\$42	0.1%	\$35
01	Farm Products	914,486	3.2%	9,427	1.2%	\$239	0.4%	\$261
24	Lumber or Wood Products	761,372	2.7%	11,752	1.4%	\$321	0.6%	\$422
29	Petroleum or Coal Products	623,570	2.2%	7,726	1.0%	\$371	0.7%	\$596
	Remaining Commodities	2,834,606	9.9%	149,600	18.4%	\$12,198	22.9%	\$4,303
	Total	28,539,454	100.0%	812,047	100.0%	\$53,391	100.0%	\$1,871

Source: TRANSEARCH data for 2016

Intrastate Rail

Table 3-11 summarizes intrastate rail commodities in South Carolina in 2016. Such movements total 5.4 million tons, via 147,855 units, valued at \$11.7 billion, with an average value/ton of \$2,167. In tonnage terms, top intrastate movements include: *Chemicals or Allied Products* (1.6 million tons, 28.6 percent), *Nonmetallic Minerals* (1.2 million tons, 21.4 percent) and *Miscellaneous Mixed Shipments* (0.8 million tons, 14 percent). In unit terms, *Miscellaneous Mixed Freight* and *Transportation Equipment* together constitute almost three quarters (105,112, 71.1 percent) of the total 147,855 intrastate rail units. In value terms, the top commodities include: *Transportation Equipment* (\$5.4 billion, 46.2 percent), *Miscellaneous Mixed Freight* (\$3.9 billion, 33.4 percent) and *Chemicals or Allied Products* (\$1.9 billion or 16.3 percent).

Table 3-11: South Carolina Rail Intrastate by Major Commodities (2016)

STCC2	Commodity	Tons		Units		Value (in millions)		Average Value/Ton
		Amount	Percent	Amount	Percent	Amount	Percent	
28	Chemicals or Allied Products	1,545,880	28.6%	16,360	11.1%	\$1,905	16.3%	\$1,232
14	Nonmetallic Minerals	1,156,333	21.4%	10,779	7.3%	\$12	0.1%	\$10
46	Misc. Mixed Shipments	754,800	14.0%	75,480	51.1%	\$3,912	33.4%	\$5,183
24	Lumber or Wood Products	691,600	12.8%	7,480	5.1%	\$110	0.9%	\$160
37	Transportation Equipment	571,160	10.6%	29,632	20.0%	\$5,407	46.2%	\$9,468
10	Metallic Ores	264,816	4.9%	2,448	1.7%	\$92	0.8%	\$348
26	Pulp, Paper or Allied Products	151,440	2.8%	2,160	1.5%	\$95	0.8%	\$630
33	Primary Metal Products	92,000	1.7%	1,040	0.7%	\$130	1.1%	\$1,414
40	Waste or Scrap Materials	83,640	1.5%	1,040	0.7%	\$15	0.1%	\$173
48	Waste Hazardous Materials	58,600	1.1%	640	0.4%	\$0	0.0%	\$0
	Remaining Commodities	34,384	0.6%	796	0.4%	\$32	0.3%	\$928
	Total	5,404,653	100.0%	147,855	100.0%	\$11,712	100.0%	\$2,167

Source: TRANSEARCH data for 2016

3.1.3.3 Port Freight

South Carolina port (water) movements in 2016 reported by TRANSEARCH totaled 3.3 million tons, valued at \$581 million, see **Table 3-12**. It is important to note that the TRANSEARCH reported movements *exclude* foreign non-NAFTA movements to Europe, Asia, South America, etc. However, ground movements by truck/rail to and from South Carolina ports are included under the other modal movements.¹⁷

On average, reported port commodity movements are valued at \$177/ton. In terms of tonnage, inbound port movements are the largest directional movements constituting 54.0 percent of total tonnage with through port movements constituting 31.9 percent of total tonnage. With respect to total value, through port movements have the largest percent of value, 46.8 percent with inbound port constituting 30.9 percent of total of total value. In a comparison of inbound vs. outbound volumes and value, inbound port volumes and values are far greater than outbound movements: 26.4 times the volume and 5.1 times the value. As such, the outbound value/ton for waterborne movements are almost five times the value/ton for inbound waterborne movements: \$530 and \$102, respectively. Note that the TRANSEARCH does not provide units for waterborne movements.

The following subsections detail the TRANSEARCH-reported movements by direction. Further, it is noted that due to the exclusion of foreign non-NAFTA movements the reported volumes are significantly less than those reported by U.S. Army Corps of Engineers (USACE). Hence, the last subsection summarizes the directional tonnage differences between the two sources.

¹⁷ This is further discussed in subsections 3.1.3.1 and 3.1.3.2.

Table 3-12: South Carolina Port Freight by Direction (2016), excluding Foreign Non-NAFTA Movements

Direction	Tons		Value (in millions)		Average Value/Ton
	Amount	Percent	Amount	Percent	
Outbound	66,869	2.0%	\$35	6.1%	\$530
Inbound	1,767,954	54.0%	\$179	30.9%	\$102
Intra	397,995	12.1%	\$94	16.2%	\$236
Through	1,043,533	31.9%	\$272	46.8%	\$260
Total	3,276,351	100.0%	\$580	100.0%	\$177

Source: TRANSEARCH data for 2016, due to rounding, numbers may not equal

Inbound Port

Table 3-13 summarizes inbound port commodities from the U.S., Mexico, and Canada to South Carolina in 2016, as reported by TRANSEARCH. Such reported movements total 1.8 million tons, valued at \$180 million, with an average value/ton of \$102. In tonnage terms, the top inbound movements include: *Nonmetallic Minerals* (1.2 million, 70.6 percent), *Petroleum or Coal Products* (0.2 million, 16.7 percent), and *Clay, Concrete, Glass or Stone* (0.1 million, 5.7 percent). In value terms, the top commodities include: *Petroleum or Coal Products* (\$127 million, 70.4 percent), *Chemical or Allied Products* (\$16 million, 9.2 percent), and *Clay, Concrete, Glass or Stone* (\$15 million, 8.5 percent).

Table 3-13: South Carolina Port Inbound Freight by Major Commodities (2016)

STCC2	Commodity	Tons		Value (in millions)		Average Value/Ton
		Amount	Percent	Amount	Percent	
14	Petroleum or Coal Products	1,248,135	70.6%	\$7	3.8%	\$6
29	Chemicals or Allied Products	295,148	16.7%	\$127	70.4%	\$428
32	Nonmetallic Minerals	100,733	5.7%	\$15	8.5%	\$152
40	Waste or Scrap Materials	73,662	4.2%	\$13	7.1%	\$174
28	Lumber or Wood Products	50,250	2.8%	\$15	9.2%	\$328
35	Food or Kindred Products	19	0.0%	\$0.2	0.2%	\$8,978
37	Coal	5	0.0%	\$1	0.8%	\$269,978
36	Farm Products	0	0.0%	\$0.009	0.0%	\$0
34	Clay, Concrete, Glass or Stone	0	0.0%	\$0.011	0.0%	\$0
	Total	1,767,954	100.0%	\$179	100.0%	\$102

Source: TRANSEARCH data for 2016; due to rounding, numbers may not equal

Outbound Port

Table 3-14 summarizes outbound port commodities from South Carolina to the U.S., Mexico, and Canada in 2016, as reported by TRANSEARCH. Such reported movements totaled 66,869 tons, valued at \$35.4 million, with an average value/ton of \$530. In tonnage terms, the top outbound movements include: *Clay, Concrete, Glass or Stone* (58,400, 87.3 percent), *Fabricated Metal Products* (4,280, 6.4 percent), and *Petroleum or Coal Products* (3,110, 4.7 percent). In value terms, the top commodities include: *Fabricated Metal Products* (\$20.1 million, 56.6 percent), *Clay, Concrete, Glass, Stone* (\$7.4 million, 20.9 percent), and *Machinery* (\$4.6 million, 13.0 percent).

Table 3-14: South Carolina Port Outbound Freight by Major Commodities (2016)

STCC2	Commodity	Tons		Value (in millions)		Average Value/Ton
		Amount	Percent	Amount	Percent	
32	Clay, Concrete, Glass or Stone	58,400	87.3%	\$7.4	20.9%	\$127
34	Fabricated Metal Products	4,280	6.4%	\$20	56.6%	\$4,685
29	Petroleum or Coal Products	3,110	4.7%	\$0.8	2.1%	\$240
33	Primary Metal Products	847	1.3%	\$2.6	7.4%	\$3,080
35	Machinery	232	0.3%	\$4.6	13.0%	\$19,842
	Total	66,869	100.0%	\$35	100.0%	\$530

Source: TRANSEARCH data for 2016; due to rounding, numbers may not equal

Through Port

Table 3-15 summarizes through port commodities via South Carolina in 2016, as reported by TRANSEARCH. Such reported movements totaled 1 million tons, valued at \$272 million, with an average value/ton of \$260. In terms of both tonnage and value, the top through movements are *Petroleum or Coal Products*, constituting 483,538 tons (46.2 percent of tonnage totals) and \$147.1 million (54.1 percent of value totals).

Table 3-15: South Carolina Port Through Freight by Major Commodities (2016)

STCC2	Commodity	Tons		Value (in millions)		Average Value/Ton
		Amount	Percent	Amount	Percent	
29	Petroleum or Coal Products	482,538	46.2%	\$147	54.1%	\$305
14	Nonmetallic Minerals	269,327	25.8%	\$3	0.9%	\$9
28	Food or Kindred Products	249,052	23.9%	\$81.7	30.1%	\$328
20	Chemicals or Allied Products	40,974	3.9%	\$15.2	5.6%	\$371
35	Pulp, Paper or Allied Products	459	0.2%	\$18.5	6.8%	\$40,214
26	Lumber or Wood Products	418	0.0%	\$0.2	0.1%	\$391
33	Misc. Mixed Shipments	408	0.0%	\$0.9	0.3%	\$2,124
34	Textile Mill Products	151	0.0%	\$0.8	0.3%	\$5,346
24	Primary Metal Products	145	0.0%	\$0.023	0.0%	\$160
36	Electrical Equipment	47	0.0%	\$3.3	1.2%	\$69,308
	Remaining Commodities	14	0.0%	\$1	0.6%	\$129,614
	Total	1,043,533	100%	\$272	100%	\$248,170

Source: TRANSEARCH data for 2016; due to rounding, numbers may not equal

Intrastate Port

Table 3-16 summarizes intrastate port commodities within South Carolina in 2016, as reported by TRANSEARCH. Such reported movements totaled 397,996 tons, valued at \$94 million, with an average value/ton of \$236. As of 2016, only three aggregate STCC commodities were moved intrastate via port/water: *Petroleum or Coal Products*, *Clay, Concrete, Glass or Stone* and *Machinery*. *Petroleum or Coal Products*, constitute the major intrastate tonnage moved (369,270, 92.8 percent) and commodity value (\$88.5 million, 94.2 percent).

Table 3-16: South Carolina Port Intrastate Freight by Major Commodities (2016)

STCC2	Commodity	Tons		Value (in millions)		Average Value/Ton
		Amount	Percent	Amount	Percent	
29	Petroleum or Coal Products	369,270	92.8%	\$89	94.2%	\$914
32	Clay, Concrete, Glass, Stone	28,616	7.2%	\$4	4.6%	\$34
35	Primary Metal Products	109	0.0%	\$1	1.2%	\$1,195
	Total	397,995	100.0%	\$94.0	100.0%	\$730

Source: TRANSEARCH data for 2016

Port Tonnage Comparison

As noted, the TRANSEARCH-reported water tonnage movements (and the associated values) are lower than United States Army Corp of Engineers (USACE) data for the Port of Charleston. **Table 3-17** summarizes total tonnage volumes reported by the USACE at 23 million tons in year 2016, which is 602 percent (19.1 million tons) greater than the 3.3 million tons reported by TRANSEARCH. Differences are significant for all inbound and outbound movements.¹⁸ While TRANSEARCH port movements includes all waterborne freight to/from the U.S. and NAFTA countries (i.e., Canada and Mexico), it excludes foreign movements to/from Europe, Asia, South America, etc. Hence, TRANSEARCH waterborne movements are significantly lower than the USACE reported tonnage movements.¹⁹

The various factors that result in different tonnage volumes between the two sources are outlined below.

- *U.S. and NAFTA vs. All Movements* – USACE tonnage data includes all foreign and U.S. tonnage movements. Conversely, TRANSEARCH only includes port waterborne movements within the U.S. and NAFTA countries (i.e., Mexico and Canada); other foreign movements to/from Europe, Asia, South America, etc. are not included in the TRANSEARCH port waterborne movement data. However, it is important to note that once all waterborne movements (i.e., U.S., NAFTA, European, Asian, etc.) reach South Carolina their movement is tracked by ground modes (i.e., truck and rail). Similarly, all landside truck and rail tonnage movements to the Port of Charleston are included in TRANSEARCH, regardless of destination (U.S., NAFTA, Europe, Asia, etc.).

Table 3-17: South Carolina Port Tonnage Discrepancy Summary (2016)

Direction	Tons		Difference	
	TRANSEARCH	USACE	Tons	Percent
Outbound	66,869	7,790,791	7,723,922	11,551%
Inbound	1,767,954	13,173,818	11,405,864	645%
Intrastate	397,996	N/A	N/A	N/A
Intra-port	N/A	2,050,894	N/A	N/A
Through	1,043,533	N/A	N/A	N/A
Total	3,276,352	23,015,503	19,129,786	602%

Source: TRANSEARCH data and USACE data for 2016.

Note TRANSEARCH does not report *intra-port* movements and excludes foreign non-NAFTA movements, and USACE does not breakout *intrastate* or *through* movements.

- *Intrastate Movements* – USACE reports all port origin and destination movements, but does not breakout intrastate movements between South Carolina ports. Conversely, TRANSEARCH

¹⁸ Intrastate and through-state movements are not reported by USACE; conversely, intra-port movements are not reported by TRANSEARCH.

¹⁹ More detailed tonnage movements are compared by direction and commodity with the widely vetted USACE volumes.

focuses on a commodity’s movement assigning an origin region, destination region, and in some cases, an intrastate movement.

- *Intra-port Movements* – USACE reports intra-port tonnage (2,050,894) while TRANSEARCH does not.
- *Commodity Convention* – TRANSEARCH reports data using the STCC (Standard Transportation Commodity Code) commodity classification versus the HS (Harmonized System) used by the USACE. The concordance is not uniform or direct.
- *Time Lag* – Due to the significant time reporting lag of USACE data (e.g., end-of-year) incorporated into the TRANSEARCH estimates, TRANSEARCH tonnage estimates are made in part from prior-year USACE Waterborne Commerce Statistics.
- *Bunkering* – Maritime fuel pumped from on-shore fuel farms to bunker ships that then supply fuel to moored vessels (including tug boats/barges). Such harbor fueling operations (akin to fuel trucks at airports) are counted as freight movements by USACE but are not by TRANSEARCH.

So, both sources are pertinent to the South Carolina freight movement analysis. While USACE tonnage closely approximates actual individual port-reported volumes, the TRANSEARCH data tends to eliminate multiple movements of the same commodity (intra-port movements), as well as other non-freight movements (i.e., bunker fueling).

3.1.3.4 Air Freight

South Carolina air freight movements reported by TRANSEARCH in 2016 totaled 256,592 tons, valued at \$27.6 billion, as shown in **Table 3-18**. On average, total air commodity movements are valued at \$107,661/ton, which is significantly higher than all other transportation modes. Through air movements comprise the largest direction movement by both tonnage and value (51 percent of total tonnage and 43.3 percent of total value). Note that the TRANSEARCH does not provide units for air movements.

Table 3-18: South Carolina Air Freight by Direction (2016)

Direction	Tons		Value (in millions)		Average Value/Ton
	Amount	Percent	Amount	Percent	
Inbound	66,756	26.0%	\$7,336	26.6%	\$109,906
Intra	1,461	0.6%	\$71	0.3%	\$48,865
Outbound	57,450	22.4%	\$8,250	29.9%	\$143,595
Through	130,925	51.0%	\$11,967	43.2%	\$91,404
Total	256,592	100.0%	\$27,624	100.0%	\$107,661

Source: TRANSEARCH data for 2016

Inbound Air

Table 3-19 summarizes the inbound air commodities to South Carolina in 2016. Such movements total 66,756 tons, valued at \$7.3 billion, with an average value/ton of \$109,906. In tonnage terms, the top inbound movements include: *Small Packaged Freight Shipments* (26,821, 40.2 percent), *Food or Kindred Products* (7,538, 11.3 percent) and *Miscellaneous Mixed Shipments* (5,140, 7.7 percent). In

value terms, the top commodities include: *Transportation Equipment* (\$1.7 billion, 22.6 percent) and *Electrical Equipment* (\$1 billion, 13.7 percent).

Table 3-19: South Carolina Air Inbound Freight by Major Commodities (2016)

STCC2	Commodity	Tons		Value (in millions)		Average Value/Ton
		Amount	Percent	Amount	Percent	
47	Small Packaged Freight Shipments	26,821	40.2%	\$0	0.0%	\$0
20	Food or Kindred Products	7,538	11.3%	\$99	1.4%	\$13,204
46	Misc. Mixed Shipment	5,140	7.7%	\$672	9.2%	\$130,720
37	Transportation Equipment	5,102	7.6%	\$1,656	22.6%	\$324,656
38	Instruments, Photo and Optical Equip.	4,187	6.3%	\$936	12.8%	\$223,645
36	Electrical Equipment	3,887	5.8%	\$1,005	13.7%	\$258,557
35	Machinery	3,025	4.5%	\$444	6.1%	\$146,807
28	Chemicals or Allied Products	2,206	3.3%	\$661	9.0%	\$299,461
22	Textile Mill Products	2,019	3.0%	\$39	0.5%	\$19,418
30	Rubber or Miscellaneous Products	1,843	2.8%	\$69	0.8%	\$37,490
	Remaining Commodities	4,990	7.5%	\$1,755	23.9%	\$351,731
	Total	66,756	100.0%	\$7,336	100.0%	\$109,906

Source: TRANSEARCH data for 2016

Outbound Air

Table 3-20 summarizes major outbound air commodities from South Carolina in 2016. Such movements total 57,450 tons, valued at \$8.3 billion, with an average value/ton of \$143,595. In tonnage terms, the top inbound movements include: *Small Packaged Freight Shipments* (22,622, 39.4 percent), *Rubber or Miscellaneous Products* (9,122, 15.9 percent), and *Miscellaneous Manufacturing Products* (6,204, 10.8 percent). In value terms, the top commodities include: *Miscellaneous Manufacturing Products* (\$4.6 billion or 55.8 percent), *Electrical Equipment* (\$1.3 billion, 15.7 percent), and *Miscellaneous Mixed Shipments* (\$610 million, 7.4 percent).

Table 3-20: South Carolina Air Outbound Freight by Major Commodities (2016)

STCC2	Commodity	Tons		Value (in millions)		Average Value/Ton
		Amount	Percent	Amount	Percent	
47	Small Packaged Freight Shipments	22,622	39.4%	\$0	0%	\$0
30	Rubber or Miscellaneous Products	9,122	15.9%	\$343	4.2%	\$37,572
39	Misc. Manufacturing Products	6,204	10.8%	\$4,605	55.8%	\$742,188
36	Electrical Equipment	5,275	9.2%	\$1,296	15.7%	\$245,610
46	Miscellaneous Mixed Shipments	4,667	8.1%	\$610	7.4%	\$130,720
35	Machinery	3,471	6.0%	\$440	5.3%	\$126,828
28	Chemicals or Allied Products	1,938	3.4%	\$517	6.3%	\$266,529
37	Transportation Equipment	1,378	2.4%	\$291	3.5%	\$210,893
27	Printed Matter	914	1.6%	\$21	0.3%	\$23,595
43	Mail or Contract Traffic	449	0.7%	\$1	0.0%	\$2,969
	Remaining Commodities	1,409	2.5%	\$126	0.5%	\$89,585
	Total	57,450	100.0%	\$8,250	100.0%	\$143,595

Source: TRANSEARCH data for 2016

Through Air

Table 3-21 summarizes major through-traffic air commodities via South Carolina in 2016. Such movements total 130,925 tons, valued at \$11.9 billion, with an average value/ton of \$91,404. In tonnage terms, the top through movements include: *Small Packaged Freight Shipments* (47,613, or

36.4 percent), *Mail or Contract Traffic* (17,879, 13.7 percent), and *Machinery* (10,876, 8.3 percent). In value terms, the top commodities include: *Electrical Equipment* (\$2.5 billion, 20.9 percent), *Transportation Equipment* (\$1.9 billion, 16.6 percent) and *Miscellaneous Manufacturing Products* (\$1.9 billion, 16.6 percent).

Table 3-21: South Carolina Air Through Freight by Major Commodities (2016)

STCC2	Commodity	Tons		Value (in millions)		Average Value/Ton
		Amount	Percent	Amount	Percent	
47	Small Packaged Freight Shipments	47,613	36.4%	\$0	0.0%	\$0
43	Mail or Contract Traffic	17,879	13.7%	\$53	0.4%	\$2,969
35	Machinery	10,876	8.3%	\$1,383	11.6%	\$127,170
36	Electrical Equipment	10,210	7.8%	\$2,504	20.9%	\$245,208
38	Instruments, Photo and Optical Equip	6,789	5.2%	\$1,513	12.6%	\$222,843
46	Misc. Mixed Shipments	6,392	4.9%	\$836	7.0%	\$130,709
37	Transportation Equipment	3,075	4.6%	\$1,985	16.6%	\$326,806
28	Chemicals or Allied Products	4,547	3.5%	\$1,015	8.5%	\$223,233
34	Fabricated Metal Products	3,886	3.0%	\$142	1.2%	\$36,563
27	Printed Matter	3,171	2.4%	\$75	0.6%	\$23,596
	Remaining Commodities	13,485	10.2%	\$2,461	20.6%	\$182,528
	Total	130,925	100.0%	\$11,967	100.0%	\$91,404

Source: TRANSEARCH data for 2016

Intrastate Air

Table 3-22 summarizes major through-traffic air commodities via South Carolina in 2016. Such movements total 1,461 tons, valued at \$71 million, with an average value/ton of \$48,865. In tonnage terms, *Small Packaged Freight Shipments* and *Textile Mill Products* constitute the top intrastate movements (730, 50 percent and 305, 20.9 percent respectively). In value terms, the top commodities include: *Electrical Equipment* (\$14 million, 19.8 percent), *Machinery* (\$11 million, 15.6 percent) and *Remaining Commodities* (\$13 million, 18.5 percent).

Table 3-22: South Carolina Air Intrastate Freight by Major Commodities (2016)

STCC2	Commodity	Tons		Value (in millions)		Average Value/Ton
		Amount	Percent	Amount	Percent	
47	Small Packaged Freight Shipments	730	50.0%	\$0	0.0%	\$0
22	Textile Mill Products	305	20.9%	\$6	8.5%	\$19,406
35	Machinery	83	5.7%	\$11	15.6%	\$126,829
36	Electrical Equipment	57	3.9%	\$14	19.8%	\$245,627
28	Chemicals or Allied Products	56	3.8%	\$10	14.2%	\$175,519
38	Instruments, Photo/Optical Equip.	35	2.4%	\$7	9.9%	\$222,897
20	Food or Kindred Products	30	2.0%	\$0.3	0.4%	\$10,691
01	Farm Products	28	1.9%	\$0.3	0.4%	\$10,928
30	Rubber or Miscellaneous Products	28	1.9%	\$1	1.4%	\$37,572
37	Transportation Equipment	25	1.7%	\$8	11.3%	\$326,932
	Remaining Commodities	84	5.8%	\$13	18.5%	\$160,015
	Total	1,461	100.0%	\$71	100.0%	\$48,865

Source: TRANSEARCH data for 2016, due to rounding, numbers may not equal

3.1.3.5 Pipeline Flows

Total pipeline movements, as reported by FAF 4 in 2016, encompassed a single commodity: *Petroleum or Coal Products* in the amount of 23,206,411 tons, valued at \$5.4 billion, for a value/ton of \$233. Inbound pipe movements are the largest directional movements: 60.6 percent of total tonnage and

63.7 percent of value. Outbound pipe tonnage (9.2 million) is considerably larger than intrastate pipe tonnage (353). Outbound pipe value is also greater than intrastate (\$1.9 billion outbound versus \$86,600).

3.1.4 Freight Growth

Tonnage across the South Carolina freight network is forecast by TRANSEARCH to grow 65 percent from 2016 to 2040, as summarized in **Table 3-23**. While rail yields the fastest tonnage growth rate (69 percent), truck growth is nearly as rapid (60 percent), and much greater in terms of volume (224.6 million ton increase). Specifically, truck tonnage is forecast to grow from 375.1 million tons in 2016 to 599.6 million in 2040. While inbound truck growth is the fastest (64 percent), through tonnage growth is the greatest by volume (124.1 million tons). Rail tonnage is forecast to grow from 63.2 million tons to 106.6 million tons. Of this growth, intra-state rail is project to increase fastest at 116% while through-state rail is project to growth the fastest by volume (20.8 million tons). Waterborne tonnage is forecast to increase 13%, from 3.3 million tons in 2016 to 3.7 million tons in 2040. This growth is projected to be led by inbound movements (216,955 tons, 12% increase) and intra-state movements (174,457 tons, 44% increase). Air tonnage is projected to increase from 256,592 tons to 377,924 tons and is led by inbound (52,884 tons, 79% increase) and outbound movements (38,823 tons, 68% increase). Strong growth is forecast for pipe which is expected to increase from 23.2 million tons to 58.1 million tons and is led by inbound movements (19.9 million tons, 142% increase) and outbound movements (14.9 million tons, 163% increase).

The following subsections detail the modal tonnage and value growth by direction between 2011 and 2040, as well as the interim year of 2025. Tables are sorted by top ten commodities in 2040 in terms of either volume or units.

Table 3-23: South Carolina Freight Ton Forecast by Modal Direction (2016 and 2040)

Direction	Air	Pipe	Rail	Truck	Water	Total
Tons, in thousands						
Year 2016						
Outbound	57	9,154	7,484	70,536	66	87,298
Inbound	67	14,052	21,812	59,935	1,768	97,633
Intra	1	0.3	5,405	45,289	398	51,094
Through	131	N/A	28,539	199,287	1,044	229,001
Total	256	23,206	63,240	375,047	3,276	465,026
Year 2040						
Outbound	96	24,108	13,853	109,333	97	147,487
Inbound	120	33,966	31,750	98,553	1,985	166,373
Intra	2	1	11,652	68,348	573	80,578
Through	159	N/A	49,312	323,375	1,034	373,881
Total	377	58,075	106,567	599,609	3,689	768,319
Growth, 2016 to 2040						
Year 2016-2040						
Outbound	68%	163%	85%	55%	45%	69%
Inbound	79%	142%	46%	64%	12%	70%
Intra	74%	316%	116%	51%	44%	58%
Through	22%	N/A	73%	62%	-1%	63%
Total	47%	150%	69%	60%	13%	65%
Tons, in thousands						
Outbound	39	14,954	6,368	38,798	30	60,189
Inbound	53	19,914	9,938	38,618	217	68,740
Intra	1	1	6,248	23,059	174	29,483
Through	28	N/A	20,773	124,087	-9	144,880
Total	121	34,869	43,327	224,562	412	303,292

Source: TRANSEARCH data for 2016 and 2040, due to rounding, numbers may not equal

3.1.4.1 Truck Forecasts

Table 3-24 depicts the directional composition of truck movements in South Carolina between 2016 and 2040, which is relatively constant over the future analysis horizon. Truck tonnage is forecast to increase from 375 million in 2016 to 599.6 million in 2040, a cumulative increase of 60 percent, for a compound average annual growth rate (CAGR) of 2.0 percent. Truck commodity value is forecast to increase from \$611.9 billion in 2016 to \$1.18 trillion by 2040, a cumulative increase of 93 percent, for a CAGR of 2.8 percent.

Table 3-24: South Carolina Truck Freight Tonnage and Value by Year and Direction (2016, 2025, 2040)

Direction	Tons		Value (in millions)		Average Value/Ton
	Amount	Percent	Amount	Percent	
Year 2016					
Outbound	70,535,532	18.8%	\$122,340	20.0%	\$1,734
Inbound	59,934,986	16.0%	\$87,724	14.3%	\$1,464
Intra	45,289,394	12.1%	\$49,862	8.1%	\$1,101
Through	199,287,208	53.1%	\$351,912	57.6%	\$1,766
Total	375,047,119	100.0%	\$611,838	100.0%	\$1,631
Year 2025					
Outbound	85,053,981	18.8%	\$160,376	20.6%	\$1,886
Inbound	73,874,852	16.4%	\$113,447	14.5%	\$1,536
Intra	54,424,787	12.1%	\$65,071	8.3%	\$1,196
Through	237,537,841	52.7%	\$441,321	56.6%	\$1,858
Total	450,891,462	100.0%	\$780,215	100.0%	\$1,730
Year 2040					
Outbound	109,333,542	18.2%	\$249,856	21.1%	\$2,285
Inbound	98,552,708	16.4%	\$163,175	13.8%	\$1,656
Intra	68,348,700	11.5%	\$98,183	8.3%	\$1,436
Through	323,374,494	53.9%	\$672,497	56.8%	\$2,080
Total	599,609,444	100.0%	\$1,183,711	100.0%	\$1,974

Source: TRANSEARCH data for 2016, 2025, and 2040

Freight density across the South Carolina road network is shown in **Figure 3-13**, which indicates the highest truck volumes are on I-77, I-85, I-26 from Columbia south to the I-95 interchange, and on I-95. Truck freight density change between year 2011 and 2040 is shown in **Figure 3-14**, which indicates the I-26 and I-95 segments as having the highest growth.

Table 3-25 summarizes major commodity tonnage movements by truck in 2040, and the associated commodity tonnage growth from 2016.

- **Total Tonnage** – Major commodities in 2040 include: *Nonmetallic Minerals* (121.8 million, 20.3 percent), *Secondary Traffic* (62.5 million, 10.4 percent), and *Clay, Concrete, Glass or Stone Products* (60.9 million, 10.2 percent), exhibiting 2.3 percent, 3.2 percent, and 2.7 percent CAGR, respectively.
- **Tonnage Growth** – Commodities with the highest tonnage growth rates between 2016 and 2040 include: *Instrument, Photo Equipment, Optical Equipment* (436,228 to 1.4 million, 5.0 percent CAGR), *Miscellaneous Mixed Shipments* (70,649 to 220,813, 4.9 percent CAGR), and *Machinery* (5.3 million to 13.6 million, 4.0 percent CAGR).

- Value Growth – Commodities with the highest value growth rates between 2016 and 2040 include: *Instrument, Photo Equipment, Optical Equipment* (5.0 percent CAGR), *Miscellaneous Mixed Shipments* (4.9 percent CAGR) and *Electrical Equipment* (4.2 percent CAGR).

Table 3-26 summarizes major truck movements (i.e., units) in 2040 by commodity type. Truck movements in 2040 total 599.6 million tons, via 49.7 million units, valued at \$1.1 trillion, with an average value/ton of \$1,974.

- Total Units – *Shipping Containers* and *Nonmetallic Minerals* constitute nearly one half (24.5 million, 49.2 percent) of the total 49.7 million 2040 truck units.
- Total Value – Top commodities include: *Secondary Traffic* (\$143.9 billion or 12.2 percent), *Chemicals or Allied Products* (\$128.8 billion or 10.9 percent) and *Food or Kindred Products* (95.9 billion or 8.1 percent).

Table 3-25: South Carolina Truck Freight Tonnage Forecast by Major Commodity (Tons)

STCC2	Commodity	2016		2040		Percent Change	
		Tons	Percent	Tons	Percent	Total	CAGR
14	Nonmetallic Minerals	69,803,461	18.6%	121,848,069	20.3%	74.6%	2.3%
50	Secondary Traffic	29,061,490	7.7%	62,459,478	10.4%	114.9%	3.2%
32	Clay/Concrete/Glass/Stone	32,378,852	8.6%	60,980,891	10.2%	88.3%	2.7%
20	Food or Kindred Products	31,552,200	8.4%	53,415,086	8.9%	69.3%	2.2%
28	Chemical or Allied	23,158,143	6.2%	50,351,829	8.4%	117.4%	3.3%
40	Waste or Scrap Materials	23,157,607	6.2%	44,389,731	7.4%	91.7%	2.7%
29	Petroleum or Coal Products	19,754,743	5.3%	34,771,069	5.8%	76.0%	2.4%
1	Farm Products	38,813,992	10.3%	29,493,154	4.9%	-24.0%	-1.1%
24	Lumber or Wood Products	20,787,328	5.5%	27,482,435	4.6%	32.2%	1.2%
26	Pulp, Paper, Allied Product	13,928,796	3.7%	18,659,819	3.1%	34.0%	1.2%
	Remaining Commodities	72,650,507	19.5%	95,757,883	16.0%	31.8%	1.2%
	Total	375,047,119	100.0%	599,604,444	100.0%	59.9%	2.0%

Source: prepared by CDM Smith, based on TRANSEARCH data for 2016 and 2040

Table 3-26: South Carolina Truck Freight Forecast – Tons, Units, and Value by Commodity (2040 Units)

STCC2	Commodity	Tons		Units		Value (in millions)		Average Value/Ton
		Amount	Percent	Amount	Percent	Amount	Percent	
42	Shipping Containers	0	0.0%	19,481,004	39.1%	\$0	0.0%	\$0
14	Nonmetallic Minerals	121,848,069	20.3%	5,012,192	10.1%	\$1,690	0.1%	\$14
32	Clay, Concrete, Glass or Stone	60,980,891	10.2%	3,795,626	7.6%	\$14,230	1.2%	\$233
50	Secondary Traffic	62,459,478	10.4%	3,722,631	7.5%	\$143,876	12.2%	\$2,304
28	Chemical or Allied	50,351,829	8.4%	2,434,360	4.9%	\$128,838	10.9%	\$2,559
20	Food or Kindred Products	53,415,086	8.9%	2,329,207	4.7%	\$95,902	8.1%	\$1,795
40	Waste or Scrap Materials	44,389,731	7.4%	1,857,127	3.7%	\$12,174	1.0%	\$274
1	Farm Products	29,493,154	4.9%	1,705,967	3.4%	\$41,205	3.5%	\$1,397
29	Petroleum or Coal Products	34,771,069	5.8%	1,440,019	2.9%	\$14,959	1.3%	\$430
30	Rubber or Misc. Plastics	15,915,706	2.7%	1,341,325	2.7%	\$70,815	6.0%	\$4,449
	Remaining Commodities	125,984,432	21.0%	6,664,059	13.4%	\$660,018	55.8%	\$5,239
	Total	599,609,444	100.0%	49,763,517	100.0%	\$1,183,711	100.0%	\$1,974

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

Figure 3-13: South Carolina Truck Freight Tonnage (2040)

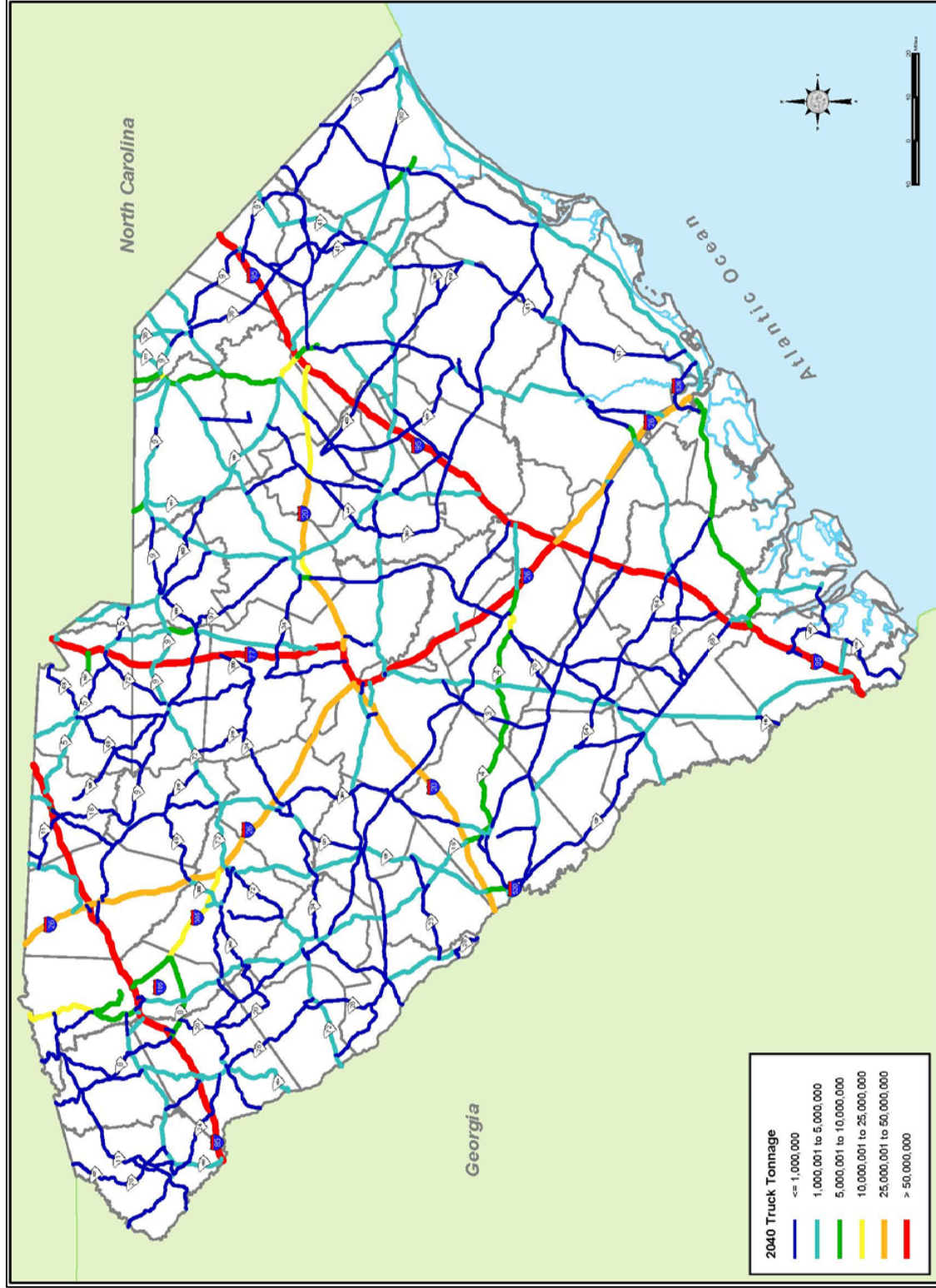
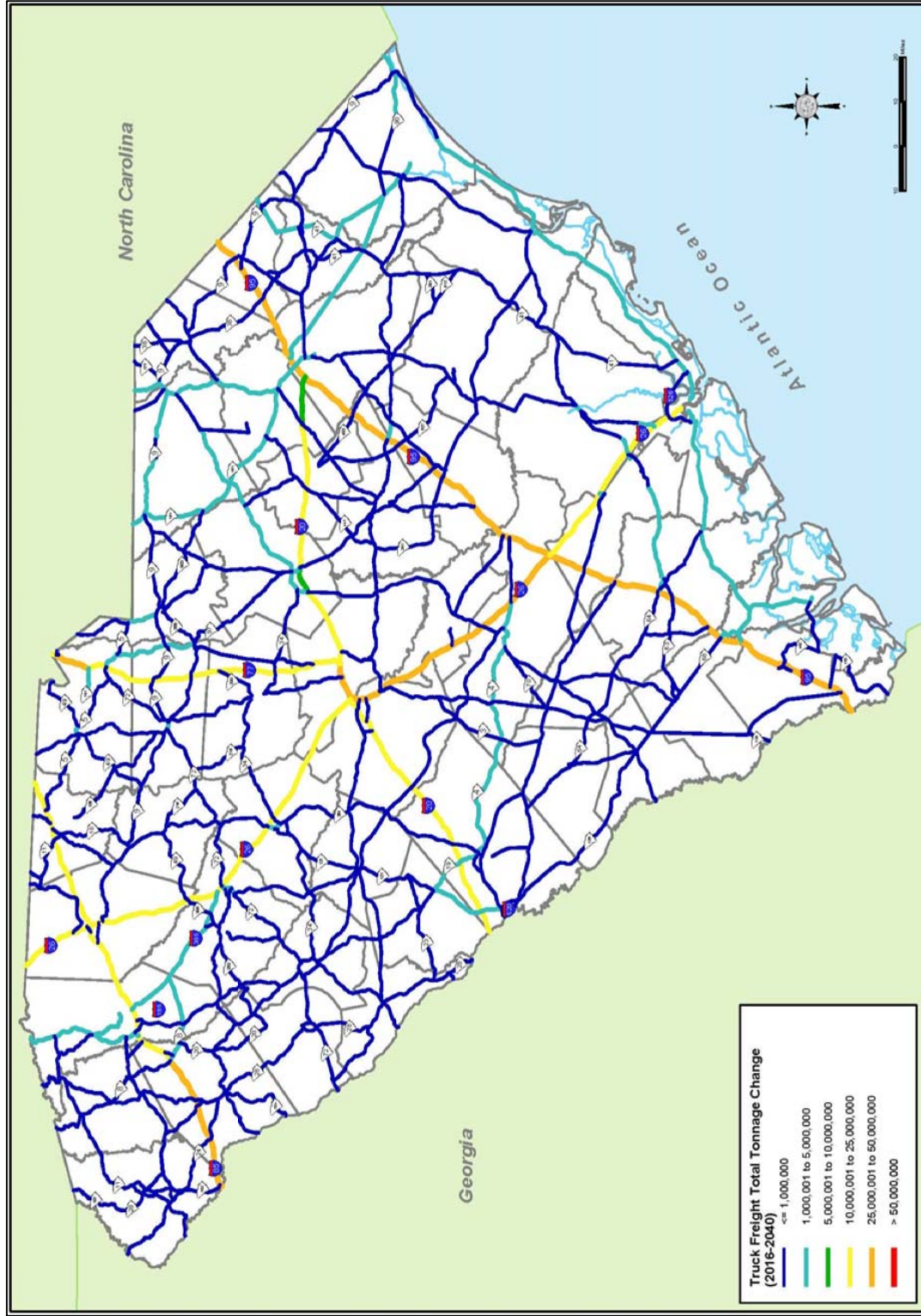


Figure 3-14: South Carolina Truck Freight Tonnage Growth (2016-2040)



Source: TRANSEARCH data for 2016 and 2040

3.1.4.2 Rail Forecast

Table 3-27 depicts the directional composition of rail movements in South Carolina between 2016 and 2040, which is relatively constant over the future analysis horizon. Rail tonnage is forecast to increase from 63.2 million in 2016 to 106.6 million in 2040, a cumulative increase of 69 percent, for a CAGR of 2.2 percent. Rail commodity value is forecast to increase from \$93.6 billion in 2016 to \$190.2 billion by 2040, a cumulative increase of 103 percent, for a CAGR of 3.0 percent.

Table 3-27: South Carolina Rail Freight Tonnage and Value by Year and Direction (2016, 2025, 2040)

Direction	Tons		Value (in millions)		Average Value/Ton
	Amount	Percent	Amount	Percent	
Year 2016					
Outbound	7,484,310	11.8%	\$11,629	12.5%	\$1,554
Inbound	21,811,904	34.5%	\$16,867	18.0%	\$773
Intra	5,404,653	8.6%	\$11,711	12.5%	\$2,167
Through	28,539,454	45.1%	\$53,391	57.0%	\$1,871
Total	63,240,321	100.0%	\$93,598	100.0%	\$1,480
Year 2025					
Outbound	9,673,958	12.1%	\$15,677	12.9%	\$1,621
Inbound	26,646,442	33.4%	\$21,759	17.9%	\$817
Intra	8,241,132	10.3%	\$15,345	12.6%	\$1,862
Through	35,292,374	44.2%	\$68,906	56.6%	\$1,952
Total	79,853,906	100.0%	\$121,687	100.0%	\$1,524
Year 2040					
Outbound	13,852,936	13.0%	\$24,095	12.7%	\$1,739
Inbound	31,750,234	29.8%	\$32,644	17.2%	\$1,028
Intra	11,652,371	10.9%	\$23,054	12.1%	\$1,979
Through	49,312,383	46.3%	\$110,388	58.0%	\$2,239
Total	106,567,924	100.0%	\$190,181	100.0%	\$1,785

Source: TRANSEARCH data for 2040

As shown in **Figure 3-15**, the link between Greenwood, SC and Athens, GA continues to handle the greatest rail tonnage per line (compare with **Figure 3-8**). Other notable tonnage movements go through Berkeley, Charleston, Greenville, Pickens and Oconee counties. The greatest rail tonnage growth appears to accrue to the major Class I rail lines (**Figure 3-16**).

Table 3-28 summarizes major commodity tonnage movements by rail in 2040, and the associated commodity tonnage growth from 2016.

- **Total Tonnage** – Major rail commodities in 2040 include: *Chemicals or Allied Products* (26.7 million, 25.1 percent), *Misc. Mixed Shipments* (14.7 million, 13.8 percent), and *Nonmetallic Minerals* (11.1 million, 10.4 percent), exhibiting 3.1 percent, 3.1 percent, and 2.1 percent CAGR, respectively.
- **Tonnage Growth** – Commodities with the highest tonnage growth rates between 2016 and 2040 include: *Instrument, Photo Equipment, Optical Equipment* (7,200 to 31,505, 6.3 percent CAGR), *Electrical Equipment* (124,080 to 387,702, 4.9 percent CAGR), and *Apparel or Related Products* (457,280 to 1,384,472, 4.7 percent CAGR).

- Value Growth – Commodities with the highest value growth rates between 2016 and 2040 include: *Instrument, Photo Equipment, Optical Equipment* (6.0 percent CAGR), *Apparel or Related Products* (4.8 percent CAGR), and *Rubber/Misc. Plastics* (4.6 percent CAGR).

Table 3-28: South Carolina Rail Tonnage Freight Forecast by Commodity (2016, 2040)

STCC2	Commodity	2016		2040		Percent Change	
		Amount	Percent	Amount	Percent	Total	CAGR
28	Chemicals or Allied Products	12,783,432	20.2%	26,740,277	25.1%	109.2%	3.1%
46	Misc. Mixed Shipments	7,079,120	11.2%	14,730,673	13.8%	108.1%	3.1%
14	Nonmetallic Minerals	6,791,128	10.7%	11,123,794	10.4%	63.8%	2.1%
11	Coal	9,259,507	14.6%	9,328,425	8.8%	0.7%	0.0%
20	Food or Kindred Products	4,702,517	7.4%	8,025,399	7.5%	70.7%	2.3%
32	Clay, Concrete, Glass or Stone	3,741,344	5.9%	6,289,475	5.9%	68.1%	2.2%
26	Pulp, Paper or Allied Products	4,718,936	7.5%	6,285,483	5.9%	33.2%	1.2%
33	Primary Metal Products	2,202,991	3.5%	5,195,923	4.9%	135.9%	3.6%
24	Lumber or Wood Products	2,975,188	4.7%	5,191,573	4.9%	74.5%	2.3%
01	Farm Products	2,358,878	3.7%	3,221,862	3.0%	36.6%	1.3%
	Remaining Commodities	6,627,280	10.6%	10,435,040	9.8%	57.5%	1.9%
	Total	63,240,321	100.0%	106,567,924	100.0%	68.5%	2.2%

Source: TRANSEARCH data for 2016 and 2040

Table 3-29 summarizes major railcar movements (i.e., units) in 2040 by commodity type. Rail movements in 2040 total 106.6 million tons, via 2.7 million units, valued at \$190.2 billion, with an average value/ton of \$1,785.

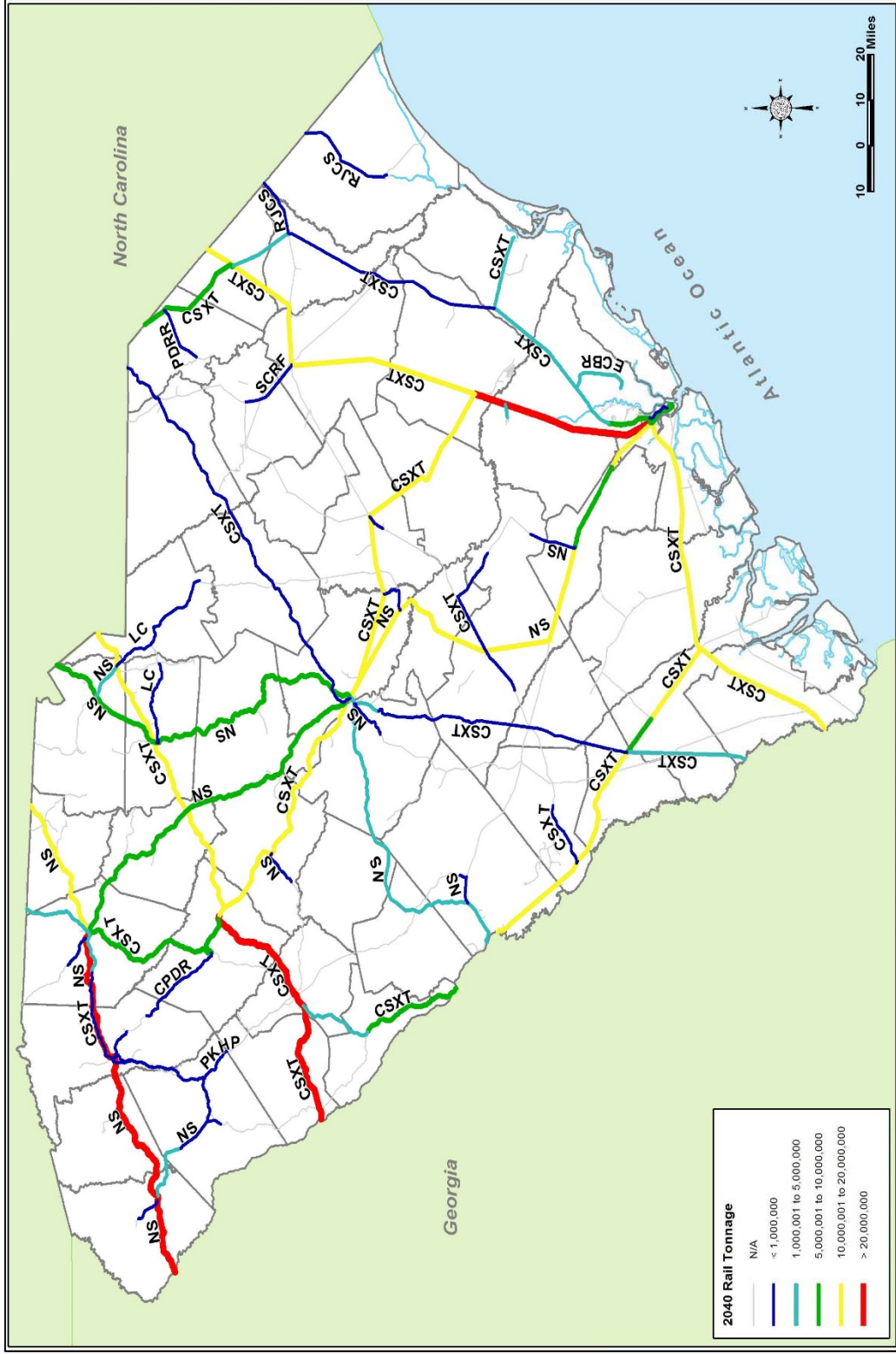
- Total Units – *Miscellaneous Mixed Shipments* and *Chemicals or Allied Products* constitute more than half (930,552, 56.7 percent) of the total 2.7 million 2040 rail units.
- Total Value – Top commodities include: *Miscellaneous Mixed Shipments* (\$76.0 billion or 39.9 percent), *Chemicals or Allied Products* (\$45.2 billion or 23.7 percent), and *Transportation Equipment* (\$21.4 billion or 11.3 percent).

Table 3-29: South Carolina Rail Freight Forecast – Tons, Units, and Value by Commodity (2040 Units)

STCC2	Commodity	Tons		Units		Value (in millions)		Average Value/Ton
		Amount	Percent	Amount	Percent	Amount	Percent	
46	Misc. Mixed Shipments	14,730,673	13.8%	1,179,687	44.1%	\$75,959	39.9%	\$5,157
28	Chemicals or Allied Products	26,740,277	25.1%	337,406	12.6%	\$45,160	23.7%	\$1,689
20	Food or Kindred Products	8,025,399	7.5%	143,142	5.4%	\$6,252	3.3%	\$779
26	Pulp, Paper or Allied	6,285,483	5.9%	137,511	5.1%	\$6,129	3.2%	\$975
23	Apparel or Related	1,384,472	1.3%	130,628	4.9%	\$7,810	4.1%	\$5,641
37	Transportation Equipment	2,237,304	2.1%	114,324	4.3%	\$21,442	11.3%	\$9,584
14	Nonmetallic Minerals	11,123,794	10.4%	103,103	3.9%	\$143	0.1%	\$13
11	Coal	9,328,425	8.8%	80,298	3.0%	\$325	0.2%	\$35
32	Clay, Concrete, Glass or Stone	6,289,475	5.9%	76,801	2.9%	\$1,235	0.6%	\$196
24	Lumber or Wood Products	5,191,573	4.9%	64,852	2.4%	\$1,292	0.7%	\$249
	Remaining Commodities	15,231,049	14.3%	306,250	11.4%	\$24,435	12.9%	\$1,604
	Total	106,597,924	100.0%	2,674,002	100.0%	\$190,182	100.0%	\$1,785

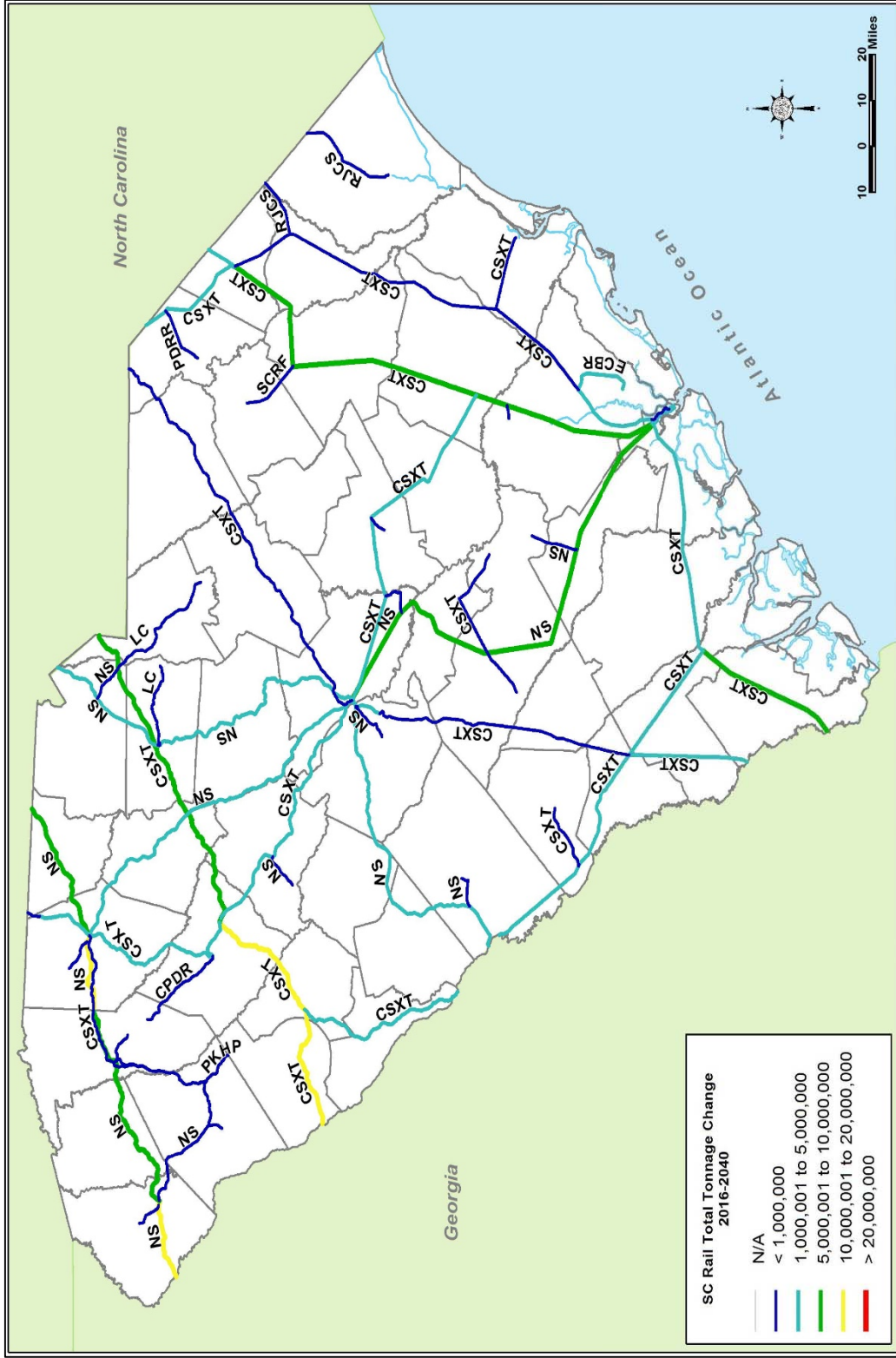
Source: TRANSEARCH data for 2040

Figure 3-15: South Carolina Rail Freight Density (2040)



Source: TRANSEARCH data for 2040

Figure 3-16: South Carolina Rail Freight Tonnage Growth (2016-2040)



Source: TRANSEARCH data for 2016 and 2040

3.1.4.3 Port Forecast

Table 3-30 depicts the directional composition of port movements in South Carolina between 2016 and 2040. TRANSEARCH forecasts South Carolina port tonnage to increase from 3.3 million in 2016 to 3.7 million in 2040, a cumulative increase of 12.6 percent, for a CAGR of 0.5 percent. Port commodity values are forecast to increase from \$581 million in 2016 to \$882 million by 2040, a cumulative increase of 51.9 percent, for a CAGR of 1.8 percent.

Table 3-30: South Carolina Port Freight Tonnage and Value by Year and Direction (2016, 2025, 2040)

Direction	Tons		Value (in millions)		Average Value/Ton
	Amount	Percent	Amount	Percent	
Year 2016					
Outbound	66,868	2.0%	\$35	6.1%	\$530
Inbound	1,767,954	54.0%	\$180	30.9%	\$102
Intra	397,996	12.1%	\$94	16.2%	\$236
Through	1,043,532	31.9%	\$272	46.8%	\$260
Total	3,276,350	100.0%	\$581	100.0%	\$177
Year 2025					
Outbound	78,561	2.3%	\$40	5.5%	\$505
Inbound	1,956,574	56.6%	\$290	39.8%	\$148
Intra	423,861	12.3%	\$100	13.7%	\$236
Through	995,927	28.8%	\$298	41.0%	\$300
Total	3,454,923	100.0%	\$728	100.0%	\$211
Year 2040					
Outbound	97,202	2.6%	\$50	5.7%	\$518
Inbound	1,984,909	53.8%	\$339	38.4%	\$171
Intra	572,453	15.5%	\$135	15.3%	\$235
Through	1,034,456	28.1%	\$358	40.6%	\$346
Total	3,689,020	100.0%	\$882	100.0%	\$239

Source: TRANSEARCH data for 2016, 2025, and 2040

Table 3-31 summarizes major commodity tonnage movements by port in 2040, and the associated commodity tonnage growth from 2011.

- Total Tonnage* – In 2040, the largest commodities include: *Petroleum or Coal Products* (1.6 million, 41.9 percent), *Nonmetallic Minerals* (1.4, 37.0 percent), and *Chemicals and Allied Products* (408,336, 11.1 percent), exhibiting 1.2 percent, -0.4 percent, and 1.3 percent CAGR, respectively.

Table 3-31: South Carolina Port Freight Tonnage Forecast by Commodity (2016, 2040)

STCC2	Commodity	2016		2040		Percent Change	
		Amount	Percent	Amount	Percent	Total	CAGR
29	Petroleum or Coal Products	1,150,066	35.1%	1,546,341	41.9%	34.5%	1.2%
14	Nonmetallic Minerals	1,517,462	46.3%	1,363,767	37.0%	-10.1%	-0.4%
28	Chemicals or Allied Products	299,303	9.1%	408,336	11.1%	36.4%	1.3%
32	Clay, Concrete, Glass or Stone	187,750	5.7%	232,979	6.3%	24.1%	0.9%
40	Waste or Scrap Materials	73,662	2.2%	65,106	1.8%	-11.6%	-0.5%
20	Food or Kindred Products	40,974	1.3%	62,844	1.7%	53.4%	1.8%
34	Fabricated Metal Products	4,430	0.1%	4,653	0.1%	5.0%	0.2%
33	Primary Metal Products	1,255	0.0%	2,794	0.1%	122.7%	3.4%
35	Machinery	819	0.0%	1,400	0.0%	70.8%	2.3%
26	Pulp, Paper or Allied Products	418	0.0%	534	0.0%	27.7%	1.0%
	Remaining Commodities	211	0.0%	266	0.0%	25.6%	1.0%
	Total	3,276,350	100.0%	3,689,020	100.0%	12.6%	0.5%

Source: TRANSEARCH data for 2016 and 2040; due to rounding, numbers may not equal

- **Tonnage Growth** – Commodities with the highest rates of tonnage growth between 2016 and 2040 include: *Instruments, Photo Equipment, Optical Equipment* (2 to 7, 4.8 percent CAGR), *Transportation Equipment* (16 to 37, 3.6 percent CAGR), and *Rubber or Miscellaneous Plastics* (0 to 1, 3.5 percent CAGR).
- **Value Growth** – Commodities with the highest rates of value growth between 2016 and 2040 include the same three, with 4.8 percent, 5.0 percent, and 3.5 percent growth, respectively.

3.1.4.4 Air Freight Forecast

Table 3-32 depicts the directional composition of air movements in South Carolina between 2016 and 2040, which is relatively constant over the future analysis horizon. Air tonnage is forecast to increase from 256,592 in 2016 to 377,924 in 2040, a cumulative increase of 47.3 percent, for a CAGR of 1.6 percent. Air commodity value is forecast to increase from \$27.6 billion in 2016 to \$48.9 billion by 2040, a cumulative increase of 77 percent, for a CAGR of 2.4 percent.

Table 3-33 summarizes major commodity tonnage movements by air in 2040, and the associated commodity tonnage growth from 2016.

- **Total Tonnage** – Major air commodities in 2040 include: *Miscellaneous Mixed Shipments* (133 thousand or 18.1 percent), *Electrical Equipment* (36 thousand or 17.1 percent), and *Machinery* (32.8 thousand or 15.4 percent), exhibiting 1.3 percent, 2.6 percent, and 2.7 percent CAGR, respectively.

Table 3-32: South Carolina Air Freight Tonnage and Value by Year and Direction (2016, 2025, 2040)

Direction	Tons		Value (in millions)		Average Value/Ton
	Amount	Percent	Amount	Percent	
Year 2016					
Outbound	57,450	22.4%	\$8,249	29.8%	\$143,595
Inbound	66,756	26.0%	\$7,337	26.6%	\$109,906
Intra	1,461	0.6%	\$71	0.3%	\$48,865
Through	130,925	51.0%	\$11,967	43.3%	\$91,404
Total	256,592	100.0%	\$27,624	100.0%	\$107,661
Year 2025					
Outbound	70,329	24.3%	\$9,154	27.2%	\$130,152
Inbound	83,610	28.9%	\$10,076	30.0%	\$120,509
Intra	1,847	0.6%	\$87	0.3%	\$47,295
Through	133,836	46.2%	\$14,260	42.5%	\$106,553
Total	289,622	100.0%	\$33,577	100.0%	\$115,935
Year 2040					
Outbound	96,273	25.5%	\$11,709	23.9%	\$121,622
Inbound	119,641	31.6%	\$17,112	35.0%	\$143,030
Intra	2,542	0.7%	\$119	0.3%	\$46,719
Through	159,468	42.2%	\$19,960	40.8%	\$125,168
Total	377,924	100.0%	\$48,900	100.0%	\$129,391

Source: TRANSEARCH data for 2016

Table 3-33: South Carolina Air Freight Tonnage Forecast by Commodity (2016, 2040)

STCC2	Commodity	2016		2040		Percent Change	
		Amount	Percent	Amount	Percent	Total	CAGR
47	Small Packaged Freight Shipments	97,787	38.1%	133,823	18.1%	36.9%	1.3%
36	Electrical Equipment	19,429	7.6%	36,055	17.1%	85.6%	2.6%
35	Machinery	17,454	6.8%	32,873	15.4%	88.3%	2.7%
30	Rubber or Miscellaneous Products	13,642	5.3%	28,505	12.7%	109.0%	3.1%
46	Misc. Mixed Shipments	16,203	6.3%	24,367	10.5%	50.4%	1.7%
37	Transportation Equipment	12,580	4.9%	20,558	7.2%	63.4%	2.1%
28	Chemicals or Allied Products	8,747	3.4%	19,250	6.0%	120.1%	3.3%
38	Instruments, Photo/Optical Equip.	11,351	4.4%	18,621	4.6%	64.0%	2.1%
39	Misc. Manufacturing Products	10,718	4.2%	16,728	3.3%	56.1%	1.9%
43	Mail or Contract Traffic	18,342	7.1%	10,858	2.5%	-40.8%	-2.2%
	Remaining Commodities	30,339	11.9%	36,286	2.6%	19.6%	0.7%
	Total	256,592	100.0%	377,924	100.0%	47.3%	1.6%

Source: TRANSEARCH data for 2016

- *Tonnage Growth* – Commodities with the highest rates of tonnage growth between 2016 and 2040 include: *Forest Products* (3 to 12, 6.5 percent CAGR), *Coal* (29 to 71, 3.8 percent CAGR), and *Chemicals or Allied Products* (8,747 to 19,250, 3.3 percent CAGR).

- *Value Growth* – Commodities with the highest rates of tonnage growth between 2016 and 2040 include: *Chemicals or Allied Products* (\$2.2 billion to \$6.3 billion, 4.5 percent CAGR), *Coal* (\$11,474 to \$28,248, 3.8 percent CAGR), and *Rubber or Miscellaneous Products* (\$512 million to \$1.1 billion, 3.1 percent CAGR).

3.1.4.5 Pipeline Forecast

Total South Carolina pipeline movements in 2040 comprise only one commodity, *Petroleum or Coal Products*. FAF 4 forecasts South Carolina pipeline tonnage to increase from 23.2 million in 2016 to 58.1 million in 2040, a cumulative increase of 150.3 percent, for a CAGR of 3.9 percent. Pipeline commodity values are forecast to increase from \$5.4 billion in 2016 to \$13.5 billion by 2040, a cumulative increase of 149.6 percent, for a CAGR of 3.9 percent.

4 FREIGHT POLICY REVIEW AND PERFORMANCE MEASURES

4.1 The National Focus on Freight

The FAST Act continues the National Highway Performance Program (NHPP), which was established under MAP-21. The NHPP provides support for the condition and performance of the National Highway System (NHS), for the construction of new facilities on the NHS, and to ensure that investments of Federal-aid funds in highway construction are directed to support progress toward the achievement of performance targets established in a State's asset management plan for the NHS. Collectively, the rules address challenges facing the U.S. transportation system, including:

- improving safety
- maintaining infrastructure condition
- reducing traffic congestion
- improving efficiency of the system and freight movement
- protecting the environment and
- reducing delays in project delivery

In May 2017, FHWA implemented and published national performance measures and guidance to be used by state Departments of Transportation (DOTs) and Metropolitan Planning Organizations (MPOs) to assess the performance of various aspects of the national highway system. The FAST Act also includes two additional provisions related to performance management:

- If a state fails to meet (or make significant progress toward meeting) its freight performance targets within two years after establishment of the targets, then the state's next performance report must include what actions it will take to achieve the targets.
- The FAST Act shortens the timeframe for states and MPOs to make progress toward meeting performance targets under the NHPP and clarifies the significant progress timeline for the Highway Safety Improvement Program (HSIP) performance targets.

23 U.S.C. 150(c)(6) established performance measures for state DOTs and MPOs to use to assess the national freight movement on the interstate system. The performance measure to assess freight movement on the interstate system is the Truck Travel Time Reliability (TTTR) Index (referred to as the Freight Reliability measure).

Starting in 2018 and annually thereafter, state DOTs shall report the TTTR metrics in accordance with the HPMS Field Manual by June 15th of each year for the previous year's Freight Reliability measures. State DOTs must have established 2- and 4-year targets by May 20, 2018. Those targets will be reported in the State's October 2018 baseline performance period report. The State DOTs have the option to adjust 4-year targets in their mid-performance period progress

report, due October 1, 2020. MPOs must either support the State target or establish their own quantifiable 4- year targets within 180 days of the State target establishment.

The 2018 baseline TTTR Index in South Carolina, is 1.34. The 10-year target TTTR Index is 1.53. The MPOs in South Carolina have adopted the same measures.

South Carolina’s ability to provide a robust, multimodal freight transportation system has been critically important in supporting the current trend of growth in freight movements. The SFP identifies potential SCDOT policy directions to support the continued success of the state’s freight generating industries. While policy-making is a multi-faceted activity, it is important to note there are four primary policy documents that will guide the creation of South Carolina’s freight policies:

- South Carolina’s Statewide Multimodal Transportation Plan, provides an overall framework and vision for the State Freight Plan;
- Corresponding 2040 SCDOT Plans: These plans supplement the State Freight Plan by providing detailed information about other transportation modes (such as rail and public transportation);
- The SCDOT Strategic Plan provides the framework for SCDOTs internal implementation of potential policy changes to improve transportation infrastructure; and
- The FAST Act establishes a recommended framework for state freight plans and provides national freight policy and investment guidance.

4.2 Framework for Freight Policy

4.2.1 Charting a Course to 2040: South Carolina’s Statewide Multimodal Plan

The SFP is intended to function as a stand-alone supplement to the MTP. The development of the MTP began with a comprehensive Visioning process, inclusive of workshops and meetings with SCDOT executive leadership, which was the foundation to developing the 2040 MTP goals and objectives. SCDOT coordinated the vision development with Plan partners including the Department of Commerce, the Federal Highway Administration and the South Carolina Ports Authority. This SFP reflects and references elements of the MTP as well as the Statewide Interstate Plan, Statewide Strategic Corridor Plan, and the Statewide Rail Plan.

4.2.1.1 MTP Goals and Objectives

As a result of the visioning process and outreach events, SCDOT concluded that the state is facing significantly different challenges than during the last MTP update in 2008. As such, the goals and objectives of this plan cannot just be extensions of previous plans. In particular, the goals and objectives developed are closely aligned with supporting the state’s economy and addressing MAP-21 and FAST Act requirements.

The goals for the SFP incorporate the goals of the MTP as well as goals identified for a freight plan within FAST Act legislation (23 U.S.C. 167). Specific goals of the SFP are as follows:

- Mobility and System Reliability Goal
- Safety Goal
- Infrastructure Condition Goal
- Economic and Community Vitality Goal
- Environmental Goal
- Equity Goal

Recommended policies for freight transportation planning have been developed for each objective identified for these six SFP goals in order to provide a base and understanding of the performance of the goods movement network in South Carolina.

4.3 SCDOT Strategic Plan

The Strategic Plan is SCDOT’s internal business plan; it describes “how” SCDOT will deliver products and services. The document is designed to guide SCDOT employees in the fulfillment of the department’s mission and priorities. This contrasts with the MTP, which is an externally-focused document, intended to describe broadly “what” the Department will provide to its customers. The Department’s Strategic and Multimodal plans have separate audiences, but must be carefully crafted to complement each other. Similarly, the SFP reflects and references elements of the MTP and Strategic Plan.

It is the mission of SCDOT to connect communities and drive the state’s economy through the systematic planning, construction, maintenance and operation of the state highway system and the statewide intermodal transportation and freight system. It is the SCDOT’s vision to rebuild our transportation system over the next decade in order to provide adequate, safe and efficient transportation services for the movement of people and goods in the Palmetto state. The following goals will assist SCDOT in reaching its statewide vision:

- Improve safety programs and outcomes in our high-risk areas
- Maintain and preserve our existing transportation infrastructure
- Improve SCDOT program delivery to increase the efficiency and reliability of our road and bridge network
- Provide a safe and productive work environment for SCDOT employees
- Earn public trust through transparency, improved communications and audit compliance

4.4 Moving Ahead for Progress in the 21st Century (MAP-21) and Fixing America’s Surface Transportation (FAST) Act

MAP-21 transformed the policy and programmatic framework for investments to guide the infrastructure growth and development. In particular, MAP-21 modernized and consolidated many of the surface transportation programs developed in the 1990s into a few core performance based programs.

MAP-21 integrated performance into many federal transportation programs and contains several performance elements. The cornerstone of MAP-21’s highway program transformation is the

transition to a performance and outcome-based program, requiring states to invest resources in projects to achieve individual targets that collectively will make progress toward national goals. Among these, one of the larger MAP-21 goals was to improve 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.”

MAP-21 required the USDOT establish a national freight policy to improve the condition and performance of the national freight network. The law includes the following seven goals the policy should achieve:

- **Economic Competitiveness** - Invest in infrastructure improvements and to implement operational improvements that strengthen the contribution of the national freight network to the economic competitiveness of the United States; reduce congestion; and increase productivity, particularly for domestic industries and businesses that create high-value jobs.
- **Safety, Security, Resiliency** - Improve the safety, security, and resilience of freight transportation.
- **State of Good Repair** - Improve the state of good repair of the national freight network.
- **Advanced Technology** - Use advanced technology to improve the safety and efficiency of the national freight network.
- **Performance and Accountability** - Incorporate concepts of performance, innovation, competition, and accountability into the operation and maintenance of the national freight network.
- **Economic Efficiency** - Improve the economic efficiency of the national freight network.
- **Environmental** - Reduce the environmental impacts of freight movement on the national freight network.

The FAST Act builds on the changes made by MAP-21. Setting the course for transportation investment in highways, the FAST Act seeks to:

- ***Improves mobility on America’s highways***
The FAST Act establishes and funds new programs to support critical transportation projects to ease congestion and facilitate the movement of freight on the Interstate System and other major roads. Examples include developing a new National Multimodal Freight Policy, apportioning funding through a new National Highway Freight Program, and authorizing a new discretionary grant program for Nationally Significant Freight and Highway Projects (FASTLANE Grants).
- ***Creates jobs and supports economic growth***
The FAST Act authorizes \$226.3 billion in Federal funding for FY 2016 through 2020 for road, bridge, bicycling, and walking improvements. In addition, the FAST Act includes a number of provisions designed to improve freight movement in support of national goals.
- ***Accelerates project delivery and promotes innovation***

Building on the reforms of MAP-21 and FHWA’s Every Day Counts initiative, the FAST Act incorporates changes aimed at ensuring the timely delivery of transportation projects. These changes will improve innovation and efficiency in the development of projects, through the planning and environmental review process, to project delivery.

4.4.1 FAST Act Statewide Freight Plans

MAP-21 included two provisions that required USDOT to encourage States to establish State Freight Plans and State Freight Advisory Committees. The FAST Act moved these provisions from title 23 to title 49 (49 U.S.C. 70202: State Freight Plans) and required that States complete a State Freight Plan in order to obligate freight formula funds under 23 U.S.C. 167. State Freight Plans and State Freight Advisory Committees are complementary to other FAST Act freight provisions, such as the development of the National Freight Strategic Plan and the release of a Final National Multimodal Freight Network (NMFN; USDOT released an Interim NMFN on May 27, 2016 per the statutory requirement and is the process of finalizing at this time).

Unlike the provisions in MAP-21, which only *encouraged* the development of State Freight Plans, Section 8001 of the FAST Act *requires* that each state that receives NHFP funds under 23 U.S.C. 167 shall develop a freight plan that provides a comprehensive plan for the immediate and long-range planning activities and investments of the state with respect to freight.

In addition to the requirements for State Freight Plans under MAP- 21, each FAST Act–compliant Plan must include a FHWA-approved fiscally constrained freight investment plan and a list of the multimodal critical rural freight facilities and corridors as designated by the state under 49 U.S.C. 70103, and the critical rural freight corridors and critical urban freight corridors as designated by the state and MPOs under 23 U.S.C. 167.

4.5 Partnership and Coordination

As mentioned earlier, partnerships with local governments and other funding partners have been indicative of the larger shift to developing projects collaboratively. However, SCDOT’s partnerships are not strictly financial ones. In fact, very few are. By its nature, SCDOT is a partner driven organization. Partnership is identified as a critical management area and is prominent in the SCDOT culture. As such, SCDOT partnered with the Department of Commerce, SCPA and FHWA to develop the MTP and SFP. In addition, the following partners participate in the day-to-day and long-term success of the South Carolina freight system.

4.5.1 Airports

South Carolina’s major cargo airports serve an important role in the state’s multimodal freight transportation network. South Carolina is home to two, top 100 air cargo airports in the U.S. (by landed weight); Charleston International (73rd) and Greenville-Spartanburg International (84th). While, shipping by air is the quickest and most reliable mode of transport, it is also the most costly. Because of this, air freight usually consists of goods that are highly perishable or particularly valuable. The quality of the connection between the air and highway mode is critical to the success of the air cargo mode.

4.5.2 Councils of Government

South Carolina is divided into ten planning districts served by a Council of Government (COG). Each COG serves as a roundtable for local governments to address common challenges like infrastructure and economic development. The COGs and SCDOT work together to address transportation issues outside of MPO designated areas. In particular, the COGs receive a sub-allocation from the SCDOT's Guideshare program and develop a five year programming document. The projects selected by COGs are included in the Statewide Transportation Improvement Program.

4.5.3 Economic Development Organizations and Chambers of Commerce

South Carolina has been economically successful by continuously adapting to market changes. Much of the credit for these successes has been the many public and quasi-public organizations across the state whose goal it is to attract, expand, and maintain business in South Carolina. Groups like the Economic Development Organizations and Chambers of Commerce, serve as a critical linkage between SCDOT and potential economic development opportunities. These relationships will be critical tactically, for direct infrastructure development, but also strategically as SCDOT continues to focus on improving the state's economy through transportation investment.

4.5.4 Freight Railroads

Freight rail services in South Carolina are provided by 11 railroads including two Class I railroads (CSX and Norfolk Southern). Palmetto Railways (formerly South Carolina Public Railways), a branch of the South Carolina Department of Commerce, operates three of the 12 short line or terminal switching railroads. Freight rail will continue to play an increasing role in the state's multimodal freight network. Several projects are in development to improve the connectivity between the maritime, rail, and truck modes.

In particular, there are improvements planned at the Port of Charleston including a new intermodal container transfer facility with dual access for the state's two Class I railroads. This new Hugh K. Leatherman Sr. Terminal is under construction on the Charleston Naval Complex. SCPA is currently building the only permitted new container terminal on the U.S. East and Gulf Coasts. Since receiving the final permit approvals in 2007, the Ports Authority has completed demolition, site preparation and containment wall construction. Phase One Wharf construction is ongoing and construction of the Phase One buildings, site package and site access contracts will be underway by the summer of 2019. Phase One of the terminal is expected to open in 2021. At full buildout, the terminal will consist of more than 280 acres and will boost capacity in the port by 50%. An agreement between the state of South Carolina and the City of North Charleston will permit rail access from both the north and south of a proposed rail yard that will serve the Ports Authority's container terminals and thereby provide dual access to two Class I carriers.

Inland Port Greer opened in November 2013, which was estimated to take 25,000 truck-trips off of I-26 by converting those loads to rail. However, I-85 and those state roads in the Greer area now have increased demands. Tools should continue to be put in place to ensure the capacity of critical intermodal connectors as freight demand grows in the area. Following the success of the

Inland Port Greer, the Inland Port Dillon opened in April 2018 and serves the Eastern Carolinas and is located along I-95 in Dillon, South Carolina. Inland Port Dillon utilizes an existing CSX intermodal train service to handle container movement to and from the Port of Charleston. It is expected to convert an estimated 45,000 container movements from truck to rail in the first year of operation, deepening the Port's reach into markets to the northeast and Midwest. Located within the Carolinas I-95 Mega Site, Inland Port Dillon is a critical transportation artery in the Southeast. Each of these projects will significantly impact South Carolina's freight community and SCDOT's Statewide Freight Network.

4.5.5 Metropolitan Planning Organizations

Metropolitan Planning Organizations (MPOs) are responsible for transportation planning and overseeing transportation investments in South Carolina's urban areas. Each MPO receives a federally mandated sub-allocation of Guideshare funds to develop transportation programs and projects in their respective areas. Each of South Carolina's 11 MPOs develops a fiscally constrained long range transportation plan and Transportation Improvement Program, and some of the major MPOs are directly engaged in freight planning. Outside of their formal role in transportation planning, MPOs serve as an important facilitator and convener of local interests that can be very helpful with developing sensitive freight transportation projects.

4.5.6 Other State Agencies

While SCDOT is the primary state agency responsible for transportation, there are other state agencies and organizations that have a formal or related role. For example, Palmetto Railways operates three common carrier railroads. Similarly agencies like the SCPA operate the Port of Charleston. Agencies like the Department of Motor Vehicles, Department of Public Safety, and the State Law Enforcement Division have a regulatory but critical role in the success of the South Carolina freight transportation system.

4.5.7 Professional Associations

Professional associations and advocacy groups can be an important partner in the freight planning process. Groups like the South Carolina Logistics Council, South Carolina Trucking Association and the South Carolina Association of Railroads can communicate industry concerns and feedback to SCDOT through their leadership or access to their members. Additionally, these groups add some legitimacy to outreach efforts both in terms of communicating the importance of SCDOT's efforts to stakeholders, but also for vetting stakeholder feedback.

4.5.8 South Carolina Ports Authority

The South Carolina Ports Authority (SCPA) is a quasi-state agency governed by a nine-member Board of Directors, each appointed by the Governor and confirmed by the Senate, along with two non-voting, ex-officio members - the state Secretary of Commerce and Secretary of Transportation. SCPA promotes, develops and facilitates waterborne commerce for the economic benefit of the citizens and businesses of South Carolina. SCPA's port system is the ninth-busiest in the United States, handling more than 1.996 million TEUs and 922,242 tons of non-containerized cargo in CY 2016. In addition, SCPA serves diverse activities, such as containerized, break-bulk, and rolling stock commerce, as well as passenger cruises. Since 2011, SCPA is the fastest growing

major U.S. port, with container volume up 45% between CY 2011 through CY 2016. In addition to its high productivity, a 2015 study by the University of South Carolina’s Darla Moore School of Business concluded that the Port’s statewide impacts include \$53 billion in annual economic activity.

4.5.9 Multijurisdictional Partnerships

SCDOT is a member of the I-95 Corridor Coalition, a voluntary multi-state partnership that includes all major transportation related agencies along this busy interstate corridor from Maine to Florida. The Coalition allows jurisdictions throughout the corridor to make decisions through consensus to enhance overall transportation system performances along the eastern seaboard.²⁰ This partnership will be critical as it is projected that by 2035, without further improvements, the average daily traffic is projected to exceed 133,000 vehicles daily on the I-95 corridor, including more than 20,000 trucks. Further 100% of the I-95 corridor urban segments will be under heavy congestion and 55% of the non-urban segments of the corridor will see increased congestion.

South Carolina is home to many multi-jurisdictional/state freight corridors. I-95, I-26, I-77 and I-85 are heavily used interstates, and project’s like Norfolk Southern’s Crescent Corridor connects the major northern and southern U.S. population centers and passes directly through the state. It is critical for South Carolina’s freight future that collaborative partnerships like the I-95 Corridor Coalition continue into the future.

4.6 A New Way to Look at Freight

A principal message from previous outreach efforts was the need for a fundamental policy shift to sharpen South Carolina’s focus on the role of freight and how it supports the state’s economy. While the freight assets of the state are many, so are the decision-makers who guide investment throughout the state. The shift in policy has:

- 1) Increased focus on the multimodal system,
- 2) Approached freight as a mode, and
- 3) Included the dedication of a flexible funding source for freight projects.

4.6.1 Recognize the Multimodal Freight Transportation System

Recognizing that transportation funds come from a variety of sources and have a wide range of planning stipulations attached, SCDOT can increase collaboration to coordinate transportation infrastructure investments to better align goals and performance of the freight transportation system as a whole.

4.6.1.1 Potential Strategies

- SCDOT should focus on further developing and supporting rail options as it works closely with private sector railroads and Palmetto Railways to increase the resiliency, effectiveness and efficiency of the freight transportation system.

²⁰ <https://i95coalition.org/>

- SCDOT should maintain the designation of a formal liaison to work closely with the Port of Charleston to increase throughput at the port but also the state. This liaison would focus on improving communication between agencies and therefore raise the profile of land-side transportation needs that hinder further port productivity. This partnership should focus on maximizing the value captured at the port and corresponding inland ports while minimizing public costs for moving freight destined beyond the state’s borders.

4.6.2 Approach Freight as a Mode in the SCDOT Project Prioritization Process

Approved in 2007, the South Carolina General Assembly enacted Act 114. One of the landmark items in Act 114 was the requirement that the SCDOT establish a project prioritization process. Act 114 dramatically changed the structure of SCDOT and the project prioritization methodology. An important aspect of Act 114 is the inclusion of truck traffic percentages in the methodology. While the inclusion of truck volumes does not completely capture South Carolina’s freight needs, it does show a historical focus on freight projects in the selection process. The act requires SCDOT and its MPO/COG partners to prioritize projects within certain project types, as shown in **Table 4-1**.

Table 4-1: Act 114 Required Project Prioritization Categories

SCDOT Prioritization Project Types	MPO/COG Prioritization Types
Interstate Mainline Capacity & Interchanges	Roadway Widening
Interstate Rehabilitation	New Facilities
Bridge Replacement	Intersection Improvements
Non-interstate Resurfacing	
Safety	

4.6.2.1 Act 275 and Potential Strategy

In 2016, the General Assembly enacted Act 275²¹. Act 275 eliminated some of Act 114’s requirements but it retained the requirement for project prioritization. This requirement is codified in Section 57-1-370 of the South Carolina Code of Laws, 1976, as amended. Additional detail on the process is found in S.C. Code of Regulations 63-10, as amended.

Performance-based investment decision making is a strategic approach SCDOT uses to link department goals, objectives, and risks in allocating resources effectively. Performance-based resource allocation is effective with the use of well-defined performance measures and the establishment of practical and achievable performance targets. Performance targets are vital elements in the SCDOT’s performance and risk-based asset management program. SCDOT uses 10-year projected performance condition targets as benchmarks in evaluating progress made from baseline performance after the implementation of an investment strategy. These targets are used to assess the effectiveness of selected investment strategies. The use of targets in

²¹ <http://www.scstatehouse.gov/billsearch.php?billnumbers=1258&session=121&summary=B>

performance management allows for accountability to decision makers and the general public by communicating the effectiveness of investment actions.

SCDOT has designated broad Program Categories for project consideration and selection. They are: Pavements (Resurfacing); Interstate Upgrades; Bridges; Safety; MPO/COG Programs (projects prioritized at the local level); and Freight.

Potential projects are scored within each category based on the applicable criteria. The top candidates in the pool are further evaluated in the field and a final ranking score is determined using input from local engineers familiar with the current needs of the area. Projects are then selected from the candidate pool and developed in priority order based on the planned program funding. Most resurfacing projects are prioritized on a county level, with only interstate and routes on the National Highway System (NHS) being prioritized on a state level. Interstate widenings, bridge replacements, safety and freight programs are ranked on a statewide basis. MPO/COG programs are ranked within the respective geographic region.

As part of its overall strategy to meet the intent of Act 275, SCDOT utilizes the following statutory criteria for project selection and prioritization:

- Financial viability
- Public safety
- Potential for economic development
- Traffic volume and congestion
- Truck traffic volume
- Pavement Quality Index (PQI)
- Environmental impact
- Alternative transportation solutions
- Consistency with local land use plans

Relevant Criteria may or may not include all of the statutory criteria. All statutory criteria must be at least considered for relevance, but if a particular criterion does not relate to a particular program category, it need not be used in the ranking process for projects in that Program Category. Relevant criteria must support the purpose and need for the projects included in a particular program category. For example, the structural condition of a bridge is a factor that may be utilized to rank projects in the bridge replacement program but this factor would not apply to resurfacing programs.

4.6.3 Dedication of a Flexible Funding Source for Freight Projects

Rural Interstate Freight Network Mobility Improvement Program

Act 40, enacted in 2017 by the South Carolina State Legislature, provides dedicated funding to improve transportation infrastructure in South Carolina.

In February 2018, the SCDOT Commission concurred with the strategic priorities identified by the SCDOT Secretary and staff for the use of the future funding that is expected to be returned to SCDOT due to the anticipated sunset of the preventative maintenance tax credit identified in Act 40. Included within the strategic priorities identified is recurring funding to increase mobility

along the state’s freight network, with a focus on rural interstate widenings to target high-density truck freight corridors.

In accordance with SCDOT’s Transportation Asset Management Plan (TAMP) and the 10-year plan for rebuilding South Carolina’s roads, in October 2018 the SCDOT Commission approved the Rural Interstate Freight Network Mobility Improvement Program and a ranked list of corridors for inclusion under this program. The Rural Interstate Freight Network Mobility Improvement Program specifically targets the rural sections of South Carolina’s interstate system with a focus on freight mobility, and is in addition to previously approved interstate widening projects planned for the urban areas of the state. Preliminary feasibility analyses are undertaken for each corridor prioritized under this program in order to be prepared to advance projects once significant funding becomes available as the tax credits identified under Act 40 sunset.

Act 40 of 2017

Act 40 of 2017 provides the state with roughly \$600 million in new revenues (*once fully implemented in 2022*) which must be used solely on repairs and improvements to South Carolina’s roads and bridges.

FUNDING COMPONENTS

- Increase the motor fuel user fee by 12 cents over six years (2 cents per year).
- Increase biennial registration fees on private passenger vehicles by \$16.
- Impose an “Infrastructure Maintenance Fee” upon the purchase of a motor vehicle (*capped at \$500*).
- Impose a one-time \$250 registration fee for anyone who transfers a motor vehicle from another state to South Carolina.
- Create new registration fees for alternative vehicles: \$120 for EV’s & \$60 for hybrid vehicles.
- Rolls the truck property tax into the existing registration process for interstate fleets.

Act 40 also requires that SCDOT prepare a Transportation Asset Management Plan which includes objectives and performance measures for the preservation and improvement of the State Highway System.

4.7 Transportation Asset Management

SCDOT has adopted transportation asset and performance management as a best management practice and has fully embraced the concept for all of its programs. At its core, transportation asset management is the process of operating, maintaining, and improving infrastructure through maintenance, preservation, repair, and rehabilitation during the assets’ life.. The Secretary of Transportation and the SCDOT Commission have reaffirmed the importance of the transportation asset management plan (TAMP) for accountability and transparency regarding the use of tax payer funds especially in light of the 2017 legislation that dramatically increased state funding for

infrastructure in South Carolina. Tying a planned investment level to a predicted outcome is a major shift in the way SCDOT manages its programs and is essential to earning the public’s trust through the effective deployment of resources to achieving results. SCDOT’s TAMP is all-inclusive by incorporating state and federal funding together for a more robust plan for the State.

4.7.1 SCDOT’s Strategic Plan goals

The leadership team of SCDOT recently deployed a new Strategic Plan, which form the guiding principles of SCDOT’s Investment Strategies, focusing on the maintenance, preservation, and safety of the existing transportation infrastructure, directing investments based on a hierarchy of highway systems and priority networks, integrating risk-based prioritization, improving safety, advancing lifecycle cost in investment programming, and enhancing mobility.

The five major goals of the SCDOT Strategic Plan are to:

- Improve safety programs and outcomes in high-risk areas;
- Maintain and preserve its existing transportation infrastructure;
- Improve program delivery to increase the efficiency and reliability of the road and bridge network;
- Provide a safe and productive work environment for SCDOT employees; and
- Earn public trust through transparency, improved communications, and audit compliance.

4.7.2 SCDOT’s 10-year Performance Strategies

SCDOT has divided work on its transportation infrastructure into several major program categories: Safety, Pavements, Bridges, Interstate Upgrades, Metropolitan Planning Organization/Council of Governments (MPO/COG) Programs, and a Freight Program. In developing infrastructure investment priorities, SCDOT aligns the programs to the strategic plan and factors in other items such as applicable state and federal laws, asset condition and performance trendlines, revenue trends, industry capacity, public input, and asset management principles.

Over the past two years, SCDOT has fully migrated the Safety, Pavement, and Bridge programs, and travel time reliability to become elements within the TAMP. Additional elements will be added in the future to cover the remaining programs.

As part of the new Strategic Plan, SCDOT has identified some very specific goals for the next ten years for the Safety, Pavement, Bridge, and Interstate Upgrade (capacity and mobility) programs:

Safety

- Improve 1,000 miles of non-interstate rural roads with tailored safety solutions. South Carolina has the deadliest rural roads in the Nation. SCDOT has developed and implemented a targeted solution to address the “worst of the worst” rural roads in the State.

Pavements

- Use a performance-based approach to drive the recovery of South Carolina’s pavements through a blend of preservation, rehabilitation, and reconstruction projects.

Bridges

- Specifically target two bridge categories: 1. Load-restricted bridges; and, 2. Structurally Deficient bridges on the National Highway System. In 2016 (the baseline year for the 10-Year Plan), there were 348 load-restricted (Poor Condition) bridges in South Carolina, which impacted the movement of goods, school bus routing, and emergency response times in the State. Also, in 2016, there were 51 structurally deficient bridges not yet programmed for replacement or repair on the National Highway System that could significantly hamper South Carolina’s ability to move freight across the major routes in the State.

Capacity

- Widen 100+ centerline miles of interstate and address major freight pinch points at interstate-to-interstate interchanges.

Mobility

- Improve the percentage of reliable travel times for Interstate highways and improve truck (Freight) travel reliability.

The 10-year investment plan is projected to enable SCDOT to reduce fatalities and serious injuries on South Carolina’s highways, substantially improve the percent of the State’s pavements considered to be in good condition measured by its pavement quality index (PQI), reduce the number of load-restricted bridges in the State, and widen a substantial amount of the State’s interstates. PQI is a metric specifically designed to measure road quality in South Carolina based on the State’s unique characteristics.

The 10-year plan also will enable SCDOT to dramatically improve the condition and operation of the backbone of the State’s infrastructure network, the National Highway System (NHS). NHS pavement condition and NHS bridge condition are both predicted to improve and the percent in poor condition is projected to decrease

4.8 Freight Strategies

To achieve the goals and objectives of the SFP, several strategies were developed to serve as a framework for the implementation of the Plan. Each strategy is designed to both serve as guidance for SCDOT as they work to improve the SC National Highway System and Statewide Freight Network.

4.8.1 Goal 1: Mobility and System Reliability

Provide surface transportation infrastructure and services that will advance the efficient and reliable movement of people and goods throughout the state.

4.8.1.1 Guiding Principles:

- Utilize the existing transportation system to facilitate enhanced modal options for a growing and diverse population and economy.
- Improve cost efficiency of intermodal goods movement, increasing diversity in modal choice.
- Encourage availability of both rail and truck modes to major freight hubs (ports, airports, intermodal facilities). Develop efficient connectivity from railroads and roadways to ports, airports and other intermodal facilities.
- Use advanced technology, performance management, innovation, competition, and accountability in operating and maintaining the freight transportation system.

4.8.1.2 Strategies:

Objective 1-A: Reduce the number of system miles at unacceptable congestion levels.

- Prioritize projects designed to improve freight mobility and eliminate freight bottlenecks.
- Identify opportunities with private sector stakeholders where operational-level decisions could be made to reduce reoccurring congestion (i.e. shifting delivery times, mode shift, etc.).
- Identify corridors where non-traditional improvements may significantly reduce congestion (e.g. Intelligent Transportation Systems (ITS), Managed Lanes, Value Pricing, etc.).

Objective 1-B: Utilize the existing transportation system to facilitate modal options for a growing population and economy

- Develop local transportation plans for areas adjacent to freight intermodal facilities.
- Support the development of local multi-jurisdictional groups to prioritize and address freight issues as one group (e.g. to implementation of the local plans mentioned above)
- Continuously monitor intermodal connectors for maintenance and operations issues.
- Continue to Identify and close any first/last mile gaps near major intermodal centers and manufacturing hubs.
- Develop a process to leverage private and local investment to expedite transportation project delivery to be more responsive to private sector needs.
- Identify the key operating characteristics of each major modal connection hub to develop strategies to improve the public infrastructure supporting the facility.
- Maintain a Freight Advisory Committee as recommended by FAST Act.
- Support and participate in industry groups like the South Carolina Logistics (formerly TDL) Council and economic development groups.

- Working with the railroads, identify potential non-traditional funding sources for freight rail investment.

Objective 1-C: Improve the average speed on congested corridors

- Prioritize improvements along major truck corridors.
- Promote the use of real-time traffic information to support private sector routing decisions.
- Continue to work with multi-state partners to make corridor-wide system decisions
 - Important to system improvements, but also better coordination of regulations like truck size and weight.

Objective 1-D: Improve the year round reliability of freight transportation on the South Carolina Interstate System

- Continue the use of national and local data sources to identify the consistency or dependability of travel times across multiple time periods on the SC interstate system
- Continue the use of ITS technology to increase the reliability of key corridors.
- Develop a common information technology solution/protocol to share real-time information with freight system users.
- Continuously monitor operational information to identify and rectify system issues before they become problems.

Objective 1-E: Reduce congestion on the freight transportation system

- Identify a SC National Highway Freight Network for South Carolina.
 - Include the FHWA Primary Freight Network, as well as other highway and multimodal routes which are critical to South Carolina’s critical industries.
 - Develop this network in concert with a supply-chain analysis of South Carolina’s critical industries.
- Identify and address freight bottlenecks on the SC National Highway and Statewide freight networks.
- Ensure freight implications and benefits are included in the SCDOT project prioritization process.

4.8.2 Goal 2: Safety

Improve the safety and security of the transportation system by implementing transportation improvements, including enhanced Intelligent Transportation Systems (ITS), which reduce fatalities and serious injuries as well as enabling effective information and emergency management operations.

4.8.2.1 Guiding Principles

- Better integrate safety improvements for all users of roadways in preservation programs by identifying opportunities to better accommodate vulnerable users, such as pedestrians or bicycles, when improvements are included in adopted local or state plan:

4.8.2.2 Strategies

Objective 2-A: Improving the safety, security, and resilience of the freight transportation system.

- Develop a freight network resiliency plan.
 - This plan would help bring freight dependent industries back online after an emergency event and would assist with hurricane relief efforts.
 - To be successful, the plan will need to be developed with SCDOT’s freight and homeland security partners.
- Identify opportunities for enhanced truck parking availability and information management
 - Utilizing enhanced mapping application and/or ITS, develop a sustainable, user-friendly system for real-time truck parking locations and availability along Statewide Freight Network.
- Create a commercial vehicle crash database.
 - Extract commercial vehicle crash data from the statewide database to identify patterns or particular situations to address.
- Reduce risk to non-motorized transportation users.
 - Clearly sign and mark bicycle and pedestrian facilities where the Statewide Freight Network and state/local bike routes overlap.
- Explore programs to incentivize short line rail infrastructure investment.
- Enter into a partnership with the railroads to prioritize grade crossing improvements
- Explore opportunities where small public investments can be used to leverage the railroad’s responsibility to maintain/improve crossings.

Objective 2-B: Improve substandard roadways and bridges

- Identify and prioritize substandard roadways on the Statewide Freight Network in the SCDOT maintenance/construction program.
 - Special emphasis should be put on intermodal connectors, because of their importance to multimodal connectivity and therefore potentially reduced supply chain costs.
- Identify and prioritize sub-standard bridges on the Statewide Freight Network to meet current and future fleet vehicle dimensional needs.

4.8.3 Goal 3: Infrastructure Condition

Maintain surface transportation infrastructure assets in a state of good repair.

4.8.3.1 Guiding Principles

- Improve prioritization of “first mile” and “last mile” infrastructure.

- Recognize the importance of infrastructure condition in attracting new jobs to South Carolina by considering economic development when determining improvement priorities.
- Encourage availability of both rail and truck modes to major freight hubs (for example ports, airports and intermodal facilities).
- Continue to coordinate with Palmetto Railways and SCPA to consider road improvements needed to support the efficient movement of freight between the inland ports, the Port of Charleston, and between port terminals.

4.8.3.2 Strategies

Objective 3-A: Maintain or improve the current state of good repair for the NHS.

- Actively managing the condition of NHS Intermodal Connectors.
- Continue work with state agency partners like Palmetto Railways and SCPA to identify opportunities to support freight movement by identifying potential efficiencies created by utilizing multiple modes or a complete mode shift.
- Particular attention must be made to roadways that are subject to heavy vehicles (increased pavement depths, maintenance, etc.)

Objective 3-B: Reduce the percentage of remaining state highway miles (non-interstate/strategic) moving from a “fair” to a “poor” rating while maintaining or increasing the percent of miles of pavement condition as “good”.

- Strategically allocate maintenance funding consistent with the goals outlined in SCDOT’s Transportation Asset Management Plan and Ten-Year Plan for system condition.

Objective 3-C: Improve the condition of the state highway system bridges.

- Prioritize work to reinforce bridges on the SC National Highway and Statewide Freight Networks that are structurally obsolete.
- Track and analyze bridge inspection trends on the SC National Highway and Statewide Freight Networks to identify issues to alleviate future system disruptions.

4.8.4 Goal 4: Economic and Community Vitality

Provide an efficient and effective interconnected transportation system that is coordinated with the state and local planning efforts to support thriving communities and South Carolina’s economic competitiveness in global markets.

4.8.4.1 Guiding Principles

- Work with economic development partners to identify transportation investments that will improve South Carolina’s economic competitiveness.
- Encourage availability of both rail and truck modes to major freight hubs (ports, airports, and intermodal facilities).
- Partner with public and private sectors to identify and implement transportation projects and services that facilitate freight movements.

- Encourage rail improvements that will improve connectivity and reliability of freight movement to global markets.
- Improve the contribution of the freight transportation system to economic efficiency, productivity, and competitiveness.
- Increase public awareness of the significance of goods movement and freight transportation infrastructure on South Carolina economic sustainability and growth.
- Partner with communities to improve “first mile” and “last mile” planning efforts in urban communities to minimize the impact of goods movement and improve efficiencies.
- Raise profile of integrated multi-agency, state level freight planning.
- Support private investment in freight infrastructure.

4.8.4.2 Strategies

Objective 4-A: Improve access and interconnectivity of the state highway system to major intermodal facilities (road, rail, marine, and air).

- Prioritize intermodal connection projects, as these projects are more often the most conducive to reducing overall supply chain costs; similarly this could reduce overall maintenance costs to the state for maintaining roads that are not built to handle heavy truck traffic.
- Undertake an effort to educate the public on the importance of freight to South Carolina, including elected officials, and the general public.
- Work with rail, marine, and air partners to create cross-functional relationships to help identify non-highway projects and key connectors on the SC National Highway and Statewide freight network.

Objective 4-B: Utilize the existing transportation system to facilitate enhanced freight movement to support a growing economy.

- Instill goods movement in the SCDOT’s planning process and decisions by:
 - Ensuring SCDOT policies incorporate freight movements in planning, design, and operations.
 - Update SCDOT organization and processes to be more truly multimodal.
 - Increase the role of the SCDOT Office of Intermodal and Freight Programs in conversations internally and externally to enhance the multi-modal system.
- Become champions of freight and educate local land use and transportation staff to support economic development and freight mobility.
- Work with other state agencies to ensure consistency of regulations that impact freight mobility.
- Coordinate freight plans and programs of municipalities, counties, MPOs, and COGs.
- Identify infrastructure corridors that are critical to developing South Carolina’s export market.

- Work with local jurisdictions to create truck routing that will expedite freight trips while minimizing impact on surrounding community.

Objective 4-C: Maintain, or improve upon, current truck travel speed and/or travel time reliability performance.

- Working with the private sector, identify freight bottlenecks on or off the SCDOT system.
- Continuously monitor SFP performance measures to identify and rectify system challenges before they become problems.

4.8.5 Goal 5: Environmental

Be a partner to sustain South Carolina’s natural and cultural resources by minimizing and mitigating the impacts of state transportation improvements.

4.8.5.1 Guiding Principles

- Reduce adverse environmental and community impacts of the freight transportation system.
- Work with environmental resource agency partners to explore the development of programmatic mitigation in South Carolina.
- Partner to be more proactive and collaborative in avoiding versus mitigating environmental impacts.

4.8.5.2 Strategies

Objective 5-A

- Develop a post-process tool to quantify freight system investment’s effect on the environment in the South Carolina Travel Demand Model, both in terms of statewide benefits, and localized impacts.
- Work with agency partners to expedite the environmental permitting process while maintaining a focus on minimizing environmental impacts.

4.8.6 Goal 6: Equity

Manage a transportation system that recognizes the diversity of the state and strives to accommodate the mobility needs of all of South Carolina’s citizens.

4.8.6.1 Guiding Principles

- Ensure planning and project selection processes adequately consider rural accessibility and the unique mobility needs of specific groups.
- Ensure broad based public participation is incorporated into all planning and project development processes.

4.8.6.2 Strategies

Objective 6-A: Identify a Statewide Freight Network that supports all modes (road, rail, ship, air) and all users (owners, operators, users).

- Prioritize freight projects across the modes.

- Develop tools to help decision-makers weigh projects among all modes against each other.
- Balance financial justifications like returns on investment (ROI) and benefit cost analyses (BCA) with the community impacts.
- Leverage private sector investment to amplify the effects of public sector funding and to gain political support for non-traditional project types.
- Formally incorporate outreach to certain SCDOT’s freight partners to capture rural accessibility and the unique mobility needs of specific groups.

Objective 6-B: Incorporate valuation of economic impact into project prioritization.

- Develop a tool to analyze impact of proposed freight projects that evaluates the following:
 - Economic Feasibility (BCA) – The effects of any freight improvements on mobility, livability, and connectivity will be evaluated. Of these, mobility is often the most easily quantified in economic terms since it addresses the travel efficiency gains associated with user travel time; vehicle miles traveled (VMT) and accidents.
 - Economic Impact – An additional economic impact analysis can then be done that builds upon the benefit perspective. The resultant personal and business transport costs savings can be assessed to ascertain the resultant job, income, and output related impacts that arise from the improvement alternatives key to any impact analysis is to avoid, or at least identify, any transfer impacts; for example business relocation from area to another because of an improvement (e.g., no “net” gain).
 - Funding/Financial Analysis – Financial analyses usually refer to “revenue-generating” projects in which a financial analysis of a revenue stream (i.e., tolls) are compared to the project construction and operation costs over the project life (i.e., construction period plus 20 years of operation). Such financial analyses commonly referred to as “Return-on-Investment” in the private sector, can be pursued as either a privately- or publicly-funded project.

4.9 Freight Performance Measures

Performance measures are an effective method to focus attention on organizational goals and monitor progress towards achieving the goals. Externally communicated, a simple and streamlined performance management program can drastically improve communication with the general public, the private sector and elected officials. In particular, performance measurement can justify past and future investment in freight infrastructure. Internally, performance measures can be integrated into SCDOT to provide three distinct functions:

PLANNING: Performance measures can be used as a tool to evaluate proposed plan elements and scenarios to gauge their effectiveness in achieving the plan’s goals and objectives. These high-level metrics are created to evaluate trade-offs and are projected over the 25 year planning horizon.

IMPLEMENTATION: Performance measures can be used as a tool to emphasize agency goals and objectives within the policy development, budgeting, programming, and project selection processes. For example, the measures might assist decision makers in the project selection process by providing metrics about their potential effectiveness in meeting the plan’s goals and objectives.

ACCOUNTABILITY: Performance measures can be used as a tool to facilitate tracking and reporting South Carolina’s progress in achieving the plan’s goals and objectives to support accountability for plan implementation and results.

Freight specific performance measures provide SCDOT with the ability to monitor how well the transportation system is accommodating safe and efficient freight movement and how well South Carolina is meeting the national freight policy and program goals as defined in Section 70101(b) of title 49 and section 167 of title 23. The measures will allow for the identification of trends or challenges before they become problems and in turn make SCDOT more flexible and responsive to private sector needs. In addition, freight performance measures will allow SCDOT to more effectively communicate with freight stakeholders. Ultimately, the recommended freight performance measures should become a reasonable, updatable element to the regular planning and programming process for SCDOT.

These measures have been developed within the context of the goals established in the SFP, the overall MTP and published national freight goals. These measures, designed specifically to capture performance of South Carolina’s National Multimodal Freight Network and the state-identified freight system, are intended to supplement, not replace, the measures in the MTP, which are intended to demonstrate overall performance of the transportation system.

4.9.1 Freight Performance Measures for South Carolina

The establishment of freight performance measures by SCDOT assists in the SFP and MTP, by providing the link from the agency policies, programs, plans, and projects back to the goals and objectives of the SFP and MTP. The measures allow SCDOT to actively track the performance of the freight network and are important for the identification of freight specific trends and challenges. The measures make SCDOT more flexible and responsive to the needs of its freight stakeholders and assists in communicating freight performance to external partners. The considerations used for recommending measures include:

- **Data availability** – the data and analysis tools needed for the measure should be readily available or easy to obtain. The data should be reliable, accurate, and timely.
- **Strategic alignment** – the measures should align well with the goals and objectives of the SFP and MTP.
- **Understandable and explainable** – the measures should be easy to understand and useful when communicating to external partners.
- **Causality** – the measures should focus on the items under SCDOT’s span of control.
- **Decision-making value** – The measures should provide predictive, diagnostic and reporting value to agency decision makers.

Using these criteria and the lessons learned from the efforts discussed above, eight freight performance measures were identified. Many of these measures are redundant with the MTP, but some have been enhanced to reflect more relevant freight-specific metrics. These measures, and the associated SFP goals and objectives, are outlined in **Table 4-2** through **Table 4-7**. The measures considered for each goal and objectives are also identified.

Table 4-2: Mobility and System Reliability Goal

Objective	Measures	Selected Measures
Reduce the number of system miles at unacceptable congestion levels ⁽¹⁾	Reduction of South Carolina’s Statewide Freight Network mileage that at less than a LOS E for urban areas and LOS C for rural areas	Reduction of South Carolina’s Interstate mileage that operates at less than a LOS E for urban areas and LOS C for rural areas Improvement of travel time reliability on South Carolina National Highway System and Interstate System
Improve travel time reliability (on priority corridors or congested corridors) ⁽¹⁾	Average or weighted buffer index or travel time index on Interstate System and National Highway System	
Reduce congestion on the freight transportation system. ⁽²⁾	Miles of Interstate System above acceptable congestion levels	
Improve the year-round reliability of freight transportation on the interstate system	The dependability of travel times across multiple time periods on the Interstate system	

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

Table 4-3: Safety Goal

Objective	Measures	Selected Measure
Improve the safety, security, and resilience of the freight transportation system. (2)	Number of large trucks reported in crashes (fatal, non-fatal, injury reported, hazardous materials) Five year trends	Number of large trucks reported in crashes (fatal, non-fatal, injury reported, hazardous materials) Five year trends
Improve substandard roadways ⁽¹⁾	Percent of substandard roadway improved	
Enhance truck parking availability and information management on SC interstates/South Carolina Freight Network	The availability and published mapping of public or private truck parking spaces on the Interstate network	

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

Table 4-4: Infrastructure Condition Goal

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

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

Table 4-5: Economic and Community Vitality Goal

Objective	Potential Measures	Selected Measures
Utilize the existing transportation system to facilitate enhanced freight movement to support a growing economy. ⁽¹⁾	Truck travel time index on the South Carolina Interstate System Relative costs of logistics to overall statewide productivity	Truck travel time index on the interstate system; Annual hours of truck delay; Freight Reliability

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

Table 4-6: Environmental Goal

Guiding Principles
Reduce adverse environmental and community impacts of the freight transportation system. ⁽²⁾
Work with environmental resource agency partners to explore the development of programmatic mitigation in South Carolina ⁽¹⁾
Partner to be more proactive and collaborative in avoiding versus mitigating environmental impacts. ⁽¹⁾

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

Table 4-7: Equity Goal

Guiding Principles
Ensure planning and project selection processes adequately consider rural accessibility and the unique mobility needs of specific groups. ⁽¹⁾
Ensure broad based public participation is incorporated into all planning and project development processes. ⁽¹⁾
Identify a Statewide Freight Network that supports all modes (road, rail, ship, air) and all users (owners, operators, users).
Incorporate valuation of economic impact into project prioritization.

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

4.9.2 Details of Performance Measures

The following tables provide performance targets as defined within the SCDOT TAMP. Each table includes a description of the baseline measure from 2016 and the 10-Year target for improvement. In addition, the table provides information on how the measures is defined. These established measures are published on the SCDOT Strategic Plan Performance Dashboard web page.²²

²² <https://www.scdot.org/StrategicPlanning/Dashboards/SMPlan2018/index.aspx>

Mobility: Interstate Travel Time Reliability		
SCDOT Transportation Asset Management Plan Measures		Definition of Measure: Percent of interstate segments with reliable travel times.
Baseline (2016)	94.8%	
Ten Year Target	86%	
Key Inputs: Speed/travel-time, Density (Vehicle Counts/Capacity), Delay.		Method of Calculation: SCDOT Travel Demand Model

Mobility: Truck Travel Time Reliability		
SCDOT Transportation Asset Management Plan Measures		Definition of Measure: Truck travel time reliability (TTTR) for each time period and each segment on the interstate system
Baseline (2016)	1.34	
Ten Year Target	1.45	
Key Inputs: National Performance Management Research Data Set for Truck Travel Time Reliability (TTTR) metric / maximum TTTR for each reporting segment		Method of Calculation: $\frac{\sum_i^T = 1(SL_i \times \max TTTR_i)}{\sum_i^T = 1(SL_i)}$ See below The sum of maximum TTTR for each segment, divided by total interstate miles ²³

Pavement Quality: Interstate and NHS Condition		
SCDOT Transportation Asset Management Plan Measures		Definition of Measure: Percentage of Pavements rated at "good" or higher condition
Baseline (2016)	65%	
Long-Term goal	92%	
Key Inputs: PCR Ratings		Method of Calculation: $\frac{\text{Lane Miles of "Good" or higher rated pavement on IR and NHS routes}}{\text{Total lane miles of IR and NHS routes}}$

²³ Where,
i = An Interstate System reporting segment;
 Max TTTR_{*i*} = The maximum TTTR of the five time periods in paragraphs (a)(1)(i) through (v) of § 490.611, to the nearest hundredth, of Interstate System reporting segment "i";
 SL_{*i*} = Segment length, to the nearest thousandth of a mile, of Interstate System reporting segment "i"; and
 T = A total number of Interstate System reporting segments.

5 ECONOMIC CONTEXT OF FREIGHT TRANSPORTATION IN SOUTH CAROLINA

Historically, South Carolina has prospered by investing in strategic infrastructure to capitalize on shifts in the global supply chain. The transformation of the state's economy from largely agricultural to a manufacturing and service based one increased the need for an efficient and competitive freight transportation system. The ability of South Carolina to respond quickly to the changing business environment enabled the state to become a major advanced-manufacturing center in the Southeast. In recent decades, multi-national companies like BMW, Boeing and large tire manufactures like Continental, Michelin and Bridgestone have located major facilities in the state. In 2017, manufacturing accounted for 11.5 percent of total employment in the state.²⁴

In addition to manufacturing, the U.S. Department of Defense is a large driver of freight demand in South Carolina. All five branches of the military have installations in the state. The SC Department of Commerce estimates that the military has a nearly \$24.1 billion economic impact on the state, and supports more than 182,000 jobs.²⁵

Tourism has a substantial impact on the availability of the state's transportation network for freight users. Annually, the South Carolina Department of Parks, Recreation and Tourism estimates that over 4.4 million trips are made on South Carolina highway by out-of-state leisure visitors.²⁶ The majority of these trips are made on major corridors that service major pass-through tourist traffic as well, like I-95 and I-26.

Though the major means of freight transport in South Carolina is by truck, the state is also served by a system of Class I and short line railroads, marine port terminals, inland port terminals, six primary public airports and a range of intermodal facilities.

In 2017, the logistics sector (comprised of Retail Trade, Wholesale Trade and Transportation, Warehousing and Utilities industries) accounted for 19.1 percent of all South Carolina employment, illustrating the significance of the transportation and logistics industry in the state. In the same year, manufacturing, a freight intensive industry, accounted for 11 percent of total employment in South Carolina.²⁷ As is evident, the movement of goods along all modes is critical in South Carolina.

Understanding the supply chain and providing sufficient connections between modes is important to the economic vitality of the state. Site selection practices by current and future businesses evaluating South Carolina look to the availability and capacities of the freight transportation system to move raw materials, sub-assemblies, and finished goods along the

²⁴ <https://www.sccommerce.com/research-data>

²⁵ <http://https://www.sccommerce.com/news/economic-impact-military-presence-sc-reaches-241-billion>

²⁶ <http://www.scprt.com/research>

²⁷ <http://www.sccommerce.com/research-data>

supply chain. Modal selection is done by a process of evaluating each mode with six criteria: transit times, reliability, cost, capacity, safety and accessibility.

The relationship between the freight transportation infrastructure and the users of the system should be viewed as a mutually evolving relationship essential to the economic health of the state. The presence of inherent agricultural and trade opportunities in the early history of the state fostered the development of modes of transportation to support these businesses by transporting goods to markets. As these business models matured, bringing competition from other producers, a range of geographic markets, and evolving technological solutions to historical challenges, business sectors built upon existing freight systems and developed new economic activities and models. The increased need for efficiency required by changing models advanced enhancements within existing, and supported new, modes of freight transportation. These reactionary responses to sector and modal emergence led to the ability to meet changing supply chain needs in the state. Attracting new businesses produced new needs as these organizations matured and adapted to meet global competition. These building blocks of the current freight transportation system can be expected to continue to evolve as the economy of South Carolina grows.

An examination of the modal infrastructure within the state, the symbiotic inventory of businesses and the users of the freight system, is required to understand each side of the evolutionary equation.

Most South Carolinians are aware of the role played by the Port of Charleston in the economy of South Carolina. According to the 2019 South Carolina State Ports Authority (SCSPA) Economic Impact Study,²⁸ the total economic impact resulting from all activities associated with the SCSPA on the state of South Carolina is estimated to be approximately \$63.4 billion. This figure reflects the dollar value of all final goods and services in South Carolina that can be attributed (either directly or indirectly) to the SCSPA. This impact corresponds to 224,963 jobs and nearly \$12.8 billion in labor income for South Carolinians that would not exist otherwise. Along with the Port, high profile, freight-intensive employers have driven the state's economy. Approximately 51.8 percent of the statewide economic impact associated with the SCSPA is concentrated within the Upstate region of South Carolina. This is largely because the primary users of SCSPA port facilities are manufacturers, which are also disproportionately concentrated within the Upstate region. The manufacturing industry comprises 20.0 percent of all jobs in the Upstate, compared to 14.7 percent for South Carolina as a whole. The Midlands experiences 24.6 percent of all economic impacts associated with the SCSPA, followed by the Lowcountry region (12.3%), and the Pee Dee region (11.3%).

South Carolina is a “gateway” state and a major freight focus point for the U.S. due to the significant imports and exports passing through the Port of Charleston. Also, South Carolina is a “connector” state because of significant volumes of north-south freight flows along the U.S. east coast. Both roles are critical to the economic posture of the U.S. and the southeast region. Because of its geographical location, South Carolina serves as a gateway for international trade.

²⁸ <http://scspa.com/wp-content/uploads/full-scpa-economic-impact-study-2019.pdf>

As a consequence, manufacturing and the logistics and distribution industries have experienced significant growth in the state.

5.1 Importance of Meeting Supply Chain Needs

Site selection practices by current and future businesses evaluating South Carolina as a potential location for business look to the availability and capacities of the freight transportation system to move raw materials, sub-assemblies, and finished goods along the supply chain. Businesses select locations for facilities within the supply chain, such as manufacturing facility or distribution center, based upon the presence of current or anticipated transportation infrastructure to meet these supply chain needs. Once there is an understanding of current supply chain needs and identification of forecast needs, freight policy and infrastructure improvement plans can be prepared to sustain the existing economy of the state as well as support potential growth.

5.2 Modal Selection Process within the Supply Chain

Supply chain theory and practice defines a process for the evaluation and selection of the various modes to satisfy freight transportation needs between the differing stages of product delivery. Modal usage is determined through the application and evaluation of each mode to a set of six criteria. Each criterion describes a condition that can be unique to the particular commodity, supply chain, or business model. The six criteria are compared to the needs of a specific movement within a complete supply chain. In satisfying these six criteria, modes of transportation are chosen and may be selected as a “chain” or combination of modal selections. This latter selection, “multimodal”, encompasses a significant percentage of movements for modern product manufacturing.

The six criteria are:

- **Transit Times:** The time required for the movement of materials or goods from one point to another within the supply chain. This may encompass raw materials to refinement, refinement to manufacturing, manufacturing to distribution, and distribution to consumer. It is noted that this may not always result in a selection of the fastest as other factors influence the relevant need for speed of movement.
- **Reliability:** The degree of predictability that the stated transport time will be adhered to when the materials or goods are shipped. Acceptance of known and predictable delays, e.g. rush hour congestion for truck movement in a major metropolitan area, may not be viewed as a disqualifier where the delay can be predicted and planned for.
- **Cost:** Cost is taken into consideration with the previous two criteria and heavily influences modal selection. Transportation cost must not place an inordinate burden on the final cost of the product. Transportation may impart a cost on the final price of the product sufficient to render the goods non-competitive to another supplier offering.
- **Capacity:** The potential mode of transportation must meet the need to transport sufficient quantities. The mode should also have the ability to transport quantities at an acceptable price per weight or volume measure.

- **Safety:** Safety is the stewardship to other occupants of the mode of transportation. This may be to adjacent shipments or passengers traveling on the same mode. Businesses need the confidence that the mode of transportation will provide damage-free, good condition receipt of materials or goods transported.
- **Accessibility:** The mode of transportation must be available to both the shipper and the receiver. It is also considered that the connecting modes, or intermodal connections, are available at a reasonable cost.

In responses from a survey conducted with freight transportation providers and users in South Carolina, transit time and reliability ranked highly in their supply chain decision making, as the demand for just-in-time delivery has increased in recent years. Cost was also considered a key factor in supply chain management for providers and users in South Carolina.

5.3 Application of Criteria

The practical application of these six criteria can be viewed as two stages: Assessment and Application.

In the Assessment stage, Safety and Accessibility may be used to accept or reject a mode for further consideration. Business planners assess the ability of the mode of transportation to safely move the commodity, particularly challenging commodities such as hazardous materials or oversized windmill assemblies. The availability and accessibility of the mode is assessed. All modes may be available yet must be reasonably located and accessible for the movement of the commodity. A railroad may be located three hours by truck, in the opposite direction of the final destination. The overall truck transit time from origin to destination is six hours. This may render the railroad as “out of route” or circuitous. This may negatively impact the necessary transit times and required cost needs of the supply chain.

Table 5-1 illustrates the generally accepted reliability and relevant transit time of each mode.

Table 5-1: Modal Comparisons by Selection Criteria

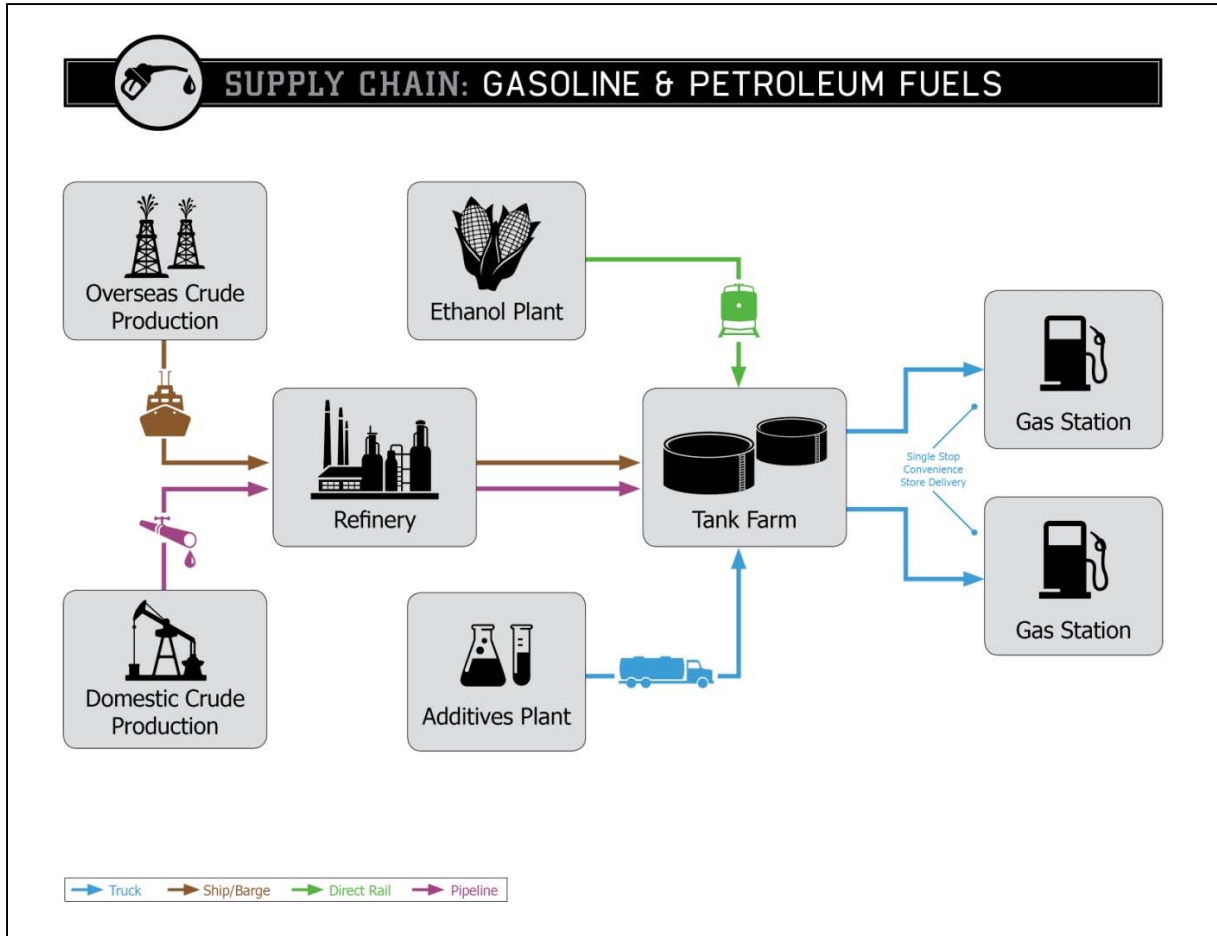
Transit	FAST	<----->			SLOW
Mode	Air	Truck	Rail	Water	Pipeline
Reliability	Higher	Variable		Lower	Higher
Freight Profile	Low Weight, High Value, High Time Sensitive, High Inventory Cost	Broad Range of Weight, Value, Sensitivity, and Inventory Cost		High Weight, Lower Value, Low Time Sensitivity, Low Inventory Cost	Variable characteristics associated with the specialized nature of the commodity

Once this assessment takes place for the region, the “Application” of the criteria can describe the type or profile of the freight most likely to employ the mode. This becomes the fundamental planning criteria for transportation facilities enhancing freight mobility. Not only does this identify needed facilities but supports the prevention of planning and designing for unnecessary transportation facilities or facilities not appropriate to support the local freight needs.

5.3.1.1 Case Study of Modal Selection and Usage

A real world example of this modal selection process, the global gasoline and petroleum supply chain is presented. The gasoline supply chain is concisely traced from origin to final distribution location, where the end user intersects with the supply chain. The entire process is illustrated in Table 5-1.

Figure 5-1: Case Study, Gasoline and Petroleum Supply Chain



Source: CDM Smith

The supply chain is subject to provider-supplier locations, having both overseas and domestic sources. Foreign sources are transported by ocean tanker, which is an example of geographically limited modal choices or accessibility. Domestic sources, national and continental, gravitate to that mode providing the most reliable and cost efficient transport. Though rail and truck are available, this sector typically transports by pipeline, where that mode exists. Pipeline presents the least potential for regular disruptions to supplies and satisfies the need to provide a steady source material for the continuous operation of the refinery. Water and pipeline modes continue beyond the refinery to provide product to various points for distribution across the country.

Stored in “tank farms”, the product requires an injection from two separate supply chains, which may or may not be subject to the supply chain decision making process guiding the overall modal selection process. As many grades of fuel are blended with ethanol, movement of large quantities of liquid ethanol products is necessary. Transported in bulk, requiring a low cost mode to carry high volumes, this is typically carried to the tank farms for mixing via rail. Other chemicals are required to raise the refined product to grades for commercial usage. These are not necessary in such large quantities as the ethanol additive, and may be co-located with the tank farm. To efficiently transport these additives, truck is the common selection. The quantities may be high volume, which may lend itself to rail, but these producers may not have direct rail access. “Final mile” or distribution to the point where the consumer is located, is from the tank farm or “rack” to the local fueling station. Truck is the final mode to conclude this supply chain as the local gasoline station typically does not have access to other modes.

It is this understanding of commodity types and modal selection that planners apply additional data to drive freight planning policy and programming in South Carolina. As demonstrated, a wide range of components are present in the supply chain decision making process, resulting in site selection processes unique to each business currently operating or considering future operations in South Carolina. With these considerations, the statewide freight plan applied these concepts to help formulate a set of policies to support a resilient and sustainable freight transportation system.

6 CORRIDOR LEVEL STRATEGIES AND CONTINUED FREIGHT PLANNING

6.1 The Freight Planning Process

This SFP was developed in partnership of SCDOT, SCPA, FHWA, and the SC Department of Commerce, along with a wide range of public and private sector partners around the region. Chapter 1 details this outreach effort, and SCDOT continuously supported and facilitated participation in the development of plan documents and strategies through the planning process.

Per FAST Act guidance, a freight plan is required to include a fiscally constrained list of projects and describe how formula funds available under the new National Highway Freight Program will be invested and matched.

The identified freight related improvements on the corridor level recommended in this plan were derived from an analysis of freight movement and potential growth on the state’s rural interstate infrastructure assets. As well, assessment was conducted as part of the larger statewide MTP process, partnered with the development of the Statewide Freight Network and input from freight stakeholders. This list is presented as an initial methodology for continued freight planning and prioritization process for SCDOT and partner planning agencies. These projects are identified in alignment with strategies made for sustained or enhanced partnerships with other agencies in the state, including both public entities and private sector representatives. This is demonstrated in Chapter 5 and allows for the potential leverage of financial resources to both plan and program infrastructure improvements on the public roadway system as well as private infrastructure assets, such as marine terminals, intermodal facilities, airports or railroads.

SCDOT also included data and information available from MPO and other local level freight planning efforts. Drawing from those experiences and resources allowed for aligned SFP and individual freight planning efforts. This is evident in the inclusion of “first mile” and “last mile” considerations in policy and project strategies. Recognizing that not all local projects are of national or statewide significance, this was considered in the methodology for the identification of the Critical Rural and Urban Freight Corridors as well as development of an independent Statewide Freight Network for South Carolina.

6.2 Corridor Level Strategies

In Chapter 2, a list of freight bottlenecks were identified through a preliminary analysis of observed truck counts, feedback from freight stakeholders, travel time data, and TRANSEARCH commodity flow data. This initial list included the following bottleneck locations:

- 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. It should be noted that this segment is currently under construction for widening from four to six lanes. In addition, during the

PM peak hour, the bottleneck points along I-20 include the three interchanges with Broad River Road, I-26, and U.S. 378.

- I-26: In the Columbia area, the I-20 interchange is the primary bottleneck point during the AM peak hour and the I-20 and St. Andrews Road interchanges are the primary bottleneck points during the PM peak hour. 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.
- 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.
- 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.
- I-126: The I-26 interchange is the primary bottleneck along I-126 westbound during the PM peak hour.
- I-385: The primary bottleneck along I-385 is the interchange with I-85.
- 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.

With the passage of the ***South Carolina Infrastructure and Economic Development Reform Act (Act 40)***²⁹ and in an effort to improve mobility and facilitate freight movement on rural interstate highways, analysis was conducted to specifically assess rural interstates within South Carolina. The Rural Interstate Freight Network Mobility Improvement program is designed to improve reliability and productivity, reduce travel costs and sustain the economic health of the state. The program prioritizes interstate corridors in rural areas that could benefit from added capacity. Funds used towards tackling these much needed widening projects will be available Infrastructure Maintenance Trust Fund motor fuel tax credit program sunsets in July of 2023.

Rural interstate corridors were prioritized through a weighted ranking process assessing rural interstate future freight tonnage, truck-related safety concerns, truck travel time reliability through the rural interstate corridors and annual average daily truck traffic. The South Carolina Department of Commerce and the South Carolina Ports Authority were also asked to provide input indicating their highest priority rural corridors within the state. Proposed corridors were ranked based on highest weighted score. In October 2018, in accordance with the TAMO and the SCDOT 10-year plan for rebuilding South Carolina's roads, the SCDOT Commission approved the Rural Interstate Freight Network Mobility Improvement Program. This interstate widening program specifically targets rural sections of South Carolina's interstate system with a focus on freight safety and mobility:

- I-26 between Columbia and Charleston (MM-125 to MM-139)

²⁹ <https://www.scstatehouse.gov/billsearch.php?billnumbers=3516&session=122&summary=B>

- I-95 in the Lowcountry from the Georgia State Line (MM-0 to MM-18)
- I-26 at I-95 Interchange in Orangeburg County (MM-169)
- I-85 in the Upstate from the Georgia State Line (MM-0 to MM-19)
- I-77 in the Catawba Region (MM-65 to MM-77)

Detailed information and funding estimates are provided in **Appendix D**, Financial Investment Summary.

6.3 Modal Shift Potential

According to the TRANSEARCH database, in 2016, 80.6 percent of shipments in South Carolina were transported by truck, 13.6 percent by rail, and 5.8 percent by air, pipeline and water. Regardless of the data source, it is clear that truck is the preferred mode for goods movement and the demand for truck mobility has continued to grow with the economy of South Carolina. With the establishment of the Inland Port in Greer (October 2013) as well as the Inland Port in Dillon (April 2018) along with the planned Palmetto Railways' *Intermodal Container Transfer Facility* in North Charleston, South Carolina continues taking a proactive role in expanding modal options for the transportation industry.

With the understanding that goods movement and model choice for goods movement are largely determined by the private transportation industry, the SFP provides an opportunity to explore additional options for planning for non-highway movement of goods in South Carolina. A modal shift analysis incorporating the USDOT's Intermodal Transportation and Inventory Cost (ITIC) model was used to assess the impact of the selected scenarios on modal shift in South Carolina. The ITIC model was also used to investigate the modal diversion potentials for I-26, I-95, I-85 and I-20 corridors in South Carolina.

As was presented in the SCDOT Freight Plan (2013 and 2017 amendment), in 2011 the percentage of local, short haul, and long haul truck trips represented 33 percent, 53 percent and 14 percent of truck movements (inbound and outbound) respectively. These percentages are projected to change to 32 percent, 52 percent and 16 percent in 2040. Local and short haul truck trips are not candidates for diversion because their short distances do not allow them to take advantage of the low-cost, long-distance rail transport. Thus, truck movements with potential for diversion are limited to long haul truck movements, which is forecast at 16 percent in 2040.

Based on the previous ITIC analysis, reducing rail cost and terminal dwell time identified the highest state and corridor-level modal diversion potential from highways to rail. Given that the percentages of truck trips available for diversion to rail are a limited subset of overall truck movements, the ITIC analysis identified modal diversion potential to be no more than 5 to 6 percent of total truck movements. Both scenarios would require additional infrastructure investment or fiscal incentives to recognize the diversion potential.

No scenarios are specifically intended for adoption, but instead were simply identified to illustrate the nature of intervention needed to induce a private sector modal shift in goods

movement beyond normal market-induced shifts. Modal shift continues to be greatly influenced by the types of goods being moved, final destinations, and the total transport costs from origin to destination. With actual data from the SC Inland Port, the ICTF and new Navy Base terminal under development, and new intermodal facilities in Charlotte, *the state will be in a much better position to estimate growth and cost/benefit of additional modal options.* While this analysis begins the discussion, additional state and corridor-level analyses should continue in order to truly quantify the benefit of additional intermodal opportunities and investment.

6.4 Framework for Continuing Freight Planning

In addition to freight policy strategies outlined in Chapter 4, the following provides a general framework for continuing freight planning in South Carolina.

6.4.1 State Rail Plan

A State Rail Plan follows a formula of data inventory, analyses and strategies as prescribed by the FRA. For planning purposes in South Carolina, an integrated planning process, as conducted with the SC MTP, is recommended for future updates to both the State Rail Plan and the SFP. While limitations in governance and funding exist, both plans mutually benefit from synergistic stakeholder engagements, data collections and analyses, and collaborative strategies and project identification. Avoiding redundancy in effort and data prevent wasted planning funds, and preventing contradiction in strategies should minimize the potential for conflict in plan implementation.

6.4.2 Long Range Statewide Multimodal Transportation Plan (SC MTP)

Similar to a State Rail Plan, a Long Range Statewide Transportation Plan benefits from the combined effort of developing a SFP. A collaborative, iterative planning process that utilizes a common data set and common set of assumptions allows the planning team to align goals and objectives with analyses with final strategies. It is recommended that the SFP be a tool for future project identification, project prioritization, and project funding scenario planning.

6.4.3 Metropolitan Area Freight Plans

The SFP should be available for use by MPO level planners when developing local LRTPs and urban freight plans. These data inputs and assumptions allow for aligned goals and objectives as well as statewide priorities for project prioritization. This also provides data resources for local planners, often without such resources, to identify regional freight needs. This supports local, “last mile” planning challenges and opportunities. This SFP should also provide a tool for state level planners to review local freight plans for alignment in priority.

6.4.4 Plans for Adjacent States

Goods movement is rarely guided or limited by geopolitical boundaries. Making the South Carolina SFP available to neighboring states benefits all parties in data sharing, project prioritization, and opportunities for collaboration in planning for major regional freight supportive projects. Historically, projects of regional significance, such as interstate widening, high speed rail, or other major investments benefit from multijurisdictional planning, cooperation and funding. As demonstrated throughout the SFP, commodity flow data reflect significant

influence from goods movements throughout the Southeastern United States and beyond. Collaborative planning makes for more effective use of freight transportation dollars.

More specifically, this SFP provides input to future multi-state freight corridor plans for both highway and rail movements. This also supports freight planning efforts for metropolitan areas on or near state borders, such as Charlotte, NC, Augusta, GA, and Savannah, GA and as far as Atlanta, GA or Jacksonville, FL.

6.4.5 Collaborative Planning Throughout Supply Chain

As partner agencies (such as SCPA and Palmetto Railways) proceed with projects like the Inland Ports in Greer and Dillon and the NBIF in North Charleston, SC, SCDOT should preserve and enhance the collaborative planning efforts with these agencies. As those projects become operating pieces of the supply chain in South Carolina, SCDOT should closely monitor their performance, as well as the performance of the roadway and rail systems supporting them. Close attention should be paid to the role those facilities play in the trends in goods movements and modal share of goods movement in the state. This will allow planners to prioritize appropriate transportation funding to preserve the freight infrastructure of South Carolina and remain flexible to the changing trends in distribution patterns.

This page intentionally left blank

7 FREIGHT INVESTMENT PLANNING

7.1 Funding for Freight Infrastructure

7.1.1 Administrative Structure of SCDOT

SCDOT is established by South Carolina law as an administrative agency of the state government. The SCDOT Commission is the general policy making body of the Department and is vested with the responsibility for the approval of SCDOT's long-range and short-term transportation plans, priority lists of projects, state transit program, annual budget, additions and deletions to the state highway system and consideration of State Infrastructure Bank decisions on project funding. The Commission is comprised of nine members, two at-large members and one from each of the state's seven Congressional Districts. The Commission appoints the Secretary of Transportation, who is the chief administrative officer of the Department. SCDOT's Secretary of Transportation is charged with carrying out the policies of the Commission, managing the day-to-day activities of the agency and represents the Department in dealings with other state agencies, local governments, special districts, other states and the federal government.³⁰

7.1.2 Funding Challenges

South Carolina is home to the 4th largest state-maintained highway system in the nation. South Carolina is one of five states responsible for their secondary road network. The national average for state-maintained road miles is approximately 19 percent of the respective state's total roadway network; SCDOT is responsible just over one-half of all public roads in the state, which totals 41,314.5 miles (2018).³¹

7.1.3 Freight Investment - Moving Forward

As required in 49 U.S.C 70202(c)(2), a freight investment plan component shall include a project, or identified phase of a project, only if funding for completion of the project can be reasonably anticipated to be available for the project within the time period identified in the freight investment plan. In the State Freight Plan, the term "fiscally-constrained" has the same meaning as is applied to TIPs and STIPs. Multi-state projects would require coordination of the States involved such that the project is accurately and consistently reflected in each State's Freight Plan.

All freight projects that are included in the State Freight Plan and which involve the expenditure of public funds should necessarily be included in TIPs, STIP, and be consistent with Long-Range Metropolitan and Statewide Transportation Plans.

To the extent that States have prepared economic analysis for specific projects, USDOT encourages States to consider the results of those analyses when determining which projects are included on their freight investment plan, and also to refer to the results of benefit-cost analyses, as appropriate, when and if the project is mentioned in the State Freight Plan.

³⁰ <https://www.scdot.org/inside/inside-commission.aspx>

³¹ SCDOT Highway Performance Management System (HPMS) database, Road Data Services

This freight plan includes a Freight Investment Plan that presents prioritized projects or project phases where funding is expected to be available for completion of the project and that will carry out the goals set forth Title 23 U.S.C. 167.

7.1.4 Federal Funding Sources

7.1.4.1 National Highway Freight Program (NHFP)

The FAST Act establishes a new National Highway Freight Program to improve the efficient movement of freight on the National Highway Freight Network (NHFN) and support several goals, including:

- Investing in infrastructure and operational improvements that strengthen economic competitiveness, reduce congestion, reduce the cost of freight transportation, improve reliability, and increase productivity;
- Improving the safety, security, efficiency, and resiliency of freight transportation in rural and urban areas;
- Improving the state of good repair of the NHFN;
- Using innovation and advanced technology to improve NHFN safety, efficiency, and reliability;
- Improving the efficiency and productivity of the NHFN;
- Improving State flexibility to support multi-State corridor planning and address highway freight connectivity; and
- Reducing the environmental impacts of freight movement on the NHFN. [23 U.S.C. 167 (a), (b)]

Generally, NHFP funds must contribute to the efficient movement of freight on the NHFN and be identified in a freight investment plan included in the State's freight plan (required in FY 2018 and beyond). [23 U.S.C. 167 (i)(5)(A)] In addition, a State may use not more than 10% of its total NHFP apportionment each year for freight intermodal or freight rail projects.

7.1.4.2 National Highway Performance Program (NHPP)

The FAST Act continues the NHPP, which was established under MAP-21. The NHPP provides support for the condition and performance of the NHS, for the construction of new facilities on the NHS, and to ensure that investments of Federal-aid funds in highway construction are directed to support progress toward the achievement of performance targets established in a State's asset management plan for the NHS.

A State may transfer up to 50% of available NHPP apportioned funds to the National Highway Freight Program, Surface Transportation Block Grant Program, Transportation Alternatives, Highway Safety Improvement Program, and Congestion Mitigation and Air Quality Improvement Program each fiscal year (per 23 U.S.C. 126).

7.1.5 State Funding Sources

South Carolina's state funding sources are organized into four main programs. Two are controlled by SCDOT; the remaining two programs are controlled by independent commissions. These programs are funded largely (71 percent) from the state motor fuels user fee, which through Act 40 of 2017 increases the motor fuel user fee by 12 cents over six years (2 cents per year commencing in 2018).

7.1.5.1 State Highway Fund (SHF)

SCDOT's major state funding program is the SHF. It functions similar to a general revenue account for the agency. The SHF is formally administered by the Secretary of Transportation and governed by the Commission. The SHF funds maintenance and operations, construction, transit, debt service, payroll and other overhead expenses, and provides the local match for federal funding. There are annual statutory transfers from this fund to the South Carolina Transportation Infrastructure Bank and C-Fund (described below).

7.1.5.2 Non-Federal Aid Highway Account (NFAHA)

In 2005, the NFAHA was created to fund maintenance projects that were not eligible for federal maintenance dollars. Therefore, this account can only be used for maintenance on non-federal aid roads and cannot be used to pay for administrative expenses. The NFAHA is funded from many sources including driver license fees and inspection fees for petroleum products. The NFAHA is formally administered by the Secretary of Transportation and governed by the Commission.

7.1.5.3 Infrastructure Maintenance Trust Fund (IMTF)

In 2017, the South Carolina General Assembly passed legislation to increase the State gas tax by 12 cents by phasing in the increase at 2 cents per year for six years. These funds are deposited into a new trust fund called the Infrastructure Maintenance Trust Fund (IMTF). These new revenues, coupled with other Federal and State funds, form the financial foundation of SCDOT's Ten Year Plan and performance targets.

7.1.5.4 C-Fund

Unlike the previous two programs, the C-Fund program is controlled by 46 individual County Transportation Committees (CTC) whose membership is appointed by their respective legislative delegation. The individual CTCs select their own projects. However, state law limits the amount of C-Funds spent on local roads to 75 percent of the CTC's C-Fund allocation. CTCs are enabled to administer their C-Fund programs/projects independently. However, a number of CTCs request SCDOT manage the administration of their local programs.³²

7.1.5.5 South Carolina Transportation Infrastructure Bank (SCTIB)

The SCTIB has an independent board comprised of members including the SCDOT Commission Chairman, two appointed by the Governor, two appointed by the Speaker of the House, and two

³² <https://www.scdot.org/projects/c-program.aspx>

appointed by the President Pro Tempore of the Senate. Any state or local agency/district can apply for a SCTIB loan to construct an eligible project.³³

Eligible projects include major projects which provide a public benefit required by the South Carolina Transportation Infrastructure Bank Act (the Act), SC Code Sections 11-43-110 et seq., are eligible for financial assistance from the Bank.³⁴ There are two requirements for eligibility:

- **Major Projects** – Construction of or improvements to highways, including bridges, with at least \$25 million in cost are eligible for financial assistance. This cost includes: preliminary engineering; traffic and revenue studies; environmental studies; rights of way acquisition; legal and financial services associated with the development of projects; construction; construction management; facilities; and other costs necessary for the project. The cost shall not include financial costs or interest on loans used for the project. While the total cost must be at least \$25 million, the final assistance requested may be less than \$25 million. Projects may not be combined to meet the minimum project cost of \$25 million. No minimum cost has been established for transit facilities.
- **Public Benefit** – The proposed project must provide a public benefit in one or more of the following areas: enhancement of mobility and safety; promotion of economic development; or increase in the quality of life and general welfare of the public.

7.1.5.6 Local and Non-Traditional Funding Sources

Over the past two decades, local governments have played an increasing role in funding transportation projects. Since 1996, SCDOT estimates local investment in Federal-Aid projects to be about \$1.2 billion. A large majority of that amount served as matching dollars for investment dollars from the SCTIB. The state's Transportation Infrastructure Task Force (TITF) report stated that local investment in SCTIB projects averaged about \$89 million annually.

In 1998, SCDOT formed a public/private partnership to design, build, finance, operate and maintain a four-lane bypass around Greenville. When the project opened in 2001, toll revenue collected was well below projections that were used to structure the toll revenue backed bonds used to fund the construction of the facility. This shortfall continued until 2010, when the partnership filed for bankruptcy and the bonds were subsequently restructured in August 2012.³⁵

While this proved a challenge for the partnership, it did represent a private investment of \$211 million in the highway network. Subsequently, this investment was used as a SCTIB funding match for the Upstate GRID project. The match leveraged \$406 million from the SCTIB to build 14 projects in the Greenville region.³⁶

³³ South Carolina Code Section 11-43-130

³⁴ South Carolina Transportation Infrastructure Bank ("Bank"), Financial Assistance Application Process

³⁵ http://www.fhwa.dot.gov/ipd/project_profiles/sc_southern_connector.htm

³⁶ TITF Report

7.1.6 House Bill 3516 (Act 40)

On May 10, 2017 the South Carolina House and Senate voted on House Bill H. 3516³⁷, otherwise known as the Act 40, establishing SC Code Section 12-28-310(D). The centerpiece of the legislation is the increase in sustained funding for improving and maintaining roads and bridges through a graduated increase in the state gas tax. Key highlights include:

- Establishes the Infrastructure Maintenance Trust Fund for repairs, maintenance and improvements to the existing highway system.
- Effective on July 1, the state gas tax increases two cents per year for the next six years. The total increase will be 12 cents per year after the sixth year.

Act 40 of 2017 provides roughly \$600 million in recurring funds, once fully implemented, to be used solely on the improvements of South Carolina’s roads and bridges. Funding components include:

- Increases the motor fuel user fee by 12 cents over six years (2 cents per year commencing in 2018).
- Increase of biennial registration fees on private passenger vehicles by \$16.
- Imposes an “Infrastructure Maintenance Fee” upon the purchase of a motor vehicle (capped at \$500).
- Imposes a one-time \$250 registration fee for anyone who transfers a motor vehicle from another state to South Carolina.
- Create new registration fees for alternative vehicles: \$120 for EV’s & \$60 for hybrid vehicles.
- Rolls the truck property tax into the IRP for out-of-state IRP-registered fleets.

7.1.7 State Funding Limitations on Freight

While there are no direct statutory limitations on using state-based funding sources for freight projects, there are some limitations based on project eligibility. The four major state funding sources are largely funded (71 percent) by state-motor fuel tax revenue. As such, there is a statutory limitation on allocating funding to non-traditional projects. This impacts SCDOT’s ability to choose the most effective freight related improvements. For example, small rail projects that could have large impacts on long-haul truck traffic on South Carolina’s highways would be difficult to fund using traditional state or federal programs.

Taking advantage of opportunities to shift some goods movements from truck to rail, especially heavy bulk shipments, may help reduce roadway congestion and highway maintenance costs but also result in less pollutants and a lower cost due to better efficiencies in fuel per ton-mile. Based on American Association of Railroad estimates, it would have taken an approximately 3.6 million additional trucks to handle the 65.3 million tons of freight that originated in, terminated in, or moved through South Carolina by rail in 2017.³⁸ Rail is a critical mode in South Carolina and should remain viable to ensure freight moves efficiently throughout the state.

³⁷ http://www.scstatehouse.gov/sess122_2017-2018/bills/3516.htm

³⁸ <https://www.aar.org/wp-content/uploads/2019/01/AAR-South-Carolina-State-Fact-Sheet.pdf>

An example of a project that may not be eligible to receive traditional state highway funding would be Norfolk Southern’s Crescent Corridor initiative. As part of this effort, the railroad improved the rail mainline that parallels I-85, a major truck route, through the upstate of South Carolina. The railroad estimates that the route will divert over 1.3 million long-haul trucks from South Carolina’s roadways annually resulting in the savings of more than million gallons of fuel annually and reduce 1.9 million tons of CO₂ annually.³⁹

With additional flexibility to provide funding assistance for projects like this, SCDOT could help improve freight transportation through smaller, more strategic investments. However for larger projects, South Carolina’s current restrictions closely mirror similar constraints placed on the use of traditional formula-based funding from the Federal Highway Administration.

7.2 National Highway Freight Program Planning

7.2.1 Freight Investment Plan

The FAST Act requires that states include a fiscally constrained freight investment plan that includes a list of priority projects and describes how the National Highway Freight Program (NHFP) funds will be invested.

Focusing on rural interstate mobility opportunities to enhance the movement and safety of people and goods, the financially constrained Freight Investment Summary provided in **Appendix D** identifies priority projects eligible for NHFP funding along with a description of how funds made available to carry out the goals and provisions of the National Highway Freight Program would be invested and matched. Project costs are summarized based on the fiscal year(s) in which various phases of the projects are to be completed. The Freight Investment Summary identifies projects that are already programmed in the STIP and will utilize NHFP funding as well as other Non-NHFP funds and required State and/or Local funds.

The list of projects is subject to change due to changes in project details, and as amendments may be made to the STIP and South Carolina’s portion of the NHFN.

³⁹ <http://www.nscorp.com/content/nscorp/en/shipping-options/corridors/crescent-corridor.html>

APPENDIX A: SCDOT FREIGHT MOBILITY SURVEY

This page intentionally left blank

1 South Carolina Freight Survey

WELCOME

Infrastructure Design and Truck Parking Surveys

SCDOT is updating the Statewide Freight Plan to address South Carolina's growing freight transportation needs. Please complete this interactive survey to help us identify and get feedback on infrastructure design and truck parking issues in South Carolina.

➔ Begin



The Statewide Freight Plan includes an inventory of transportation assets as well as a Statewide Freight Network that contribute to the efficient movement of goods in South Carolina.



2 Freight Infrastructure Survey

INFRASTRUCTURE

Infrastructure Design Issues

Issues and challenges in designing infrastructure:

Select the TOP 3 significant roadway infrastructure design issues that affect the movement of freight in South Carolina:

- Limited access highway design High traffic urban areas
- Highway ramp design Alternative route options during road closures
- Construction work zone design Frontage road design
- Off-interstate road design

Select the TOP 3 ways roadway design may impact freight operations:

- Reduces safety Reduces fuel efficiency
- Reduces reliability generally
- Impacts routing efficiency of Oversize/Overweight trucks
- Impacts Hours of Service/ELD Slow response to road closures

Design Impacts

Oversize/Overweight

Improvement Ideas

➔ Next

2 Freight Infrastructure Survey What to do Next Task

INFRASTRUCTURE

- Infrastructure Design Issues
- Design Impacts**
- Oversize/Overweight
- Improvement Ideas

Roadway design impacts on freight operations:

Please identify any other design limitations that may impact freight operations:

Type...

Next

2 Freight Infrastructure Survey What to do Next Task

INFRASTRUCTURE

- Infrastructure Design Issues
- Design Impacts
- Oversize/Overweight**
- Improvement Ideas

Transporting oversize/overweight freight:

Select the TOP 3 challenges in transporting oversize/overweight freight:

- Lane widths
- Absent or narrow shoulders
- Access ramp design
- Sharp curves
- Construction work zones
- Bridge height and weight restrictions
- Line of sight
- Lack of frontage roads
- Rough pavement
- Vertical clearance (such as utilities)

Identify any challenges other than what is listed above:

Type...

Next

2 Freight Infrastructure Survey

What to do Next Task

INFRASTRUCTURE

- Infrastructure Design Issues
- Design Impacts
- Oversize/Overweight
- Improvement Ideas**

Freight infrastructure ideas and feedback:

Please select your TOP 3 strategies for improving infrastructure design to increase the efficiency of freight operations in South Carolina:

- Widen roadways Widen shoulders Improve access ramps
- Improve sight distance Improve intersections
- Improve overhead clearance and bridge height
- Improve pavement conditions
- Shift goods movement from trucks to other options such as rail to reduce congestion on interstates
- Provide dedicated truck lanes Reduce or eliminate rail grade crossing

What are other infrastructure design ideas to improve the movement of freight in South Carolina?

Type...

Next

3 Truck Parking Survey

TRUCK PARKING

- Truck Parking Location**
- Truck Parking Challenges
- Unauthorized Truck Parking
- Parking Amenities
- Improvement Ideas

Available truck parking locations:

Are you a truck driver or carrier?

Select...

If you are a truck driver or carrier, how do you find truck parking? (Select all that apply)

- Drive around the area to look for available parking
- Use a parking app to find available parking
- Utilize reserved parking with a private truck parking facility
- Utilize state rest areas
- Utilize ramps or shoulders

Next

3 Truck Parking Survey

What to do Next Task

TRUCK PARKING

- Truck Parking Location
- Truck Parking Challenges**
- Unauthorized Truck Parking
- Parking Amenities
- Improvement Ideas

Truck driver and carrier parking issues and challenges:

Please check the TOP 3 sources of parking frustration for truck drivers:

- Lack of long-term parking options
- Lack of overnight parking options
- No authorized parking at shipper/receiver
- Lack of or limited alternative parking sites (e.g., retail lots)
- Limited emergency parking due to weather related or unexpected closure events
- Availability of reserved parking in advance
- Limited parking available at state rest areas
- Hours of Service limitations

Next

3 Truck Parking Survey

What to do Next Task

TRUCK PARKING

- Truck Parking Location
- Truck Parking Challenges
- Unauthorized Truck Parking**
- Parking Amenities
- Improvement Ideas

Unauthorized truck parking areas:

What is the primary reason that might force a truck driver to park in an unauthorized area?

Select...

If you are a truck driver or carrier, on average how frequently are you forced to use unauthorized parking?

Select...

Next

3 Truck Parking Survey

What to do Next Task

TRUCK PARKING

- Truck Parking Location
- Truck Parking Challenges
- Unauthorized Truck Parking
- Parking Amenities**
- Improvement Ideas

Preferred truck parking amenities:

If you are a truck driver, please select your TOP 3 preferences for truck parking amenities:

- Ability to reserve parking
- Availability of restaurant or fast food
- Safety features such as lighted areas
- Availability of extended stay parking
- Access to truck washing facility
- Restroom facilities
- Shower facilities
- Wi-Fi Access
- Scales

What are some other amenities that truck drivers prefer?

Type...

Next

3 Truck Parking Survey

What to do Next Task

TRUCK PARKING

- Truck Parking Location
- Truck Parking Challenges
- Unauthorized Truck Parking
- Parking Amenities
- Improvement Ideas**

Truck parking improvements ideas and feedback:

How would you describe your ideal truck parking location or truck parking facility?

Type...

What are your ideas on improving truck parking in South Carolina?


Type...


Next


4 Interactive Map Markers


FREIGHT MAP MARKERS


Please drag and drop at least 3 markers on the map.



Truck Parking


Safety Issue


Truck



Truck


Truck


Freight Network

Interactive Map Markers
What to do

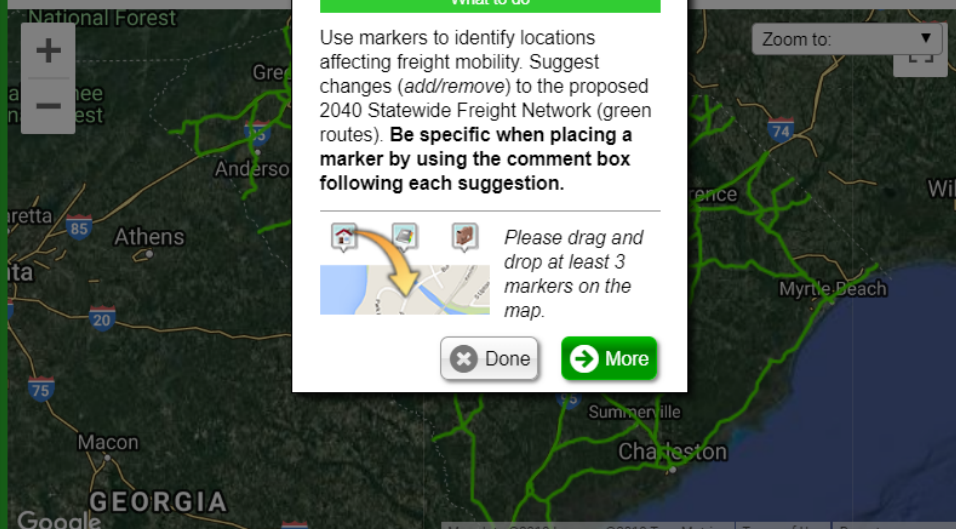
Use markers to identify locations affecting freight mobility. Suggest changes (*add/remove*) to the proposed 2040 Statewide Freight Network (green routes). **Be specific when placing a marker by using the comment box following each suggestion.**



Please drag and drop at least 3 markers on the map.

✕ Done

➡ More



5 A Few Final Questions
? What to do

WRAP UP

Final Questions

What is your business zip code?

What business sector do you represent?

What industry do you serve?

Primary Type of Service:

What is your operating area?

Other comments:


Submit Final Questions

Skip

Thank You!

Thank you for your input.

Help us spread the word: Click the email or social media icons to the right and share this to help encourage more feedback.



South Carolina Department of Transportation

APPENDIX B: SCDOT FREIGHT MOBILITY SURVEY COMMENTS

This page intentionally left blank

Map Marker	Estimated Longitude	Estimated Latitude	Participant Comment
CONGESTION ISSUES			
Congestion	34.71407313	-82.53423571	----
Congestion	34.04765295	-81.10051989	I-26 through & around Columbia
Congestion	32.88576408	-80.01579605	Too many vehicles moving a different speeds trying to squeeze through the same area.
Congestion	32.88915867	-80.01914345	Too many vehicles converging at different speeds
Congestion	32.88109334	-80.02004467	Too many vehicles
Congestion	32.89453534	-79.98766505	I-526 at North Rhett Avenue
Congestion	32.89413895	-79.98120428	I-526 at Virginia Avenue.
Congestion	32.89150836	-79.96551872	Don Holt Bridge in general does not offer capacity In either direction
Congestion	32.88172773	-79.93404032	Too many vehicles attempting to get off the exit
Congestion	32.87888053	-79.93002773	Too many vehicles attempting to exit I-526 at Clements Ferry Rd. During peak times the traffic backs up onto the interstate due to lack of capacity on Clements Ferry Rd.
Congestion	32.86822833	-79.90995481	Too many vehicles merging into congested traffic
Congestion	32.86516441	-79.90389222	I-526 Wando River Bridge. East and West Bound
Congestion	32.84054107	-79.86477414	Longpoint Rd. Exit Ramp to Longpoint Rd. form I-526
Congestion	32.83938724	-79.86127654	Large vehicles merging onto I-526 Westbound cause congestion
Congestion	32.80271321	-79.89556066	Hwy. 17 South before the Ravenel Bridge
Congestion	32.80458894	-79.94190923	Exit/Merge ramp from the Ravenel Bridge Hwy. 17 South to I-26 Westbound. Not enough capacity
Congestion	32.93314087	-80.04601938	Ashley Phosphate Road Exit is poorly designed, not able to handle the volume and too windy.
Congestion	33.37296263	-79.28407102	Transiting Georgetown is unsafe. Too many vehicles both commercial and personal.
Congestion	33.61317828	-79.01126339	Hwy. 17 North and South between Georgetown and Myrtle Beach, SC Too many small towns and poorly, poorly time traffic lights.
Congestion	34.13083595	-79.75992799	Not enough capacity
Congestion	34.41681173	-79.44132447	I-95 needs additional capacity
Congestion	33.44789232	-80.73033295	I 26 Please add lanes!!!
Congestion	32.88615166	-80.01814823	----
Congestion	32.89018633	-80.0202411	----
Congestion	32.84028397	-79.86517963	Poor exit ramp for heavy equipment mixed in with personal vehicles. exit lane is way too short on 526
Congestion	34.90724943	-82.19524646	----
Congestion	32.87167979	-79.92413403	----
Congestion	32.83479342	-79.8240917	----
Congestion	32.885688	-80.01710681	----
Congestion	34.03564599	-81.1105864	----
Congestion	33.30791963	-80.54316429	----
Congestion	33.22350276	-80.42502856	I-26 needs to be three lanes from border to border
Congestion	34.85417966	-82.27446404	I-85 N from MM51 to 56 I-85 S from MM60 to 51

Congestion	32.86953119	-80.02754745	International Blvd., North Charleston has too much traffic in all directions on too small a road way. The light are poorly timed.
Congestion	32.79205477	-80.03355887	I-526 Terminus onto Hwy. 17 South. Too many vehicles for the intersection to process effectively.
Congestion	32.80280662	-80.10907626	Hwy. 17 at Main Rd. Too much traffic turning left backing up onto Hwy. 17 in both directions. Truck Traffic is impeded by cars slowing, backed up due to traffic lights that are poorly timed. Cars are often speeding.
Congestion	32.80575032	-79.94488956	----
Congestion	33.9741038	-81.10620488	----
Congestion	33.48069763	-80.78485479	----
Congestion	33.06966758	-80.66263188	----
Congestion	34.91139663	-82.29869233	I-85 through Greenville and past Spartanburg
Congestion	32.76150513	-79.98959286	----
Congestion	33.81384798	-81.08780714	----
Congestion	34.09369313	-79.8667492	----
Congestion	34.91199725	-82.24852143	----
Congestion	34.85186998	-82.4003612	385
Congestion	34.00696805	-81.03862869	20/26
Congestion	35.11078033	-81.64562332	85
Congestion	34.96573621	-82.02960711	----
Congestion	35.01411433	-81.90704086	----
Congestion	34.86518349	-82.28063539	----
Congestion	35.09080602	-80.93258997	Carowinds Blvd; Hwy 51
Congestion	34.90129998	-82.24299339	from 54mm to 46mm
Congestion	34.85892296	-82.25981301	----
Congestion	34.83298087	-82.29720826	----
Congestion	34.96364278	-82.03702597	----
Congestion	32.88618805	-80.01856015	Intersection of I-26 and I-526
Congestion	34.82331291	-82.39607194	----
Congestion	33.39863924	-80.58573195	I-26 from Jedburg to east of Columbia
Congestion	34.21110274	-81.37674757	I-26 from Lake Murray Blvd to I-26/I-385 split
Congestion	34.94379478	-82.17325636	I-85 from I-26 to I-185
Congestion	34.84438658	-82.50192287	I 85 ex 50 to exit 40
Congestion	34.64728445	-82.7406957	----

SAFETY ISSUES			
Safety Issue	34.04310134	-81.10738635	Safety issues due to congestion in and around Columbia
Safety Issue	32.88432254	-80.01680456	Too many vehicles merging including commercial vehicles and cars. All attempting to get ahead of the other.
Safety Issue	32.88721265	-80.01937949	Too many vehicles converging at different speeds
Safety Issue	32.88908659	-80.01062476	Interstate exits and entrances too close together with I-26 and I-526
Safety Issue	32.88109334	-80.02126776	Too many vehicles of different sizes moving at different speeds.
Safety Issue	32.89457137	-79.98807274	Too many vehicles slowing and stopping on the Interstate due to poor light timing. Too many vehicles of different sizes slowing and accelerating in the same general vicinity
Safety Issue	32.89417499	-79.98174072	Too many large vehicles originating from a industrial area merging in with faster moving traffic and too close to an exit with slowing or stopping traffic
Safety Issue	32.89352636	-79.98581768	Poorly designed interchange meant to handle the traffic of two interchanges but too congested.
Safety Issue	32.88158357	-79.93487716	Too many personal and commercial vehicles backing up on to a busy interstate
Safety Issue	32.86826438	-79.9103625	Too many vehicles merging into congested traffic
Safety Issue	32.84097375	-79.86597577	Too many large vehicles getting off. The exit ramp is insufficiently long. Too many vehicles of different sizes attempting to stop. Cars do not pay attention
Safety Issue	32.83938724	-79.86071864	The ramp leading from Longpoint Rd. onto I-526 Westbound is poorly constructed. It is too tight for the large vehicles. The merge ramp is inadequate. Due to the two lane construction of I-526 too many vehicles exceeding the speed limit are mixed in with large vehicles attempting to merge onto I-526
Safety Issue	32.82591775	-79.8507785	Too many speeding vehicles attempting to get ahead of queued traffic getting off I-526 Eastbound onto Hungry Neck/Hwy 17
Safety Issue	32.80292964	-79.89560357	Three lanes abruptly become two lanes only. No merging lane to help ease the funneling. Poorly designed from the outset.
Safety Issue	32.80437251	-79.94261733	Too many speeding drivers causing congestion in an attempt to beat the traffic. Speeding!
Safety Issue	32.9335731	-80.04608375	Poorly designed intersection. Too many vehicles large and small attempting to slow or stop. Long queuing lines backing up onto the exit ramp.
Safety Issue	32.97712153	-80.07638326	The College Park Interchange is not designed for large or small vehicles. The entire interchange needs to be redone to accommodate large commercial and personal vehicles
Safety Issue	33.3752563	-79.27995115	Too many vehicles transiting a town designed to stop traffic flow.
Safety Issue	33.66691393	-78.96457149	Too many small towns with little to no alternative routes.
Safety Issue	33.93736718	-79.75168824	Too many speeding vehicles.

Safety Issue	34.27621505	-79.67203736	I-95 demands speed and traffic enforcement
Safety Issue	33.31976849	-80.54682374	Intersection of I-95 and I-26 - too many speeding vehicles
Safety Issue	33.99190525	-80.94948112	I-77 needs speed enforcement
Safety Issue	33.72246138	-81.09288178	I 526 Please add lanes
Safety Issue	32.8665447	-79.90450839	-----
Safety Issue	32.83765178	-79.8645359	Residential business located on long point road. they need to be moved out of that location
Safety Issue	33.98132679	-81.10667576	Better design of entry /exit ramps.
Safety Issue	33.98121113	-81.10747506	Better design of entry /exit ramps.
Safety Issue	33.98049051	-81.10650947	Better design of entry /exit ramps.
Safety Issue	33.98011685	-81.10724439	Better design of entry /exit ramps.
Safety Issue	34.81371522	-82.33660455	Intersection design - interstate entry/exit lanes are shared and too short, entrance ramp to 85 N from 276 is way too short
Safety Issue	32.86823356	-80.02720412	Too many vehicles speeding while traffic is attempting to exit I-526 in both directions. Traffic congestion in all directions is awful often times.
Safety Issue	32.85439101	-80.02171096	The ramp from Dorchester Road leading to I-526 East bound is awful. The grade lurches Class 8 Trucks in a direction helpful for trucks to turn over. The pavement is cracked and unsafe. The traffic on I-526 Eastbound is moving at too high a speed which causes issues for trucks and cars attempting to merge onto I-526
Safety Issue	32.7915497	-80.03299024	Large trucks mixed with cars are forced into a single lane with a stop light - poorly coordinated with traffic. Slower moving trucks are merging into lanes with faster moving traffic. Additionally, the faster moving traffic is often cutting in front of the trucks to turn right immediately after the trucks are on a straight route.
Safety Issue	32.80298698	-80.1090548	Too many cars queuing up to turn onto Main Rd. from Hwy. 17
Safety Issue	34.03701869	-81.11029865	Concerning Ramps
Safety Issue	34.75809735	-82.43602143	congestion
Safety Issue	34.06017944	-81.08470307	-----
Safety Issue	34.0377815	-81.11253218	-----
Safety Issue	34.84093206	-81.8158995	-----
Safety Issue	33.32296781	-81.14069738	Downtown should be 2 lanes, not 4. This is a safety, social and economic development issue
Safety Issue	32.95729885	-81.23648442	Currently the configuration of road and rail impedes safe travel and economic development. We hope the new design will alleviate these issues
Safety Issue	33.55359674	-81.639717	This urban area is experiencing very high truck traffic and causes congestion and safety issues
Safety Issue	34.63995866	-82.52655887	13' clearance is inaccurate. Many trucks stop on road to check clearance
Safety Issue	34.77681759	-82.46169182	Traffic backs up and comes to a complete stop on the interstate to exit southbound 153
Safety Issue	34.85835208	-82.26179556	Traffic slows and people jockeying for position to exit to 385 ahead. This backup and danger starts at mm56. People need to be forced into committing to exit 51 sooner than last minute.

Safety Issue	35.09108694	-80.93331953	Elevated Accident Levels
Safety Issue	34.91931863	-82.10566429	By restricting trucks to the inner two lanes it causes traffic to back up. It would make more sense to let them use outside lane as they are generally passing through and not going between exits
Safety Issue	32.88561143	-80.01907513	Too many vehicles, going too fast and drivers are impatient.
Safety Issue	34.8255676	-82.29582169	----
Safety Issue	34.79929146	-82.41952591	New highway project disastrous planning

OVERSIZE/OVERWEIGHT ISSUES

Oversize/Overweight Issues	32.85669825	-80.02205428	The ramp grade is uncomfortable for large trucks when moving from Dorchester Rd. to I-526 via the ramp.
Oversize/Overweight Issues	34.46632621	-81.87277712	----

ROAD DESIGN/BRIDGE HEIGHT ISSUES

Road Design / Bridge Height	34.20611284	-79.57887857	I-95 Has got to be widened.
Road Design / Bridge Height	33.50360306	-80.99062174	I26 has got to be widened
Road Design / Bridge Height	33.777995	-79.17787759	Myrtle beach has got to have a better evacuation route that doesn't flood.
Road Design / Bridge Height	32.89194079	-79.96805073	----
Road Design / Bridge Height	34.57715047	-82.40067335	----
Road Design / Bridge Height	35.09143809	-80.93263289	Demand Level Versus Roadway Capacity
Road Design / Bridge Height	32.8699959	-81.12087796	Draw a circle around for 40 miles...the bridges are all bad.
Road Design / Bridge Height	33.22204921	-80.29261078	Four lane it to Orangeburg, and replace bridges. Bridges were authorized by the Great Depression WPA Act
Road Design / Bridge Height	32.80711044	-80.76239003	Twenty years behind on I-95, good Luck catching up.
Road Design / Bridge Height	33.08386514	-80.20984133	Charleston to NC State Line on I-26
Road Design / Bridge Height	33.92109423	-82.52096913	----

TRUCK PARKING ISSUES			
Truck Parking	32.87847409	-80.02055057	----
Truck Parking	32.87715303	-80.00479421	short and long term
Truck Parking	32.83613733	-79.86899909	no open overnight parking near port gates
Truck Parking	33.97851543	-81.11456146	Perfect Parking area spot.
Truck Parking	32.76150513	-80.18602143	----
Truck Parking	33.23598187	-80.43024925	Not enough truck parking along this stretch of Interstate

PROPOSED FREIGHT NETWORK MARKERS/COMMENTS			
Proposed Freight Network	32.88566301	-80.01822077	----
Proposed Freight Network	32.88843792	-80.01139723	----
Proposed Freight Network	32.88185018	-80.01852118	----
Proposed Freight Network	32.87774383	-79.93002661	----
Proposed Freight Network	32.86797601	-79.90963294	----
Proposed Freight Network	32.86491208	-79.90296954	----
Proposed Freight Network	32.86480394	-79.90365618	Major Truck Route
Proposed Freight Network	32.84036078	-79.86406604	----
Proposed Freight Network	32.8390436	-79.86135713	----
Proposed Freight Network	32.80253285	-79.89551774	----
Proposed Freight Network	32.80430036	-79.94377605	----
Proposed Freight Network	32.97856157	-80.07913043	----
Proposed Freight Network	32.95881309	-80.08950744	----
Proposed Freight Network	32.96590651	-80.11040721	----
Proposed Freight Network	32.98138762	-80.12583528	----
Proposed Freight Network	32.95800723	-80.11393442	----
Proposed Freight Network	32.9403927	-80.06923809	----
Proposed Freight Network	33.3752563	-79.26484495	Hwy. 17 in Georgetown, SC
Proposed Freight Network	32.90465655	-79.73018124	Hwy. 17 South and North
Proposed Freight Network	33.68519927	-78.95152523	Hwy 17 North and South
Proposed Freight Network	33.77314303	-78.82861568	Carolina Bays Parkway
Proposed Freight Network	34.01025426	-79.75443482	Hwy. 52 between Charleston and Florence, SC
Proposed Freight Network	34.33747161	-79.53058839	I-95
Proposed Freight Network	32.97021744	-80.66904664	I-95 between the GA and North Carolina state lines
Proposed Freight Network	33.94862674	-81.00578606	I-77 between I-26 and the North Carolina border
Proposed Freight Network	34.12357811	-80.88963471	----
Proposed Freight Network	32.86895447	-80.02771911	----
Proposed Freight Network	32.85453521	-80.01965102	Dorchester Rd. at I-526
Proposed Freight Network	32.79111678	-80.03415969	I-526 Terminus onto Hwy 17 South
Proposed Freight Network	32.80316734	-80.1094625	Hwy. 17 at Main Rd.
Proposed Freight Network	36.43784592	-77.18957891	----
Proposed Freight Network	32.88155694	-79.73959286	----
Proposed Freight Network	32.88762956	-80.01804516	Intersection of I-26 and I-526
Proposed Freight Network	34.82444026	-82.34251359	----
Proposed Freight Network	34.85340264	-82.36459327	----

APPENDIX C: CRITICAL URBAN & RURAL FREIGHT CORRIDORS

This page intentionally left blank

Critical Urban Freight Corridors

<i>County</i>	<i>Route Number</i>	<i>Begin Milepoint</i>	<i>End Milepoint</i>	<i>Length</i>
Spartanburg County	SC 101	17.382	20.772	3.39
Spartanburg County	SC 80	1.48	3.53	2.05
Spartanburg County	Secondary 12	0	0.66	0.66
Spartanburg County	Secondary 12	0.66	1.088	0.428
Spartanburg County	US176	20.237	21.77	1.533
Greenville County	US 25	24.93	25.73	0.8
Greenville County	US 25	25.73	27.142	1.412
Greenville County	US 25	27.142	27.64	0.498
Greenville County	US 25	27.64	31.49	3.85
Greenville County	US 25	31.49	33.3	1.81
Greenville County	US 25	33.3	36.12	2.82
Greenville County	US 25	36.12	36.604	0.484
Greenville County	US 25	36.604	38.04	1.436
Greenville County	US 25	38.04	38.13	0.09
Greenville County	US 25	38.13	38.27	0.14
Greenville County	US 25	38.27	40.502	2.232
Horry County	US 501	12.885	14.24	1.355
Horry County	US 501	14.24	15.018	0.778
Horry County	US 501	15.018	15.103	0.085
Horry County	US 501	15.103	15.33	0.227
Horry County	US 501	15.33	16.45	1.12
Horry County	US 501	16.45	17.7	1.25
Horry County	US 501	17.7	17.76	0.06
Horry County	US 501	17.76	17.83	0.07
Horry County	US 501	17.83	18.055	0.225
Horry County	US 501	18.055	18.46	0.405
Horry County	US 501	18.46	18.5	0.04
Horry County	US 501	18.5	18.58	0.08
Horry County	US 501	18.58	18.67	0.09
Horry County	US 501	18.67	18.719	0.049
Horry County	US 501	18.719	18.77	0.051
Horry County	US 501	18.77	18.94	0.17
Horry County	US 501	18.94	19.01	0.07
Horry County	US 501	19.01	19.083	0.073
Horry County	US 501	19.083	19.155	0.072
Horry County	US 501	19.155	19.204	0.049
Horry County	US 501	19.204	19.251	0.047
Horry County	US 501	19.251	19.31	0.059

Horry County	US 501	19.31	19.36	0.05
Horry County	US 501	19.36	19.5	0.14
Horry County	US 501	19.5	20.735	1.235
Horry County	US 501	20.735	20.98	0.245
Horry County	US 501	20.98	21.593	0.613
Horry County	US 501	21.593	21.76	0.167
Horry County	US 501	21.76	21.95	0.19
Horry County	US 501	21.95	22.58	0.63
Horry County	US 501	22.58	22.88	0.3
Horry County	US 501	22.88	23.09	0.21
Horry County	US 501	23.09	23.58	0.49
Horry County	US 501	23.58	23.765	0.185
Horry County	US 501	23.765	25.582	1.817
Horry County	US 501	25.582	28.18	2.598
Horry County	US 501	28.18	28.42	0.24
Horry County	US 501	28.42	29.59	1.17
Horry County	US 501	29.59	31.53	1.94
Marion County	US 501	9.232	9.502	0.27
Marion County	US 501	9.502	10.061	0.559
Charleston County	US 17	17.518	17.79	0.272
Charleston County	US 17	17.79	19.95	2.16
Charleston County	US 17	19.95	20.63	0.68
Charleston County	US 17	20.63	24.04	3.41
Charleston County	US 17	24.04	24.58	0.54
Charleston County	US 17	24.58	25.29	0.71
Berkeley County	SC-41	1.09	1.871	0.781
Total CUFC Miles				51.66

Critical Rural Freight Corridors

<i>County</i>	<i>Route Number</i>	<i>Begin Milepoint</i>	<i>End Milepoint</i>	<i>Length</i>
Greenville County	US 25	40.502	43.22	2.718
Greenville County	US 25	43.22	46.88	3.66
Greenville County	US 25	46.88	53.89	7.01
Dillon County	SC-34	11.2	11.31	0.11
Dillon County	SC-34	11.31	11.745	0.435
Dillon County	SC38	0	0.011	0.011
Dillon County	SC 38	0.011	0.429	0.418
Dillon County	SC 38	0.429	0.59	0.161
Dillon County	SC 38	0.59	0.93	0.34
Dillon County	SC 38	0.93	0.935	0.005
Dillon County	SC 38	0.935	2.71	1.775
Dillon County	SC 38	2.71	3.923	1.213
Dillon County	SC 38	3.923	4.01	0.087
Dillon County	SC 38	4.01	4.59	0.58
Dillon County	SC 38	4.59	4.95	0.36
Dillon County	SC 38	4.95	6.12	1.17
Marion County	SC 38	0	0.97	0.97
Marion County	SC 38	0.97	1.06	0.09
Horry County	US 501	0	0.18	0.18
Horry County	US 501	0.18	0.38	0.2
Horry County	US 501	0.38	4.188	3.808
Horry County	US 501	4.188	4.81	0.622
Horry County	US 501	4.81	4.93	0.12
Horry County	US 501	4.93	5.05	0.12
Horry County	US 501	5.05	5.171	0.121
Horry County	US 501	5.171	5.2	0.029
Horry County	US 501	5.2	5.34	0.14
Horry County	US 501	5.34	5.36	0.02
Horry County	US 501	5.36	5.61	0.25
Horry County	US 501	5.61	6.63	1.02
Horry County	US 501	6.63	7.42	0.79
Horry County	US 501	7.42	7.81	0.39
Horry County	US 501	7.81	10.6	2.79
Horry County	US 501	10.6	10.68	0.08
Horry County	US 501	10.68	10.88	0.2
Horry County	US 501	10.88	11.253	0.373
Horry County	US 501	11.253	12.4	1.147
Horry County	US 501	12.4	12.63	0.23

Horry County	US 501	12.63	12.885	0.255
Marion County	US 501	0.72	2.11	1.39
Marion County	US 501	2.11	4.33	2.22
Marion County	US 501	4.33	5.22	0.89
Marion County	US 501	5.22	9.232	4.012
Marion County	US 501	10.061	12.27	2.209
Marion County	US 501	12.27	13.594	1.324
Marion County	US 501	13.594	14	0.406
Marion County	US 501	14	14.108	0.108
Marion County	US 501	14.108	20.07	5.962
Marion County	US 501	20.07	21.195	1.125
Marion County	US 501	21.195	23.53	2.357
Beaufort County	US 17	0	0.3	0.3
Beaufort County	US 17	0.3	4.42	4.12
Beaufort County	US 17	4.42	6.58	2.16
Beaufort County	US 17	6.58	7.01	0.43
Beaufort County	US 17	7.01	7.791	0.781
Beaufort County	US 17	7.81	12.65	4.84
Charleston County	US 17	0	5.92	5.92
Charleston County	US 17	5.92	13.4	7.48
Charleston County	US 17	13.4	13.61	0.21
Charleston County	US 17	13.61	17.518	3.908
Colleton County	US 17	0	16.242	16.242
Colleton County	US 17	16.242	17.31	1.068
Jasper County	US 17	0	4.1	4.1
Jasper County	US 17	4.1	6.61	2.51
Jasper County	US 17	6.61	9.22	2.61
Jasper County	US 17	9.22	12.469	3.249
Jasper County	US 17	12.469	12.91	0.441
Jasper County	US 17	12.91	13.05	0.14
Jasper County	US 17	40.56	42.299	1.739
Berkeley County	SC-41	1.871	12.9	11.029
Berkeley County	SC-41	12.9	27.96	15.06
Total CRFC Miles				144.338

APPENDIX D: FINANCIAL INVESTMENT SUMMARY

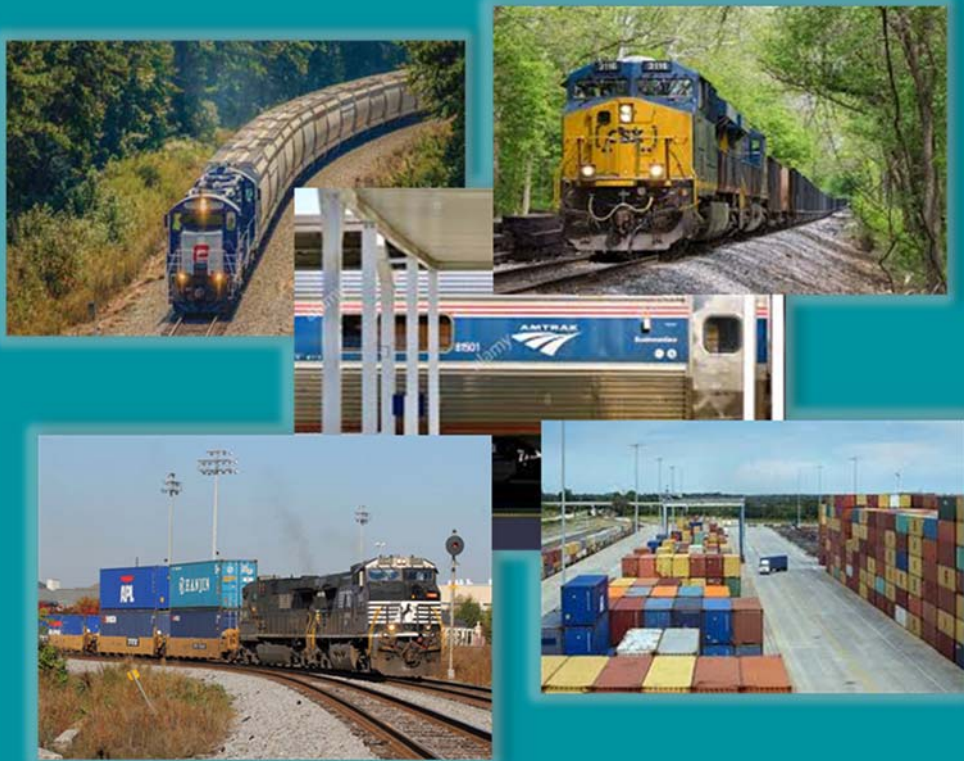
This page intentionally left blank

FINANCIAL INVESTMENT SUMMARY (2020-2025)						
FISCAL YEAR	ESTIMATED / AVAILABLE APPORTIONMENT	PROPOSED PROJECT DESCRIPTION	PHASE	NHFP FUNDS (Thousands)	STATE FUNDS (Thousands)	
2020**	\$25,240,000	Truck Parking Assessment & Planning Study	PLN	\$240	\$60	
		I-26 widening from near SC 202 (Exit 85) to near US 176 (Exit 101)	CON	\$12,500	\$3,125	
		I-85 - Widening from near SC 18 (Exit 96) to near NC State Line	CON	\$12,500	\$3,125	
TOTAL NHFP				\$25,240	\$6,310	
2021	\$25,000,000	I-26 widening from near SC 202 (Exit 85) to near US 176 (Exit 101)	CON	\$12,500	\$3,125	
		I-85 - Widening from near SC 18 (Exit 96) to near NC State Line	CON	\$12,500	\$3,125	
TOTAL NHFP				\$25,000	\$6,250	
2022	\$25,000,000	I-26 widening from near SC 202 (Exit 85) to near US 176 (Exit 101)	CON	\$12,500	\$3,125	
		I-85 - Widening from near SC 18 (Exit 96) to near NC State Line	CON	\$12,500	\$3,125	
TOTAL NHFP				\$25,000	\$6,250	

** Includes carry-forward

FINANCIAL INVESTMENT SUMMARY (2020-2025) (cont.)						
FISCAL YEAR	ESTIMATED / AVAILABLE APPORTIONMENT	PROPOSED PROJECT DESCRIPTION	PHASE	NHFP FUNDS (Thousands)	STATE FUNDS (Thousands)	
2023	\$25,000,000	I-26 widening from near SC 202 (Exit 85) to near US 176 (Exit 101)	CON	\$12,500	\$3,125	
		I-85 - Widening from near SC 18 (Exit 96) to near NC State Line	CON	\$12,500	\$3,125	
TOTAL NHFP				\$25,000	\$6,250	
2024	\$25,000,000	Rural Interstate Freight Mobility: I-26 Corridor Improvement from Exit 125 (Old Sandy Run Road) to Exit 169 (I-95)	CON	\$12,500	\$3,125	
		Rural Interstate Freight Mobility: I-95 Widening Exit 0 (GA State Line) to Exit 33 (Ridgeland)	CON	\$12,500	\$3,125	
TOTAL NHFP				\$25,000	\$6,250	
2025	\$25,000,000	Rural Interstate Freight Mobility: I-26 Corridor Improvement from Exit 125 (Old Sandy Run Road) to Exit 169 (I-95)	CON	\$12,500	\$3,125	
		Rural Interstate Freight Mobility: I-95 Widening Exit 0 (GA State Line) to Exit 33 (Ridgeland)	CON	\$12,500	\$3,125	
TOTAL NHFP				\$25,000	\$6,250	

SOUTH CAROLINA STATEWIDE RAIL PLAN UPDATE



2020



TABLE OF CONTENTS

1	the role of rail in statewide transportation	1
1.1	South Carolina’s Goals for Multimodal Transportation	1
1.1.1	Rail Plan Goals and Objectives	2
1.2	The Role of Rail Transportation in South Carolina	4
1.2.1	Rail Freight	4
1.2.2	Rail Traffic Growth	5
1.2.3	The Rail System’s Impact on the State Economy	6
1.2.4	Rail’s Increasing Future Role	6
1.3	Institutional Governance Structure of the State Rail Programs.....	6
1.4	Rail Funding in South Carolina	7
1.5	Summary of Freight and Passenger Rail Services.....	7
1.5.1	Rail Services.....	7
1.5.2	Initiatives and Plans	8
2	South Carolina’s Existing Rail System.....	9
2.1	Existing Rail System Description and Inventory	9
2.1.1	Existing System, Services, and Performance.....	9
2.1.2	Freight and Passenger Terminals	26
2.1.3	Objectives for Rail Passenger Services	31
2.1.4	Performance Evaluation of Rail Passenger Services	31
2.1.5	Public Financing for Rail Projects	35
2.1.6	Rail Safety and Security Programs	37
2.1.7	Rail Transportation’s Impacts	46
2.2	Existing Rail System: Trends and Forecasts.....	55
2.2.1	Demographic and Economic Growth Factors	55
2.2.2	Freight Demand and Growth	62
2.2.3	Passenger Travel Demand and Growth.....	66
2.2.4	Fuel Cost Trends.....	66
2.2.5	Rail Congestion Trends.....	67
2.2.6	Highway and Airport Congestion Trends	67
2.2.7	Land Use Trends	70
2.3	Existing Rail System: Rail Service Needs and Opportunities	71
2.3.1	Key Issues Impacting Rail Service.....	71
2.3.2	Opportunities to Address Rail Needs and Issues	72
3	Proposed Passenger Rail Improvements and Investments.....	74
3.1	Proposed Passenger Rail Services	74
3.1.1	Proposed High Speed Passenger Services.....	74
3.1.2	Connecting Atlanta to Charlotte	76
3.2	History of the Southeast High Speed Rail Corridor (SEHSR) and Previous Studies	78
3.2.1	Current Southeastern Rail Activity.....	80
3.3	Intercity Passenger Rail Corridors	83

3.4 Proposed Commuter Rail Services 83
 Charleston 85
 Greenville-Spartanburg 85
 Columbia 87
 Rock Hill 89
 Anderson County 90

4 Proposed Freight Rail Improvements and Investments 91
 4.1 Rail Freight Needs, Class I Railroads 91
 4.1.1 CSX Transportation 91
 4.1.2 Norfolk Southern 91
 4.2 Rail Freight Needs, Short Line Railroads 91
 4.2.1 Palmetto Railways Industrial Rail Line (Camp Hall Commerce Park) 93

5 The State’s Long-Range Rail Service and Investment Program 95
 5.1 South Carolina’s Rail Vision 95
 5.2 Integration of the Rail Vision with Other Transportation Plans 97
 5.3 Planned Rail Planning Process Changes 97
 5.4 Potential Effects of Rail Program Implementation 97
 5.4.1 Proposed Short-Range Passenger Rail Projects 97
 5.4.2 Proposed Long-Range Passenger Rail Projects 97
 5.4.3 Proposed Short-Range Freight Rail Projects 99
 5.5 Passenger Element 99
 5.6 Freight Element 100
 5.6.1 Financing Plan 100
 5.6.2 Public and Private Benefits 100
 5.7 Rail Studies 100
 5.8 Rail Capital Program Opportunities 101
 5.8.1 Atlanta to Charlotte Passenger Rail 101
 5.9 Rail Strategies 102
 5.9.1 Freight Rail Strategies 102
 5.9.2 Passenger Rail Strategies 103

6 Coordination and Review 104
 6.1 Rail Carrier Input 104
 6.2 Coordination with Neighboring States 104
 6.3 Involvement in Preparation of State Rail Plan 104
 6.4 Rail Related Issues 105
 6.5 Stakeholder Input to State Rail Plan 106
 6.6 Coordination of State Rail Planning 107

APPENDIX A: South Carolina Code of Laws (Sec. 57-3-30) 108
 APPENDIX B: South Carolina Port Tonnage 110

LIST OF FIGURES

Figure 1-1: Rail Traffic Growth	5
Figure 2-1: State Rail Map.....	10
Figure 2-2: South Carolina Rail Freight Tonnage (2016)	16
Figure 2-3: South Carolina Rail Inbound Freight by State of Origin (2016).....	18
Figure 2-4: South Carolina Rail Inbound Freight by County Destination (2016).....	19
Figure 2-5: South Carolina Rail Outbound Freight by County Origin (2016).....	21
Figure 2-6: South Carolina Rail Outbound Freight by State of Destination (2016).....	22
Figure 2-7: South Carolina Rail Passenger Routes and Stops.....	24
Figure 2-8: Amtrak Ridership in South Carolina 2012 - 2018.....	26
Figure 2-9: Port of Charleston Facility Locations	27
Figure 2-10: Inland Port Locations in Greer & Dillon South Carolina	28
Figure 2-11: Rendering of the Hugh K. Leatherman, Sr. Terminal at Port of Charleston	29
Figure 2-12: Map of Airports in South Carolina	30
Figure 2-13: Amtrak’s National Network	33
Figure 2-14: Crash Cause Factors	41
Figure 2-15: Fatalities at Railway-Highway Crossings 5-yr avg. Performance Measure Data.....	42
Figure 2-16: Serious Injuries at Railway-Highway Crossings 5-yr avg. Performance Measure Data	43
Figure 2-17: South Carolina’s STRACNET Rail Lines	47
Figure 2-18: South Carolina and Nearby States Population Growth Rates.....	55
Figure 2-19: South Carolina MPO and COG Boundaries	58
Figure 2-20: South Carolina Population: 1990 to 2040.....	59
Figure 2-21: South Carolina Rail Freight Tonnage (2040)	63
Figure 2-22: South Carolina Rail Freight Tonnage Change (2016-2040).....	64
Figure 2-23: Fuel Cost Trends, 2014 - 2019	67
Figure 2-24: Congestion Levels on Interstate Highways, 2012	69
Figure 2-25: South Carolina Passenger Enplanements, 2016/2017.....	70
Figure 3-1: Southeast Corridor Status.....	74
Figure 3-2: Piedmont Atlantic Megaregion.....	76
Figure 3-3: Charlotte to Atlanta Passenger Rail Corridor Proposed Alternatives	77
Figure 3-4: Passenger Rail Working Group Proposed 2050 Intercity Passenger Rail Network.....	80
Figure 3-5: Potential Commuter and Intercity Corridors	84
Figure 3-6: Columbia Area Transportation Study Potential Commuter Rail Corridors.....	88
Figure 3-7: Proposed Rock Hill-York County-Charlotte Bus Rapid Transit Service.....	90
Figure 4-1: Proposed Camp Hall Rail Project	94
Figure 5-1: Atlanta to Charlotte Route Alternatives	98
Figure 6-1: Strategies to Improve Infrastructure Design	106

LIST OF TABLES

Table 1-1: Mobility and System Reliability Goal	3
Table 1-2: Safety Goal	3
Table 1-3: Infrastructure Condition Goal	3
Table 1-4: Economic and Community Vitality Goal	4
Table 1-5: Environmental Goal	4
Table 1-6: Equity Goal	4
Table 1-7: South Carolina Rail Freight by Direction (2016).....	5
Table 2-1: 2017 South Carolina Freight Railroads.....	11
Table 2-2: South Carolina Rail Freight by Direction (2016).....	14
Table 2-3: South Carolina Rail Inbound Freight by Major Commodities (2016)	15
Table 2-4: South Carolina Rail Outbound Freight by Major Commodities (2016)	17
Table 2-5: South Carolina Rail Through-State by Major Commodities (2016).....	20
Table 2-6: South Carolina Rail Intrastate by Major Commodities (2016)	23
Table 2-7: Amtrak South Carolina Schedule	25
Table 2-8: South Carolina Amtrak Patronage (FY 2012 - FY 2018).....	26
Table 2-9: Major South Carolina Rail Facilities	27
Table 2-10: South Carolina Amtrak Long Distance Routes End Point & All Stations OTP	32
Table 2-11: Minutes of Delay per 10K Train Miles by Host for October 2018.....	34
Table 2-12: Financial Performance of Amtrak Trains in FY18	35
Table 2-13: FRA Freight Operations Ten Year Accident/Incident Overview (South Carolina)	38
Table 2-14: FRA Passenger Operations Ten Year Accident/Incident Overview (South Carolina)	38
Table 2-15: State Strategic Highway Safety Plan Preliminary Data Analysis, 2014-2018	41
Table 2-16: FY 2019 Active Railroad Projects.....	44
Table 2-17: Modal Ton-Mile and Energy Cost per Gallon of Fuel	51
Table 2-18: Environmental Damages and Costs per Million Ton-Miles, by Mode.....	53
Table 2-19: South Carolina Population in 1990, 2000, and 2010	55
Table 2-20: Population Projections, 2020 – 2040.....	56
Table 2-21: Population Growth by Council of Government	57
Table 2-22: Statewide Employment Data for 2016 and 2026.....	60
Table 2-23: South Carolina Occupational Employment Projections – All Occupations.....	60
Table 2-24: South Carolina Rail Freight by Major Commodities, 2016.....	61
Table 2-25: South Carolina Rail Freight forecast – Tons, Units, and Value by Commodity (2040).....	61
Table 2-26: South Carolina Rail Freight Tonnage and Value by Year and Direction (2016, 2025, 2040).....	62
Table 2-27: South Carolina Rail Tonnage Freight Forecast by Commodity (2016, 2040)	65
Table 2-28: South Carolina Rail Freight Forecast – Tons, Units, and Value by Commodity (2040 Units).....	66
Table 2-29: Projected Rail Passenger Growth.....	66
Table 2-30: Projected Growth in Highway VMT to 2040	68
Table 4-1: Short Line Railroad Needs by Improvement Category.....	92
Table 4-2: Short Line Needs	92
Table 5-1: Mobility and System Reliability Goal	95
Table 5-2: Safety Goal	95
Table 5-3: Infrastructure Condition Goal	96
Table 5-4: Economic and Community Vitality Goal	96
Table 5-5: Environmental Goal	96

Table 5-6: Equity Goal 97
Table 5-7: Short Line Railroad Needs by Improvement Category. (Need to update) 99
Table 5-8: Total Capital Cost by Major SCC Category for Greenfield Corridor Alternative 3A (\$2012) 102
Table 5-9: Total Capital Cost by Major SCC Category for Greenfield Corridor Alternative 3B (\$2012) 102

1 THE ROLE OF RAIL IN STATEWIDE TRANSPORTATION

The South Carolina State Rail Plan has been updated in consideration of the following South Carolina statewide plans that were reviewed in parallel and updated as needed in a coordinated effort:

- 2040 Statewide Multimodal Transportation Plan (MTP);
- Interstate Plan and Updates;
- Strategic Corridor Plan;
- Public Transit and Coordination Plans; and
- Statewide Freight Plan.

The Statewide Multimodal Transportation Plan or MTP is South Carolina’s Long-Range Statewide Transportation Plan as required by the current federal transportation funding legislation,

This State Rail Plan is consistent with and contains elements required under Chapter 227 of Title 49, as enacted in the Passenger Rail Investment and Improvement Act of 2008 (PRIIA).

This Plan updates the previous plan of 2014, which was developed to comply with Title 49, Part 266.15 and Requirements for a State Rail Plan.

1.1 South Carolina’s Goals for Multimodal Transportation

The state’s goals for the multimodal transportation system have been identified in South Carolina’s 2040 Statewide Multimodal Transportation Plan. These goals build upon the Multimodal Transportation Plan Vision:

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

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

- **EQUITY GOAL:** Manage a transportation system that recognizes the diversity of the state and strives to accommodate the mobility needs of all of South Carolina’s citizens.

Each of these goals has a series of objectives, guiding principles, and performance measures that tie the conceptual elements of the vision and goals to actual program and project implementation.

Since the freight rail mode is an integral part of the state’s freight transport system, the national goals below are incorporated into the State Rail Plan. National goals have been integrated into the above goals established for the SMTP as objectives and guiding principles of the State Rail Plan goals.

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

- 1) Invest in infrastructure improvements and to implement operational improvements on the highways of the United States that-
 - strengthen the contribution of the National Highway Freight Network to the economic competitiveness of the United States;
 - reduce congestion and bottlenecks on the National Highway Freight Network;
 - reduce the cost of freight transportation;
 - improve the year-round reliability of freight transportation; and
 - increase productivity, particularly for domestic industries and businesses that create high-value jobs;
- 2) Improve the safety, security, efficiency, and resiliency of freight transportation in rural and urban areas;
- 3) Improve the state of good repair of the National Highway Freight Network;
- 4) Use innovation and advanced technology to improve the safety, efficiency, and reliability of the National Highway Freight Network;
- 5) Improve the efficiency and productivity of the National Highway Freight Network;
- 6) Improve the flexibility of States to support multi-State corridor planning and the creation of multi-State organizations to increase the ability of States to address highway freight connectivity; and
- 7) Reduce the environmental impacts of freight movement on the National Highway Freight Network.

1.1.1 Rail Plan Goals and Objectives

The South Carolina State Rail Plan fully supports the specific goals, with associated Objectives, Guiding Principles, and Performance Measures shown in **Table 1-1** through **Table 1-6**.

Table 1-1: Mobility and System Reliability Goal

Objective	Potential Measure
Reduce the number of system miles at unacceptable congestion levels ⁽¹⁾	Miles of NHS and state Strategic Corridor System above acceptable congestion levels
Utilize the existing transportation system to facilitate enhanced modal options for a growing and diverse population and economy	% change in tonnage moved by freight rail % change in rail passenger trips
Guiding Principles	
Improve cost efficiency of intermodal goods movement, increasing diversity in modal choice.	
Encourage availability of both rail and truck modes to major freight hubs (ports, airports, intermodal facilities)	
Use advanced technology, performance management, innovation, competition, and accountability in operating and maintaining the freight transportation system. ⁽²⁾	

Notes:

⁽¹⁾ Included in MTP Goals and Performance Measures

⁽²⁾ Included in National Freight Planning goals established under 23 U.S.C. 167

Table 1-2: Safety Goal

Objective	Potential Measure
Improve the safety, security, and resilience of the freight transportation system ⁽²⁾	FRA Reportable Railroad Incidents
Reduce rail grade crossing crashes involving fatality or serious injury. ⁽¹⁾	Fatalities and injuries in rail grade crossing accidents. Percent of crossings with active safety warning devices installed

Notes:

⁽¹⁾ Included in MTP Goals and Performance Measures

⁽²⁾ Included in National Freight Planning goals established under 23 U.S.C. 167

Table 1-3: Infrastructure Condition Goal

Objective	Potential Measure
Maintain or improve the current state of good repair of rail components of the freight transportation system ⁽²⁾	Miles of rail lines identified as out of service due to condition
Guiding Principles	
Improve prioritization of “last mile” infrastructure to intermodal facilities.	
Recognize the importance of infrastructure condition in attracting new jobs to South Carolina by considering economic development when determining improvement priorities. ⁽¹⁾	
Encourage availability of both rail and truck modes to major freight hubs (for example ports, airports and intermodal facilities). ⁽¹⁾	
Continue to coordinate with the Palmetto Railways to consider road and rail improvements needed to support the efficient movement of freight between the Inland Port and the Port of Charleston and between port terminals.	

Notes:

⁽¹⁾ Included in MTP Goals and Performance Measures

⁽²⁾ Included in National Freight Planning goals established under 23 U.S.C. 167

Table 1-4: Economic and Community Vitality Goal

Guiding Principles
Work with economic development partners to identify transportation investments that will improve South Carolina’s economic competitiveness. ⁽¹⁾
Encourage availability of both rail and truck modes to major freight hubs (ports, airports, and intermodal facilities). ⁽¹⁾
Partner with public and private sectors to identify and implement transportation projects and services that facilitate freight movements. ⁽¹⁾
Encourage rail improvements that will improve connectivity and reliability of freight movement to global markets. ⁽¹⁾
Improve the contribution of rail components of the freight transportation system to economic efficiency, productivity, and competitiveness. ⁽²⁾
Increase public awareness of the significance of goods movement and freight transportation infrastructure on SC economic sustainability and growth.
Partner with communities to improve “last mile” planning efforts in urban communities to minimize the impact of goods movement and improve efficiencies.
Raise profile of integrated multi-agency, state level freight planning.
Explore public-private investment in supporting rail transportation infrastructure.
<i>Notes:</i> ⁽¹⁾ Included in MTP Goals and Performance Measures ⁽²⁾ Included in National Freight Planning goals established under 23 U.S.C. 167

Table 1-5: Environmental Goal

Guiding Principles
Reduce adverse environmental and community impacts of rail components of the freight transportation system. ⁽²⁾
Work with environmental resource agency partners to explore the development of programmatic mitigation in South Carolina ⁽¹⁾
Partner to be more proactive and collaborative in avoiding versus mitigating environmental impacts. ⁽¹⁾
<i>Notes:</i> ⁽¹⁾ Included in MTP Goals and Performance Measures ⁽²⁾ Included in National Freight Planning goals established under 23 U.S.C. 167

Table 1-6: Equity Goal

Guiding Principles
Ensure broad based public participation is incorporated into all planning and project development processes related to rail infrastructure improvements, maintenance and operations. ⁽¹⁾
Ensure planning and project selection processes adequately consider rural accessibility and the unique mobility needs of specific groups
<i>Notes:</i> ⁽¹⁾ Included in MTP Goals and Performance Measures

1.2 The Role of Rail Transportation in South Carolina

1.2.1 Rail Freight

Rail freight serves a dual role in the state’s economy by providing efficient transportation of raw materials and goods for industries and businesses located here, as well as a distribution channel for products exported to other states and countries.

The freight rail network in South Carolina serves an equally important role in the regional and national economies with 45.2 percent of rail tonnage and 57.2 percent of rail freight value passing through the state.

South Carolina rail movements in 2016 totaled 63.2 million tons, valued at \$93.6 billion, and carried within 1.4 million units (see **Table 1-7**). On average, total rail commodity movements are valued at \$1,480/ton. Through-State rail movements are the largest directional movements: 45.2 percent of total tonnage, 58.0 percent of units, and 57.1 percent of value. Inbound rail tonnage (21.8 million) is significantly greater than outbound (7.5 million); however, value is closer (\$16.8 billion inbound versus \$11.6 billion outbound) due to the notably higher average value/ton of outbound (\$1,554) versus inbound (\$773).

Table 1-7: South Carolina Rail Freight by Direction (2016)

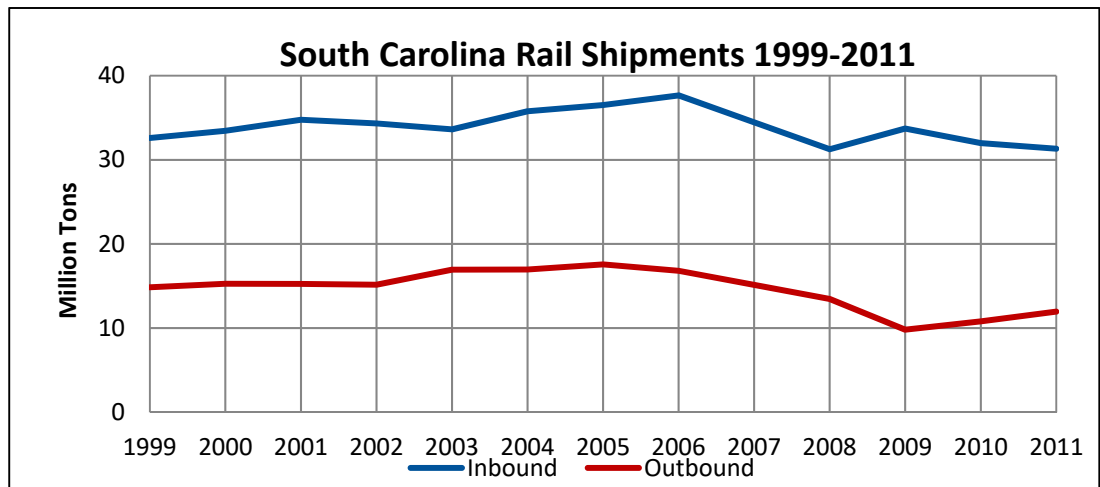
Direction	Tons		Units		Value (in millions)		Average Value/Ton
	Amount	Percent	Amount	Percent	Amount	Percent	
Outbound	7,484,310	11.8%	137,932	9.8%	\$11,629	12.4%	\$1,554
Inbound	21,811,904	34.5%	303,927	21.7%	\$16,867	18.0%	\$773
Intra	5,404,653	8.5%	147,855	10.5%	\$11,712	12.5%	\$2,167
Through	28,539,454	45.2%	812,047	58.0%	\$53,391	57.1%	\$1,871
Total	63,240,321	100.0%	1,401,761	100.0%	\$93,599	100.0%	\$1,480

Source: TRANSEARCH data for 2016

1.2.2 Rail Traffic Growth

Figure 1-1 illustrates the historical trends in inbound and outbound rail tonnages for South Carolina. Inbound traffic has exceeded outbound by a factor that has ranged from 2.0 to 3.4 in the period from 1999 to 2010. Coal has been the most significant inbound commodity in terms of weight throughout this period. For outbound traffic lumber and wood products was the leading commodity for the first five years. Since then chemicals has been the leading commodity by weight in five of the six years from 2004 to 2010.

Figure 1-1: Rail Traffic Growth



*2007 Data are not available. Values shown are average of 2006 and 2008.

Source: United States Dept. of Transportation, Research and Technology Administration, Bureau of Transportation Statistics, State Transportation Statistics

1.2.3 The Rail System's Impact on the State Economy

The significant role played by rail in the state's transportation system is demonstrated by the economic impacts of rail in terms of employment, income, output, and taxes, which span all industries and reach every region of the state. Rail service facilitates business for a wide range of economic activities throughout the state, including manufacturers, dealers, retailers, and others who transport materials, component parts, and products.

Increasingly, the globalization of trade and manufacturing require dependable and efficient access to transport facilities. Rail transport provides cost and/or logistical advantages to South Carolina firms that enable the state to compete efficiently in the global market place. Rail transport is playing an increasingly valuable role in serving the state's major economic growth areas, such as the Charleston region, including the Port of Charleston, and the I-85 corridor in the upstate.

1.2.4 Rail's Increasing Future Role

As discussed elsewhere in this Plan, as well as in the South Carolina Freight Plan, a number of developments already underway in various parts of the state and region will result in an increasingly important role for rail in the state's multimodal transportation network and economy.

These developments include the planned expansion of the Port of Charleston involving harbor deepening, a new three berth container terminal, and a new intermodal container transfer facility with dual access for the State's two Class I railroads. An inland port, which commenced operations in October 2013, has been developed in Greer in the upstate of South Carolina to provide overnight service between the Port of Charleston and the rapidly developing I-85 corridor. The inland port built upon the existing nightly double-stacked container service between Atlanta and the Port of Charleston. Following the success of the Inland Port Greer, the Inland Port Dillon serves the Eastern Carolinas and is located along I-95 in Dillon, South Carolina.

While less advanced in planning than the rail freight projects mentioned above, the federally designated Southeast High Speed Rail Corridor passes through South Carolina. Georgia DOT, in partnership with South Carolina DOT and North Carolina DOT, are leading development of a Tier I EIS for a high speed rail corridor between Charlotte and Atlanta that is recommended to pass through the state's Upstate region roughly parallel to I-85.

1.3 Institutional Governance Structure of the State Rail Programs

The South Carolina Code of Laws, Section 57-3-30 (See **Appendix A**), provides the Office of Intermodal and Freight Programs with the responsibilities and authority to meet the eligibility requirements of 49 U.S.C. Section 22102 for eligibility to receive federal funds. In addition, the State of South Carolina has been participating in the federal rail programs since 1980.

As defined by the Passenger Rail Investment and Improvement Act of 2008 (PRIIA), SCDOT is South Carolina's "State Rail Transportation Authority." SCDOT ensures that the State rail plan documents the State's policy on freight and passenger rail transportation – including commuter rail – within the State's boundaries, establishes priorities and implementation strategies to enhance rail service in the public interest, and serves as the basis for Federal and State rail investment.

SCDOT reviews, updates and provides final approval of the State Rail Plan.

There are three state agencies in South Carolina that have a direct involvement with the railroads:

- **Department of Transportation**
 - The Intermodal Planning Division is responsible for preservation of railroad rights-of-way, coordination of high speed and intercity rail passenger planning and development, associated funding, and submittal of plans and annual legislative reports as required. The Division is responsible for preparing, maintaining, coordinating, and administering a comprehensive passenger and freight state rail plan with coordination of infrastructure services with other modes of transportation every five years in that it's the designated state rail planning agency.
 - Traffic Engineering manages federal funds for highway-rail grade crossing improvements.
 - Preconstruction is responsible for crossings involved in construction projects, at-grade or grade-separated.
 - The Intermodal Planning division is also charged with development and coordination of a general mass transit program and policy for the implementation, operation, evaluation, and monitoring of public transit systems, funding of same and preparation of plans (including a five-year plan detailing needs and goals) and annual legislative reports as necessary.
- **Department of Commerce**
 - Works with all the state's rail carriers to attract new business to the state
 - Home to the Division of Palmetto Railways – formerly Public Railways (SCPR)
 - Operates three common carrier railroads in the Charleston area
 - Provides technical assistance and consulting services to South Carolina's governmental bodies
- **Office of Regulatory Staff (ORS)** is responsible for railroad and natural gas pipeline safety oversight. Railroad safety falls under the Transportation Division of the ORS.

1.4 Rail Funding in South Carolina

South Carolina does not have any state revenue source dedicated for passenger or freight rail, nor any grant or loan programs for rail projects. The state does have public-private partnership (P3) legislation for highway projects; however, the current P3 law does not include either passenger or freight rail projects. South Carolina freight rail companies have taken the initiative to recommend P3s for large-scale projects that benefit the public and the railroad and have had a role in highway and bridge P3s in the state.

There are some limited opportunities for state and local financial assistance for Class I and Short Line freight rail companies and passenger rail initiatives that include South Carolina Department of Commerce grants for infrastructure improvements tied to job creation and assistance from the South Carolina Transportation Infrastructure Bank.

1.5 Summary of Freight and Passenger Rail Services

1.5.1 Rail Services

Freight rail services in South Carolina are provided by 11 railroads including two Class I railroads (CSXT and Norfolk Southern). Palmetto Railways, a branch of the South Carolina Department of Commerce,

operates four railroad subdivisions: Charleston Subdivision; North Charleston Subdivision; Charity Church Subdivision; and Salkehatchie Subdivision (Formerly Hampton & Branchville Subdivision).

Existing rail passenger service in South Carolina is provided by Amtrak. Four Amtrak services pass through the state:

- *Silver Star* – New York/Tampa/Miami via Columbia,
- *Silver Meteor* – New York/Miami via Charleston,
- *Palmetto* – New York/Savannah via Charleston, and
- *Crescent* – New York/New Orleans via Greenville.

Amtrak passenger stations are located in 11 cities and towns throughout the state.

1.5.2 Initiatives and Plans

1.5.2.1 SCPA Initiatives

Initiatives considered during development of the Rail Plan include a number being undertaken by the South Carolina Ports Authority (SCPA):

- Rail served inland container ports located in Greer and Dillon both over 100 miles from the Port of Charleston with daily intermodal services, which commenced operations in October 2013 & April 2018;
- Intermodal container transfer facility with dual rail access adjacent to a 280-acre, 3-berth container terminal under construction on the Charleston Naval Complex;
- Port of Charleston Harbor deepening to 50 feet in the harbor and 52 feet outside; and
- Inland Port Greer expansion and Lead Track Expansion (USDOT Better Utilizing Investments to Leverage Development (BUILD) Discretionary Grant award (2018)).

1.5.2.2 Private Sector Initiatives

Private sector railroad initiatives considered in the Plan include Norfolk Southern Railway's joint development of the Inland Container Port with SCPA. Norfolk Southern is investing \$7.5 million in the project and will operate the daily intermodal service to the Port of Charleston.

Under the 2018 BUILD Discretionary Grant Award to SCDOT, and in collaboration with the SCPA, Norfolk Southern will be lengthening the Carlisle siding extension located between Spartanburg and Columbia to accommodate greater current capacity limitations.

1.5.2.3 Commuter Rail Initiatives

Commuter rail or rail-transit efforts have been investigated in five different areas of the state, primarily in urban regions. As a result of the investigations, proposals are being advanced in two urban regions and one has selected Bus Rapid Transit over commuter rail. All five, however, are discussed further in Section 3.4.

1.5.2.4 Other Plans

Numerous other plans were considered during development of the Rail Plan, including this Rail Plan Update, 2040 Statewide Multimodal Transportation Plan, Public Transit and Coordination Plans, Freight Plan, and Strategic Corridor Plan, which are all being updated in parallel with this plan.

2 SOUTH CAROLINA’S EXISTING RAIL SYSTEM

2.1 Existing Rail System Description and Inventory

This section provides an inventory of the existing overall rail transportation system and rail services and facilities within the State.

2.1.1 Existing System, Services, and Performance

The South Carolina rail system, as depicted in **Figure 2-1**, is operated by 11 rail carriers. The carriers range in size from fairly small intrastate railroads to members of large rail systems serving the entire eastern U.S. Of the line haul railroads, two are Class I carriers¹ and the remainder are local carriers or switching and terminal companies². As seen in **Table 2-1**, CSX Transportation's (CSXT) 1,307 route miles represent 54 percent of the statewide rail system of 2,400 miles (includes trackage rights). The Norfolk Southern Railway (NS), with 762 route miles, is the second largest carrier in terms of South Carolina mileage accounting for 32 percent of the state rail system.

All rail lines are single-tracked with the exception of portions of the NS main track in the Upstate and the CSXT “A Line” that lies in the I-95 corridor. Both have double-track segments of various lengths at several locations.

2.1.1.1 CSX Transportation (CSXT)

This Class I railroad, a transportation unit of CSX Corporation (CSX), operates approximately 23,000 route miles and serves 23 states, the District of Columbia and two Canadian provinces. As South Carolina’s largest railroad, it covers much of the state. The railroad has a division office in Florence. In addition to the mileage it owns, it also has trackage rights over NS between Columbia and Charleston. Major South Carolina commodities for CSX include petroleum and coal products, lumber and wood products, chemicals and allied products, coal, and miscellaneous mixed shipments (intermodal). CSX Intermodal is the intermodal arm of CSX Corporation.

¹ As of December 2017, Class I railroads have annual operating revenues of \$447.6 million or more. These limits are updated annually to reflect inflation. - *Association of American Rail Roads*

² Local carriers are non-Class I railroads that perform principally line-haul services while switching and terminal carriers perform those services for other railroads.

Figure 2-1: State Rail Map

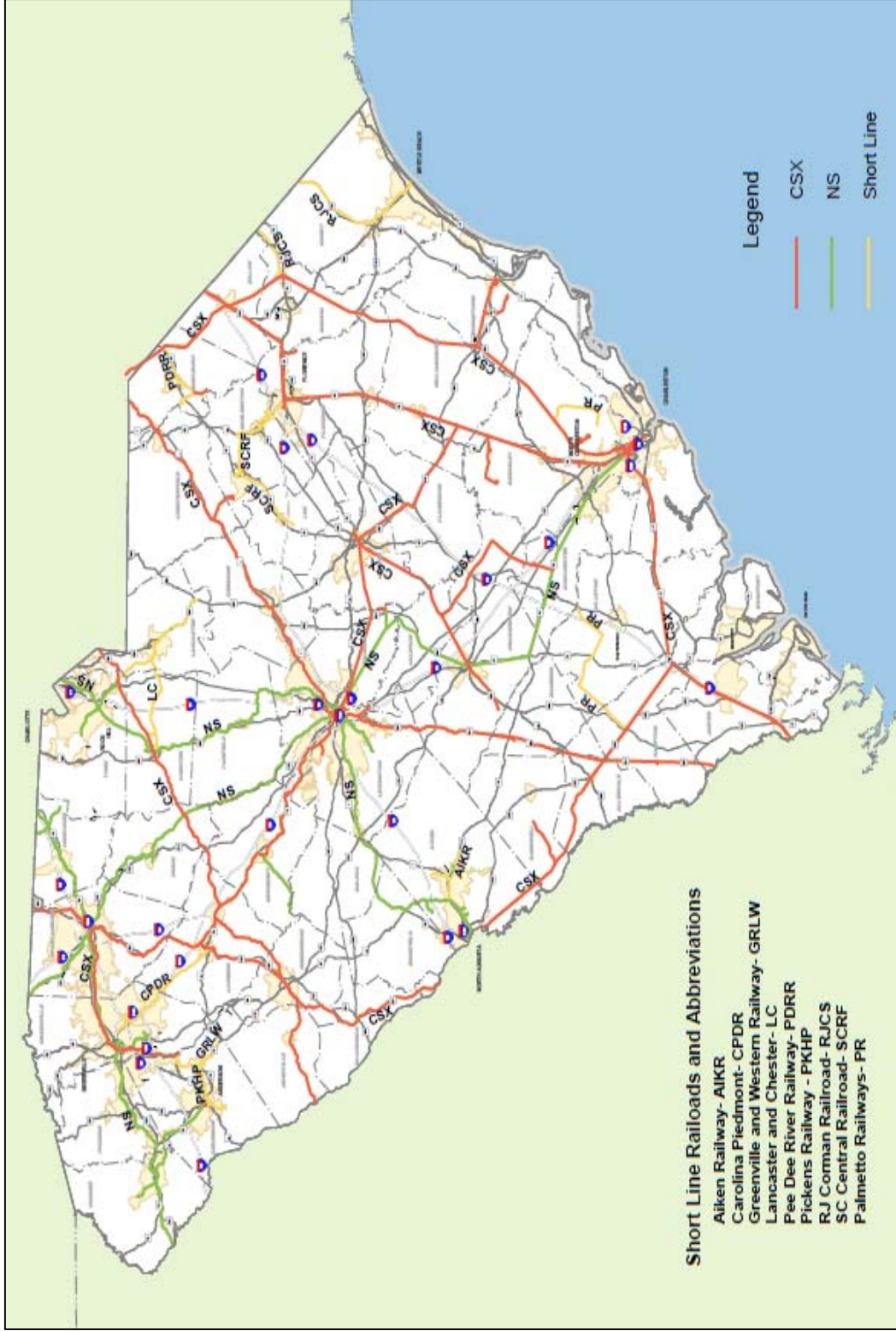


Table 2-1: 2017 South Carolina Freight Railroads

Railroad Type	Miles Operated
Class 1 Railroads	2,069
CSX Transportation	1,307
Norfolk Southern Corp.	762
Regional	0
None	0
Local	277
Aiken Railway Company, LLC	19
Greenville & Western Railway	13
Lancaster & Chester Railway	62
Palmetto Railways (Port Utilities Commission of Charleston) (Port Terminal Railroad)	22
Pee Dee River Railway	24
Pickens Railway Co.	28
R.J. Corman	86
Switching & Terminal	82
Carolina Piedmont Railroad	30
South Carolina Central Railroad	47
Total	2,400

Source: *Association of American Railroads*

Notes:

⁽¹⁾Amtrak also operates over 549 route miles in SC but does not own any mainline trackage in the state. It operates over CSXT main tracks, one through Florence and another through Columbia, from North Carolina to Georgia. Norfolk southern also hosts Amtrak trains in the upstate running between North Carolina and Georgia.

⁽²⁾Owned/Leased lines less Owned/Not Operated and exclusive of trackage rights to prohibit double counting

2.1.1.2 Norfolk Southern Railway (NS)

This Class I railroad operates a total of approximately 21,500 route miles and serves 22 states, the District of Columbia, and one Canadian province. In South Carolina, NS operates 762 route miles and has trackage rights over CSXT from Newberry to Spartanburg. The Norfolk Southern Railway Company is owned by the Norfolk Southern Corporation. The railroad has a division office in Greenville. Major commodities transported over the NS system in South Carolina are coal; lumber and wood products; chemicals; pulp, paper, and allied products; and, transportation equipment.

2.1.1.3 Aiken Railway Company, LLC (AIKR)

The Aiken Railway Company began service in December, 2012, and is a wholly-owned subsidiary of Western Carolina Railway Service Corporation, the same company that owns and operates the Greenville and Western. It leases and operates two NS branch lines in Aiken County – the 12.45-mile line between Warrentonville and Oakwood, and the 6.45-mile line running between Aiken and North Aiken – totaling 19 miles in length.

2.1.1.4 Carolina Piedmont (CPDR)

In 1990, RailTex, Inc. purchased from CSXT and began operating the 30-mile branch line between Laurens and East Greenville as its Carolina Piedmont Division (CPDR). The railroad is now owned by Genesee & Wyoming and is operated as the Carolina Piedmont Railroad. Traffic is interchanged with CSXT at Laurens. Major commodities transported include plastic resin, gas turbines and chemicals.

2.1.1.5 Greenville & Western Railway Company (GRLW)

This railroad commenced operations in late 2006 after acquiring a 13-mile-long CSXT line segment from Pelzer to Belton in Anderson County. The railroad interchanges traffic with CSXT at Pelzer and with the Pickens Railroad Company at Belton, which also provides access to NS. The railway receives unit trains for Kinder Morgan with Belton Industries and Belton Metals other on-line rail users. Principal on-line commodities are ethanol, biodiesel, plastics, scrap metal, limestone, paper, and fertilizer.

2.1.1.6 Lancaster and Chester Railway Company (LC)

Prior to 2001, the railroad ran 62 miles between Chester and Lancaster. This original line segment dates back to an 1873 charter for a three-foot narrow gauge railroad that reached Lancaster from Chester in 1894. In 2001 a NS branch line running from Catawba to Lancaster and continuing east to Kershaw was acquired extending the railroad's total length to almost 62 miles and its presence to four counties - Chester, Kershaw, Lancaster, and York.

The railroad serves a variety of shippers/receivers, including PPG, Guardian Glass, Thyssen-Krupp Steel, Mississippi Lime, ADM, Gerdau Ameristeel, GAF Materials, Circle S Mills, and Boral/Owens Corning among others. Major commodities are chemicals, sand, steel, corn, soybeans, soybean oil and meal, recycled base oil, and building materials. The railroad interchanges traffic with both CSXT and NS at Chester. It became a part of Gulf and Ohio Railways, Inc. in December, 2010.

2.1.1.7 Palmetto Railways

Palmetto Railways, previously known as South Carolina Public Railways (SCPR), provides technical assistance and consulting services in railroad matters to state, local, and municipal governments. As a division of the South Carolina Department of Commerce, Palmetto Railways operates three railroad subdivisions.

The Charleston Subdivision (Port Utilities Commission of Charleston – PUCC) and North Charleston Subdivision (Port Terminal Railroad – PTR) provide switching services to the terminals of the South Carolina State Ports Authority and other various industries in Charleston County, interchanging with CSXT and NS. As terminal switching railroads, PUCC and PTR have no mainline miles of track, but estimates of route miles are contained in **Table 2-1**.

2.1.1.8 Pee Dee River Railway Corporation (PDRR)

In 1987 Marlboro County purchased the CSXT branch line extending from McColl to Marlboro via Tatum and Bennettsville along with a spur from Bennettsville to Breeden and contracted with the Pee Dee Railway Corporation (PDRR) to provide rail service. The PDRR began operations the same year.

A 3.8-mile spur was soon constructed to a new Willamette Industries (now Domtar) pulp, paper, and board (Flakeboard) complex. The PDRR is a subsidiary of the Aberdeen and Rockfish Railroad Company, which has headquarters in Aberdeen, NC

Pulp, paper, chemicals, aggregates, fertilizer, and plastic pellets are the predominate products handled over its current 24-mile length. Its major customers are Domtar, Mohawk, Flakeboard, Hanson Aggregates, and Southern States Cooperative. Traffic is interchanged with CSXT at McColl.

2.1.1.9 Pickens Railroad Company (PICK and PKHP)

The Pickens Railway Company consists of two separate operations located in the Upstate. One is the original Pickens Railroad (PICK), which runs from a connection with the NS main track at Easley to Pickens in Pickens County that began operation in 1898. The other, the railroad's Honea Path Division (PKHP), is a combination of NS and CSXT branch lines located in Anderson County running from Anderson to Honea Path, via Belton. Combined the lines run for approximately 28 miles. Service began over the first of these line segments in 1990.

The railroad's principal shippers include, among others: Owens Corning, Electrolux, Scots, Michelin, Southern States Cooperative, Crop Production Services, Carolina Recycling, PCA, and Tri-County Fertilizer. These customers account for the majority of the railroad's carloadings comprised of limestone, plastics, rubber, carbon black, fertilizer, scrap metal, paper, grain, and borate ore. Traffic is interchanged with NS at Easley and Anderson, as well as with GRLW at Belton and hence to a CSXT connection in Pelzer.

2.1.1.10 R.J. Corman (RJCS)

The R. J. Corman Railroad Group national headquarters is located in Central Kentucky in the City of Nicholasville. There are 67 strategically placed field offices in 22 different states across the US. The company serves all seven Class I railroads, many regional and short line railroads as well as various rail-served industries. R. J. Corman Railroad Company purchased the former Carolina Southern Railroad (approximately 86 track miles) in August 2015, and subsequently invested more than three million dollars to restore freight service. The R. J. Corman Railroad Company Carolina Lines ran its first train on March 25, 2016, however, due to the disrepair of the track prior to the acquisition, the trains are still limited to 5 and 10 miles per hour. In February 2019 R. J. Corman Railroad Company Carolina Lines and Horry County Government (South Carolina) are breaking ground on Moving the Carolinas Forward: A Rural Freight Rail Project, which will significantly improve the value of rail service to the region. The \$17.5 million project, funded by a Federal TIGER Grant as well as significant contributions from South Carolina and R. J. Corman, is expected to be completed over four years. The project will include replacing approximately 60,000 crossties, upgrading nine miles of rail, upgrading nine bridges with a complete rebuild on a 220-foot bridge that spans the Crab Tree Swamp in Conway, SC and rehabilitating 39 at-grade crossings.

2.1.1.11 South Carolina Central Railroad Company (SCRF) (GWR)

In 1987, RailTex, Inc. purchased two disconnected segments of railroad from CSXT located in Florence, Darlington, Chesterfield, and Lee Counties. The SC Central Railroad Company, Inc. (SCRF) began operations over the two line segments in December of that year. Genesee & Wyoming Inc., now owns the railroad and operates 47 miles of mainline. The one operational segment connects and interchanges traffic with CSXT at Florence and extends to Bishopville via Darlington, Floyd, and Hartsville. It has a broad base of customers, with the largest being Nucor Steel, Sonoco Products, and Republic Services. Commodities handled by the railroad are dominated by chemicals, plastics, steel, and waste. The other segment connected and interchanged traffic with CSXT at Cheraw and extended southward to Society Hill. Service is no longer provided on this segment and abandonment has been approved but not yet implemented.

2.1.1.12 Freight Traffic

Rail freight traffic patterns in South Carolina have been summarized in Chapter 1. Additional information is provided in this section, in terms of tonnage and value of major inbound and outbound commodities, as well as total annual tonnage by individual rail line segment.

South Carolina rail movements in 2016 totaled 63.2 million tons, valued at \$93.6 billion, and carried within 1.4 million units, see **Table 2-2**. On average, total rail commodity movements are valued at \$1,480/ton. Through-state rail movements are the largest directional movements: 45.2 percent of total tonnage, 58 percent of units, and 57.1 percent of value. Inbound rail tonnage (21.8 million) is significantly greater than outbound (7.5 million); however, in terms of value inbound and outbound movements are closer (\$16.9 billion inbound versus \$11.6 billion outbound) due to the notably higher average value/ton of outbound (\$1,554) versus inbound (\$773).

Table 2-2: South Carolina Rail Freight by Direction (2016)

Direction	Tons		Units		Value (in millions)		Average Value/Ton
	Amount	Percent	Amount	Percent	Amount	Percent	
Inbound	21,811,904	34.5%	303,927	21.7%	\$16,867	18.0%	\$773
Intra	5,404,653	8.5%	147,855	10.5%	\$11,712	12.5%	\$2,167
Outbound	7,484,310	11.8%	137,932	9.8%	\$11,629	12.4%	\$1,554
Through	28,539,454	45.2%	812,047	58.0%	\$53,391	57.1%	\$1,871
Total	63,240,321	100.0%	1,401,761	100.0%	\$93,599	100.0%	\$1,480

Source: TRANSEARCH data for 2016

As shown in **Figure 2-2**, the short CSXT line segment between Greenwood, SC and Athens, Georgia handles the greatest rail tonnage per line as a result of north-south and east-west CSXT routes crossing in that part of the state. Other notable tonnage movements go through Laurens County, Columbia, and Charleston.

2.1.1.13 Inbound Rail Freight

Table 2-3 presents major inbound rail commodities to South Carolina in 2016. Such movements total 21.8 million tons, via 303,927 units, valued at \$16.9 billion, with an average value/ton of \$773. In tonnage terms, top inbound movements include: *Coal* (8.0 million, 36.9 percent), *Chemical or Allied*

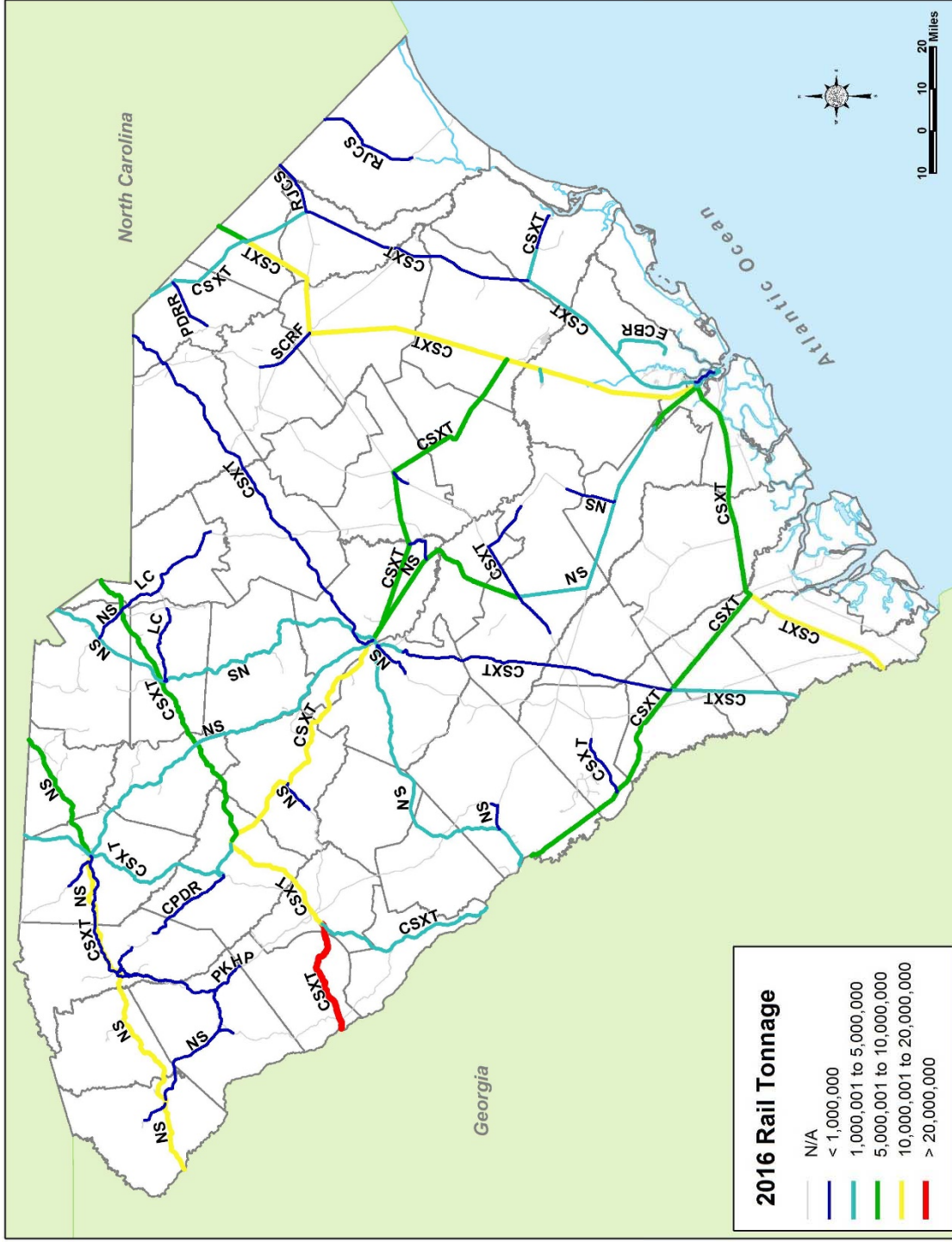
Products (3.8 million, 16.7 percent), and *Nonmetallic Mineral* (2.1 million, 9.7 percent). In unit terms, *Coal* and *Miscellaneous Mixed Shipments* constitute almost half (149,105, 49 percent) of the total 303,927 inbound rail units. In value terms, the top commodities include: *Chemical or Allied Products* (\$5 billion or 29.6 percent), *Miscellaneous Mixed Shipments* (\$5 billion or 29.6 percent), and *Transportation Equipment* (\$3.6 billion or 21.2 percent). *Transportation Equipment* values are included in *Remaining Commodities* in this table.

Table 2-3: South Carolina Rail Inbound Freight by Major Commodities (2016)

STCC2	Commodity	Tons		Units		Value (in millions)		Average
		Amount	Percent	Amount	Percent	Amount	Percent	Value/Ton
11	Coal	8,038,140	36.9%	69,025	22.7%	\$280	1.7%	\$35
28	Chemicals or Allied Products	3,638,412	16.7%	41,320	13.6%	\$5,000	29.6%	\$1,374
14	Nonmetallic Minerals	2,110,293	9.7%	19,272	6.3%	\$22	0.1%	\$11
01	Farm Products	1,376,168	6.3%	13,010	4.3%	\$145	0.9%	\$105
20	Food or Kindred Products	1,141,612	5.2%	13,484	4.4%	\$601	3.6%	\$526
46	Misc. Mixed Shipments	964,240	4.4%	80,080	26.3%	\$4,997	29.6%	\$5,183
40	Waste or Scrap Materials	940,008	4.3%	10,524	3.5%	\$181	1.1%	\$193
26	Pulp, Paper or Allied Products	921,520	4.2%	12,440	4.1%	\$661	3.9%	\$717
32	Clay, Concrete, Glass or Stone	723,396	3.3%	7,980	2.6%	\$124	0.7%	\$172
29	Petroleum or Coal Products	561,996	2.6%	6,852	2.3%	\$415	2.5%	\$740
	Remaining Commodities	1,396,119	6.4%	29,940	9.9%	\$3,515	26.3%	\$4,438
	Total	21,811,904	100.0%	303,927	100.0%	\$16,867	100.0%	\$773

Source: TRANSEARCH data for 2016

Figure 2-2: South Carolina Rail Freight Tonnage (2016)



Source: TRANSEARCH data for 2016

Rail Inbound Tonnage Origin and Destination— Major inbound tonnage in 2016 are shown by county destination in **Figure 2-4**. Rail movements originating from out-of-state are primarily traveling to Berkeley County (4.8 million tons), Charleston County (3.6 million tons), and Richland County (1.7 million tons). Inbound rail tonnage by state of origin is shown in **Figure 2-3**. The major commodity railed into South Carolina in terms of inbound tonnages is *Coal* (8 million tons, valued at \$280 million), chiefly from Kentucky (3.7 million, \$130 million), but also from Indiana (1.8 million, \$62.4 million), and Pennsylvania (1.4 million, \$49.5 million). The second major commodity railed into South Carolina is *Chemical or Allied Products* (3.6 million tons, valued at \$5 billion), led by Louisiana, Texas, Illinois, and Alabama (ranging from 0.3 million tons, \$350 million to 1.0 million tons, \$1.8 billion).

2.1.1.14 Outbound Rail Freight

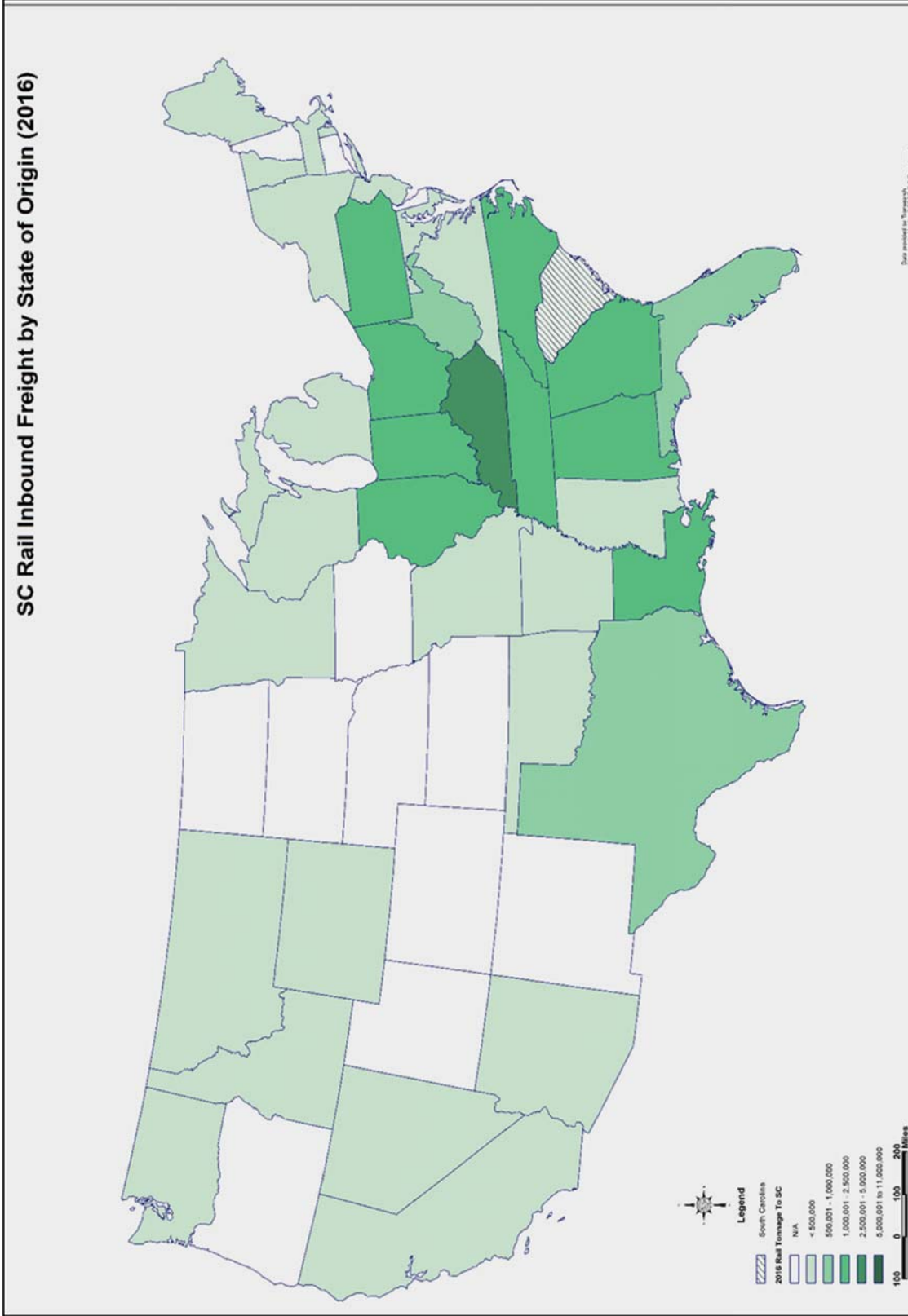
Table 2-4 presents the outbound major commodities by rail from South Carolina in 2016. Such outbound rail movements total 7.5 million tons, via 137,932 units, valued at \$11.6 billion, with an average value/ton of \$1,554. In tonnage terms, top outbound movements include: *Chemicals or Allied Products* (1.4 million, 18.8 percent), *Primary Metal Products* (1.4 million, 18.7 percent), and *Pulp, Paper or Products* (1.3 million, 17.4 percent). In unit terms, *Miscellaneous Mixed Shipments* and *Pulp, Paper or Allied Products* together constitute more than half (72,960, or 52.9 percent) of the total 137,932 outbound rail units. In value terms, the top commodities include: *Miscellaneous Mixed Shipments* (\$3.7 billion or 31.7 percent), *Chemicals or Allied Products* (\$2.9 billion or 24.8 percent), and *Primary Metal Products* (\$2.0 billion or 17.3 percent).

Table 2-4: South Carolina Rail Outbound Freight by Major Commodities (2016)

STCC2	Commodity	Tons		Units		Value (in millions)		Average Value/Ton
		Amount	Percent	Amount	Percent	Amount	Percent	
28	Chemical or Allied Products	1,404,760	18.8%	15,760	11.4%	\$2,882	24.8%	\$2,052
33	Primary Metal Products	1,396,828	18.7%	15,436	11.2%	\$2,014	17.3%	\$1,442
26	Pulp, Paper or Allied Products	1,299,480	17.4%	19,360	14.0%	\$1,417	12.2%	\$1,090
24	Lumber or Wood Products	1,006,364	13.4%	11,660	8.5%	\$263	2.3%	\$261
32	Clay, Concrete, Glass or Stone	764,056	10.2%	7,320	5.3%	\$96	0.8%	\$125
46	Misc. Mixed Shipments	710,720	9.5%	53,600	38.9%	\$3,682	31.7%	\$5,180
40	Waste or Scrap Materials	382,356	5.1%	4,552	3.3%	\$67	0.6%	\$174
14	Nonmetallic Minerals	155,236	2.1%	1,536	1.1%	\$8	0.1%	\$49
20	Food or Kindred Products	137,692	1.8%	1,528	1.1%	\$102	0.9%	\$737
37	Transportation Equipment	109,760	1.5%	5,380	3.9%	\$845	7.3%	\$7,694
	Remaining Commodities	117,058	1.5%	1,800	1.3%	\$257	2.0%	\$2,192
	Total	7,484,310	100.0%	137,932	100.0%	\$11,629	100.0%	\$1,554

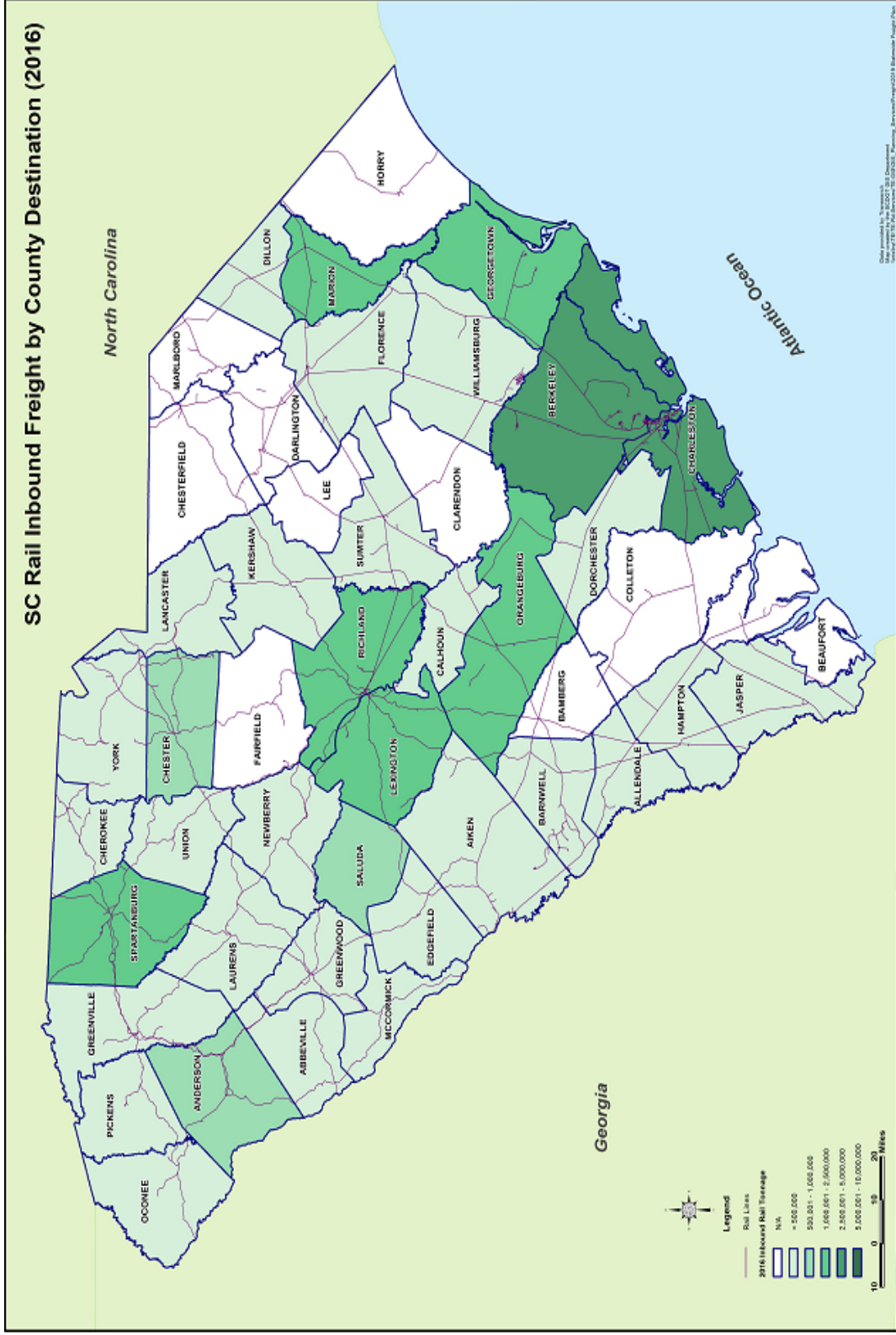
Source: TRANSEARCH data for 2016

Figure 2-3: South Carolina Rail Inbound Freight by State of Origin (2016)



Source: SCDOT GIS Mapping, based on TRANSEARCH data for 2016

Figure 2-4: South Carolina Rail Inbound Freight by County Destination (2016)



Source: SCOT GIS Mapping, based on TRANSEARCH data for 2016

Outbound Tonnage Origin and Destination – Major outbound tonnages in 2016 are shown by county origin in **Figure 2-5**. Rail movements destined out-of-state primarily originated from Charleston County (1.4 million tons), Berkeley County (1.2 million tons) along with Florence County and Lexington County (0.6 million tons each). More than a quarter of outbound rail went to North Carolina (1.2 million tons, 15.4 percent) and Georgia respectively (1.1 million tons, 15.4 percent) followed by Alabama (0.6 million tons, 8.0 percent) as shown in **Figure 2-6**. North Carolina movements were led by *Clay, Concrete, Glass or Stone* (0.4 million tons, \$44.5 million) and *Lumber or Wood Products* (0.3 million tons, \$63.8 million). Nearly half of Georgia-bound tonnage was led by *Pulp, Paper or Allied Products* (0.3 million tons, \$195 million), and *Lumber or Wood Products* (0.3 million tons, \$45 million). Alabama-bound shipments were primarily *Miscellaneous Mixed Shipment* (0.3 million tons, \$1.5 billion) and *Waste or Scrap Materials* (0.08 million tons, \$14.1 billion).

2.1.1.15 Through Rail Freight

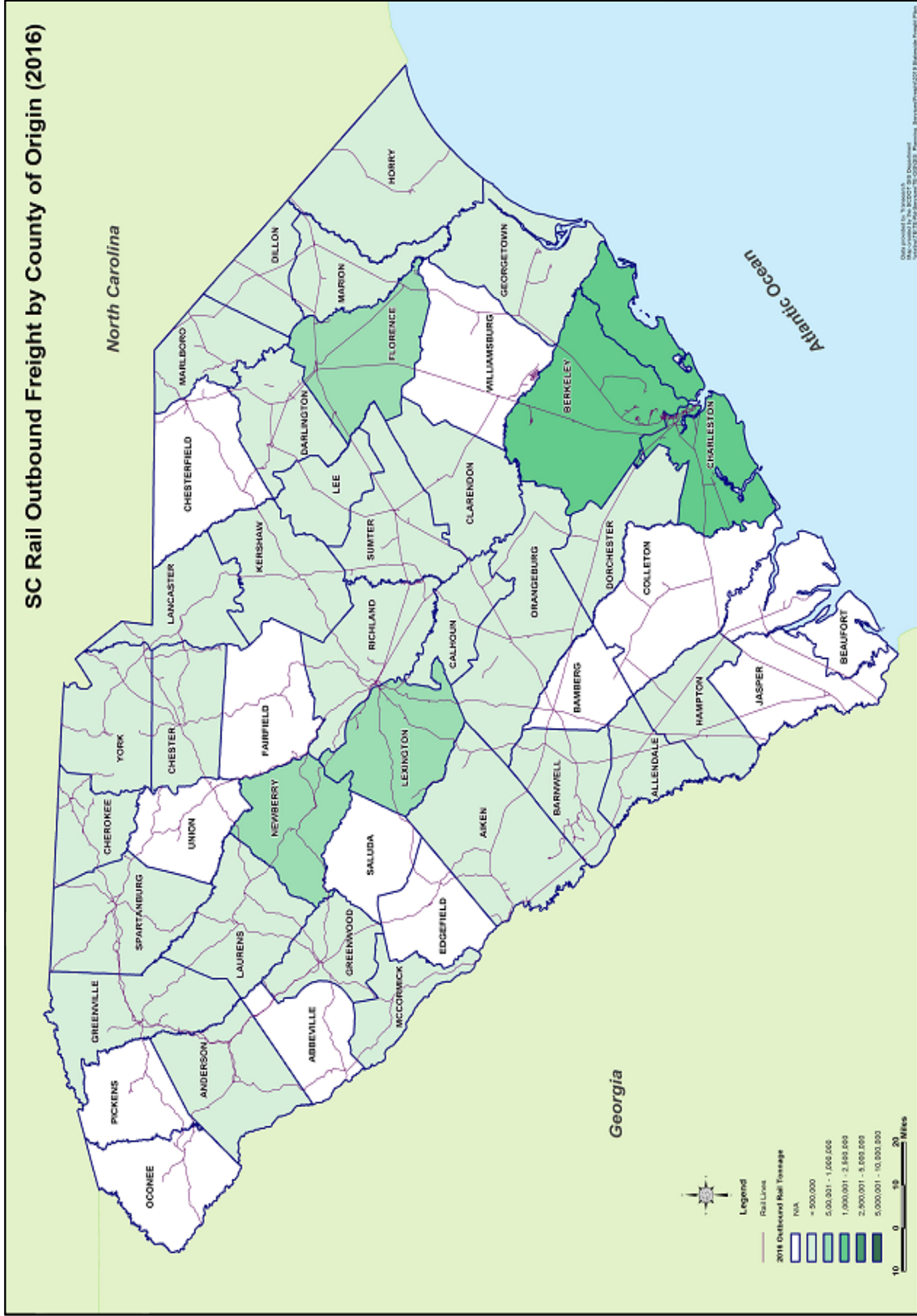
Table 2-5 presents through-state rail commodities in 2016. Such movements total 28.5 million tons, via 812,047 units, valued at \$53.4 billion, with an average value/ton of \$1,871. In tonnage terms, the top through movements include: *Chemicals or Allied Products* (6.2 million, 21.7 percent), *Miscellaneous Mixed Shipments* (4.7 million, 16.3 percent), and *Food or Kindred Products* (3.4 million tons, 12 percent). In unit terms, *Miscellaneous Mixed Shipments* constitute nearly half (355,760 or 43.8 percent) of the total 812,047 through rail units. In value terms, *Miscellaneous Mixed Shipments* and *Chemicals or Allied Products* constitute more than half of the total \$53.4 billion (\$23.9 billion, 44.7 percent and \$10.7 billion, 20.1 percent respectively).

Table 2-5: South Carolina Rail Through-State by Major Commodities (2016)

STCC2	Commodity	Tons		Units		Value (in millions)		Average Value/Ton
		Amount	Percent	Amount	Percent	Amount	Percent	
28	Chemicals or Allied Products	6,194,380	21.7%	81,588	10.0%	\$10,742	20.1%	\$1,734
46	Misc. Mixed Shipments	4,649,360	16.3%	355,760	43.8%	\$23,882	44.7%	\$5,137
20	Food or Kindred Products	3,419,493	12.0%	63,838	7.9%	\$2,757	5.2%	\$806
14	Nonmetallic Minerals	3,369,266	11.8%	30,926	3.8%	\$51	0.1%	\$15
26	Pulp, Paper or Allied Products	2,346,496	8.2%	62,088	7.6%	\$2,302	4.3%	\$981
32	Clay, Concrete, Glass or Stone	2,230,692	7.8%	28,880	3.6%	\$485	0.9%	\$218
11	Coal	1,195,733	4.2%	10,462	1.3%	\$42	0.1%	\$35
01	Farm Products	914,486	3.2%	9,427	1.2%	\$239	0.4%	\$261
24	Lumber or Wood Products	761,372	2.7%	11,752	1.4%	\$321	0.6%	\$422
29	Petroleum or Coal Products	623,570	2.2%	7,726	1.0%	\$371	0.7%	\$596
	Remaining Commodities	2,834,606	9.9%	149,600	18.4%	\$12,198	22.9%	\$4,303
	Total	28,539,454	100.0%	812,047	100.0%	\$53,391	100.0%	\$1,871

Source: TRANSEARCH data for 2016

Figure 2-5: South Carolina Rail Outbound Freight by County Origin (2016)



Source: prepared by SCDOT GIS Mapping, based on TRANSEARCH data for 2016

2.1.1.16 Intrastate Rail Freight

Table 2-6 summarizes intrastate rail commodities in South Carolina in 2016. Such movements total 5.4 million tons, via 147,855 units, valued at \$11.7 billion, with an average value/ton of \$2,167. In tonnage terms, top intrastate movements include: *Chemicals or Allied Products* (1.6 million tons, 28.6 percent), *Nonmetallic Minerals* (1.2 million tons, 21.4 percent) and *Miscellaneous Mixed Shipments* (0.8 million tons, 14 percent). In unit terms, *Miscellaneous Mixed Shipments* and *Transportation Equipment* together constitute almost three quarters (105,112, 71.1 percent) of the total 147,855 intrastate rail units. In value terms, the top commodities include: *Transportation Equipment* (\$5.4 billion, 46.2 percent), *Miscellaneous Mixed Shipments* (\$3.9 billion, 33.4 percent) and *Chemicals or Allied Products* (\$1.9 billion or 16.3 percent).

Table 2-6: South Carolina Rail Intrastate by Major Commodities (2016)

STCC2	Commodity	Tons		Units		Value (in millions)		Average Value/Ton
		Amount	Percent	Amount	Percent	Amount	Percent	
28	Chemicals or Allied Products	1,545,880	28.6%	16,360	11.1%	\$1,905	16.3%	\$1,232
14	Nonmetallic Minerals	1,156,333	21.4%	10,779	7.3%	\$12	0.1%	\$10
46	Misc. Mixed Shipments	754,800	14.0%	75,480	51.1%	\$3,912	33.4%	\$5,183
24	Lumber or Wood Products	691,600	12.8%	7,480	5.1%	\$110	0.9%	\$160
37	Transportation Equipment	571,160	10.6%	29,632	20.0%	\$5,407	46.2%	\$9,468
10	Metallic Ores	264,816	4.9%	2,448	1.7%	\$92	0.8%	\$348
26	Pulp, Paper or Allied Products	151,440	2.8%	2,160	1.5%	\$95	0.8%	\$630
33	Primary Metal Products	92,000	1.7%	1,040	0.7%	\$130	1.1%	\$1,414
40	Waste or Scrap Materials	83,640	1.5%	1,040	0.7%	\$15	0.1%	\$173
48	Waste Hazardous Materials	58,600	1.1%	640	0.4%	\$0	0.0%	\$0
	Remaining Commodities	34,384	0.6%	796	0.4%	\$32	0.3%	\$928
	Total	5,404,653	100.0%	147,855	100.0%	\$11,712	100.0%	\$2,167

Source: TRANSEARCH data for 2016

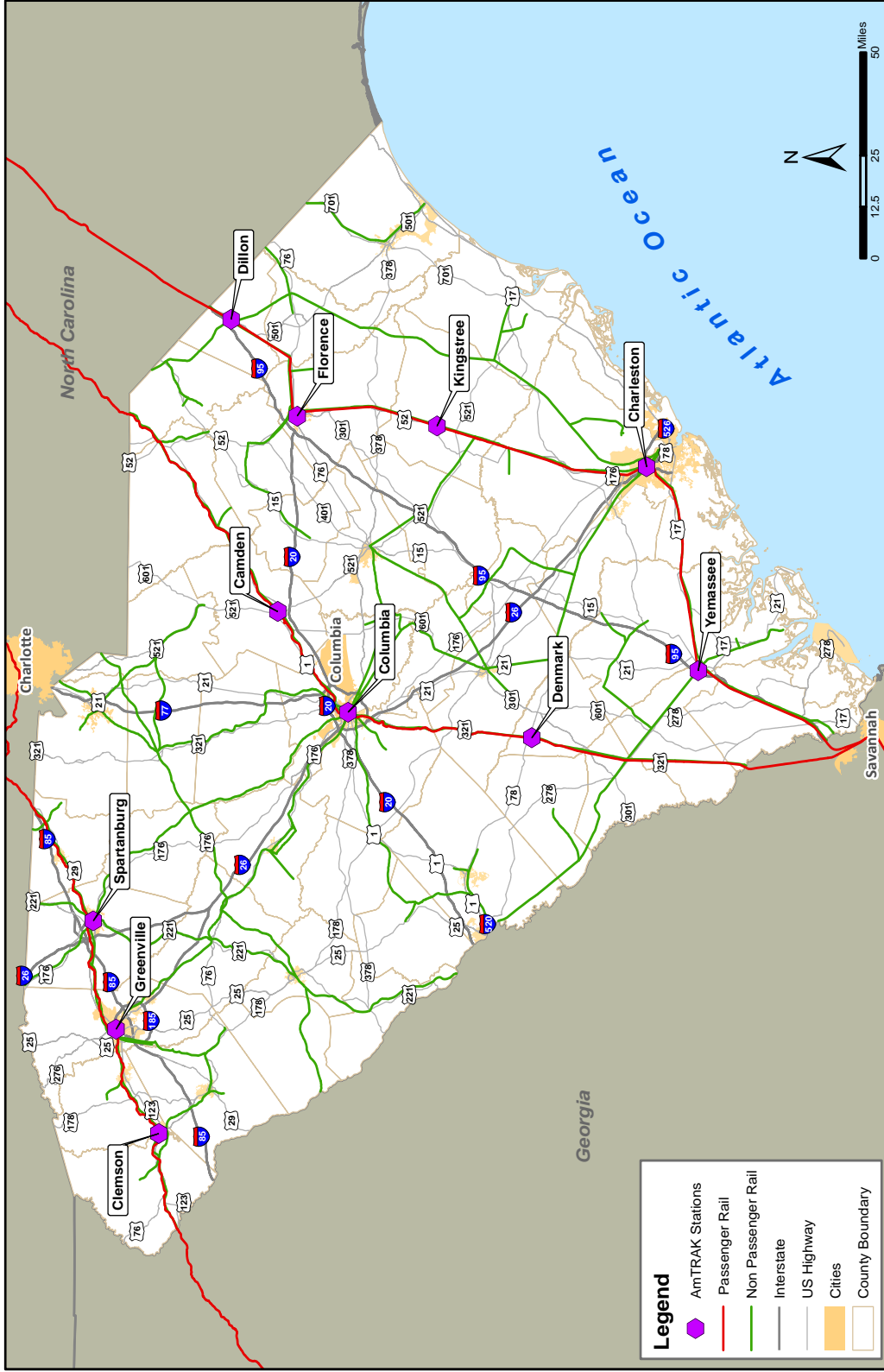
2.1.1.17 Existing Passenger Rail Services

South Carolina Routes – South Carolina is served by eight Amtrak daily trains running north bound and south bound over three routes, all of which connect the South with the Northeast. These routes use lines owned by freight railroads (one NS and two CSXT). **Figure 2-7** illustrates the locations of the three routes, as well as Amtrak stops in the state.

South Carolina Schedules – Amtrak’s South Carolina service consists of the following four daily services. Each service offers one round trip daily with multiple stops in South Carolina:

- *Silver Star* – New York/Tampa/Miami via Columbia,
- *Silver Meteor* – New York/Miami via Charleston,
- *Palmetto* – New York/Savannah via Charleston, and
- *Crescent* – New York/New Orleans via Greenville.

Figure 2-7: South Carolina Rail Passenger Routes and Stops



With the exception of the Palmetto, Amtrak trains pass through the state in evening or early morning hours, which tend to be inconvenient for riders. In addition, Amtrak on-time performance suffers from running over privately-owned freight railroads which can present significant operating conflicts. Current South Carolina schedules are shown in **Table 2-7**.

Table 2-7: Amtrak South Carolina Schedule

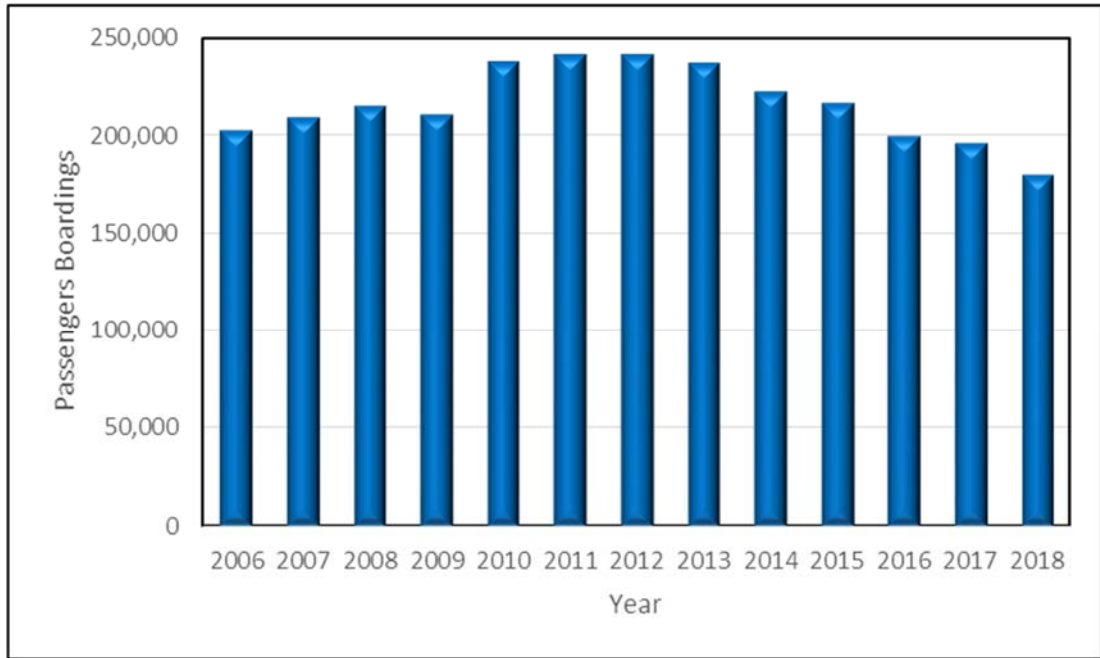
Train Service	Operating Between	SC Stops	Schedule	
			SB	NB
Crescent	New York- Atlanta- New Orleans	Spartanburg Greenville Clemson	4:14A 4:54A 5:39A	11:39P 10:53P 10:16P
Silver Star	New York- Washington- Miami	Camden Columbia Denmark	12:47A 1:38A 2:35A	4:42A 4:01A 2:45A
Silver Meteor	New York- Washington- Miami	Florence Kingstree Charleston Yemassee	3:05A 3:51A 4:51A 5:43A	11:02P 10:11P 9:17P 8:20P
Palmetto	New York- Washington- Savannah	Dillon Florence Kingstree Charleston Yemassee	4:56P 5:39P 6:20P 7:19P 8:08P	12:14P 11:34A 10:55A 10:00A 9:08A

Source: Amtrak, *Crescent* effective May 1, 2018; *Palmetto*, *Silver Star* and *Silver Meteor*, effective March 4, 2019.

In addition, Amtrak’s *Auto Train* also passes through the state on the easternmost route, but does not stop in South Carolina. The only stops it makes are at its two end points, Lorton, Virginia and Sanford, Florida.

Figure 2-8 shows total Amtrak passenger ridership from 2006 through 2018. Ridership by station for the last six years of record is shown in **Table 2-8**.

Figure 2-8: Amtrak Ridership in South Carolina 2012 - 2018



Sources: SCDOT Statewide Rail Plan (2006–2012 Data); Rail Passengers Association (2012-2015 & 2018 Data); Amtrak State Fact Sheet (2016 & 2017 Data)

Table 2-8: South Carolina Amtrak Patronage (FY 2012 - FY 2018)

City	2012	2013	2014	2015	2016	2017	2018
Camden	3,699	3,584	3,264	3,563	3,483	3,531	3,161
Charleston	83,314	80,198	74,045	70,136	63,880	66,759	61,261
Clemson	5,807	5,597	4,987	4,977	3,127	-	-
Columbia	37,119	35,878	34,873	33,428	32,234	32,695	29,805
Denmark	4,254	4,364	4,094	3,823	3,486	3,604	3,230
Dillon	8,745	9,456	8,601	8,037	7,573	6,692	5,841
Florence	51,561	51,242	49,438	50,033	46,930	43,304	40,187
Greenville	12,565	12,021	12,078	11,913	11,935	14,135	12,172
Kingstree	14,812	14,669	13,684	13,849	12,135	11,187	10,450
Spartanburg	4,452	4,545	4,451	4,143	3,777	3,548	3,870
Yemassee	14,624	14,915	12,437	12,336	10,789	10,451	9,740
Total	240,952	236,469	221,952	216,238	199,349	195,906	179,717

Note: Clemson Station Closed 5/13/2016 for adjacent highway project (reopened Fall 2019)
 Sources: Rail Passengers Association (2012-2015 & 2018 Data); Amtrak State Fact Sheet (2016 & 2017 Data)

Existing Commuter Rail System – There are no commuter rail services currently operating in the state of South Carolina.

2.1.2 Freight and Passenger Terminals

2.1.2.1 Major Freight Intermodal Terminals

The principal freight rail facilities are listed in **Table 2-9**. All of the railroads in the state have yards, and the Class I carriers have additional yards, that are smaller than the ones listed. In addition, all serve

additional facilities, e.g., bulk transfer and commodity-specific reloads and storage facilities that are privately owned and operated.

Table 2-9: Major South Carolina Rail Facilities

Facility	CSXT	NS
Principal Yards	Florence, Charleston	Columbia
Intermodal ¹	Charleston & Inland Port in Dillon	Charleston & Inland Port in Greer
Bulk Transfer ²	Charleston, Greenville ² , Spartanburg	Spartanburg, West Columbia
Automotive Terminal	West Columbia (Dixiana)	Columbia (Kinsler), Charleston
Division Office ³	Florence	Greenville

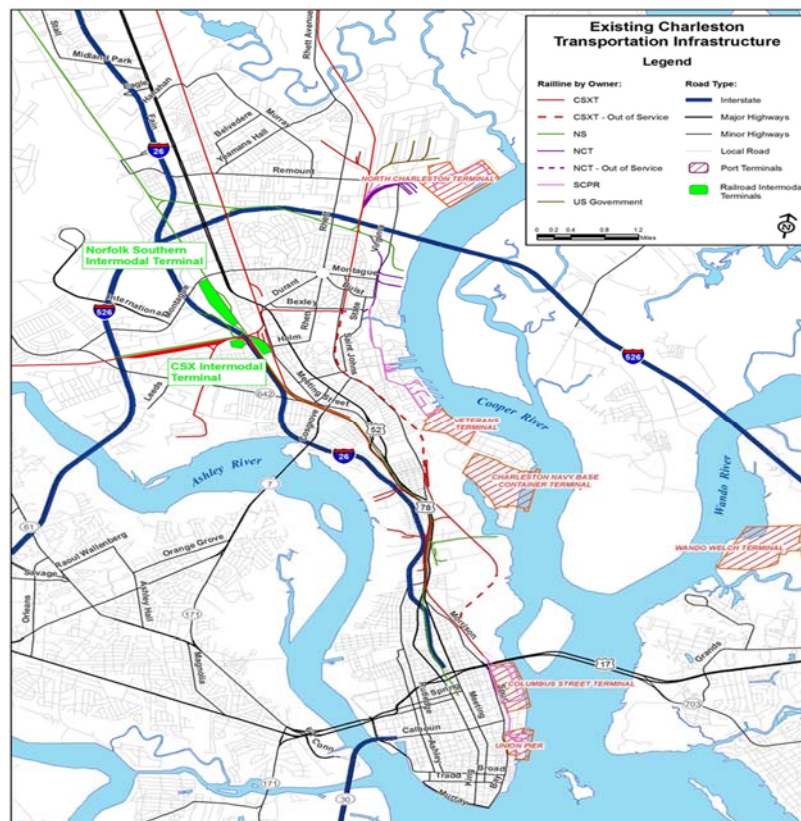
¹ Containers

² Railroad owned – TRANSFLO (CSX); Thoroughbred Bulk Transfer (NS)

³ CSXT – Florence Division; NS – Piedmont Division

The intermodal facilities that are operational in Charleston are shown in **Figure 2-9**. Each terminal is operated by one of the two Class I railroads, CSXT and NS. Trucks dray freight between these terminals and Port of Charleston Terminals.

Figure 2-9: Port of Charleston Facility Locations



2.1.2.1.1 Rail Served Inland Ports

The South Carolina Ports Authority (SCPA) opened a rail-served container terminal at Greer in October 2013 and a second inland port in Dillon in 2018. South Carolina’s Inland Port Greer and Inland Port Dillon are innovative, intermodal rail facilities that deliver the benefits of a coastal marine terminal

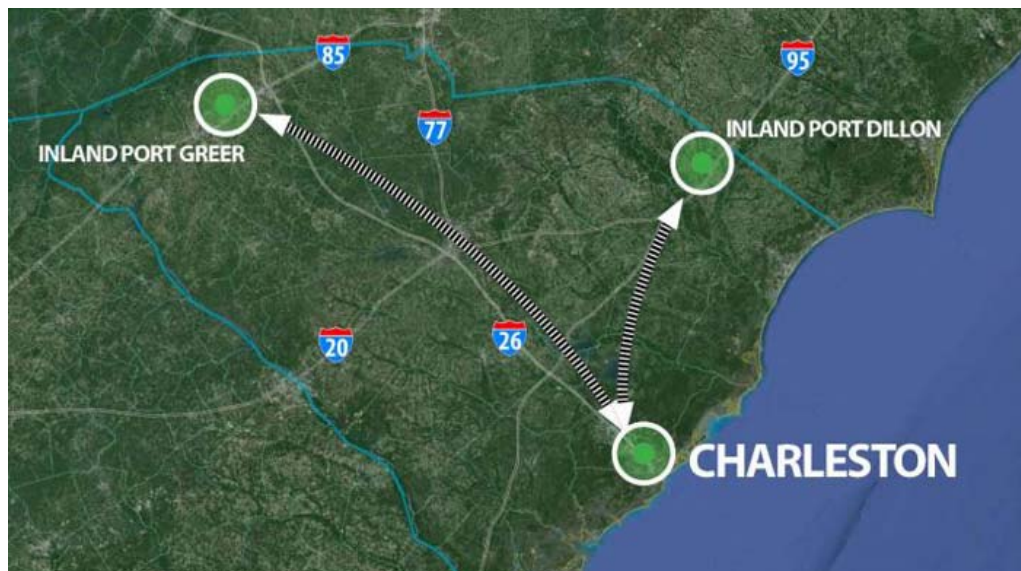
many miles inland. The South Carolina Ports Authority owns and operates these facilities which allows cargo owners to minimize their inland expense while enhancing flexibility and efficiency, and realizing savings on variable costs such as container per diems, chassis rental, and demurrage.

Inland Port Greer is located on I-85 in Greer, S.C., 212 miles inland from Charleston and approximately halfway between Atlanta and Charlotte. More than 94 million people live within 500 miles making sites near the inland port an attractive location for both manufacturing and consumer goods distribution. A dedicated Norfolk Southern train runs 6 days per week and provides overnight service in both directions. In 2017, just its third year of full-scale operation, Inland Port Greer handled 125,000 lifts.

Inland Port Dillon is brand new, having just opened in April 2018. It is located on I-95 near the South Carolina/North Carolina border exit 190 and is positioned within the 3,400-acre Carolinas I-95 Mega Site. In the near-term, Inland Port Dillon will offer importers and exporters in the Eastern Carolinas area an exciting new option. Future connectivity to Charlotte and points north and west could provide tremendous reach for shippers. CSX plans to serve Inland Port Dillon 6 days per week.

The location of both inland ports location is shown in **Figure 2-10**.

Figure 2-10: Inland Port Locations in Greer & Dillon South Carolina



2.1.2.1.2 Hugh K. Leatherman, Sr. Terminal

This new Hugh K. Leatherman Sr. Terminal is under construction on the Charleston Naval Complex. SCPA is currently building the only permitted new container terminal on the U.S. East and Gulf Coasts. Since receiving the final permit approvals in 2007, the Ports Authority has completed demolition, site preparation and containment wall construction. Phase One Wharf construction is ongoing and construction of the Phase One buildings, site package and site access contracts will be underway by the summer of 2019. Phase One of the terminal is expected to open in 2021. At full buildout, the terminal will consist of more than 280 acres and will boost capacity in the port by 50%. A rendering of the new terminal is shown in **Figure 2-11**. An agreement between the state of South

Carolina and the City of North Charleston will permit rail access from both the north and south of a proposed rail yard that will serve the Ports Authority's container terminals and thereby provide dual access to two Class I carriers.

Figure 2-11: Rendering of the Hugh K. Leatherman, Sr. Terminal at Port of Charleston



Source: South Carolina Ports Authority

2.1.2.1.3 Other Rail Served Ports

The Port of Georgetown, a break-bulk and bulk cargo facility with four berths totaling 1,800 feet in length, is located on Winyah Bay in Georgetown. The Port has open and covered storage, specialty cargo handling facilities (metals, cement, chemicals, aggregates, forest products and ore) and on-dock rail. Principal commodities handled are steel, cement, aggregates and forest products. Rail service is provided by CSXT from its Georgetown Subdivision.

2.1.2.2 Rail Passenger Stations

Rail passenger stations are discussed in Section 2.1.1.17.

2.1.2.3 Intermodal Connections at State Airports

South Carolina has six primary commercial airports, as shown in **Figure 2-12**. None of these airports are directly served by rail for purposes of freight or passenger intermodal services. These airports serve as intermodal hubs for shipping overnight packages and other freight that is brought to the airports by road.

2.1.3 Objectives for Rail Passenger Services

As noted previously all rail passenger services operating in the state are provided by Amtrak over lines owned by private freight railroads. As such, no South Carolina agency has responsibility or control over setting or meeting objectives for minimum service levels, service frequency, capacity or projected ridership. Working with neighboring states and others associated with the Southeast Corridor, South Carolina is collaboratively planning for passenger rail services within and through our state. Sections 3.3 and 3.4 of this plan discuss proposed intercity and passenger rail services involving regions within South Carolina. Chapter 5 of this plan highlights goals, objectives and guiding principles for long range planning and investment opportunities for rail.

2.1.4 Performance Evaluation of Rail Passenger Services

2.1.4.1 Amtrak

Stops in South Carolina are part of long distance services offered by Amtrak on a national service network versus shorter corridor service. In 2008, in response to a dramatic deterioration in on time performance, the Passenger Rail Investment and Improvement Act (PRIIA) gave Amtrak the ability to enforce its right to preference. After PRIIA's passage, Amtrak's long distance on time performance went from 30% in 2006 to over 75% in 2009. By 2014, Amtrak's rights to enforce preference granted in PRIIA were effectively eliminated by a series of legal challenges from the host railroads. Amtrak [National] Monthly Performance Reports are indicating an overall ridership and train miles decline in all sectors (Northeast Corridor, State Supported and Long Distance) over time.

As is indicated by **Figure 2-8** and **Table 2-8**, Amtrak ridership in South Carolina has steadily declined since 2012. Initial research along with discussion with the Rail Passengers Association suggests that ridership is declining due to a number of reasons. These reasons include decreasing on-time performance of the South Carolina services due in part to operating conflicts with the host railroads, and a reduction by Amtrak of select amenities on certain corridors such as those that were reduced or eliminated on the Silver Star long distance service in 2016.

Amtrak operates more than 300 intercity trains a day over 21,000 route miles serving more than 500 communities in 46 states. **Figure 2-13** provides a map of Amtrak's passenger service network throughout the United States. There has been a resurgence of interest in nearly every region of the country for expanded rail passenger service as a means of coping with growing highway and air transportation congestion, and fuel costs.

2.1.4.2 Amtrak On-time Performance

Section 207 of the Passenger Rail Investment and Improvement Act of 2008 (Division B of Pub. L. 110-432) (PRIIA) charged the Federal Railroad Administration (FRA) and Amtrak with jointly developing, in consultation with the Surface Transportation Board, rail carriers over whose rail lines Amtrak trains operate, States, Amtrak employees, nonprofit employee organizations representing Amtrak employees, and groups representing Amtrak passengers, as appropriate, new or improving existing metrics and minimum standards for measuring the performance and service quality of intercity passenger train operations, including cost recovery, on-time performance and minutes of delay, ridership, on-board services, stations, facilities, equipment, and other services.

On-Time Performance (OTP) under the published final PRIIA standard 207 (effective May 12, 2010) is to be discerned on the basis of three tests (only two tests until FY 2012): 1) Change in Effective Speed³, 2) percent on time at the endpoint (Endpoint OTP), and 3) percent on time at all stations served (All-Stations OTP) (Effective as of FY 2012). The final standard makes clear that the effective speed is to be calculated on a rolling four-quarter basis and compared with a fixed FY 2008 baseline.

A train is considered “late” if it arrives at its endpoint terminal more than 10 minutes after its scheduled arrival time for trips up to 250 miles; 15 minutes for trips 251-350 miles; 20 minutes for trips 351-450 miles; 25 minutes for trips 451-550 miles; and 30 minutes for trips of 551 or more miles.

The October 2018 performance for these trains is compared to the PRIIA Section 207 Standard target of 80% OTP for all long distance routes in Amtrak service and 80% end point OTP for Amtrak long distance routes. The on-time performance comparison for all South Carolina Long Distance routes at end-points for the four Amtrak long distance trains serving South Carolina appears in **Table 2-10**.

Table 2-10: South Carolina Amtrak Long Distance Routes End Point & All Stations OTP

	End Point OTP	All Stations OTP
Amtrak System OTP Average Oct 2018	75%	73.1%
Amtrak Long Distance Route	Oct 2018	Oct 2018
Crescent	27.4%	38.8%
Palmetto	71.0%	72.3%
Silver Meteor	75.8%	70.4%
Silver Star	56.5%	46.7%

Source: Amtrak Host Railroad Report (October 2018)

³ Effective speed is defined as a train’s mileage, divided by the sum of (a) the scheduled end-to-end running time plus (b) the average endpoint terminal lateness.

Figure 2-13: Amtrak's National Network



Source: Amtrak Publications, Amtrak System Map (October 2018)

2.1.4.3 Amtrak Host Performance

Amtrak evaluates host performance based on host responsible minutes delay per 10,000 train-miles, which measures how much delay each host railroad causes to Amtrak trains. The measure is normalized by the number of miles traveled by each train (a “train-mile”) so that routes of different lengths, and hosts with different levels of Amtrak service, can be compared to each other.

Table 2-11 shows the minutes of delay per 10,000 train miles and indicates the largest two delay categories for Amtrak trains serving South Carolina followed by the and explanation of delay codes for the report.

Table 2-11: Minutes of Delay per 10K Train Miles by Host for October 2018

Service	Host	Total Minutes Delay	Largest Two Delay Categories				Route Miles
		October 2018	#1		#2		
Long Distance Routes Target		900 minutes					
Crescent	NS	1559	FTI	978	DCS	204	1141
Palmetto	CSX	915	FTI	283	PTI	250	659
Silver Meteor	CSX	695	FTI	253	PTI	130	1152
	Fla DOT	1075	DSR	429	CTI	299	68
	FR	1051	CTI	328	DCS	267	61
Silver Star	CSX	976	DSR	268	FTI	225	1209
	NS	1612	DSR	614	DCS	583	28
	Fla DOT	1358	CTI	521	DSR	463	68
	FR	1065	CTI	498	DSR	318	61

Source: Amtrak Host Railroad Report (October 2018)

Host Railroad Responsible Delay Codes and Explanations

Cod	Code	Explanation
CTI	Commuter Train Interference	Delays for meeting or following commuter trains
DCS	Signal Delays	Signal failure or All Other signal delays, wayside defect-detector false-alarms, defective road crossing protection, efficiency tests, drawbridge stuck open
DMW	Maintenance of Way	Maintenance of Way delays including holds for track repairs or MW foreman to clear
DSR	Slow Order Delays	Temporary slow orders, except heat or cold orders
DTR	Detour	Delays from detours
FTI	Freight Train Interference	Delays from freight trains
PTI	Passenger Train Interference	Delays for meeting or following All Other passenger trains
RTE	Routing	Routing-dispatching delays including diversions, late track bulletins, etc.

Host railroads make all dispatching decisions regarding which trains are allowed to go first and which trains must wait. Federal law requires Amtrak passenger trains to receive preference over freight transportation, but the largest cause of delay to Amtrak trains on host railroads is “Freight Train Interference,” typically caused by a freight railroad requiring an Amtrak passenger train to wait so that its freight trains can operate first.

2.1.4.1 Annual Financial Performance

Amtrak’s fiscal year (FY) begins on October 1. Amtrak reports route revenue and operating costs for its trains on a monthly and year-to-date basis. The figures for its last full fiscal year appear in the *Amtrak Monthly Performance Report for September 2018*⁴. The figures for the four Amtrak long distance trains serving South Carolina appear in **Table 2-12**.

Table 2-12: Financial Performance of Amtrak Trains in FY18

Amtrak Service	Revenue (\$Millions)	Operating Expense(\$M)	Fare Box Recovery
Crescent	\$33.1	\$72.6	45.6%
Palmetto	\$30.9	\$36.3	85.1%
Silver Meteor	\$40.1	\$79.9	50.2%
Silver Star	\$34.8	\$69.7	49.9%
Amtrak Long Distance Trains	\$523.4	\$1066.7	49.1%

The relationship between revenue to operating costs is called the fare box recovery ratio. The ratio shows the degree to which revenues cover operating costs; it is a common measure of the financial success of public transport services. The fare box recovery ratios of the four Amtrak long distance trains that serve South Carolina bracket Amtrak’s overall long distance service fare box recovery ratio of 49.1 percent. The best performer is the *Palmetto*, showing a fare box recovery ratio of 85.1% percent.

2.1.5 Public Financing for Rail Projects

South Carolina does not have dedicated state revenue sources for passenger or freight rail. In addition, the state’s current public-private partnership (P3) legislation does not include passenger or freight rail projects. There are some limited opportunities for state and local financial assistance for Class I and Short Line freight rail companies and passenger rail initiatives from South Carolina’s Department of Commerce and the South Carolina Transportation Infrastructure Bank.

SCDOT, in partnership with Norfolk Southern Railways and the South Carolina Ports Authority, was awarded 2018 Rural BUILD Grant funds in the amount of \$25,000,000 in support of the *Upstate Express Corridor Capacity Expansion Project* located at the SC Inland Port Greer. The project will make freight rail infrastructure improvements in South Carolina. It will expand the Inland Port Greer (IPG), extend the IPG lead track, and lengthen the Carlisle Siding to approximately 15,100 feet. The IPG expansion includes acquiring additional equipment for the handling, loading, and unloading of containers and the paving of up to 40 acres. The project will advance state of good repair by shifting freight transport from truck to rail, thereby reducing vehicle miles traveled and subsequent pavement damage caused by heavy trucks. The project will add inland transportation capacity to accommodate the economic growth that is expected at the port from the nearby automotive manufacturing facility and other manufacturers in the area. Quality of life will be improved by reducing highway congestion on Interstates 26 and 85.

⁴ Amtrak YTD September FY 2018 (Updated to Include Final Audited Financial Data), February 19, 2019

2.1.5.1 South Carolina Transportation Infrastructure Bank

The SCTIB has an independent board comprised of seven members including the SCDOT Commission Chairman, two appointed by the Governor, two appointed by the Speaker of the House, and two appointed by the President Pro Tempore of the Senate. Any state or local agency/district can apply for a SCTIB loan to construct an eligible project.

Eligible projects include major projects which provide a public benefit required by the South Carolina Transportation Infrastructure Bank Act (the Act), SC Code Sections 11-43-110 et seq., are eligible for financial assistance from the Bank. There are two requirements for eligibility:

- Major Projects – Construction of or improvements to highways, including bridges, with at least \$25 million in cost are eligible for financial assistance. This cost includes: preliminary engineering; traffic and revenue studies; environmental studies; rights of way acquisition; legal and financial services associated with the development of projects; construction; construction management; facilities; and other costs necessary for the project. The cost shall not include financial costs or interest on loans used for the project. While the total cost must be at least \$25 million, the final assistance requested may be less than \$25 million. Projects may not be combined to meet the minimum project cost of \$25 million.
- Public Benefit – The proposed project must provide a public benefit in one or more of the following areas: enhancement of mobility and safety; promotion of economic development; or increase in the quality of life and general welfare of the public.

2.1.5.2 House Bill 3516 (Act 40)

On May 10, 2017 the South Carolina House and Senate voted on House Bill H. 3516⁵, otherwise known as the Act 40, establishing SC Code Section 12-28-310(D). The centerpiece of the legislation is the increase in sustained funding for improving and maintaining roads and bridges through a graduated increase in the state gas tax. Key highlights include:

- Establishes the Infrastructure Maintenance Trust Fund for repairs, maintenance and improvements to the existing highway system.
- Effective on July 1, the state gas tax increases two cents per year for the next six years. The total increase will be 12 cents per year after the sixth year.

Act 40 of 2017 provides roughly \$600 million in recurring funds, once fully implemented, to be used solely on the improvements of South Carolina’s roads and bridges. Funding components include:

- Increases the motor fuel user fee by 12 cents over six years (2 cents per year commencing in 2018).
- Increase of biennial registration fees on private passenger vehicles by \$16.
- Imposes an “Infrastructure Maintenance Fee” upon the purchase of a motor vehicle (capped at \$500).

⁵ http://www.scstatehouse.gov/sess122_2017-2018/bills/3516.htm

- Imposes a one-time \$250 registration fee for anyone who transfers a motor vehicle from another state to South Carolina.
- Create new registration fees for alternative vehicles: \$120 for EV's & \$60 for hybrid vehicles.
- Rolls the truck property tax into the IRP for out-of-state IRP-registered fleets.

2.1.6 Rail Safety and Security Programs

Rail safety and security is a high priority for both railroads and the public. Rail security involves protection of the physical rail system, operations, and freight being transported, including the threat posed by terrorists using the rail mode to disrupt transportation in general or harm large numbers of people. Although most rail safety falls under the jurisdiction of the Federal Railroad Administration (FRA), in reality a number of federal and South Carolina agencies work in concert with the railroads to improve both safety and security in the state. South Carolina programs, projects, and participating partners are the subject of this section.

2.1.6.1 Reportable Railroad Incidents

Regulations on reporting railroad accidents and incidents can be found in Title 49 Code of Federal Regulations (CFR) Part 225, Railroad Accidents/Incidents, Reports Classification, and Investigations. FRA collects and analyzes the data from the Nation's railroads and converts this information into meaningful statistical tables, charts, and reports that are found on the [FRA Safety Data site](#). The primary groups of accidents and incidents to be reported monthly by railroads are:

- Highway-rail grade crossing accidents/incidents.
- Rail equipment accidents/incidents.
- Casualties to persons (i.e., death and non-fatal injuries to all types of persons, and occupational illnesses involving railroad employees).

In addition to monthly railroad-reported accidents and incidents, railroads are required to provide FRA with immediate notification of various types of accidents.

Railroad related incidents and casualties for the last full 10-year period 2009-2018 in South Carolina are summarized for freight operations in **Table 2-13** and passenger operations in **Table 2-14**.

Table 2-13: FRA Freight Operations Ten Year Accident/Incident Overview (South Carolina)

Category	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
TOTAL FREIGHT ACCIDENTS/INCIDENTS (1)	81	94	77	100	77	93	86	90	86	95
--- Total fatalities	4	8	7	7	11	6	15	3	9	14
--- Total nonfatal conditions	39	48	39	53	45	52	43	56	35	44
FREIGHT TRAIN ACCIDENTS (Not at Grade-Crossings)	18	9	11	10	8	13	16	15	21	18
--- Train accident deaths	.	.	.	.	1	.	.	.	.	.
--- Train accident injuries	1	.	.	.	.	1	3	2	.	2
FREIGHT HIGHWAY-RAIL INCIDENTS	39	48	31	54	38	46	38	42	39	39
--- Highway-rail incidents deaths	2	2	1	3	5	1	7	.	4	3
--- Highway-rail incidents injuries	16	17	10	21	17	22	12	19	14	15
--- Incidents at public crossings	34	41	28	48	32	43	35	37	29	34
OTHER FREIGHT ACCIDENTS/INCIDENTS (2)	24	37	35	36	31	34	32	33	26	38
--- Other incidents deaths	2	6	6	4	5	5	8	3	5	11
--- Other incidents injuries	22	31	29	32	28	29	28	35	21	27

Source: FRA Office of Safety Analysis

(1) Total Passenger Accidents/Incidents are the sum of Train Accidents, Crossing Incidents, and Other Accidents/Incidents.

(2) Other Passenger Accidents/Incidents are events other than Train Accidents or Crossing Incidents that cause physical harm to persons.

The related report numbers are included in the TOTAL PASSENGER ACCIDENTS/INCIDENTS section numbers.

While there appear to be no significant anomalies or outliers in accident and incidents over the ten-year period, most non-fatal conditions are reported as incidents at public crossings or other incidents not involving train accidents or crossing incidents. *Highway –Rail Crossings* statistics display incidents involving rail equipment at grade crossings (the standard at-grade railroad crossing).

Table 2-14: FRA Passenger Operations Ten Year Accident/Incident Overview (South Carolina)

Category	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
TOTAL PASSENGER ACCIDENTS/INCIDENTS (1)	23	19	27	25	35	31	32	30	28	25
--- Total fatalities	8	2	3	3	4	1	2	4	5	5
--- Total nonfatal conditions	17	16	24	23	53	25	36	25	43	149
PASSENGER TRAIN ACCIDENTS (Not at Grade-Crossings)	.	.	.	1	1	.	.	.	1	1
--- Train accident deaths	.	.	.	.	.	.	.	.	.	2
--- Train accident injuries	.	.	.	.	21	.	.	.	.	131
PASSENGER HIGHWAY-RAIL INCIDENTS	2	3	5	5	6	6	3	6	7	5
--- Highway-rail incidents deaths	4	2	3	3	.	1	.	3	5	1
--- Highway-rail incidents injuries	.	.	2	4	4	.	9	2	23	1
--- Incidents at public crossings	2	3	5	4	6	5	2	4	6	5
OTHER PASSENGER ACCIDENTS/INCIDENTS (2)	21	16	22	19	28	25	29	24	20	19
--- Other incidents deaths	4	.	.	.	4	.	2	1	.	2
--- Other incidents injuries	17	16	22	19	28	25	27	23	20	17

Source: FRA Office of Safety Analysis

(1) Total Passenger Accidents/Incidents are the sum of Train Accidents, Crossing Incidents, and Other Accidents/Incidents.

(2) Other Passenger Accidents/Incidents are events other than Train Accidents or Crossing Incidents that cause physical harm to persons.

The related report numbers are included in the TOTAL PASSENGER ACCIDENTS/INCIDENTS section numbers.

South Carolina deaths and injuries are generally static over time reflecting variations in incident severity. In August 2013, an Amtrak train traveling from New Orleans to New York, was derailed near Spartanburg. Fortunately there were no fatalities. In February 2018, two people were killed and 116 others injured when an Amtrak train traveling from New York to Miami struck a CSX freight train.

2.1.6.2 South Carolina Strategic Highway Safety Plan

The South Carolina Strategic Highway Safety Plan (SHSP) was updated in 2015 and is currently undergoing another update. The most recent update of the SHSP was entitled Target Zero and covers the years 2015 to 2018 with annual implementation plans developed during this time.

South Carolina's Strategic Highway Safety Plan, or SHSP, is a statewide, comprehensive safety plan that provides a coordinated framework toward eliminating deaths and severe injuries on South Carolina's public roads. This coordination requires combining and sharing resources and focusing efforts on areas with the greatest potential for improvement. The SHSP strategically establishes statewide priorities and identifies critical emphasis areas that were identified through detailed analysis of statewide crash data. The development of the SHSP was also performed in consultation with federal, state, local, and private-sector safety stakeholders. The strategies developed involve the **4 E's of Safety** (i.e., Engineering, Enforcement, Education, and Emergency Medical Services).

In 2011, the Director of the SC 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 for the State. This goal, also strongly supported by the South Carolina Department of Transportation (SCDOT) and the South Carolina Department of Motor Vehicles, became the starting point for the State's 2015 update of the SHSP, entitled Target Zero.

The federal transportation act, Moving Ahead for Progress in the 21st Century (MAP-21), established a new requirement for all states to update their respective Strategic Highway Safety Plans (SHSP) every five years in order to continue to qualify for receipt of Highway Safety Improvement Program (HSIP) funds. South Carolina will produce another four or five year plan that should be completed during CY 2019.

Using the same process for the 2015-2018 SHSP, the Steering Committee will use a data-driven approach to identify emphasis areas for the next SHSP. The SHSP Emphasis Areas will not be finalized until the document has been completed; however preliminary analysis reveal the priority traffic safety areas for fatal and severe injury collisions from 2014 to 2018, shown in

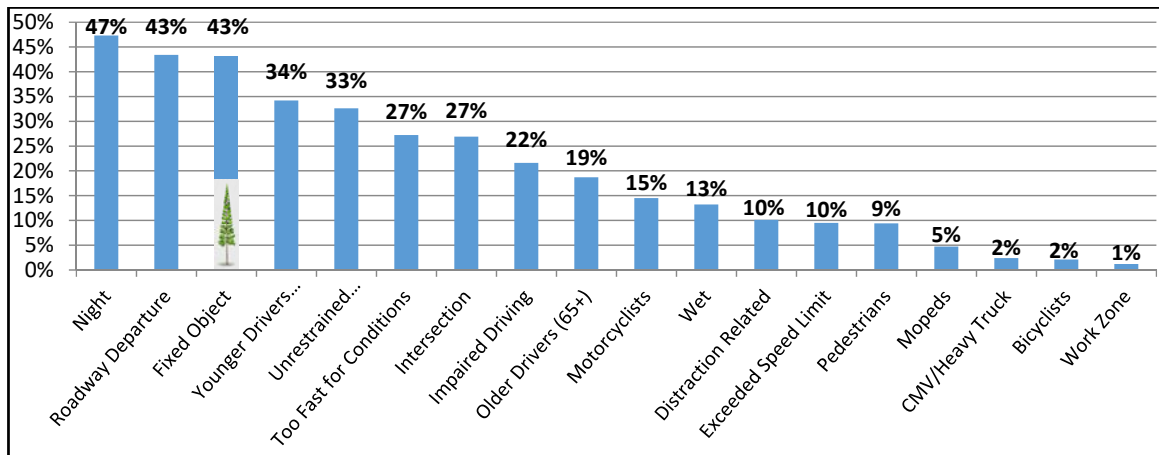
Table 2-15 and Figure 2-14. While crash causation factors are often interrelated, the critical areas to target are evident. It is expected that the major focus areas for South Carolina will remain similar to those identified in the 2007 and 2015 SHSP with only slight changes in terminology and a few additions – primarily night time, fixed object, and wet roadway related crashes.

Table 2-15: State Strategic Highway Safety Plan Preliminary Data Analysis, 2014-2018

South Carolina 2014-2018	Fatalities		Severe Injuries		Fatal and Severe Injury Collisions	
	# of People	% of Total	# of People	% of Total	# of People	% of Total
Night Time	2,669	55.5%	6,551	44.5%	7,807	47.30%
Roadway Departure	2,107	43.8%	5,965	40.5%	7,162	43.40%
Fixed Object	2,331	48.4%	6,025	40.9%	7,115	43.10%
Younger Driver (15-24)	1,580	32.8%	5,626	38.2%	5,637	34.20%
Unrestrained MV Occupants	1,574	48.9%	2,656	18.0%	3,685	32.60%
Driving Too Fast for Cond.	1,224	25.4%	4,038	27.4%	4,493	27.20%
Intersection	1,012	21.0%	4,241	28.8%	4,435	26.90%
Impaired Driving	1,537	31.9%	2,887	19.6%	3,564	21.60%
Older Driver (65+)	1,014	21.1%	2,835	19.2%	3,077	18.70%
Motorcyclists	592	12.3%	1,959	13.3%	2,396	14.50%
Wet Related	684	14.2%	1,924	13.1%	2,184	13.20%
Distraction Related	288	6.0%	1,681	11.4%	1,664	10.10%
EASL Related	831	17.3%	1,158	7.9%	1,573	9.50%
Pedestrians	695	14.4%	902	6.1%	1,549	9.40%
Moped Operators	173	3.6%	636	4.3%	778	4.70%
Heavy Related	359	7.5%	589	4.0%	773	4.70%
CMV/Heavy Truck Related	190	3.9%	311	2.1%	395	2.40%
Bicyclists	91	1.9%	254	1.7%	342	2.10%
Work Zone Related	77	1.6%	150	1.0%	195	1.20%
Railroad Crossing Related	14	0.3%	10	0.1%	21	0.10%

*Fatal and severe injury crashes may have more than one factor; however the total figures are representative of total fatalities, severe injuries, and collisions during this time period. Percentages will total more than 100% and individual categories will total more than the 2014-2018 total.

Figure 2-14: Crash Cause Factors



2.1.6.3 Highway-Rail Grade Crossings

The rail safety area most visible to the general public as a whole is the interface between the rail and highway systems at grade crossings. As a result of the railway crossing inventory performed by the Federal Highway Administration in the 1970s, each state could develop engineering projects with the goal of reducing train-vehicle collisions. The Rail grade Safety Program was established to address rail grade and crossing safety nationwide. SCDOT was charged with inspecting every public crossing for appropriate traffic control. MAP-21 continued the annual set-aside for elimination of hazards at railway-highway crossings from the state’s HSIP apportionment. Funds are eligible for projects at all public crossings. Fifty percent of the funds must be used for the installation of protective devices at railway-highway crossings.

In South Carolina, from 2013 to 2017, railway-highway crossing collisions accounted for an average of 2.2 fatalities per year and 7.8 severe injuries per year. The number of fatalities at rail grade crossings had been declining but demonstrated a slight uptick in the most recent five year average, as shown in **Figure 2-15**, which also shows the 5-year rolling average of fatalities. **Figure 2-16** shows serious injuries at railway-highway crossings.

Figure 2-15: Fatalities at Railway-Highway Crossings 5-yr avg. Performance Measure Data

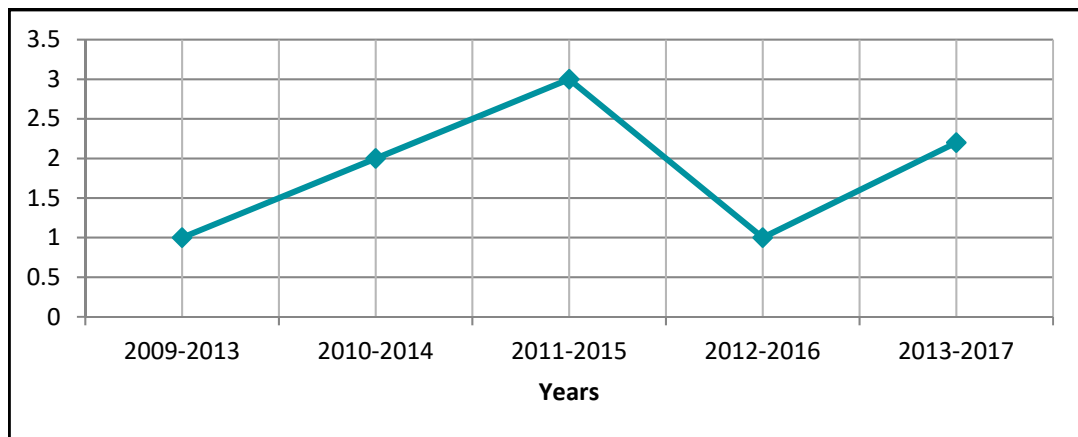
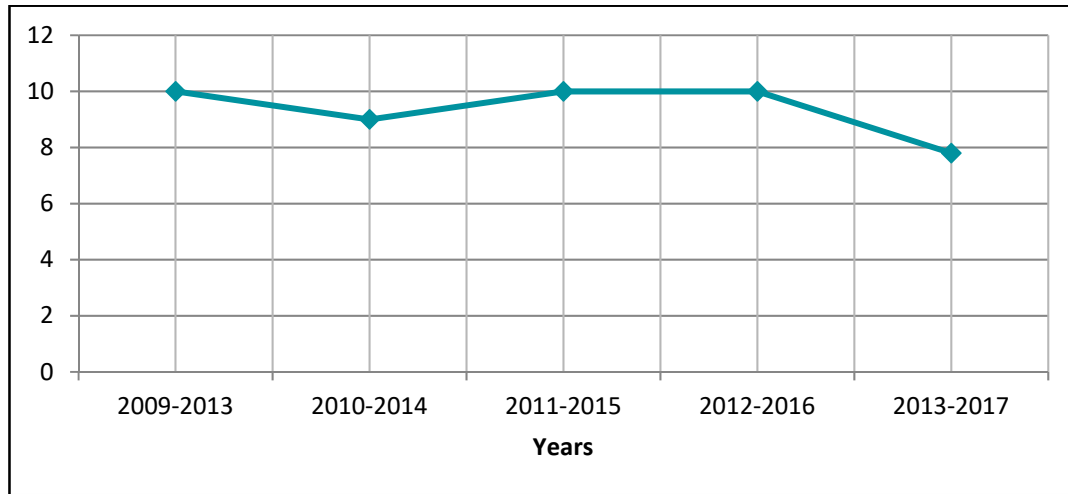


Figure 2-16: Serious Injuries at Railway-Highway Crossings 5-yr avg. Performance Measure Data



In almost 41% of the collisions with fatalities and serious injuries a contributing factor was driver disregarding sign or signals⁶. There are 3,967 highway-rail crossings in South Carolina, with 2,657 located on public roadways, 1,296 crossings on private roads, and 14 pedestrian crossings. The highway-rail safety program in South Carolina is the responsibility of the Traffic Safety arm of the Traffic Engineering Group of the SCDOT Engineering Division. It manages federal funds for grade crossing improvements derived from Section 103 monies. Funding levels total some \$4 million per year, and are used to improve 10-12 crossings annually. Improvements currently consist principally of converting at-grade crossings protected with flashing lights to gated crossings. In the process, each of the 2,700 public crossings in the state is ranked for priority. The rankings are re-evaluated on an annual basis. The SCDOT currently has 22 grade crossing improvement projects underway. The projects listed in **Table 2-16**. Error! No bookmark name given.

2.1.6.4 Rail Safety Inspection

In addition to the grade crossing inspections conducted by SCDOT, the Office of Regulatory Staff (ORS) works in partnership with the FRA to provide routine compliance inspections. The South Carolina Office of Regulatory Staff (ORS) has been directed by the South Carolina General Assembly (S.C. Code Ann. Section 58-17-140 as amended by 2006 S.C. Acts No. 318) to compile information regarding railroad transportation activities in the State on an annual basis. In 2017, ORS continued to share the responsibility for railroad safety oversight with the Federal Railroad Administration (FRA) in two areas: 1) Track and 2) Operating Practices (OP). The FRA Track Division promotes understanding of and compliance with the federal Track Safety standards and provides technical expertise regarding track safety standards, roadway worker standards, and roadway maintenance machine standards, relevant to 49 CFR 213 and 214 disciplines. The OP Division promotes understanding of and compliance with the federal Track Safety standards and provides technical expertise regarding track safety standards, roadway worker standards, and roadway maintenance machine standards, relevant to 49 CFR 213 and 214 disciplines. The OP Division promotes understanding of and compliance with

⁶ Target Zero, South Carolina’s Strategic Highway Safety Plan (Draft)

Table 2-16: FY 2019 Active Railroad Projects

County	Road / Route ID	RR Company	RR Crossing Number	Work Type
Aiken	Gum Swamp Rd.	CSX	633 698G	Std FLS w / Gates
Allendale	Road S-114 (9th Street)	CSX	634 827X	Std FLS w / Gates
Anderson	Ball St (L-8204)	NS	717 257U	Std FLS w / Gates
Charleston	S-58 Virginia Street	PR	721 435K	Cant FLS w / Gates
Charleston	New Rd (L-1774)	CSX	632 411B	Std FLS w / Gates
Chester	SC Route 9 Bypass	L&C	861054G	Cant FLS w / Gates
Dillon	S-50 Minturn Rd.	CSX	634 467C	Std FLS w / Gates
Edgefield	S-101 Riegel Rd	NS	715 697D	Add Gates
Greenville	S-657 Brown St.	NS	717 076P	Std FLS w / Gates
Greenville	Arnold St. (L-1186)	CSX	640 603N	Std FLS w / Gates
Greenville	US 25	NS	717 105X	Upg Cant FLS
Greenville	Tanner Drive (L-3058)	CSX	640 659H	Std FLS w / Gates
Laurens	S-276 Stomp Spring Rd	CSX	638 982R	Std FLS w / Gates
Laurens	U.S. 76 Carolina Ave	CSX	643 244K	Add Gates
Spartanburg	SC-357	CSX	640 686E	Add Gates
Spartanburg	Sims Chapel Rd	CSX	640 920T	Std FLS w / Gates
Spartanburg	Land Grant Road	NS	720726W	Std FLS w / Gates
Sumter	S-528 Kolb Rd.	CSX	633 144D	Add Gates
Sumter	Road S-251 (Starks Ferry Road)	CSX	633 146S	Std FLS w / Gates
Sumter	S-29	CSX	633 155R	Std FLS w / Gates
Sumter	S-507	CSX	632 618H	Add Gates
Williamsburg	Main St. (S-35)	CSX	633 052R	Cant / Std FLS w / Gates

Source: SCDOT Safety Office (May 2019)

federal Operating Practices standards and provides technical expertise regarding railroad carrier operating rules, employee qualification guidelines, and carrier training and testing programs; railroad occupational safety and health standards; the Hours of Service Act; and accident and personal injury reporting requirements.

Through the Staggers Rail Act of 1980, Congress intended to create a competitive economic environment for railroad transportation by deregulating the rates and charges of railroads. The Rail Safety Act and its amendments authorized states to work with the FRA to enforce federal railroad safety regulations. As a result of this legislation, ORS inspectors work in partnership with the FRA to provide routine compliance inspections. ORS inspects approximately 2,600 miles of track and accompanying railroad operations annually. In 2017, ORS reported conducting 229 routine inspections, compiled 263 inspection reports, detected 16 safety violations, and documented 952 safety defects through these inspections.

According to the ORS 2017 Annual Report on Railroad Transportation Activities three challenges face the general public in regard to rail safety. First, blocked railroad crossings are a challenge to South Carolina. S.C. Code Ann. Section § 58-17-4080 (Supp. 2015) states that any railroad that blocks a crossing for more than five minutes is subject to a fine of no more than twenty dollars. A blocked crossing hinders emergency response, slows the flow of commerce and traffic, and can create a dangerous situation for pedestrians. ORS' largest volume of complaints is from blocked crossings.

The second challenge is trespassing. As the population increases in the State, the railroads are facing increasing incidents of trespassing on the tracks and rights-of-way. This situation has led to a general increase in fatalities and injuries on railroad property over the last five years. Third, while collisions at highway-rail grade crossings have decreased over the last five years, motorists continue to disregard crossing arms, cross bucks, signals, and stop signs at grade crossings. Mitigation of these challenges will require legislation to increase penalties for railroad operators whose trains block a crossing and for citizens who trespass or ignore crossing arms and other safety devices at a grade crossing.

2.1.6.4 South Carolina Emergency Management Division

The South Carolina Emergency Management Division, a division of the Adjutant General's Office, is the coordinating agency responsible for the statewide emergency management program. SCEMD's mission is to develop, coordinate, and lead the state emergency management program, enabling effective preparation for, response to and recovery from emergencies and disasters in order to save lives, reduce human suffering and minimize property loss.⁷

To accomplish its mission, the SCEMD established three principal efforts, which are described below:

- Develop plans and procedures to ensure the highest levels of mitigation, preparedness, response, and recovery;
 - Including the South Carolina Emergency Operations Plan, Hurricane Plan, Earthquake Plan, Terrorism Plan and other selected plans.
- Maintain a comprehensive, risk-based, multi-hazard emergency management and training program;
 - Including training of emergency planners and response personnel at the state and county levels, as well as the development and execution of state emergency management exercises.
- Promote public education for citizen preparedness and emergency management issues;
 - Coordinate federal, state and local resources for mitigation, preparedness, response and recovery operations;
 - Maintenance and operation of the State Emergency Operations Center (SEOC) and the Alternate EOC;
 - State assistance in preparedness and response through six emergency management regions;
 - Mitigation programs that focus on the prevention of damage to personal dwellings and state and local infrastructure through technical assistance, including state and local risk assessment, and planning as well as administering the Federal Emergency Management Agency's (FEMA) Pre-Disaster Mitigation Program (PDM) and the Hazard Mitigation Grant Program (HMGP); and
 - Public Assistance (infrastructure) and Individual Assistance (human services) programs, activities and planning to assist citizens during the recovery phase through programs that provide for the repair of damaged infrastructures and the human services programs

⁷ <http://scemd.org/>

administered to the public in the aftermath of a disaster where there is a Presidential disaster declaration.

2.1.6.5 Class I Railroad Homeland Security

CSX has established several public-private partnerships with homeland security officials in 17 states, South Carolina being one, the American Chemistry Council's Chemtrec call-response center, and the Transportation Security Administration. These partnerships provide information, resources and strategies related to the security of the railroad.

Norfolk Southern lists SCEMD as the state contact for Homeland security on their "Protect the Line" website.⁸

2.1.6.6 Strategic Rail Corridor Network

The US Military Surface Deployment and Distribution Command's Transportation Engineering Agency has identified the most important rail lines to national defense in the national Strategic Rail Corridor Network (STRACNET). STRACNET is comprised of a 32,000-mile interconnected network of rail corridors and associated connector lines throughout the country.

The Railroads for National Defense Program (RND) ensures the readiness capability of the national railroad network to support defense deployment and peacetime needs. The Program integrates defense rail needs into civil sector planning affecting the Nation's railroad system. Rail transportation is extremely important to DOD since our heavy and tracked vehicles will deploy by rail to seaports of embarkation. The RND Program, in conjunction with the US Federal Railroad Administration (FRA), established the Strategic Rail Corridor Network (STRACNET) to ensure DOD's minimum rail needs are identified and coordinated with appropriate transportation authorities. STRACNET is an interconnected and continuous rail line network consisting of over 36,000 miles of track serving over 120 defense installations. We work with State DOTs, the Association of American Railroads (AAR), the Surface Transportation Board (STB), the American Railway Engineering and Maintenance of Way Association (AREMA), the FRA, and individual railroad companies to protect this railroad infrastructure. South Carolina's lines included in STRACNET are shown in **Figure 2-17**.

Fort Jackson in Columbia, Shaw Air Force Base in Sumter and two US Navy installations in the Charleston area (North Charleston and Goose Creek) are identified as defense installations requiring rail service. The first two are served from a CSXT line that runs from Columbia through Sumter to Lane. The Naval Weapons Station Charleston, now Joint Base Charleston, is located in Goose Creek and Hanahan in Berkeley County and is served by CSXT. The Naval Weapons Station South, formerly the Charleston Army Depot, in North Charleston is also served by CSXT.

2.1.7 Rail Transportation's Impacts

The impacts of rail transportation on congestion mitigation, trade and economic development, air quality, energy use, and land use in South Carolina are described in this section. Safety impacts are addressed in Section 2.1.6.

⁸ http://www.protecttheline.com/homeland_security.php

2.1.7.1 Congestion Mitigation

Railroads play a double role in roadway congestion. Congestion can result because of railroad operations, but on the flip side, railroads can assist in mitigating congestion.

2.1.7.1.1 Railroad Induced Congestion

The most common induced cause of roadway congestion relates to at-grade highway-rail crossings. The slow passage of long trains over busy roadways, principally in urban areas, creates vehicular backups resulting in delays with loss of the driver’s time combined with additional fuel consumption and emissions, among others. The most common approach to this problem is grade separation, construction of overpasses or underpasses either for individual roadways or as part of a corridor project involving several crossings in the same area. The latter could consist of crossing consolidation involving grade separations combined with selective closures.

Another approach is railroad relocation, or construction of expanded rail sidings. Relocation through new construction on a new alignment is one means, but expensive. Another approach is rerouting trains over another rail line that has fewer crossings and/or less roadway traffic. Often the two are used in combination.

Another induced cause ironically results from mitigation efforts, namely intermodal connection points. A connection between the rail network and other modes typically occurs at ports or intermodal facilities. Proper planning, local commitment and support for improvements are required to ensure proper connectivity with minimal negative impact is in place.

Figure 2-17: South Carolina’s STRACNET Rail Lines



Source: STRATEGIC RAIL CORRIDOR NETWORK (STRACNET) and DEFENSE CONNECTOR LINES (Oct 2018), Military Surface Deployment and Distribution Command Transportation Engineering Agency

2.1.7.1.2 Railroad Mitigation Impacts

Increased demand and continued reliance on auto and air travel for passenger trips and on trucks for freight movement can lead to negative impacts, not only increased congestion, but additional safety and environmental concerns. The most familiar mitigation approach involving railroads is to divert truck transportation to rail for freight, and vehicular and air personal travel to passenger trains. Currently, passenger and freight rail transport face challenges when competing with auto, air, and truck travel. However, perceived rail shortcomings, often due to rail being slower, less convenient and less connected than other modes of travel, can be overcome.

High speed rail offers potential to relieve air transport congestion. For example, travel on the Northeast Corridor between Washington and Boston has attracted a large percentage of former air shuttle passengers between the major cities along the corridor, and the same result is projected for other planned corridors. The status of high speed rail in South Carolina is discussed in Section 2.3.5.

Likewise, commuter trains are effective in mitigating roadway congestion in urban areas during the traditional morning and afternoon rush hours. Rail commuter service does not currently exist in South Carolina, but studies have been conducted in Charleston, Columbia and in the Upstate between Greenville and Spartanburg, the three metro areas that have the most severe rush-hour congestion. Interest remains strong in Charleston.

Mitigation of freight traffic is largely approached using intermodal conversions – rail replacing the line-haul portion of truck movements with the local pick-up and delivery continuing to be performed by the latter. The most common approach considered is rail transport of trailers (piggyback) and containers, but it can also be accomplished with conversion to carload traffic, both point-to-point and transfer between rail and truck. Facilities permitting both forms are located in the state.

An ongoing driver shortage, new regulations that limit a driver's time on the road, such as ELDs (electronic logging devices), as well as spikes in demand due to larger and larger vessels have resulted in an increase in trucking costs and the inability to get trucking services when they're needed. Inland ports have emerged as an important option to counteract the impact of these challenges. Cargo bound for an inland port moves quickly off the marine terminal, onto short haul rail then to the inland port. Such intermodal rail services reduce dependency on the unknown of driver availability, improve operational efficiency via a consistent and forecastable delivery schedule, while at the same time reducing cost. Inland Ports are set-up to be a hub for freight moving to facilities, such as production plants and distribution centers (DC), which are regionally located near the inland port. By using short haul rail, the long truck trip from the marine terminal is eliminated and once the container reaches the inland port, it's only a short dray to the shippers' facility. In addition, shippers achieve operational flexibility at their facilities since the inland port is open for business 24/7.⁹

⁹ <http://www.scsipa.com/wp-content/uploads/scspa-10226-whitepages-inland-ports-03.pdf>

As an example, it has been estimated that the inland port at Greer is expected to remove 25,000 trucks from I-26 between Charleston and the Upstate initially and potentially 100,000 in five years.¹⁰ Building upon the success of Inland Port Greer and the increased industry demand for intermodal rail to move containerized freight, SCPA expanded its footprint in FY2018 with the opening of Inland Port Dillon in April 2018. Inland Port Dillon utilizes an existing CSX intermodal train service to handle container movement to and from the Port of Charleston. It is expected to convert an estimated 45,000 container movements from truck to rail in the first year of operation, deepening the Port's reach into markets to the northeast and Midwest. Located within the Carolinas I-95 Mega Site, Inland Port Dillon is a critical transportation artery in the Southeast.

2.1.7.2 Trade and Economic Development

South Carolina's railroads play a major transportation role in the conduct of the state's trade and in the attraction of new industry. They serve all of the major population and commerce centers as well as the Ports of Charleston and Georgetown. In addition to the provision of direct rail service, they serve multimodal facilities throughout the state, some of which they own and operate, providing rail access to shippers and consignees that do not have access to direct rail service at their place of business.

2.1.7.2.1 Early History of South Carolina Trade

To facilitate trade, the Charleston and Hamburg Rail Road was chartered in 1827¹¹ to build and operate a "railed road" between the two cities as well as Columbia and Camden. Its purpose was not only to reach the interior of the state, but to divert steamboat shipments bound for the Port of Savannah to the Port of Charleston, thus the selection of the terminus, which was across the Savannah River from Augusta. Regular operations began on Christmas Day in 1830 between Charleston and Sans Souci (the current location of the Norfolk Southern-Dorchester Road crossing in North Charleston), the first such in the country. The line reached Columbia in 1842, via a line originating in Branchville, and Camden in 1848.¹²

2.1.7.2.2 Economic Development and Rail

Railroads have long been actively involved in economic development to develop business and generate revenue along their lines. Southern Railway, a Norfolk Southern predecessor, established a Land and Industrial Department in 1896 to encourage growth of industrial, agricultural and natural resource development in its Southeastern service area.¹³

Economic development efforts today consist of resident officers that not only work directly with prospects, but also with state and local development organizations, and those of other service companies such as energy and utility providers. Some prospects specifically search for sites suitable for direct rail service, and many others are looking for sites proximate to intermodal facilities.

Rail carriers also offer services such as site selection, planning and engineering related to site development as it pertains to the provision of rail service. Special programs are also being developed

¹⁰ "S.C.'s inland port open for business in Greer" by Bruce Smith, *The State*, p.B4, October 16, 2013

¹¹ In 1828, the charter fell under the control of the much broader South Carolina Canal and Rail Road charter.

¹² Data obtained from *The Charleston and Hamburg*, by Thomas Fetter, History Press, 2008

¹³ <http://www.areadevelopment.com/logisticsInfrastructure/Q1-2013/rail-road-infrastructure-projects-support-LNG-industry-27627.shtml>

such as CSX’s Select Sites -- certified, rail-ready industrial properties with known risk factors identified and potential issues resolved. To receive the CSX Select Site designation, the sites – from one hundred to one thousand acres in size must meet key criteria, “including infrastructure and utility availability, environmental reviews, appropriate zoning and entitlement, air quality permitting, rail serviceability, proximity to highways or interstates and other attributes. CSX has partnered with The Austin Company, a nationally known site selection certification consulting firm, to screen candidate sites and assist communities with the application and certification process.”¹⁴

Short line carriers now operating former Class I branch lines were initially instrumental in preserving service for a number of on-line businesses. Now they are active in promoting economic development as a means of growing traffic bases. Several of the state’s short lines have connections with both Class I carriers offering industrial prospects additional transportation choices.

In addition to the private carriers, the South Carolina Public Railways, operating as Palmetto Railways, a Division of the Department of Commerce, is also active in economic development as it is charged with supporting economic development efforts throughout the state in addition to operating three railroads. In doing so, it provides technical assistance and consulting services in railroad matters to state, local and municipal governments and has the authority to acquire rail equipment, rights of way, operations, and construct and operate rail lines deemed to be in the public interest to promote and foster economic growth.

2.1.7.3 Energy Use and Air Quality

2.1.7.3.1 Energy Use and Costs

Numerous sources from a wide range of perspectives conclusively indicate that rail transport saves energy and, hence, is vastly more cost efficient than truck highway transport.

U.S. Department of Energy – According to the US Department of Energy’s *Transportation Energy Data Book (Edition 37)*, intercity rail passenger service is 6 percent more efficient than commercial aviation and 25 percent more efficient than the automobile¹⁵. Amtrak onboard surveys indicate that the majority of rail passengers are traveling alone. This is largely because rail passenger service tends to be more attractive economically for the solo traveler than the automobile. As a key priority, focusing on shifting solo travelers from auto to rail yields the greatest energy and greenhouse gas savings.

CSX Transportation has noted that in 2015 one gallon of diesel fuel moved a ton of freight by rail approximately 471 miles – three and one-half times the efficiency of trucks. The US Environmental Protection Agency estimates that for every ton-mile, a typical truck emits three times more nitrogen oxides and particulates than a train. Related studies suggest that trucks emit 6 to 12 times more pollutants per ton-mile than railroads, depending on the pollutant measured. The American Society of Mechanical Engineers found that 2.5 million fewer tons of carbon dioxide would be emitted into the air annually if 10 percent of intercity freight now moving by highway were shifted to rail.

¹⁴ www.csx.com

¹⁵ In past years, rail was even more efficient than commercial aviation. The drop has resulted from higher load factors due to flight cuts and retirement of older aircraft. In 2008, for example, the same report showed intercity rail as 18 percent more efficient than the automobile.

The American Association of State Highway Officials (AASHTO) noted that for each 1 percent of long-haul freight currently moving by truck, fuel savings would be approximately 111 million gallons per year if moved by rail instead; and annual greenhouse gas emissions would fall by 12 million tons. If 10 percent of truck traffic went by rail – via intermodal movements involving both railroads and trucks – the cumulative estimated greenhouse gas reductions from 2007 to 2020 would be 210 million tons. Finally, rail lines can be electrified, yielding additional efficiencies from regenerative braking, and creating opportunities for alternative power sources. Thus shifting of traffic to the rail mode can reduce the energy intensity of transportation while somewhat insulating users from dramatic changes in fuel prices.

National Waterway Foundation – This organization found that fuel usage and associated transport costs vary considerably given the various cargo carrying capacities and the different vehicles required to transport goods. For example, one gallon of fuel can transport one cargo ton approximately 150 miles by truck. Rail can transport the same ton of cargo 3.2 times as far, 478 miles (roughly similar to the AAR figure) on a gallon of fuel. As seen in **Table 2-17**, the energy transport costs of rail transport are approximately 30 percent those of truck. The rail transport cost comparisons are even greater when one considers: (1) labor costs; (2) operation and management costs associated with both vehicles and the infrastructure; and (3) safety and environmental costs.

Table 2-17: Modal Ton-Mile and Energy Cost per Gallon of Fuel

Mode	Ton-Miles	\$/Ton-mile
Tug Barge	616	\$0.0065
Rail Locomotive	478	\$0.0084
Truck	150	\$0.027

*National Waterway Foundation and Texas Transportation Institute;
<http://www.nationalwaterwaysfoundation.org/study/public%20study.pdf>
 Assume \$4.00 cost per gallon*

Ongoing Energy Use Improvements – Railroads are working to even further reduce energy consumption and emissions by using more efficient motive power and cleaner fuels.

The Environmental Protection Agency (EPA) initiated a multi-step program in 2008 to reduce diesel locomotive emissions. The EPA’s stringent Tier 4 standards for newly built and remanufactured locomotives will take effect Jan. 1, 2015. The agency estimates 90 percent particulate matter (PM) reductions and 80 percent nitrogen oxide (NOX) reductions from Tier 4 engines meeting these standards compared to engines meeting the current Tier 2 standards. Further, by 2030, it is estimated the program will result in the reduction of annual emissions of NOX by about 800,000 tons and PM emissions by 27,000 tons. In addition, emission reductions will continue to grow beyond 2030 as fleet turnover is completed.¹⁶ Locomotive builders and diesel power plant suppliers are already supplying power meeting Tier 4 standards.

On another front, using LNG (liquefied natural gas) as a locomotive fuel is being tested, or preparations are being made to test, by four Class I railroads – BNSF, UP, CN, and NS. Significant

¹⁶ <http://www.epa.gov/nonroad/420f08004.pdf>

benefits are expected in both costs and emissions. In terms of reduced fuel expenses, based on current LNG costs, a savings of up to \$200,000 per year per locomotive could be reached. And, while not currently supported by data analyses, some national stakeholder's project that greenhouse gas emissions will be lower than diesel fuel capable of meeting Tier 4 standards.¹⁷

Another approach to reduce fuel consumption and thus emissions is the "genset" locomotive. Railroads are currently adopting this form of motive power for use in yard switching, especially where strict air quality standards have to be met, and serving industrial areas. A few carriers are also using them for light work on branch lines. Classic diesel electric locomotives have a large diesel engine that generates electric power for the traction motors turning the axles. A "genset" locomotive, on the other hand, has two or three smaller engine-generators that are programmed to start up only as needed to meet the traction demand at any one time resulting in less overall fuel consumption

2.1.7.3.2 Environmental Impacts

Comprehensive and easily digestible data on environmental impacts and costs by mode are difficult to find. Nonetheless, the various data sources indicate that freight transport by rail and water vessels generate significantly less environmental impacts and costs than truck transport. Such information follows the general efficiency trends regarding trip distance and costs per ton-mile; both rail and water transport are significantly more efficient than truck.

Regarding fine particle matter with a diameter of 2.5 microns or less (PM2.5), the ton impact per million ton-miles of rail and water transport is approximately one-tenth of truck transport (0.0158 and 0.0128 versus 0.1126, respectively). Similarly, the NOX emission tons per ton-mile traveled for rail and water transport approximate a fifth of truck transport (0.5954 and 0.5171 versus 2.8549, respectively), as seen in

2.1.7.4 Noise

Noise generated in rail operations that receive the most attention are those associated with rail facilities, such as yards and components thereof, and trains passing through at-grade highway-rail crossings. Rail facilities generate noise of a longer duration than passing trains which are intermittent in nature with the frequency depending on the use of the rail line involved. The noise associated with passing trains, however, is intensified with the blowing of train horns at grade crossings.

2.1.7.4.1 Rail Facilities

Most rail facilities have been in operation since the railroad was originally constructed or just after, prior to any environmental impact processes and community input, and land uses have adjusted to them over time. The construction of new facilities, however, faces review through the environmental assessment and impact process, which results in rejection, modification and/or prescribed mitigation measures. The most common community objections are noise generation and vehicular traffic impacts, the latter having been discussed previously. Noise generation is typically addressed with various types of noise barriers, berms and walls for example, distance from the source, and facility

¹⁷ <http://www.railwayage.com/index.php/mechanical/locomotives/experts-weigh-in-on-lng.html>

equipment selection, such as on-terminal cranes and transport units using electric power rather than diesel.

Table 2-18: Environmental Damages and Costs per Million Ton-Miles, by Mode

	Trucks	Rail Locomotives	Waterborne Vessels
Ton Miles (Millions) ¹	2,040,000	1,819,633	274,367
PM2.5 Emissions			
Tons (Total)	<u>229,754</u>	<u>28,690</u>	<u>3,520</u>
Tons per Million Ton-Miles	0.1126	0.0158	0.0128
Damages per Ton	<u>\$251,466</u>	<u>\$251,466</u>	<u>\$251,466</u>
Damages per Million Ton-Miles	<u>\$28,320</u>	<u>\$3,960</u>	<u>\$3,230</u>
NOX Emissions			
Tons (Total)	<u>5,824,060</u>	<u>1,083,320</u>	<u>141,865</u>
Tons per Million Ton-Miles	2.8549	0.5954	0.5171
Damages per Ton	<u>\$4,610</u>	<u>\$4,610</u>	<u>\$4,610</u>
Damages per Million Ton-Miles (\$000)	<u>\$13,160</u>	<u>\$2,740</u>	<u>\$2,380</u>
CO2 Emissions			
Tons (Total)	<u>468,702,800</u>	<u>52,690,500</u>	<u>5,286,600</u>
Tons per Million Ton-Miles	229.76	28.96	19.27
Damages per Ton ²	N/A	N/A	N/A
Damages per Million Ton-Miles (\$000)	N/A	N/A	N/A
Summary Damages per Million Ton-Miles²	<u>\$41,480</u>	<u>\$6,710</u>	<u>\$5,610</u>

Source: Surface Freight Transportation; A Comparison of the Costs of Road, Rail, and Waterways Freight Shipments That Are Not Passed on to Consumers; GAO, January 2011; <http://www.gao.gov/new.items/d11134.pdf>

Monetary values in 2010\$

¹Trucks and Locomotives reflect 2007 ton-miles, versus year 2005 for waterborne vessels

²Damages per ton not available

³Excludes CO₂ damages

2.1.7.4.2 At-Grade Crossings

In addition to the potential to create roadway congestion, grade crossings are also noise generators due principally to the blowing of train horns as required by law as a safety precaution. One means to combat train horn noise is the implementation of railroad quiet zones. These are zones involving one or more highway-rail crossings where the locomotive engineer is not obligated to blow his horn approaching the crossing(s)¹⁸.

The procedures whereby a community can implement a quiet zone are specified by the Federal Railroad Administration¹⁹. Typically, improvements need to be made to enhance safety at the crossings as a means to mitigate the absence of the train horn warning. Steps are taken to prevent roadway vehicles from crossing the track(s) and include such measures as four-quadrant gates, medians on approaches along with gates at the crossings, one-way streets, street closures, etc. Once the improvement designs are reviewed and approved by the FRA and the railroad(s) involved, a quiet

¹⁸ Federal regulations specify that trains horns be sounded while trains approach and enter highway-rail crossings.

¹⁹ <http://www.fra.dot.gov/rpd/freight/1318.shtml>

zone can be established. After implementation locomotive engineers will not blow their horns in the zone except when they feel it necessary to rectify an unsafe condition, such as pedestrians traversing the crossing despite the gates and flashing lights. Quiet zones are generally implemented by the impacted communities.

Three quiet zones have been implemented in the state, in North Charleston (CSX), Spartanburg (NS), and Charleston (NS), and others have been studied. Columbia is one of the communities that has expressed interest and prepared a preliminary appraisal of several rail corridors.²⁰

2.1.7.5 Land Use

There are linkages between transportation and land use that support or encourage the development of certain land uses. They exist both for freight and passenger service.

2.1.7.5.1 Compatibility

Freight railroads are best suited to traverse industrial, agricultural, natural resource and other non-residential land uses. In this manner conflicts associated with developed and populated areas are avoided while simultaneously creating opportunities to capture additional revenue-generating traffic. Preservation of such properties, however, requires vigilance, especially in growth communities, to prohibit them from being consumed by urban sprawl. Vacant land with industrial zoning and good rail access should be a priority as well as that with the potential to be zoned industrial.

Passenger trains, on the other hand, need access to stations in developed and populated areas to generate ridership. This holds true for long-distance trains as well as local and regional service. Passenger service, principally local service, also can spur development around station locations resulting in land use that often takes the form of mixed-use development with higher densities, an integrated mobility system, and a more pedestrian-friendly environment. Smart growth and the development around train stations facilitate travel patterns that are more energy efficient than auto-oriented development and contribute to a safer, more livable, sustainable community. However, there is no regional or local service in the state, and although there is some interest, only preliminary studies have been conducted. Thus the only South Carolina rail stations serve as Amtrak stops with most of the stations built by the original railroads serving the community.

2.1.7.5.2 Barriers

Rail lines traversing developed areas can also act as barriers. They have the potential to physically and socially divide neighborhoods, cause traffic congestion and limit access by emergency response services. In addition to the accident potential created at at-grade highway-rail crossings, the temptation for pedestrians to cross the tracks and to use the tracks and rights-of-way as paths generates trespassing safety concerns. In 2013 there were 12 trespassing deaths and 12 injuries in South Carolina, up from 7 and 6, respectively, in 2011.²¹ Continued growth of rail traffic on the state's rail system will intensify the need to improve safety and other community concerns.

²⁰ *Columbia Quiet Zone Feasibility Study*, prepared for the City of Columbia by Wilbur Smith Associates, 2003

²¹ U.S. Department of Transportation, Federal Railroad Administration, *Office of Safety Analysis. Data* available at <http://safetydata.fra.dot.gov/officeofsafety/> as of May 21, 2014 (Excludes highway-rail crossing incidents).

2.2 Existing Rail System: Trends and Forecasts

This section discusses trends and forecasts that may impact rail freight and passenger demand in future years.

2.2.1 Demographic and Economic Growth Factors

2.2.1.1 Population

2.2.1.1.1 Historical Population Trends

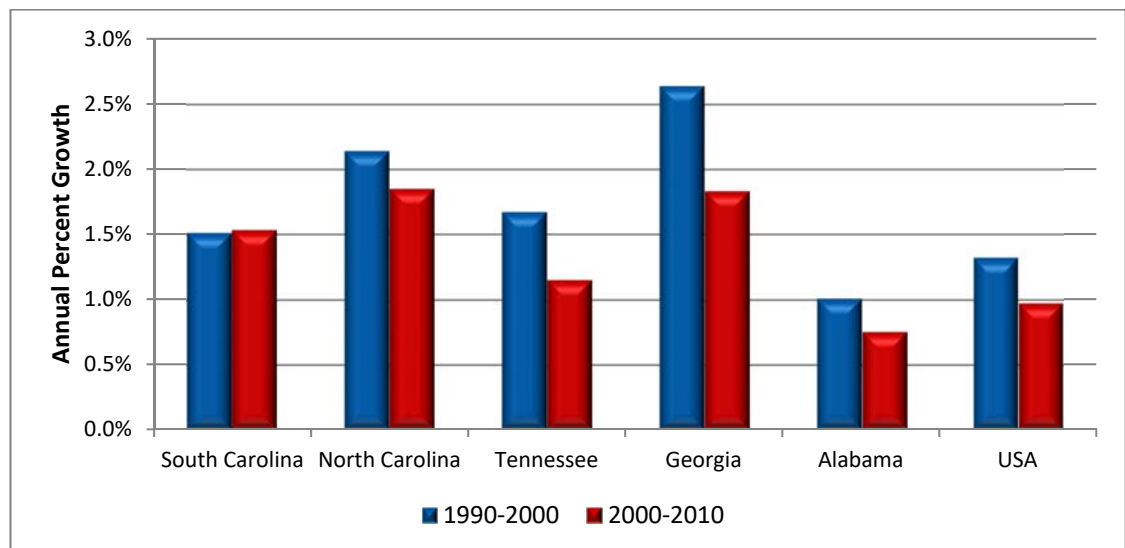
Between 2000 and 2010, the population of South Carolina increased by 15 percent, from 4.012 million to 4.625 million. Compared to the US growth during the same period of 9 percent, South Carolina’s growth was almost 70 percent greater than the nation’s, but comparable to nearby states. Population totals and growth rates in the past two decades are shown in **Table 2-19** and **Figure 2-18** for South Carolina, nearby states and the country as a whole.

Table 2-19: South Carolina Population in 1990, 2000, and 2010

State	Population			Annual Growth Rate	
	1990	2000	2010	1990-2000	2000-2010
South Carolina	3,486,703	4,012,012	4,625,364	1.51%	1.53%
North Carolina	6,628,637	8,049,313	9,535,483	2.14%	1.85%
Tennessee	4,877,185	5,689,283	6,346,105	1.67%	1.15%
Georgia	6,478,216	8,186,453	9,687,653	2.64%	1.83%
Alabama	4,040,587	4,447,100	4,779,736	1.01%	0.75%
United States	248,709,873	281,421,906	308,745,538	1.32%	0.97%

Source: U.S. Census Bureau

Figure 2-18: South Carolina and Nearby States Population Growth Rates



Source: U.S. Census Bureau

South Carolina’s 2010 population placed it 24th in rank compared to other states, compared to 26th in 2000 and 25th in 1990.

2.2.1.1.2 Population Projections

Population projections for South Carolina and nearby states, based on US Census Bureau publications,²² are summarized in **Table 2-20**.

Table 2-20: Population Projections, 2020 – 2040

State	Population ⁽¹⁾	
	2030	2040
South Carolina	5,792,247	6,352,502
North Carolina	11,673,849	12,658,927
Tennessee	7,395,106	7,823,662
Georgia	11,835,126	12,820,271
Alabama	5,029,833	5,056,796
United States	357,975,719	379,392,779

State	Annual Percentage Growth		Total Percent 2020-2040
	2020-2030	2030-2040	
South Carolina	1.2%	1.0%	22.5%
North Carolina	1.1%	0.8%	19.8%
Tennessee	0.8%	0.6%	14.0%
Georgia	1.0%	0.8%	19.5%
Alabama	0.2%	0.1%	3.0%
United States	1.1%	0.9%	14.1%

Source: Weldon Cooper Center for Public Service, Demographics Research "Observed and Total Population for the US and the States, 2010 - 2040"

2.2.1.2 Distribution of Population Growth within South Carolina

The growth in population in South Carolina over the last 20 years has not been evenly distributed throughout the state. Growth in ten regions is shown in **Table 2-21**. Projected populations are also shown to 2040. These regions follow COG boundaries shown in **Figure 2-21: South Carolina Rail Freight Tonnage (2040)**.

All COG regions experienced growth from 1990 to 2010. In seven of the regions, growth was higher during the first decade than the second. Two Coastal COGs, Waccamaw Regional PDC and Lowcountry COG, saw the highest population increases over the two decades with Lower Savannah COG and Pee Dee Regional COG experiencing the lowest.

Based on a report from the Carolina Population Center at UNC-Chapel Hill, it is the counties with metro or micropolitan areas that can expect the majority of the growth forecasted for the state. The latest population estimates that included state-level projections showed that most urban areas were growing on par with what has been expected, with the exception of the Charleston area, which has gained almost twice as many residents as expected. However,

²² U.S. Census Bureau, website at <http://www.quickfacts.census.gov>

more rural counties have lost population--twice as many as originally anticipated (22, up from 11).

Based on the regional population projections from the State Data Center, the Catawba RPC and Waccamaw PDC will be the fastest growing regions from 2010 to 2040. The Upper Savannah, Pee Dee Regional, and Santee-Lynches COGs are projected to have the slowest growth. Based on these projections, the population of South Carolina is expected to reach 6 million by 2035, approximately 30% higher than at the 2010 census, as shown in **Figure 2-20**.

Table 2-21: Population Growth by Council of Government

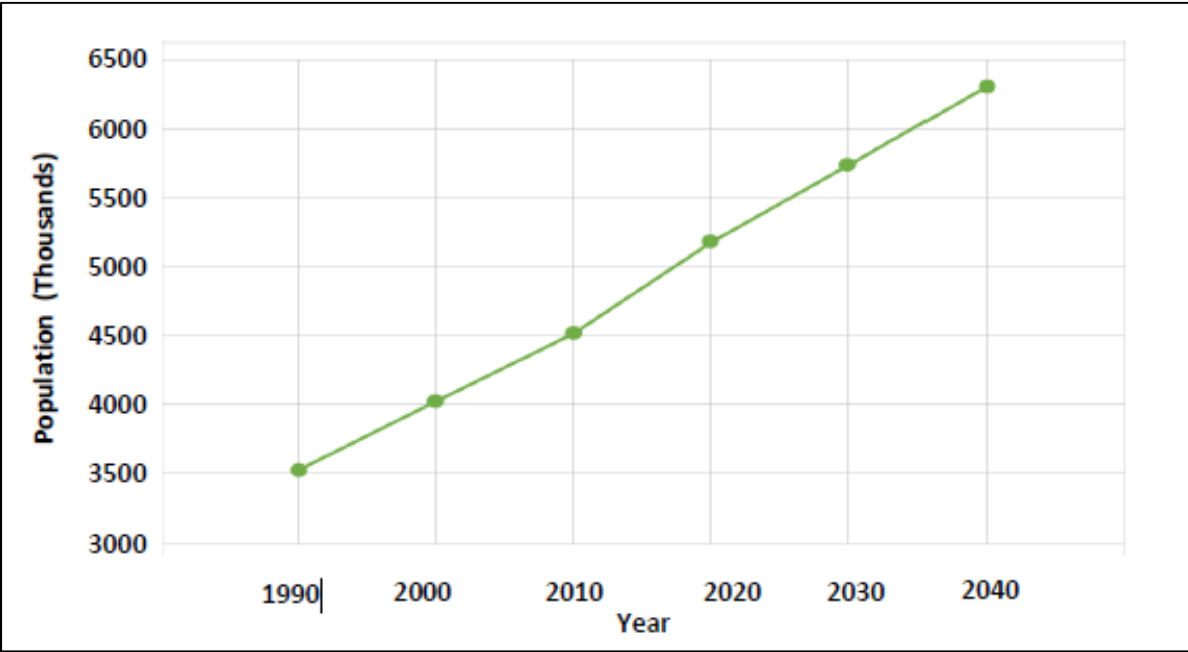
Council of Government Areas	Population (Thousands)						Annual Growth				
	1990	2000	2010	2020	2030	2040	90-00	00-10	10-20	20-30	30-40
Appalachian COG	888.0	1,028.7	1,144.0	1,302.3	1,426.5	1,575.1	1.5%	1.3%	1.4%	1.0%	1.0%
Berkeley-Charleston-Dorchester COG	506.9	549.0	667.5	827.6	1,001.7	1,106.8	0.8%	1.9%	2.9%	2.1%	1.0%
Catawba RPC	248.5	289.9	365.9	431.1	503.0	564.2	1.6%	2.3%		1.7%	1.2%
Central Midlands	508.8	596.3	710.6	792.4	871.5	974.7	1.6%	1.7%	1.5%	1.0%	1.2%
Lowcountry COG	154.5	201.3	247.7	285.0	327.1	371.5	2.7%	2.1%	1.9%	1.5%	1.4%
Lower Savannah COG	300.7	309.6	316.8	314.0	304.8	310.0	0.3%	0.1%	0 %	-0.3%	0.2%
Pee Dee Regional	307.1	330.9	346.3	338.4	324.0	335.6	0.7%	0.5%	-0.2%	-0.4%	0.4%
Santee-Lynches COG	193.1	209.9	223.4	221.6	215.3	225.6	0.8%	0.6%	0 %	-0.3%	0.5%
Upper Savannah COG	185.2	215.7	218.7	215.7	207.5	217.3	1.5%	0.1%	-0.1%	-0.4%	0.5%
Waccamaw Reg. PDC	227.2	289.6	364.9	447.8	549.2	620.8	2.5%	2.3%	2.7%	2.3%	1.3%
South Carolina	3,486.7	4,012.0	4,635.7	5,175.8	5,730.5	6,301.6	1.4%	1.4%	1.5%	1.1%	1.0%

Sources: U.S. Census Bureau, and SC State Data Center

Figure 2-19: South Carolina MPO and COG Boundaries



Figure 2-20: South Carolina Population: 1990 to 2040



Source: U.S. Census Bureau, SC State Data Center

2.2.1.3 Employment

South Carolina’s continued economic development depends heavily on transportation infrastructure. The transportation system can also greatly influence the character and impact of development. If the system fails to provide the means for efficient and convenient movement of people and goods, the state’s economy may fail to grow to its potential.

Between 2000 and 2010 South Carolina’s employment rate as a percentage of the employable population (population over 16 years of age in the labor force) decreased from 63.4 percent to 62.9 percent. However the number employed grew by 269,475 or approximately 1.4 percent per year.

Table 2-22 compares employment data for South Carolina, nearby states and the nation. Employment growth in South Carolina was greater than for the rest of the country as a whole, with a rate of 1.1 percent per year. Neighboring states ranged from 0.9 % (Alabama) to 1.6% (Georgia). The employment rate did not grow as fast as the population rate during the 10-year period, as was the case in all neighboring states except Alabama.

2.2.1.4 Employment Projections

Future trends for South Carolina employment are based on data obtained through SC Works' online platform. This site provided Occupational Employment Projections in South Carolina for all occupations using a base year of 2016 and a projected year of 2026. Employment projections are shown in **Table 2-23**.

Table 2-22: Statewide Employment Data for 2016 and 2026

State	2016	2026	Comparison Amongst States		
	Employment	Employment	% Change	Total Change	Avg Openings /Year
South Carolina	2,205,700	2,462,030	11.6%	256,330	284,340
North Carolina	4,610,380	5,073,990	10.1%	463,610	577,660
Tennessee	3,175,450	3,531,210	11.2%	355,760	404,780
Georgia	4,504,560	5,029,480	11.7%	524,920	571,900
Alabama	2,122,970	2,269,940	6.9%	146,970	255,950
United States	156,063,800	167,582,300	7.4%	11,518,500	18,742,000

Source: The Employment and Training Administration of the U.S. Department of Labor

Table 2-23: South Carolina Occupational Employment Projections – All Occupations

	2016 Employment	2026 Projected Employment	Employment Change	Annual Average Percent Change	Total Percent Change
All Occupations	2,205,704	2,462,025	256,321	1.1%	11.6%

Source: SC Works website

2.2.1.5 Household Income

According to the Census ACS 1-year survey²³, the median household income for South Carolina was \$50,570 in 2017, the latest figures available. Compared to the median US household income, South Carolina median household income is \$9,766 lower. The ACS survey shows the median per capita income for South Carolina was \$27,909 in 2017. Compared to the US per capita income of \$32,397, South Carolina per capita income is \$4,488 lower.

2.2.1.6 Industrial Outlook by Sector

Table 2-24 summarizes major commodity tonnage movements by rail in 2040, and the associated commodity tonnage growth from 2016.

- *Total Tonnage – Major rail commodities in 2040 include: Chemicals or Allied Products (26.7 million, 25.1 percent), Misc. Mixed Shipments (14.7 million, 13.8 percent), and Nonmetallic Minerals (11.1 million, 10.4 percent), exhibiting 3.1 percent, 3.1 percent, and 2.1 percent CAGR, respectively.*
- *Tonnage Growth – Commodities with the highest tonnage growth rates between 2016 and 2040 include: Instrument, Photo Equipment, Optical Equipment (7,200 to 31,505, 6.3 percent CAGR), Electrical Equipment (124,080 to 387,702, 4.9 percent CAGR), and Apparel or Related Products (457,280 to 1,384,472, 4.7 percent CAGR).*
- *Value Growth – Commodities with the highest value growth rates between 2016 and 2040 include: Instrument, Photo Equipment, Optical Equipment (6.0 percent CAGR), Apparel or Related Products (4.8 percent CAGR), and Rubber/Misc. Plastics (4.6 percent CAGR).*

²³ <https://www.deptofnumbers.com/income/south-carolina/>

Table 2-24: South Carolina Rail Freight by Major Commodities, 2016

STCC2	Commodity	2016		2040		Percent Change	
		Amount	Percent	Amount	Percent	Total	CAGR
28	Chemicals or Allied Products	12,783,432	20.2%	26,740,277	25.1%	109.2%	3.1%
46	Misc. Mixed Shipments	7,079,120	11.2%	14,730,673	13.8%	108.1%	3.1%
14	Nonmetallic Minerals	6,791,128	10.7%	11,123,794	10.4%	63.8%	2.1%
11	Coal	9,259,507	14.6%	9,328,425	8.8%	0.7%	0.0%
20	Food or Kindred Products	4,702,517	7.4%	8,025,399	7.5%	70.7%	2.3%
32	Clay, Concrete, Glass or Stone	3,741,344	5.9%	6,289,475	5.9%	68.1%	2.2%
26	Pulp, Paper or Allied Products	4,718,936	7.5%	6,285,483	5.9%	33.2%	1.2%
33	Primary Metal Products	2,202,991	3.5%	5,195,923	4.9%	135.9%	3.6%
24	Lumber or Wood Products	2,975,188	4.7%	5,191,573	4.9%	74.5%	2.3%
01	Farm Products	2,358,878	3.7%	3,221,862	3.0%	36.6%	1.3%
	Remaining Commodities	6,627,280	10.6%	10,435,040	9.8%	57.5%	1.9%
	Total	63,240,321	100.0%	106,567,924	100.0%	68.5%	2.2%

Source: TRANSEARCH data for 2016 and 2040

Table 2-25 summarizes major railcar movements (i.e., units) in 2040 by commodity type. Rail movements in 2040 total 106.6 million tons, via 2.7 million units, valued at \$190.2 billion, with an average value/ton of \$1,785:

- Total Units – Miscellaneous Mixed Shipments and Chemicals or Allied Products constitute more than half (930,552, 56.7 percent) of the total 2.7 million 2040 rail units.
- Total Value – Top commodities include: Miscellaneous Mixed Shipments (\$76.0 billion or 39.9 percent), Chemicals or Allied Products (\$45.2 billion or 23.7 percent), and Transportation Equipment (\$21.4 billion or 11.3 percent).

Table 2-25: South Carolina Rail Freight forecast – Tons, Units, and Value by Commodity (2040)

STCC2	Commodity	Tons		Units		Value (in millions)		Average Value/Ton
		Amount	Percent	Amount	Percent	Amount	Percent	
46	Misc. Mixed Shipments	14,730,673	13.8%	1,179,687	44.1%	\$75,959	39.9%	\$5,157
28	Chemicals or Allied Products	26,740,277	25.1%	337,406	12.6%	\$45,160	23.7%	\$1,689
20	Food or Kindred Products	8,025,399	7.5%	143,142	5.4%	\$6,252	3.3%	\$779
26	Pulp, Paper or Allied	6,285,483	5.9%	137,511	5.1%	\$6,129	3.2%	\$975
23	Apparel or Related	1,384,472	1.3%	130,628	4.9%	\$7,810	4.1%	\$5,641
37	Transportation Equipment	2,237,304	2.1%	114,324	4.3%	\$21,442	11.3%	\$9,584
14	Nonmetallic Minerals	11,123,794	10.4%	103,103	3.9%	\$143	0.1%	\$13
11	Coal	9,328,425	8.8%	80,298	3.0%	\$325	0.2%	\$35
32	Clay, Concrete, Glass or Stone	6,289,475	5.9%	76,801	2.9%	\$1,235	0.6%	\$196
24	Lumber or Wood Products	5,191,573	4.9%	64,852	2.4%	\$1,292	0.7%	\$249
	Remaining Commodities	15,231,049	14.3%	306,250	11.4%	\$24,435	12.9%	\$1,604
	Total	106,597,924	100.0%	2,674,002	100.0%	\$190,182	100.0%	\$1,785

Source: TRANSEARCH data for 2040

2.2.2 Freight Demand and Growth

2.2.2.1 Rail Forecast

Table 2-26 depicts the directional composition of rail movements in South Carolina between 2016 and 2040, which is relatively constant over the future analysis horizon. Rail tonnage is forecast to increase from 63.2 million in 2016 to 106.6 million in 2040, a cumulative increase of 69 percent, for a CAGR of 2.2 percent. Rail commodity value is forecast to increase from \$93.6 billion in 2016 to \$190.2 billion by 2040, a cumulative increase of 103 percent, for a CAGR of 3.0 percent.

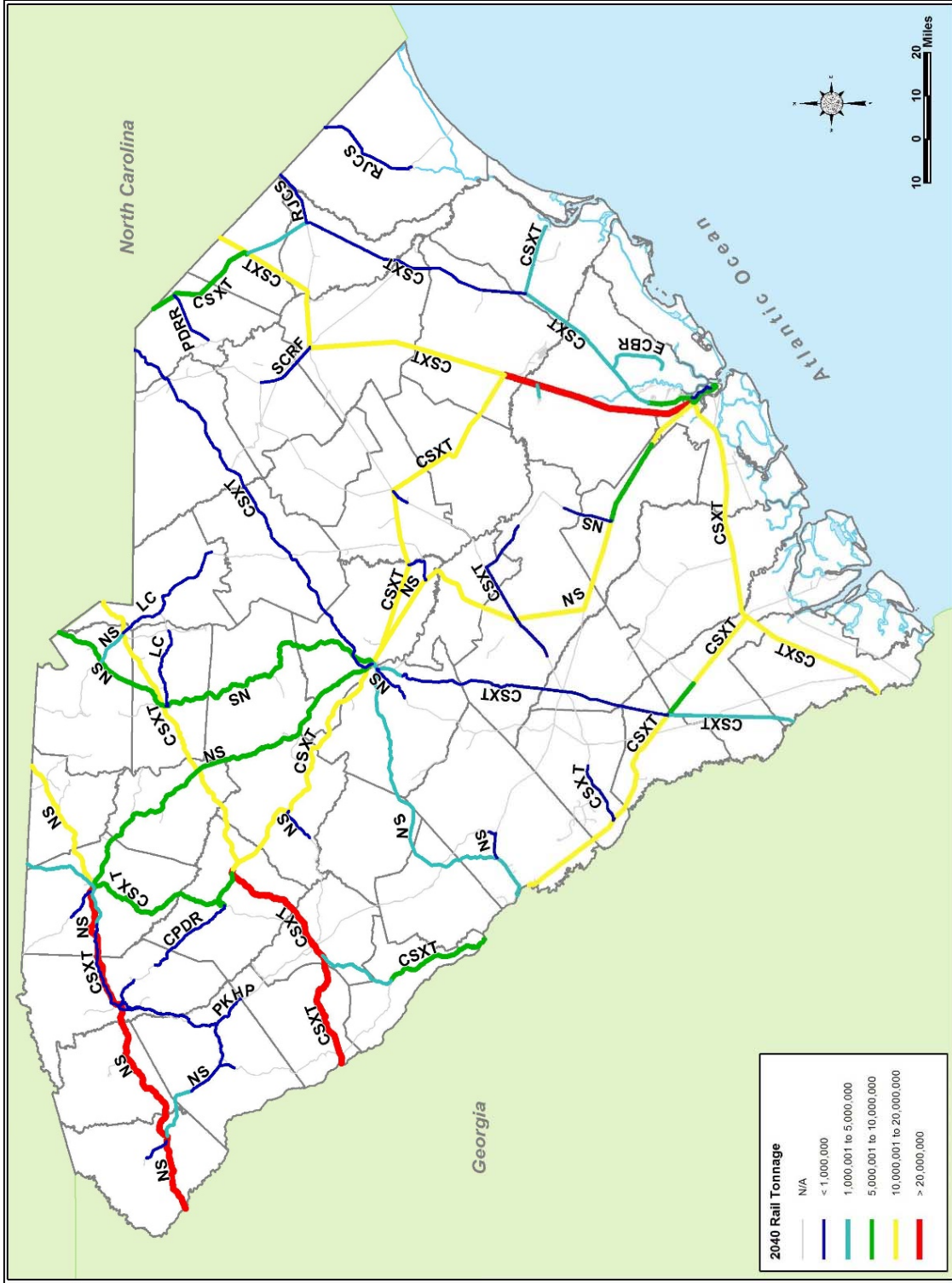
Table 2-26: South Carolina Rail Freight Tonnage and Value by Year and Direction (2016, 2025, 2040)

Direction	Tons		Value (in millions)		Average Value/Ton
	Amount	Percent	Amount	Percent	
Year 2016					
Outbound	7,484,310	11.8%	\$11,629	12.5%	\$1,554
Inbound	21,811,904	34.5%	\$16,867	18.0%	\$773
Intra	5,404,653	8.6%	\$11,711	12.5%	\$2,167
Through	28,539,454	45.1%	\$53,391	57.0%	\$1,871
Total	63,240,321	100.0%	\$93,598	100.0%	\$1,480
Year 2025					
Outbound	9,673,958	12.1%	\$15,677	12.9%	\$1,621
Inbound	26,646,442	33.4%	\$21,759	17.9%	\$817
Intra	8,241,132	10.3%	\$15,345	12.6%	\$1,862
Through	35,292,374	44.2%	\$68,906	56.6%	\$1,952
Total	79,853,906	100.0%	\$121,687	100.0%	\$1,524
Year 2040					
Outbound	13,852,936	13.0%	\$24,095	12.7%	\$1,739
Inbound	31,750,234	29.8%	\$32,644	17.2%	\$1,028
Intra	11,652,371	10.9%	\$23,054	12.1%	\$1,979
Through	49,312,383	46.3%	\$110,388	58.0%	\$2,239
Total	106,567,924	100.0%	\$190,181	100.0%	\$1,785

Source: TRANSEARCH data for 2040

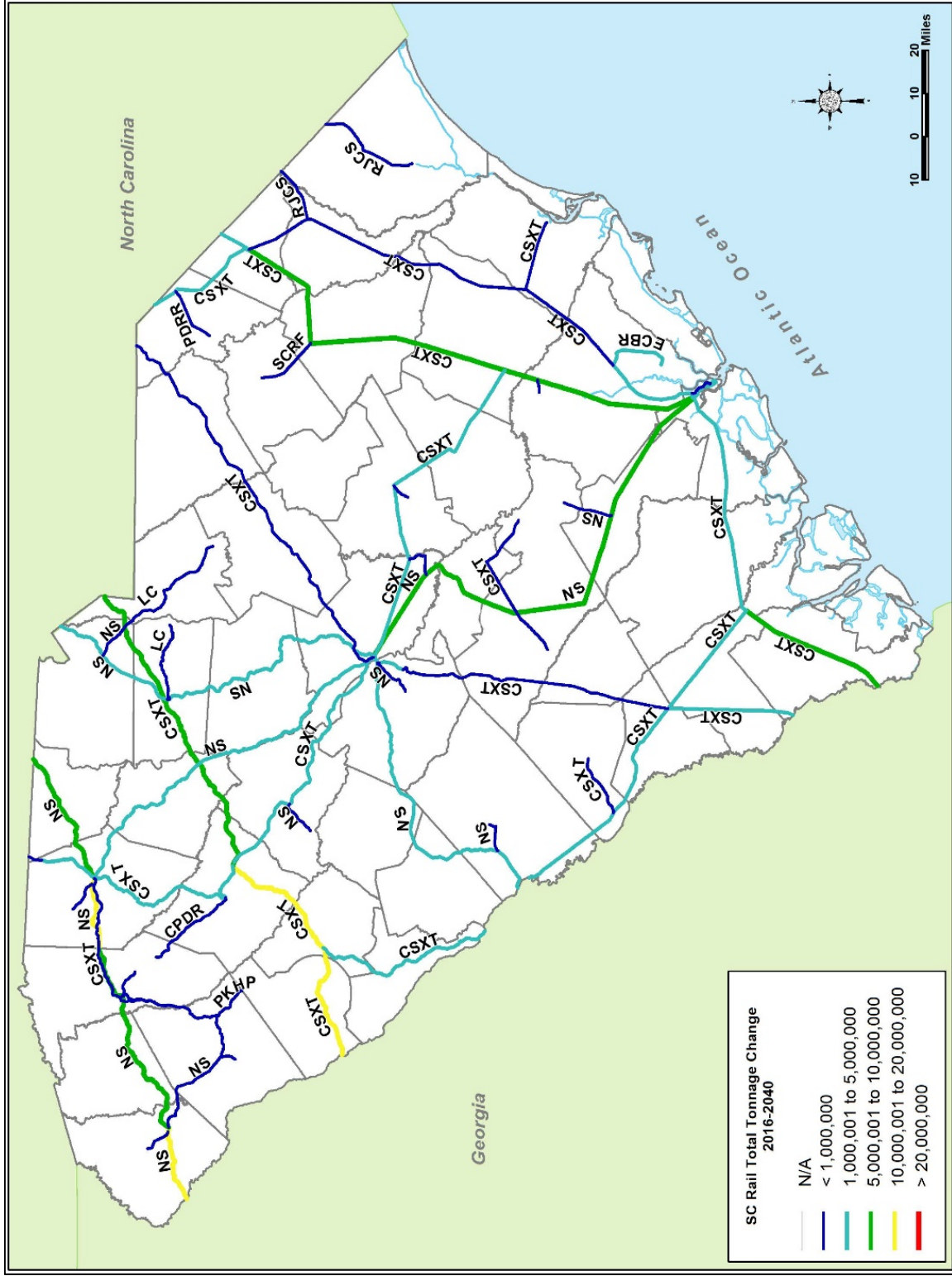
As shown in **Figure 2-21**, the link between Greenwood, SC and Athens, GA continues to handle the greatest rail tonnage per line as it did in 2016 (see **Figure 2-2**). Other notable tonnage movements go through Berkeley, Charleston, Greenville, Pickens and Oconee counties. The greatest rail tonnage growth appears to accrue to the major Class I rail lines (see **Figure 2-22**).

Figure 2-21: South Carolina Rail Freight Tonnage (2040)



Source: TRANSEARCH data for 2040

Figure 2-22: South Carolina Rail Freight Tonnage Change (2016-2040)



Source: TRANSEARCH data for 2016 and 2040

Table 2-27 summarizes major commodity tonnage movements by rail in 2040, and the associated commodity tonnage growth from 2016:

- *Total Tonnage* – Major rail commodities in 2040 include: *Chemicals or Allied Products* (26.7 million, 25.1 percent), *Misc. Mixed Shipments* (14.7 million, 13.8 percent), and *Nonmetallic Minerals* (11.1 million, 10.4 percent), exhibiting 3.1 percent, 3.1 percent, and 2.1 percent CAGR, respectively.
- *Tonnage Growth* – Commodities with the highest tonnage growth rates between 2016 and 2040 include: *Instrument, Photo Equipment, Optical Equipment* (7,200 to 31,505, 6.3 percent CAGR), *Electrical Equipment* (124,080 to 387,702, 4.9 percent CAGR), and *Apparel or Related Products* (457,280 to 1,384,472, 4.7 percent CAGR).
- *Value Growth* – Commodities with the highest value growth rates between 2016 and 2040 include: *Instrument, Photo Equipment, Optical Equipment* (6.0 percent CAGR), *Apparel or Related Products* (4.8 percent CAGR), and *Rubber/Misc. Plastics* (4.6 percent CAGR).

Table 2-27: South Carolina Rail Tonnage Freight Forecast by Commodity (2016, 2040)

STCC2	Commodity	2016		2040		Percent Change	
		Amount	Percent	Amount	Percent	Total	CAGR
28	Chemicals or Allied Products	12,783,432	20.2%	26,740,277	25.1%	109.2%	3.1%
46	Misc. Mixed Shipments	7,079,120	11.2%	14,730,673	13.8%	108.1%	3.1%
14	Nonmetallic Minerals	6,791,128	10.7%	11,123,794	10.4%	63.8%	2.1%
11	Coal	9,259,507	14.6%	9,328,425	8.8%	0.7%	0.0%
20	Food or Kindred Products	4,702,517	7.4%	8,025,399	7.5%	70.7%	2.3%
32	Clay, Concrete, Glass or Stone	3,741,344	5.9%	6,289,475	5.9%	68.1%	2.2%
26	Pulp, Paper or Allied Products	4,718,936	7.5%	6,285,483	5.9%	33.2%	1.2%
33	Primary Metal Products	2,202,991	3.5%	5,195,923	4.9%	135.9%	3.6%
24	Lumber or Wood Products	2,975,188	4.7%	5,191,573	4.9%	74.5%	2.3%
01	Farm Products	2,358,878	3.7%	3,221,862	3.0%	36.6%	1.3%
	Remaining Commodities	6,627,280	10.6%	10,435,040	9.8%	57.5%	1.9%
	Total	63,240,321	100.0%	106,567,924	100.0%	68.5%	2.2%

Source: TRANSEARCH data for 2016 and 2040

Table 2-28 summarizes major railcar movements (i.e., units) in 2040 by commodity type. Rail movements in 2040 total 106.6 million tons, via 2.7 million units, valued at \$190.2 billion, with an average value/ton of \$1,785.

- *Total Units* – *Miscellaneous Mixed Shipments* and *Chemicals or Allied Products* constitute more than half (930,552, 56.7 percent) of the total 2.7 million 2040 rail units.
- *Total Value* – Top commodities include: *Miscellaneous Mixed Shipments* (\$76.0 billion or 39.9 percent), *Chemicals or Allied Products* (\$45.2 billion or 23.7 percent), and *Transportation Equipment* (\$21.4 billion or 11.3 percent).

Table 2-28: South Carolina Rail Freight Forecast – Tons, Units, and Value by Commodity (2040 Units)

STCC2	Commodity	Tons		Units		Value (in millions)		Average Value/Ton
		Amount	Percent	Amount	Percent	Amount	Percent	
46	Misc. Mixed Shipments	14,730,673	13.8%	1,179,687	44.1%	\$75,959	39.9%	\$5,157
28	Chemicals or Allied Products	26,740,277	25.1%	337,406	12.6%	\$45,160	23.7%	\$1,689
20	Food or Kindred Products	8,025,399	7.5%	143,142	5.4%	\$6,252	3.3%	\$779
26	Pulp, Paper or Allied	6,285,483	5.9%	137,511	5.1%	\$6,129	3.2%	\$975
23	Apparel or Related	1,384,472	1.3%	130,628	4.9%	\$7,810	4.1%	\$5,641
37	Transportation Equipment	2,237,304	2.1%	114,324	4.3%	\$21,442	11.3%	\$9,584
14	Nonmetallic Minerals	11,123,794	10.4%	103,103	3.9%	\$143	0.1%	\$13
11	Coal	9,328,425	8.8%	80,298	3.0%	\$325	0.2%	\$35
32	Clay, Concrete, Glass or Stone	6,289,475	5.9%	76,801	2.9%	\$1,235	0.6%	\$196
24	Lumber or Wood Products	5,191,573	4.9%	64,852	2.4%	\$1,292	0.7%	\$249
	Remaining Commodities	15,231,049	14.3%	306,250	11.4%	\$24,435	12.9%	\$1,604
	Total	106,597,924	100.0%	2,674,002	100.0%	\$190,182	100.0%	\$1,785

Source: TRANSEARCH data for 2040

2.2.3 Passenger Travel Demand and Growth

As described previously, Amtrak provides intercity passenger rail service in South Carolina on their *Silver Star*, *Silver Meteor*, *Palmetto*, and *Crescent* routes making stops at 11 different locations in the state. Based on a simplified calculation of boardings and alightings at these stations in 2012 and projected growth in population in the station's region, the estimate of passenger rail patronage for Amtrak services reflects total growth of 26 percent to 2040 as shown in **Table 2-29**. The actual 2040 figures may be significantly different than forecast.

Table 2-29: Projected Rail Passenger Growth

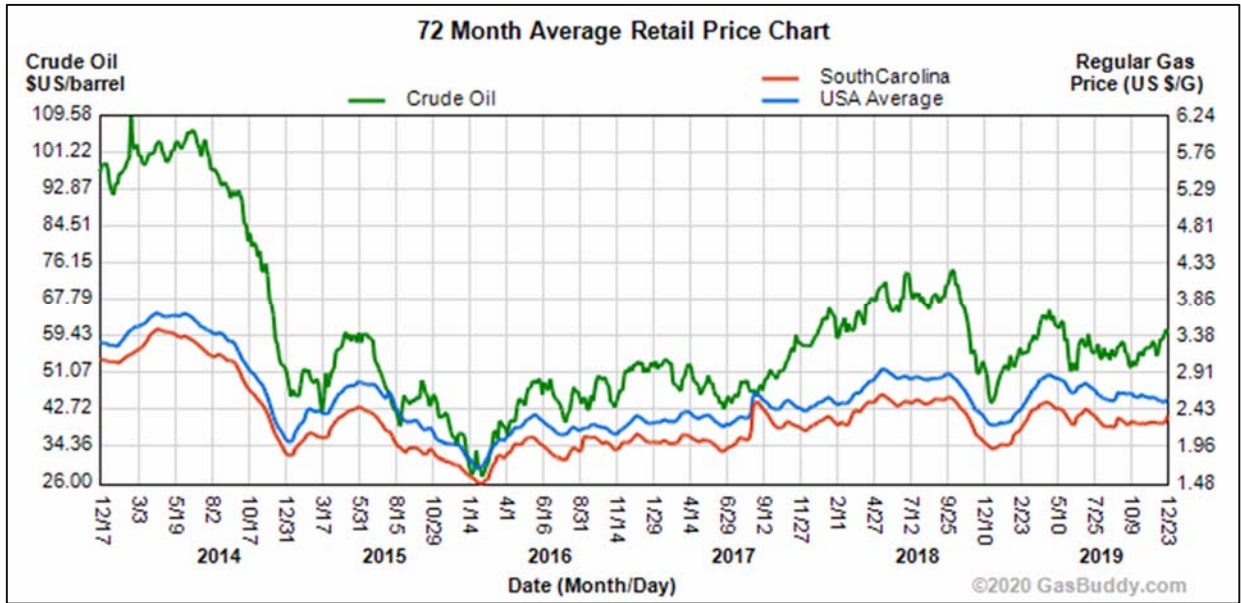
City	Population (AAGR (1))	Boardings + Alightings	
		2012	2040
Camden	0.53%	3,699	4,300
Charleston	0.98%	83,314	111,800
Clemson	0.86%	5,807	7,400
Columbia	0.95%	37,119	48,900
Denmark	0.65%	4,254	5,100
Dillon	0.52%	8,745	10,100
Florence	0.52%	51,561	60,300
Greenville	0.86%	12,565	15,900
Kingstree	1.15%	14,812	20,400
Spartanburg	0.86%	4,452	5,700
Yemassee	1.03%	14,624	19,500
Total		240,952	309,400

Note: Annual Average Growth Rate (AAGR) in Council of Governments (COG) population, from South Carolina Data Center

2.2.4 Fuel Cost Trends

Trends in fuel costs (crude oil and regular gasoline) over the last 5 years are shown in **Figure 2-23**. Gas prices are shown for both South Carolina and the U.S. national average. The regular gas price in South Carolina and the U.S. averages track each other closely, though the South Carolina price is slightly lower consistently over the period, due to the lower than average state motor fuel user fee.

Figure 2-23: Fuel Cost Trends, 2014 - 2019



Source: www.gasbuddy.com (Gas Price Charts)

2.2.5 Rail Congestion Trends

As discussed in Section 2.2.2, rail tonnage is forecast to increase from 70.3 million in 2011 to 101.4 million in 2040, a cumulative increase of 44.3 percent, for an average annual growth rate of 1.3 percent. The short link between Greenwood, SC and Athens, GA is projected to continue to handle the greatest rail tonnage per line as it did in 2011, as a result of north-south and east-west CSXT routes crossing in that part of the state. The greatest rail tonnage growth between 2011 and 2040 appears to accrue to the major Class I rail lines.

2.2.6 Highway and Airport Congestion Trends

2.2.6.1 Highway Congestion Trends

2.2.6.1.1 Interstate Congestion

The ten most congested locations on interstate highways in the state are concentrated in three areas²⁴:

- I-20, Columbia
 - Between Exits 76B (Alpine Rd) and 80 (Clemson Rd)
- I-26, Columbia
 - Between Exits 106 (St Andrews Rd) and 107, northwest of the interchange with I-20
 - Between Exits 104 (Piney Grove Rd) and 106 (St Andrews Rd), northwest of the above segment
 - Between Exit 108 (Bush River Rd) and the interchange with the I/126 spur to downtown Columbia
 - Between Exits 107 (I-20) and 108 (Bush River Rd)

²⁴ Source: INRIX data

- I-85, Greenville
 - Between Exits 51 and 54, east of the interchange with I-385
- I-526, North Charleston
 - Between Exits 17 and 18A (US 52/Rivers Ave), east of the interchange with I-26
 - Between Exits 19 (N. Rhett Ave) and 20 (Virginia Ave)
 - Between Exits 18 (US 52/Rivers Ave) to 19 (N. Rhett Ave)
 - Between Exits 16B (International Blvd) and 17, west of the interchange with I-26

The level of congestion throughout the state during peak-hour conditions is illustrated in **Figure 2-24**.

2.2.6.1.2 Highway Congestion Growth

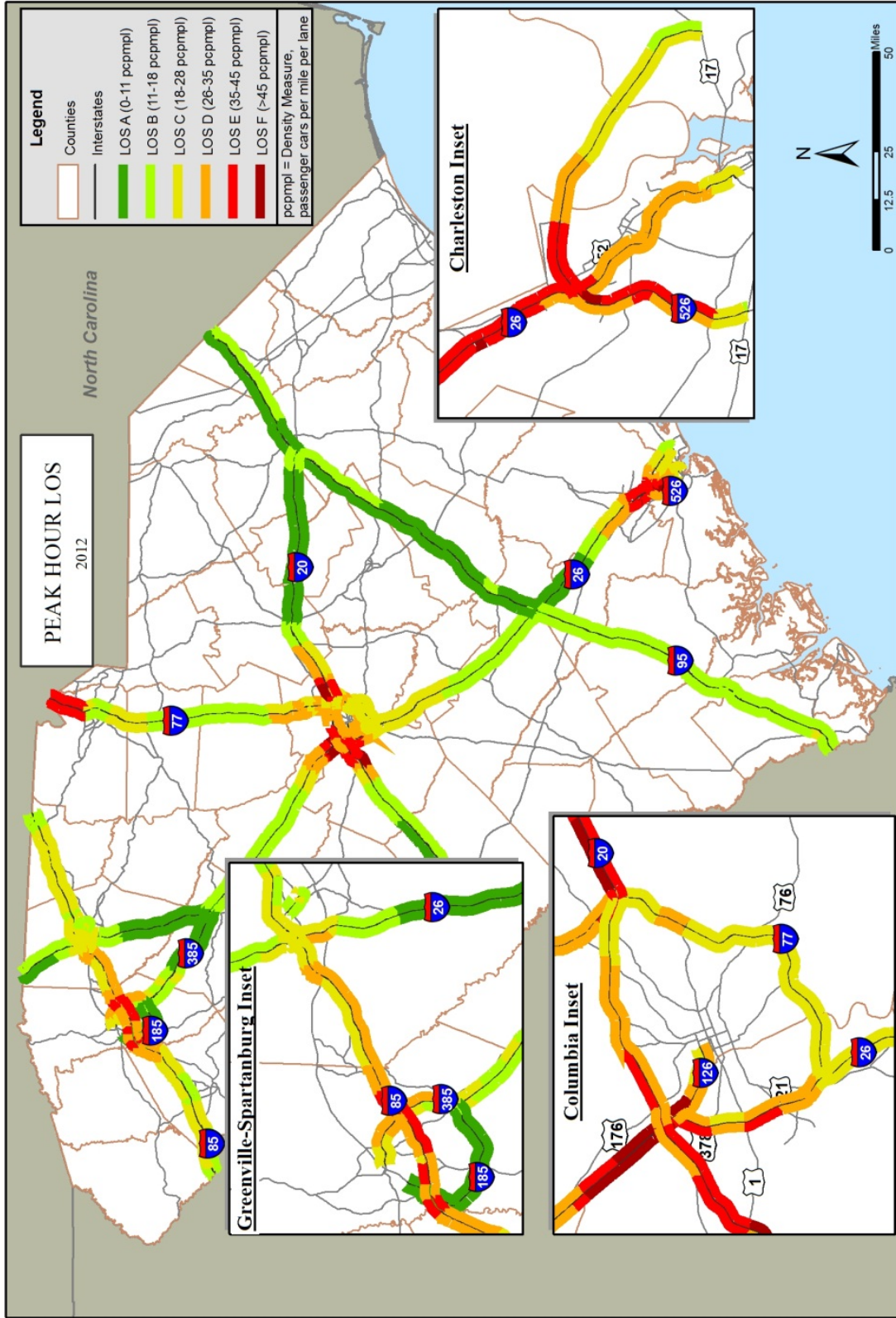
Vehicle miles of travel on the state’s Interstate and Arterials highways are estimated to increase by 58.5 percent between 2011 and 2040, as shown in **Table 2-30**. Future estimates of highway travel were derived from the HERS-ST tool used to estimate highway expansion needs for the state’s 2040 Long Range Multimodal Transportation Plan. Without sufficient improvements in highway capacity on the state’s interstates and arterials increased vehicle miles of travel will result in significant growth in highway congestion.

Table 2-30: Projected Growth in Highway VMT to 2040

Year	Rural Highways			Urban Highways			Statewide Interstates and Arterials
	Interstate	Principal and Minor Arterials	Total	Interstate and Expressways	Principal and Minor Arterials	Total	
2011	7,452	8,760	16,212	5,988	12,054	18,042	34,254
2040	12,347	13,972	26,319	9,721	18,242	27,963	54,282
Growth	65.7%	59.5%	62.3%	62.3%	51.3%	55.0%	58.5%

*Note: Annual VMT in Millions
Source: CDM Smith, HERS-ST*

Figure 2-24: Congestion Levels on Interstate Highways, 2012



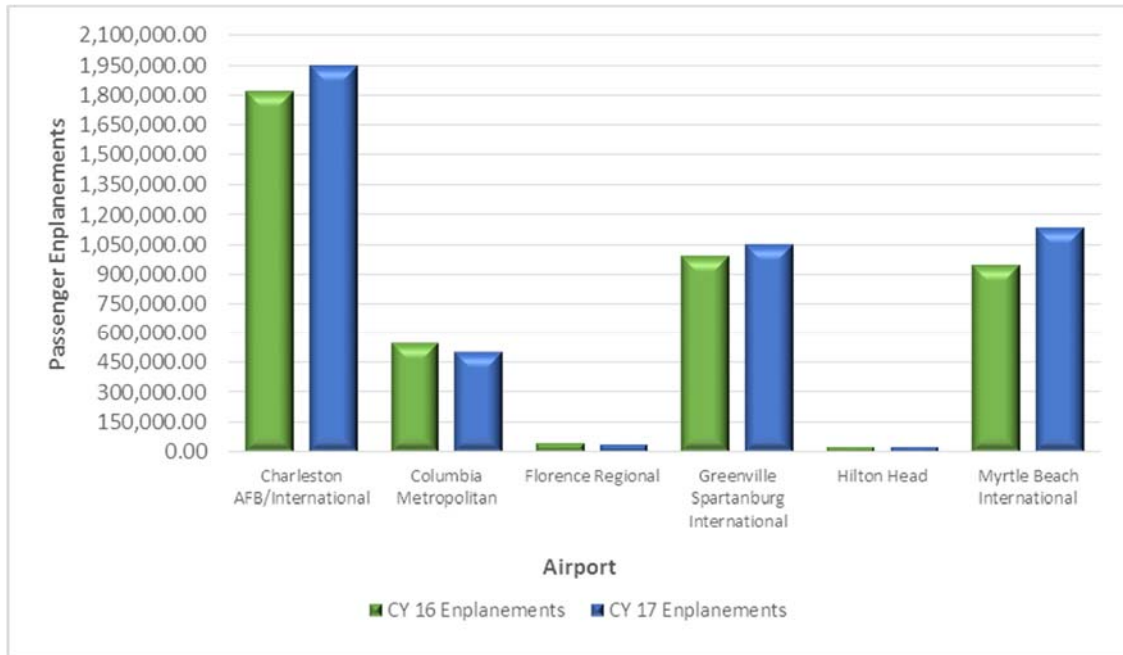
2.2.6.2 Airport Congestion Trends

South Carolina has 53 publicly-owned airports included in the National Plan of Integrated Airport Systems (NPIAS). Of the 53 airports, 6 are Primary Commercial Service airports, 45 are general aviation facilities, and 2 are reliever airports, defined by the FAA as high-capacity general aviation airports in major metropolitan areas that provide pilots with attractive alternatives to using congested hub airports.

Passenger (enplanement) and cargo data is extracted from the Air Carrier Activity Information System (ACAIS), an FAA database that contains revenue passenger boarding and all-cargo data. The U.S. Department of Transportation (DOT) is the main source of enplanement statistics.

In 2017 the six commercial service airports in South Carolina accommodated almost 4.70 million passenger enplanements, up from 4.37 million in 2016. **Figure 2-25** details the 2016 and 2017 enplanements at the six primary commercial airports in South Carolina.

Figure 2-25: South Carolina Passenger Enplanements, 2016/2017



Source: Federal Aviation Administration Passenger Boarding for U.S. Airports (updated November 2018)

2.2.7 Land Use Trends

The importance of maximizing the social and economic impacts of land use through insightful and long range land use/transportation planning and decision-making is well understood in South Carolina.

Two examples have been described in Section 2.1.2.1 of this report. The first is the rail served Inland Container Port in the upstate of South Carolina in Greer just north of the I-85 corridor that connects Charlotte with Atlanta. The inland port, which commenced operations in October 2013, is located

near BMW, Michelin, and numerous other major manufacturers and distributors serving the Piedmont Atlantic Megaregion, as well as other US and international markets. The second is the planned Intermodal Container Transfer Facility in Charleston. The facility will provide rail access to two Class I carriers and be located near the 280-acre, 3-berth container terminal currently under construction on the Charleston Naval Complex.

The high-speed passenger rail corridor currently being evaluated in a Tier I EIS has the potential to provide further opportunities for key land use planning initiatives related to multimodal transportation in South Carolina (see Section 3.1).

2.3 Existing Rail System: Rail Service Needs and Opportunities

2.3.1 Key Issues Impacting Rail Service

This section describes rail issues that cover a broad scope of rail industry and public sector needs. Four principal issues have been identified by statewide rail partners – intermodal traffic, infrastructure and expansion, grade crossings, and funding. Each is discussed in more detail in the following paragraphs.

Intermodal – Intermodal rail traffic is growing significantly for the state’s two Class I railroads. While observations reflect opinions regarding all intermodal facilities in the state (airports, water ports and rail), those applicable to rail or rail-specific have included lack of facilities, capacity, access, and local impacts. Projects such as the Inland Ports at Greer (2013) and Dillon (2018) and the planned North Charleston Intermodal Container Transfer Terminal (ICTF) have added or will add facilities and increase capacity for the handling of containers. Including the two terminals in Charlotte (one for each of the Class I railroads), no part of the state will lie more than 100 miles from such a facility, and much of the state will have more than one option within that radius. However, with the growth of inland terminals, roadway access needs to be addressed in terms of both adequacy and community impacts.

In addition to facilities for containers and trailers, there are a number of terminals throughout the state for the transloading of freight along with cross dock and storage facilities. These terminals can handle dry and liquid bulk commodities such as flour, sugar, and plastic pellets, as well as aggregates, steel, and lumber among others.

Adding to existing facilities, Norfolk Southern operates two Thoroughbred Bulk Transfer (TBT) terminals in Columbia and Spartanburg. TBT terminals are specialized facilities that allow customers to transfer a large array of commodities between rail cars and trucks. TBT terminals are owned by Norfolk Southern and operated by independent contractors that are industry experts in facilitating safe and efficient bulk transfer and distribution. The facilities allow customers without rail sidings to receive the benefits of rail economics and service quality.

Other improvements can consist of capacity increasing projects such as adding passing or second tracks on mainlines, improving train control signal systems, or clearances, for example. Extension of tracks to reach new industries or add connections also fall into the same category.

Grade Crossings – Safety, rail-highway conflicts and need for grade separations comprises grade crossing related issues. Quiet zones have also been a subject of interest in some locales. Improvements can consist of single crossings or several, the latter typically in a corridor of some length. Such a project is common on lines with passenger trains or one with severe rail-highway conflicts. The Assembly Street project in Columbia is an example of the latter.

Passenger Service – The need for commuter service on South Carolina’s major metro areas is more of a public issue than intercity travel.

Funding – Historical lack of adequate highway funding and its impact on the condition of the state’s roadway infrastructure was a common concern as it was for rail. There is no dedicated source of state funding for rail projects. If funding were available, additional comments on the subject suggested expenditures should be subjected to cost-benefit analyses and prioritized. Included in the prioritization process was a suggestion that assistance be directed at system components generating South Carolina rail traffic rather than through traffic.

2.3.2 Opportunities to Address Rail Needs and Issues

There are a number of opportunities to address some of the issues and/or add to the rail system’s effectiveness. Freight opportunities are discussed initially followed by passenger considerations.

2.3.2.1 Freight Rail

Intermodal – South Carolina Ports Authority (SCPA), the State of South Carolina, and other government agencies and partners are currently investing in nearly \$2.6 billion in port-related infrastructure that will enhance operational performance and transportation infrastructure related to the movement of cargo at the Port and throughout the State.

The improved Panama Canal permits larger ships to reach east coast ports, which include Charleston. The Charleston Harbor Deepening Project is on track to achieve a 52-foot depth in 2021 — yielding the deepest harbor on the East Coast — up from the current 45-foot depth. The entrance channel is also being deepened to 54 feet, up from 47 feet. The additional seven feet of depth in Charleston Harbor will enable post-Panamax vessels to call on the Port of Charleston any time of day, regardless of tides. The 52-foot depth will ensure SCPA can handle the growing number of large, cargo-laden vessels calling on Charleston.

Other intermodal investments include (as of October 2019):

- ***New Terminal Development:***
 - Container Terminal & Associated Transportation Infrastructure:
 - Phase 1 of the Hugh Leatherman Terminal, a new 286-acre container terminal located along the west bank of the Cooper River.
 - A Port Access Road is under construction that will connect this terminal directly to I-26.
 - An Intermodal Transfer Facility, to be funded and operated by Palmetto Railways, will be located on a private road adjacent to this facility allowing for near-dock rail.

- **Rail-served Inland Ports:**
 - Inland Port Greer Commenced operations in November 2013; serves the upstate of South Carolina; served by the Norfolk Southern.
 - Inland Port Dillon Commenced operations in the April 2018; serves the Pee Dee region of the state; served by the CSX.
- **Wando Welch Terminal Improvements:**
 - SCPA's largest container terminal in both size and volume is currently being upgraded to better handle super-post-Panamax ships and to enhance terminal operations.

Corridor Initiatives – Rail corridor improvement initiatives such as CSX's I-95 Corridor, its "A line" from Florida to the Northeast, and NS' Crescent Corridor, the railroad's main track from the Northeast to New Orleans offer opportunities for rail operating improvements, and for the public, a vehicle to address grade crossing issues and reduce vehicular traffic on paralleling interstates, I-95 and I-85, respectively, by attracting additional rail traffic from the highways.

Development Activity – The improving economy and the state's recent success in recruiting new industry of the type that is expected to increase demand for rail transportation in addition to the expansion of existing industries bodes well for the railroads. It also bodes well for the public in diverting traffic from the highways.

Preservation and improvement of light density lines, principally short line railroads, provide access to additional potential industrial sites, as well as maintaining transportation alternatives for existing businesses.

2.3.2.2 Passenger Rail

Commuter Rail – Implementation of commuter rail service in congested metro areas provides an opportunity to reduce associated highway congestion and adverse impacts such as maintenance and replacement.

Intercity Rail – The location of parts of the state in the predicated 2050 Piedmont Atlantic Megaregion increases opportunities for intercity passenger service by high-speed or other rail technologies, on a regional basis within the Megaregion, as well as long distance travel between Megaregions.

2.3.2.3 Funding

It will not be possible to take advantage of the opportunities identified without funding. South Carolina could benefit from a dedicated source of funding for the facilitation of rail projects including grade crossing improvements (which can receive federal contributions). As demonstrated throughout this report, many public benefits can result as well as benefits to the railroads. Railroad benefits can also result from private project participation.

3 PROPOSED PASSENGER RAIL IMPROVEMENTS AND INVESTMENTS

The opportunities for rail passenger service in South Carolina lie principally in commuter services in its metro regions. Interest in improved intercity service is limited to proposed high-speed passenger operation linking Charlotte, NC to Atlanta, GA, and connectivity between Charlotte and Columbia. There have not been any proposals made in terms of improving existing Amtrak service.

3.1 Proposed Passenger Rail Services

3.1.1 Proposed High Speed Passenger Services

Southeast High Speed Rail Corridor – The federally designated Southeast High Speed Rail Corridor, illustrated in **Figure 3-1**, passes through South Carolina. Georgia DOT (GDOT), in partnership with South Carolina DOT and North Carolina DOT, have partnered in the development of a Tier I EIS for a high speed rail corridor between Charlotte and Atlanta that passes through the state’s Upstate region roughly parallel to I-85. This Passenger Rail Corridor Investment Plan (PRCIP) is part of a larger high-speed rail initiative on the behalf of the Federal Railroad Administration (FRA) that extends north to Washington, DC and is commonly referred to as the Southeast High Speed Rail (SEHSR) Corridor.

PRCIP Purpose and Need – The Purpose of the Project is to improve intercity passenger travel between Atlanta and Charlotte by expanding the region’s transportation system capacity, and improving trip time and reliability through high-speed passenger rail services. The Project will provide transportation system capacity necessary to accommodate current and projected population and economic growth occurring along the SEHSR Corridor network including the following metropolitan areas in the Piedmont Atlantic Megaregion: Atlanta, Charlotte, Greenville, and Spartanburg.

The Atlanta to Charlotte Project supplements the completed and ongoing intercity passenger rail studies along the SEHSR Corridor and supports FRA’s HSIPR Program under USDOT’s 2008 Passenger

Figure 3-1: Southeast Corridor Status



Source: North Carolina DOT.

Rail Investment and Improvement Act (PRIIA). This corridor would ultimately also provide linkages to other metropolitan areas along the East Coast (Washington, DC, New York, and Boston, MA).

GDOT has identified several transportation system needs relevant to the Study Area, each corresponding to the anticipated population and employment growth with increasing travel demand. The Project would satisfy the following needs:

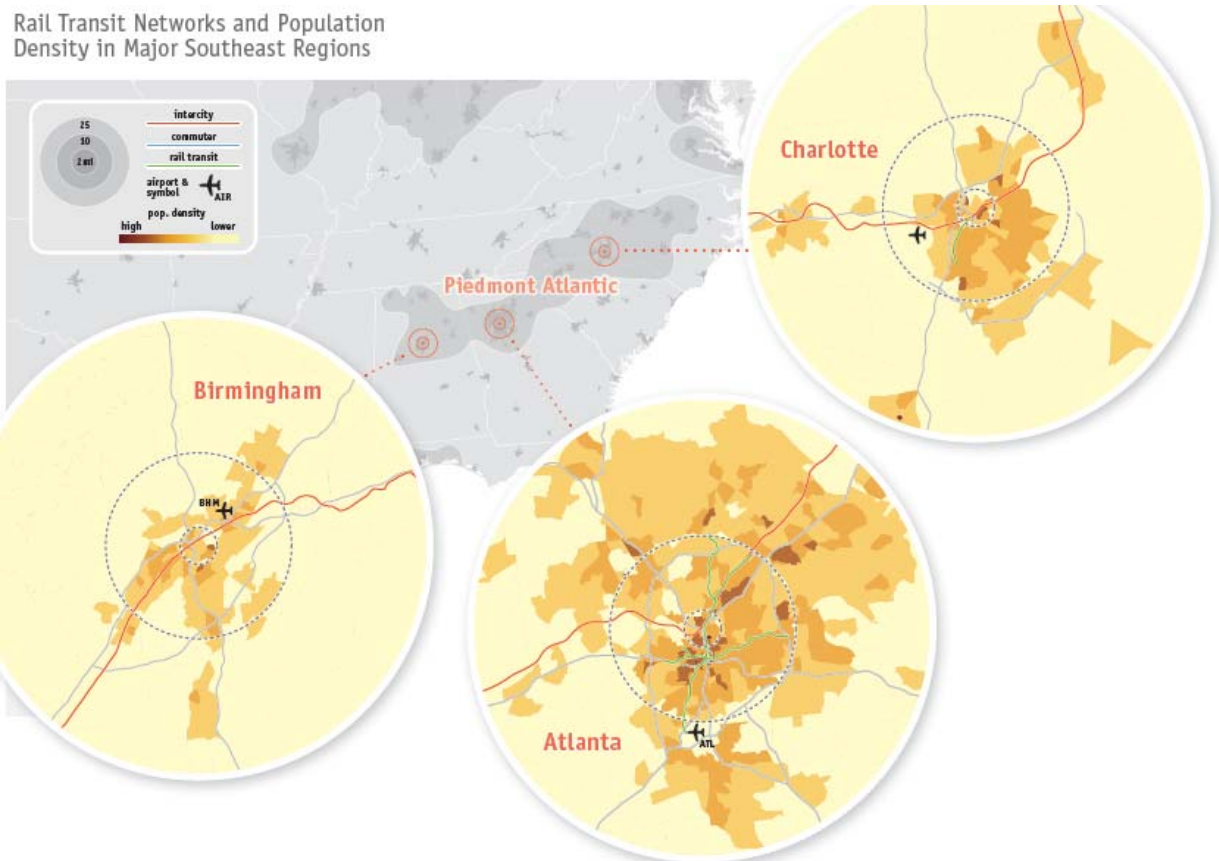
- Population and Employment Growth
- Improve Regional Transportation System Connectivity
- Increase Transportation System Capacity
- Improve Travel Times and Reliability
- Provide an Alternative Travel Mode
- Traveler Safety
- Improve Energy Efficiency and Air Quality
- Maintain and Enhance Economic Growth and Vitality

The projected increases in population and economic growth for the Piedmont Atlantic Megaregion (**Figure 3-2**) create a need for a carefully planned approach to improving rail infrastructure that will benefit Georgia, South Carolina, North Carolina, the southeastern United States and the nation.

The Atlanta to Charlotte corridor and the region have to contend with serious mobility challenges that will adversely affect local, regional and national economies if left unaddressed. The existing transportation infrastructure in the project area is out dated, lacks connectivity, is congested, and provides few options for reliable passenger travel.

Presently, interstates are operating at or near capacity, therefore alternative modes of transportation are being considered to mitigate congestion. Improving rail infrastructure through the development of this corridor will in turn facilitate the improvement of intercity travel and mobility between Atlanta and Charlotte by expanding the region's transportation capacity and reliable mode choices through improvements in passenger rail services. Evidence of the demand for intercity travel is supported through the frequency of non-stop flights between the two terminal cities (Atlanta and Charlotte) with 18 flights per day, and 9 flights between Greenville and Charlotte. Individuals who for various reasons cannot or choose to not drive, or travelers looking for other options require alternative transportation choices. This corridor will be an important extension to the planned SEHSR Corridor System while developing important linkages to other metropolitan areas along the east coast including Washington D.C., New York and Boston with an Atlanta or Charlotte departure.

Figure 3-2: Piedmont Atlantic Megaregion



Source: <http://www.america2050.org> High-Speed Rail in America

3.1.2 Connecting Atlanta to Charlotte

GDOT started with six Corridor Alternatives identified by a 2008 United States Department of Transportation (USDOT) study. In 2011, the Georgia Department of Transportation (GDOT) received a \$4.1 million grant to complete a service development plan and environmental study for the 250 mile passenger rail corridor between Atlanta and Charlotte. This study will build upon the 2008 feasibility study of high-speed rail on this corridor. Research and assessment of numerous possible routes resulted in GDOT and partner states advancing three routes for further analysis based on their ability to meet the Project Purpose and Need. The three alternatives advancing are the Southern Crescent, I-85, and Greenfield as shown in **Figure 3-3**. GDOT conducted high-level operational and performance analysis of the three Corridor Alternatives and identified potential station opportunities, considered rail technology and speed considerations, and identified two options for approaching metro Atlanta (the Atlanta Approach). Finally, GDOT evaluated potential environmental impacts of the three Corridor Alternatives using high-level measures appropriate for Tier 1 environmental analysis.

3.1.2.1 Southern Crescent Alternative

The proposed Southern Crescent Corridor Alternative is a 268-mile route that primarily follows the Norfolk Southern (NS) Piedmont Division right-of-way (ROW), which hosts the existing Amtrak *Crescent* long-distance service between Atlanta and Charlotte. This Corridor Alternative operates

on shared freight and passenger tracks in certain sections of the corridor and on separate tracks in certain sections. This route could serve three stations in North Carolina at Charlotte Gateway, Charlotte airport (CLT), and Gastonia; four stations in South Carolina in Spartanburg, Greer, Greenville, and Clemson; and six stations in Georgia in Toccoa, Gainesville, Suwanee, Doraville, downtown Atlanta, and Hartsfield– Jackson Atlanta International Airport (H-JAIA).

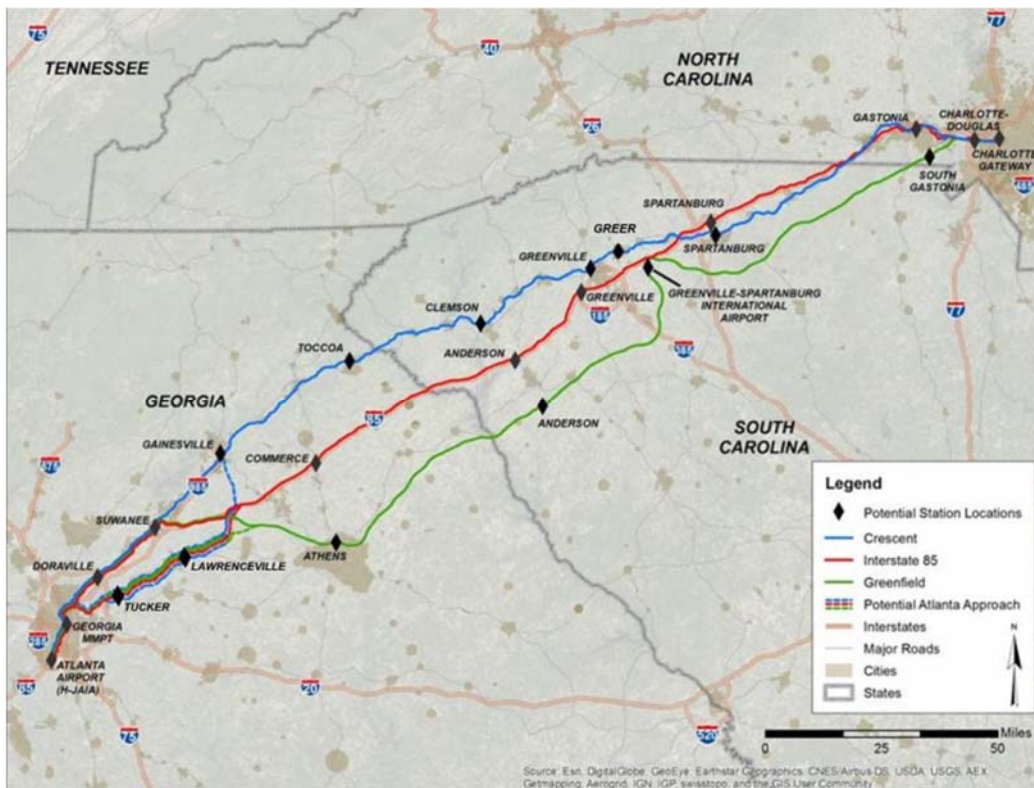
3.1.2.2 Interstate 85 Alternative

The proposed I-85 Corridor Alternative is a 255-mile route located primarily within the interstate highway ROW on a dedicated high-speed passenger rail alignment following I-85 between Gastonia, NC and Suwanee, GA, then following a shared railroad ROW in the approaches to the Charlotte and Atlanta termini. This route could serve three stations in North Carolina at Charlotte Gateway, CLT airport, and Gastonia; three stations in South Carolina in Spartanburg, Greenville, and Anderson; and four stations in Georgia in Suwanee, Doraville, downtown Atlanta, and H-JAIA.

3.1.2.3 Greenfield Alternative

The proposed Greenfield Corridor Alternative is a 274-mile route primarily on a new “greenfield” or land without prior transportation use. This Corridor Alternative proposes a dedicated high-speed passenger rail alignment for a majority of the corridor, then follows shared freight railroad ROW in the approaches to the Charlotte and Atlanta termini. This route could serve three stations in North Carolina at Charlotte Gateway, CLT airport, and South Gastonia; two stations in South Carolina at GSP airport and Anderson; and five stations in Georgia in Athens, Suwanee, Doraville, downtown Atlanta, and H-JAIA.

Figure 3-3: Charlotte to Atlanta Passenger Rail Corridor Proposed Alternatives



Source: Atlanta to Charlotte Passenger Rail Corridor Investment Plan.

For the Southern Crescent proposed route it is assumed that diesel-electric technology with speeds capable of 79-110 mph would be utilized. For the Interstate 85 proposed route diesel-electric technology with a top speed of 125-110 mph would be used. The proposed Greenfield route considered fully electrified technology would assume a top operating speed of 125-220 mph.

Key Terminal Locations – Potential strategically located stations for each of these routes were also identified. Proposed service to the Georgia Multimodal Passenger Terminal, Hartsfield-Jackson Atlanta and Charlotte-Douglas International Airports in addition to the proposed Charlotte Gateway Station multimodal facility have been incorporated into each alternative route along with stations in metropolitan areas.

Overall Performance – Overall performance of the alternatives was assessed by how well the criteria of purpose and need, route length, travel time, population served, employment served, regional and intermodal linkages were met.²⁵ In terms of overall performance, upon an initial evaluation the Greenfield corridor received the best performance rating, followed by the I-85 corridor. The Norfolk Southern-identified corridor received an overall performance rating of Good. The other three alternatives had overall performance ratings of Poor.

3.2 History of the Southeast High Speed Rail Corridor (SEHSR) and Previous Studies

The Southeast Rail Corridor was originally designated as a high-speed corridor in Section 1010 of the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991. More specifically, it involved the high-speed grade crossing improvement program of the Act to reduce or eliminate the hazards of at-grade highway-rail crossings in the designated corridors. At that time, the Southeast Rail Corridor was one of five so designated, and was to connect the southern end of the Northeast Corridor to Charlotte, NC.

South Carolina Routes – The high-speed rail grade crossing improvement program was carried over into the Transportation Equity Act for the 21st Century (TEA-21) as Section 1103(c). Subsequently, the Southeast High-Speed Rail Corridor (SEHSR) was extended in December 1998 south from Charlotte to Atlanta and Macon, Georgia running 122 miles over the NS main track through the Upstate of South Carolina. Another branch was added running from Raleigh, North Carolina through Columbia to Savannah, Georgia (205 miles over CSXT's "S" Line) and Jacksonville, Florida. The Corridor was further extended in October 2000 from Macon to Jessup, GA, tying the two branches together.

In 2001, a study²⁶ was prepared to examine the two routes through South Carolina and determine infrastructure improvements needed to operate passenger trains at speeds of at least 90 mph with a goal of 110 mph. The evaluation determined that the top speed was in excess of the characteristics of both routes and that improvements in alignment, signal systems, and highway-rail crossing treatments were necessary to increase operating speeds. The study concluded that the degree of development in the Upstate precluded implementation of significant alignment changes

²⁵ Atlanta to Charlotte Passenger Rail Corridor Investment Plan

²⁶ South Carolina Southeast High Speed Rail Corridor Improvement Study

and that the route through the center part of the state held more promise for increasing operating speeds. However, based on a 1997 ridership study²⁷ the Upstate route holds the most promise from a travel demand standpoint.

The Volpe Report²⁸, made available in January of 2009, examined several means of providing “higher-speed” rail passenger service between Charlotte and Macon, GA via Atlanta. Operating scenarios with speeds of 90, 110, and 125 mph with diesel locomotives, both diesel and electric for 150 mph, and electric locomotives for 200 mph were developed. A variety of station stop scenarios were also developed with Spartanburg, Greenville-Spartanburg International Airport (GSP), Greenville and Clemson candidates in South Carolina. The only candidate not presently served by Amtrak is GSP.

The study was predicated upon development of a dedicated track²⁹ for the service, not use of existing freight trackage although freight right of way might be used in places, as well as highway right of way. A dedicated track was selected for reasons of safety, reliability, maintenance, operations, and access control. Demand and associated revenue along with capital, maintenance and operating costs were developed for each scenario.

The Volpe study concluded that the “best case” scenario was either 125 or 150 mph diesel-power³⁰ trains with total capital costs of \$2.06 to \$2.52 billion with revenue-cost break-even in 2031 or 2032. Stops would be made at all stations. Recommendations included the need for the states to develop innovative funding approaches to pay for capital and unified operating deficits, with the latter estimated at \$4 to \$5 million in 2025. Capital route costs³¹ for the Charlotte-Atlanta segment running through South Carolina with the “best case” scenarios were \$1.162 billion and \$1.379 billion for 125 mph and 150 mph operation, respectively. Approximately one-half of the 262 miles between these two points lies in South Carolina.

Richmond to Raleigh Segment – A Tier II Draft Environmental Statement has been approved for the Richmond-Raleigh segment of the SEHSR Corridor as the states of Virginia and North Carolina continue to pursue development of that route segment.

The Passenger Rail Working Group – The Passenger Rail Working Group was established by the National Surface Transportation Policy and Revenue Study Commission (section 1909 SAFETEA-LU). The Group was charged with developing a vision for intercity passenger rail through 2050 including costs, a funding program, and a governance structure.

The Group used an overlay approach to create the system incorporating the existing national passenger rail system (Amtrak) as a base and adding federally designated corridors, corridors in the planning or development stages by states or regional organizations, and potential future routes either in the talking stage or those representing missing links between major population centers.

²⁷ *Southeast High Speed Rail Market and Demand Study*

²⁸ Economic and Industry Analysis Division, Volpe National Transportation Systems, *Evaluation of High-Speed Rail Options in the Macon-Atlanta-Greenville-Charlotte Rail Corridor*, prepared for the Georgia Department of Transportation, August 2008.

²⁹ Two tracks for electrified service

³⁰ Technology to meet U.S. safety standards will have to be developed and speeds in this range require grade separation of highway crossings.

³¹ Not including equipment or operating and maintenance costs.

House of Representatives' Committee on Appropriations submitted a report in explanation of the bill that provided the following recommendation regarding the Commission:

"The Committee's recommendation includes \$1,000,000 to stand-up the Southeast Corridor Rail Commission. The Commission will develop a regional rail plan and improve mutual cooperation and planning between states and stakeholders."

Since passage of the bill, several important actions have been undertaken:

- The Southeast states (Virginia, North Carolina, South Carolina, Georgia, Florida and Tennessee) and the District of Columbia have continued to work cooperatively as the Southeast Rail Coalition ("Coalition") and have remained in communication on the status of various programs and projects through workshops, forums and monthly calls.
- The Virginia-North Carolina Interstate High-Speed Rail Compact ("Compact"), authorized by Congress under 49 U.S.C. §24101 and established through legislation passed by the Commonwealth of Virginia and North Carolina, has continued to meet and has invited the other Coalition states to attend and participate in Compact meetings. At the most recent meeting on November 29, 2017, Compact members agreed to proceed with applying for the federal funding for the Commission, with the North Carolina Department of Transportation (NCDOT) serving as the applicant and Grantee on behalf of the Compact members and the Virginia Department of Rail and Public Transportation (DRPT).
- Under Section 192 of the FY2014 Omnibus Appropriations Act (P.L. 113-76), FRA funded, and is leading, the Southeast Regional Rail Planning Study in coordination with the Coalition members, local transit agencies and MPOs, Norfolk Southern (NS), CSX Transportation (CSXT), and other stakeholder organizations. The purpose of the study is to develop a long-term regional passenger rail vision for the Southeast. The study was initiated in May 2016 and is scheduled for completion in 2019. The study website is located at: <http://southeastrailplan.org/>.

The work of the Coalition, Compact, and the FRA Southeast Regional Rail Planning Study, have highlighted the need for:

- **A Regional Rail Network Vision** – While each state may prepare and maintain a State Rail Plan, these plans do not address the impacts and benefits of improvements across the regional network for both passenger and freight rail. Coordinating passenger rail, commuter rail, freight rail, and rail-related port planning and capital projects to maximize investments and ensure regional rail network viability is essential to guide federal and state investments.
- **Funding Plan** – Identifying and supporting at a regional level a multi-year financially constrained capital program and financially unconstrained plan (documenting unfunded needs) that advances a unified regional rail network vision will help prioritize scarce financial resources and make the region more competitive for federal and non-federal funding sources.

- **Strategic Communication** – Providing information to key stakeholders and the general public to maintain awareness of activities, needs, and progress is important to garnering support for rail planning and investments and educating the community on its importance to economic development, mobility, and safety.
- **Partnering with the Federal Government** - Advising Congress, USDOT, and FRA on federal policies, regulations, and funding that have an impact on the success of the regional rail network is vital to ensuring the creation and implementation of a common vision.
- **Partnering with Railroads** – Coordinating with owning and/or operating passenger and host freight railroads in the regional rail network on planning and project development is essential to ensure public and private investments yield the intended benefits (for both people and freight) and do not diminish previous investments or preclude opportunities for future investments.
- **Training and Technical Assistance** - Sharing project delivery best practices to improve the technical capacity of state partners and other agencies serving as project sponsors will improve project execution and encourage continued investment in the network.

The inaugural meeting of the Southeast Corridor Rail Commission was held on November 14, 2019.

The **Virginia-North Carolina Interstate High Speed Rail Compact (Compact)** was established in 2004 to promote a plan for the finance, design, construction, and operation of interstate rail service through Virginia and North Carolina. Staff from the North Carolina Department of Transportation (NCDOT) Rail Division and VA Department of Rail and Public Transportation (DRPT) have provided technical support for the activities of the Compact. Through a Federal Railroad Administration (FRA) grant, the NCDOT Rail Division will work with the Compact, DRPT, and other southeastern states to establish a broader and more active governance structure for the Southeast Corridor. The new structure will use a three-tiered approach to manage and progress activities to support the SEC. In addition to establishing the broader governance structure and associated vision for rail in the Southeast, activities are anticipated to include the pursuit of funding for corridor acquisition and capital improvements. The tiers of the governance model are anticipated to include the following (as of May 2019):

- **The VA-NC Interstate High Speed Rail Compact:** Established in 2004, the Compact meets regularly to develop and promote plans for financing, design, construction and operation of interstate rail service through Virginia and North Carolina. The Compact is authorized to advocate for federal funding and receive funds for rail development and is anticipated to more regularly meet beginning in 2019. The Compact is a legislative entity and can add member states through changes in state legislation.
- **The Southeast Rail Corridor Commission:** The Commission is being developed to broaden the geographic footprint, align freight and passenger interests in the Southeast, and to position the SEC for directed federal funding. NCDOT, DRPT, and the Compact requested FRA obligate a \$1 million grant to North Carolina to stand-up the Commission. A Statement of Work is currently under review at the Federal Railroad Administration. It is currently anticipated that once the Commission is established, FRA will circulate a draft Southeast

Regional Rail Plan to the Commission for review. Commission members are anticipated to designees of the respective states' executive branches.

- **The Southeast Rail Technical Committee:** The Technical Committee is being suggested to provide a multi-disciplined team of professionals who specialize in rail program development and implementation. This team will meet on a monthly basis and will be responsible for strategically progressing tasks such as right of way appraisals and negotiations, strategic agreement development, stakeholder coordination and public communications. The Southeast Rail Technical Committee is anticipated to replace what has been known as the Southeast Rail Coalition, though the membership may remain the same.

3.3 Intercity Passenger Rail Corridors

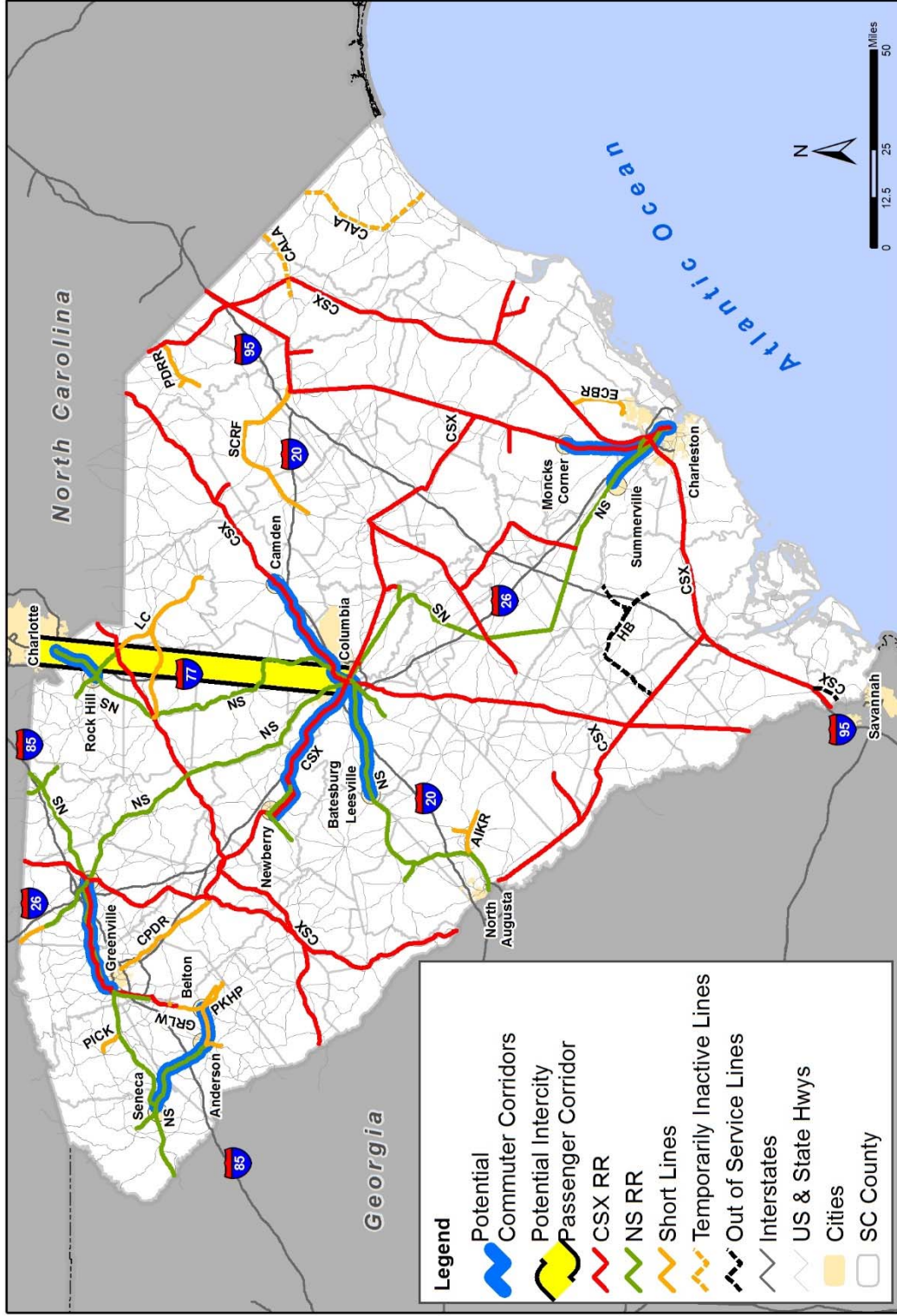
The three routes being evaluated for the Atlanta to Charlotte Passenger Rail service pass through the Upstate (Greenville and Spartanburg) of South Carolina. Regardless of the ultimate feasibility for high-speed rail service, interest and in some cases multi-jurisdictional discussions have occurred for multiple intercity passenger rail corridors in the state.

3.4 Proposed Commuter Rail Services

Commuter rail or rail-transit efforts have been investigated in five different areas of the state, primarily in urban regions. As a result of the investigations, proposals are being advanced in two urban regions and two have selected Bus Rapid Transit over commuter rail. All five, however, are discussed in this section. The commuter corridors in these five areas are shown in **Figure 3-5**.

The proposed commuter rail systems will provide public benefit in a myriad of forms. Congestion during peak hours caused by workers making the daily commute on area highways that not only negatively impact the quality of life for the workers, but also impact potential area economic prosperity by limiting mobility of people and goods.

Figure 3-5: Potential Commuter and Intercity Corridors



Charleston – Many of those living, working, and visiting the Charleston, S.C., region will travel the I-26 Corridor between Summerville and Charleston as it serves as a major commerce route for traffic from the ports of Charleston and is a vital link for commuters and visitors in the region.

Recognizing the need for transit alternatives along this corridor, the Berkeley-Charleston-Dorchester Council of Governments (BCDCOG), initiated the I-26 Regional Fixed Guideway Transit Alternatives Analysis study. The purpose of the I-26 Alternatives Analysis is to enhance regional mobility with transit along the I-26 Corridor between Summerville and Charleston.

Project Background – The Charleston Region has long been recognized as a popular visitor destination for its exceptional natural environment and historic charm. Success in attracting new business investment has also increased due to the tri-county region’s strong competitive assets including the South Carolina Ports Authority; academic, medical and research universities; military installations, and a technically-skilled workforce. The tri-county region is expected to reach 1 million residents by 2027.

Many of those living, working, and visiting the Charleston region will travel the I-26 Corridor between Summerville and Charleston as it serves as a major commerce route for traffic from the ports of Charleston and is a vital link for commuters and visitors in the region.

Initiated by the Berkeley-Charleston-Dorchester Council of Governments (BCDCOG), the **I-26 Regional Fixed Guideway Transit Alternatives Analysis** study considered the effects of transit alternatives on the segment of I-26 between the Town of Summerville and the City of Charleston. The project study area included the areas and communities surrounding the I-26 Corridor and was generally bounded by the Ashley River and Dorchester Road (SC 642) to the west, the Summerville town limits to the north, the Cooper River and the US 52 Corridor and US 176 Corridors to the east, and the Charleston peninsula to the south. The study area also included the Norfolk Southern rail line that operates parallel to I-26 between Downtown Summerville and Peninsula Charleston.

Lowcountry Rapid Transit - The i-26ALT study concluded that a bus rapid transit (BRT) system along the US Highway 78 and US Highway 52 Corridor, running parallel to I-26, was the preferred transit alternative to move forward into project development. As the tri-county planning agency responsible for regional transportation and transit projects, BCDCOG is leading this project. BRT was the selected alternative over rail because the BRT option has a lower cost per rider, supports existing and planned local density and land use, can preserve existing right-of-way and is scalable and flexible to the region. Lowcountry Rapid Transit will provide residents with dependable, frequent transportation and greater access to opportunities throughout the region. Connections between communities and employment centers would be enhanced and would also accommodate other modes such as biking and walking.

Greenville-Spartanburg – The Greenville County Planning Commission and the Spartanburg County Planning Department examined the feasibility of a commuter rail system for the Greenville-Spartanburg area in 1999. The growth in both population and employment with the attendant growth in roadway traffic prompted the investigation of transportation alternatives.

The study involved two rail lines: the NS main track and a CSXT secondary route acquired from the Piedmont and Northern Railway, which originally had been an electric interurban line. Service patronage was forecast to the year 2015 for several rail operating and connecting feeder bus scenarios.

Annual ridership ranged between 240,000 and 650,000 for the 1993 base case and the most service intensive 2015 case. Ridership scenarios were used to develop revenues and operating costs. Capital costs were also developed and the impact of different patronage levels fully considered. Fare box recoveries of 20 to 30 percent were estimated. A peer city system examination was also made. It was concluded that the proposal had a low feasibility level given projected patronage levels. Recommendations were made as to how ridership might be improved.

In 2009, Greenville County Economic Development Corporation (GCEDC) initiated the Multimodal Transit Corridor Alternatives Feasibility Study focused on a 3.42-mile section of inactive freight rail line extending from N. Pleasantburg Road in Greenville to just north of Mauldin. This line segment is owned by GCEDC. The study was completed in March 2010. Four transit alternatives were considered, including commuter rail, light rail transit (LRT), streetcar and Bus Rapid Transit (BRT). The study envisioned a commuter rail option using existing tracks from Fountain Inn to eastern Greenville at Forester Road. The service then would continue on the rail corridor owned by GCEDC into Greenville. Of the four alternatives, BRT was ranked highest and was recommended.

Horizon 2040 - Horizon 2040, the Long-Range Transportation Plan (LRTP) for the Greenville-Pickens Area Transportation Study (GPATS), outlines a regional strategy for a connected transportation system that accommodates the region's existing and future mobility needs. Horizon 2040 is a financially constrained plan, meaning it identifies projects and programs that can reasonably be implemented with anticipated funding levels through the year 2040. In response to federal mandates and the expressed wishes of local residents, the LRTP addresses all modes of transportation in some manner, including automobile, bicycle, pedestrian, transit, air, and rail.

Regional Passenger Rail – Amtrak currently provides passenger rail service to the Greenville region, using the Norfolk-Southern-owned “Crescent Corridor” that stops in Clemson and Greenville. Currently, service is provided at off-peak times with the southbound train passing between 5-6AM and the northbound train between 10-11PM. Current ridership of passenger rail is minimal and so is not modeled or factored into current regional travel patterns. Land uses around the Crescent Corridor have developed independently of the service in the past decades and the Clemson and Greenville stations are isolated from compatible uses, such as higher-density residential and mixed-use commercial development.

Planning for the Future - The prospects for improved regional Passenger Rail service have been explored for decades, but most recently, it was the focus of two major planning efforts:

Georgia Department of Transportation's (GDOT) Passenger Rail Corridor Investment Plan, Tier 1 Environmental Impact Statement (EIS). Initiated in 2013, this environmental study is currently analyzing potential routes for improved passenger rail service between Atlanta, GA and Charlotte, NC. All three of the proposed routes pass through the GPATS region. The analysis is scheduled for completion in 2018, with additional analysis immediately following to analyze alignments and stations. GPATS regional planning for passenger rail will follow suit as the Georgia DOT's (GDOT) efforts progress.

The Federal Railway Administration (FRA) is developing a nationwide passenger rail network for federal funding prioritization, starting with region-wide planning efforts. Throughout 2017, meetings were held

for the Southeast Regional Rail Plan and a report is due in 2018. GPATS has served in a stakeholder capacity for this plan and results will be incorporated into future planning efforts.

As this system will be planned, determined, constructed, and operated by forces outside GPATS and largely beyond its decision-making jurisdiction, no recommendations regarding routes and stations are being made. However, this LRTP fully supports development of improved regional passenger rail systems.

Mobility Options - With potential for improved passenger rail service to connect the GPATS region to Atlanta, Charlotte, and points beyond, GPATS recognizes the need to coordinate transportation systems and land use development to accommodate regional systems. Should improved passenger rail service be implemented throughout GPATS, the intensity of the chosen rail type will have a direct effect on existing infrastructure.

GPATS is committed to actively planning for improved passenger rail service and to adapting to the circumstances as improvements are realized. Fortunately, GPATS and its member jurisdictions will have plenty of time to adapt infrastructure and land use policies once improved passenger rail service is announced, as it will take a number of years to implement. In the interim, GPATS is committed to improving the transportation modes that support regional rail stations.

Columbia – The Central Midland Council of Governments (CMCOG) has been exploring commuter rail service since 2000 when it completed its first study.³⁴ As the Central Midlands region continues to grow in both population and employment, the likelihood of more traffic congestion will continue to rise. Providing transportation options, like transit (and commuter rail in the long run), will help maintain quality of life and lessen the need for investment in roadways.

In 2006, CMCOG adopted the Commuter Rail Feasibility Study for the Central Midlands Region of South Carolina (aka Commuter Rail Plan) for purposes of fostering the establishment of regional land use policies that would play a major role in the future viability of rail transit in the Central Midlands region. The CMCOG Commuter Rail Plan examines three corridors in the region that exhibit characteristics most suitable for some type of commuter rail investment. These corridors are:

Batesburg-Leesville to Columbia, Camden to Columbia, and Newberry to Columbia. The Commuter Rail Plan envisions and encourages the establishment of transit-supportive developments and facilities, in order to reduce the dependence on the use of automobiles and improve air quality; and outlines a series of action steps that can be taken now to build toward high-capacity transit service in the future.

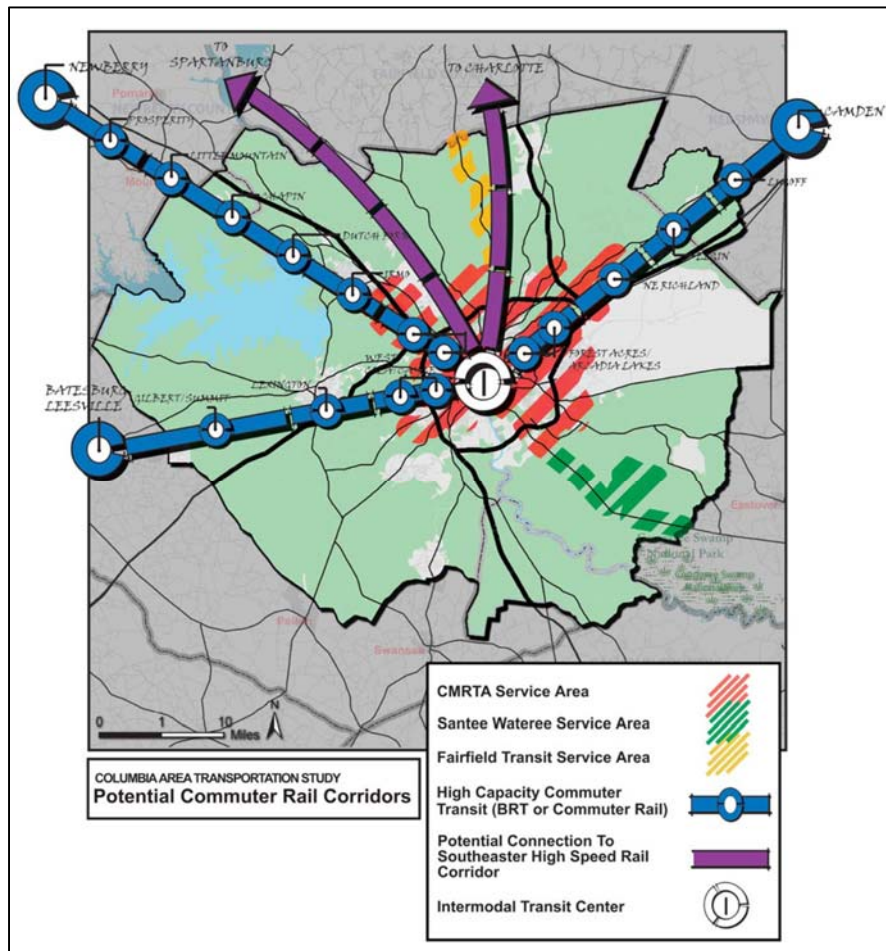
As mentioned earlier, three specific commuter rail corridors were considered in this feasibility assessment: Batesburg-Leesville to Columbia, Camden to Columbia, and Newberry to Columbia. These three corridors are illustrated in **Figure 3-6**. The Commuter Rail Plan evaluated each of these routes as well as provided a description of which modes of transit can be appropriate in various settings. For instance, heavy rail and light rail were determined to be appropriate in densely urban cities that have the population and employment to support these high-capacity modes. While the

³⁴ *Central Midlands Regional Rail Study*

Central Midlands region is experiencing significant growth, the region will not have the population and employment densities necessary to support light or heavy rail for some time. The region’s population density, however, may support other types of high-capacity transit, such as express bus, bus rapid transit (BRT), and commuter rail. The length of the corridors and population density of the service area are the key characteristics that lend support to these specific modes.

Express bus currently operates in two of the three corridors and serves as a base from which further transit enhancements can be developed. As transit ridership grows, more intense levels of express bus can be implemented. Eventually, further enhancements such as BRT services and even commuter rail may become warranted. While all three corridors may warrant high capacity transit sometime in the future, they will all reach that point at different times. Therefore, phased implementation of a menu of transit strategies can be tailored to each specific corridor.

Figure 3-6: Columbia Area Transportation Study Potential Commuter Rail Corridors



Source: Central Midlands Council of Governments 2040 Long Range Plan (2015)

The Commuter Rail Plan indicates that each of the corridors analyzed exhibit characteristics supporting the implementation of high capacity transit and that the Camden corridor should receive priority consideration. Corridor population densities, the strength of downtown Columbia as a regional

destination and employment center, and the proximity of activity centers to the existing freight rail lines create a positive environment for potential rail services. Projected population and employment in each of the three corridors (Camden, Batesburg-Leesville, and Newbury) show that these characteristics will only improve over time and the investment in transit will become more and more cost effective. As a result, these findings present an opportunity for the region to address mobility concerns before they reach critical mass.

Rock Hill – There are currently no passenger rail services within the RFATS region. The nearest Amtrak stations are Charlotte NC, Gastonia NC, Camden SC and Spartanburg SC. Locally, Charlotte will remain the main access point for area residents to reach the inter-city rail network, at least in the near-term. Rail service interest in the Rock Hill area has been tied to high speed rail efforts between the Charlotte, North Carolina and Atlanta, Georgia metropolitan regions. In 2007 Rock Hill MPO selected Bus Rapid Transit (BRT) as its preferred service alternative.

Rock Hill-York County-Charlotte Bus Rapid Transit (BRT) Service³⁵ - In 2007 the MPO completed a study of various alternatives to provide high capacity transit service to and from Charlotte. The *Rock Hill-York County Charlotte Rapid Transit Study* proposes a Bus Rapid Transit (BRT) line running from downtown Rock Hill via US-21 to the I-485 CATS LYNX Blue Line light rail station (**Figure 3-7**). The BRT line would operate partly on a dedicated bus-way and partly in general traffic.

Starting in downtown Rock Hill, buses would operate in mixed traffic along White Street to Winthrop University. White Street would be extended to Cherry Road, with a station at the intersection of the two streets. From there, buses would operate in a dedicated guide-way along Cherry Road within the existing right-of-way. In locations on Cherry Road where roadway expansion is constrained, buses will operate in the general-purpose lanes, using queue-jump lanes and traffic signal pre-emption to increase bus travel speeds.

North of the Cherry Road / Anderson Road station, buses would operate in a dedicated guide-way along US-21 to SC-160 in Fort Mill. The service would then travel west a short distance on SC-160 to a new roadway, parallel to US21 and I-77, extending from SC-160 to Gold Hill Road improving transit access in the Kingsley Park and former Knights Stadium areas.

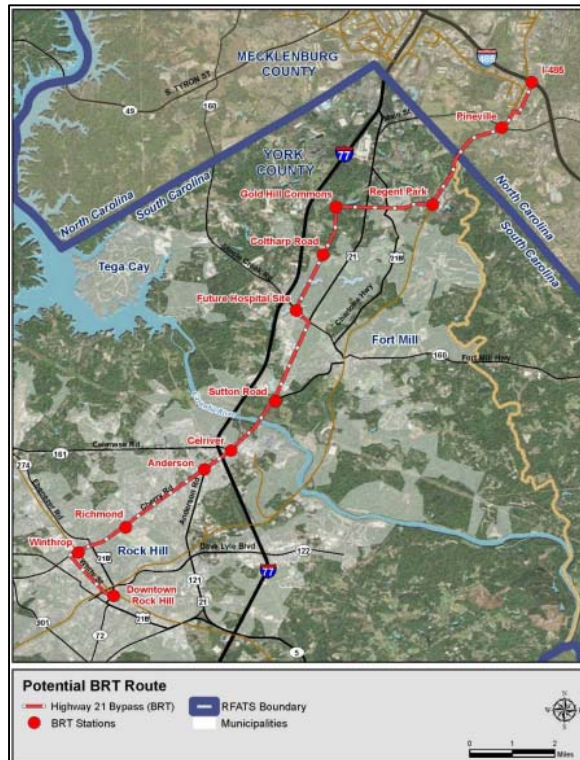
The service would continue in mixed traffic along York Southern Road from Gold Hill Road toward the Norfolk Southern railroad corridor near Regent Parkway. Here, a dedicated two-lane guide-way would be built parallel to the railroad, extending north to Commerce Drive in Pineville. The service would then operate in mixed traffic along Commerce Drive and South Boulevard to the I-485 station on the CATS LYNX Blue Line.

The BRT alternative also includes a four-mile spur from the Cherry/Anderson station, along Anderson Road and Dave Lyle Boulevard to the Galleria Mall just east of I-77. The spur would have a dedicated two-lane guide-way. The line would have service every 15 minutes at peak times and every 30 minutes at off-peak times. The hours of operation would match those of the Lynx Blue Line service.

³⁵ RFATS 2045 Long Range Transportation Plan Update (June 2017)

Earlier, a commuter rail alternative was the subject of a 1994 analysis, Commuter Rail Transit from Rock Hill, SC to Charlotte, NC, published by the University of North Carolina at Charlotte.

Figure 3-7: Proposed Rock Hill-York County-Charlotte Bus Rapid Transit Service



Source: Rock Hill-Fort Mill Area Transportation Study 2045 Long Range Transportation Plan

Anderson County – A commuter system from Clemson in Pickens County to Belton in Anderson County passing through the town of Anderson has been investigated. The route is some 26 miles long and would use an NS branch line between Clemson and Anderson and a line of the Pickens Railway-Honea Path Division (PKHP) between Anderson and Belton. Existing transit systems (bus) in Anderson and Clemson would be linked. The study effort was intended to provide a level of data suitable for a planned alternatives analysis to meet the Federal Transit Administration’s (FTA) New Starts Planning criteria.

Station locations were developed and travel times for various types of rolling stock were developed and example schedules presented. Ridership was estimated for alternative levels of service and station location scenarios. Annual trips in 2030 were projected to range between a low of 62,000 to a high of 270,000 equating to 117 to 453 daily riders. Capital, as well as operating and maintenance, costs were estimated for system component and service level alternatives and presented in terms of annualized and per trip (per rider) costs.³⁶ The study showed that the build alternatives were too costly relative to the benefits.

³⁶ Discussion based on information contained in *Anderson County Railroad and Street Railway Service*.

4 PROPOSED FREIGHT RAIL IMPROVEMENTS AND INVESTMENTS

This chapter describes the improvements and investments that could address the freight rail needs of the state's Class I and short Line carriers.

4.1 Rail Freight Needs, Class I Railroads

4.1.1 CSX Transportation

CSX Transportation (CSXT) is South Carolina's largest railroad with 1,307 route miles, which cover virtually every area of the state. The railroad has a division office in Florence. In addition to the mileage it owns, it also has trackage rights over NS between Columbia and Charleston.

CSXT needs and improvement projects generally address grade crossings, line capacity additions, and bottleneck issues, as well as industrial development potentials. For purposes of identifying needs and planning rail line improvements, CSXT classifies each of their lines into one of three categories (core, strategic, and non-strategic). Typically CSXT line improvement needs are identified, planned and, in some cases implemented, in a shorter time frame than the five-year cycle for updating state Rail Plans. In the absence of a freight rail funding program in South Carolina, CSXT improvement projects have in the past been privately funded for the most part, with applications for Federal grants being submitted when the improvement projects comply with the necessary federal requirements.

4.1.2 Norfolk Southern

Norfolk Southern (NS) operates 762 route miles in South Carolina and has trackage rights over CSXT from Newberry to Spartanburg. The Norfolk Southern Railway Company is owned by the Norfolk Southern Corporation. The railroad has a division office in Greenville.

NS needs and improvement projects are similar in nature to those of CSXT, including grade crossings, line capacity additions, bottleneck issues, and industrial development potentials. In addition to the planned ICTF project in Charleston, NS is interested in the Assembly Street Corridor project in Columbia. This latter project has not progressed further for lack of funding and coordination problems. SCDOT (on behalf of Norfolk Southern and SC Ports Authority) was awarded a Better Utilizing Investments to Leverage Development (BUILD) Transportation Discretionary 2018 grant for a freight rail infrastructure improvement project in the South Carolina Upstate. The project will expand the Inland Port Greer (IPG), extend the IPG lead track, and lengthen the Carlisle Siding to approximately 15,100 feet. The IPG expansion includes acquiring additional equipment for the handling, loading, and unloading of containers and the paving of up to 40 acres.

4.2 Rail Freight Needs, Short Line Railroads

All short line railroads operating in the state were contacted to update short line needs identified in the 2014 State Rail Plan. These needs, totaling almost \$50 million, were grouped into three types of

improvements, as shown in Table 4-1. Table 4-2 details short line improvement needs as submitted by the railroads.

Table 4-1: Short Line Railroad Needs by Improvement Category

Type of Needs	Needs (Millions)
Rehabilitation	\$41.62
Capacity / Service	\$3.50
Safety	\$2.50
Short Line Total	\$47.62

Table 4-2: Short Line Needs

Short Line Improvement Project	Estimated Cost (\$ millions)
Rehabilitation	
Aiken Railway Company, LLC	
Rehabilitation: Drain improvement, bridge improvements, tie and surface 11.45 miles and 8.45 miles & Relay 8.45 miles to accommodate heavy loads	\$21.2
Pee Dee River Railway	
Rehabilitation: Relay 7.5 miles of rail between McColl & Bennettsville	\$5.0
Rehabilitation: Relay 2.1 miles of rail on the Breeden Spur	\$2.7
Pickens Railway	
Rehabilitation: Relay 10 miles of track from Belton to Anderson	\$5.8
Carolina Piedmont Railroad	
Rehabilitation: Relay 1 track mile, and upgrade track structure with 10,000 cross ties	\$1.88
South Carolina Central Railroad Company, LLC	
Rehabilitation: Relay 4 track miles, upgrade track structure with 10,000 cross ties	\$3.84
Greenville & Western Railway Company, LLC	
Rehabilitation: Tie and Surface 7.39 miles between Cheddar and Honea Path	\$1.2
Subtotal for Rehabilitation	\$41.62
Capacity / Service	
Pee Dee River Railway	
Capacity: Construct additional interchange yard track , and construct yard capacity in various locations	\$3.5
Subtotal for Capacity/Service	\$3.5
Safety	
Pee Dee River Railway	
Safety: Upgrade 3.80 miles of Mohawk Branch	\$.90
Greenville & Western Railway	
Safety: Raise and widen J.P. Gossett Drive overpass near Williamston	\$1.6
Subtotal for Safety	\$2.50
Total for Short Line Projects	\$47.62

These projects, while comparatively modest in scale and cost, can have significant beneficial impacts on the local, regional and state economy – making them candidates for existing or new state funding programs where economic benefits have a high priority among selection criteria.

4.2.1 Palmetto Railways Industrial Rail Line (Camp Hall Commerce Park)

Palmetto Railways is planning for the development of an industrial rail line to serve the Camp Hall Commerce Park in Berkeley County, South Carolina. The new rail line will connect Camp Hall Commerce Park to existing railroad right-of-way located near the Santee Cooper Cross Generating Station in Berkeley County, South Carolina. Palmetto Railways will construct, own and operate the rail line that is expected to open the door to greater economic development efforts to support the state of South Carolina.

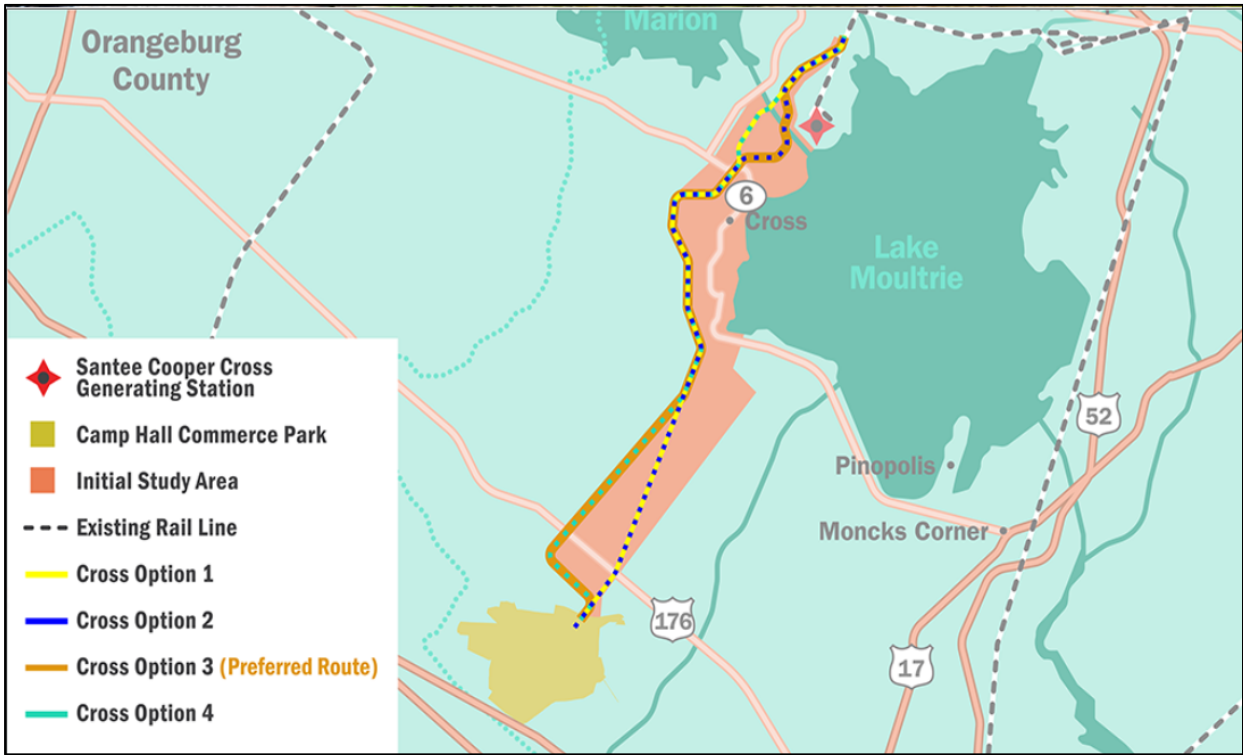
The purpose of the Camp Hall Rail Project is to locate, build, own and operate an industrial rail line that will connect to the existing Class 1 rail line with the Camp Hall Commerce Park. The need for the Proposed Project derives from the development within the Camp Hall Commerce Park, which has increased the demand for rail service to interconnect the commerce park with an existing Class 1 rail network, South Carolina, in a manner that is logistically feasible to better serve the need of the future tenants and industry within the Camp Hall Commerce Park for transportation, distribution, and logistics. These tenants include, but are not limited to, Volvo Cars, as well as any associated support industries that might desire to locate in proximity to Volvo Cars in the future.

The proposed Camp Hall Rail Project (**Figure 4-1**) requires, at a minimum, a rail route that meets the following characteristics and criteria:

- Direct connectivity to a single Class I freight carrier main line, accessing the freight carrier’s inland/domestic network, as well as the Port of Charleston.
- Sufficient rail access and capacity to serve both phases of the Volvo Cars site.
- Sufficient rail access and capacity to service future growth and needs of additional industrial sites within the remaining portions of Camp Hall Commerce Park, such that the portion of the proposed rail spur located within Camp Hall Commerce Park does not limit access to the site while in use or require grade separation.

The preferred rail alignment would result in less impact on the surrounding environment compared to other alternatives, has the least impacts on property owners with no home relocations, and does not impact known archaeological sites.

Figure 4-1: Proposed Camp Hall Rail Project



Source: <https://palmettorailwayscamphallrail.com/>

5 THE STATE’S LONG-RANGE RAIL SERVICE AND INVESTMENT PROGRAM

5.1 South Carolina’s Rail Vision

The specific goals of the State Rail Plan, with associated Objectives, Guiding Principles, and Performance Measures are shown in **Table 5-1** through **Table 5-6**. The goals were developed from consideration of the state’s multimodal goals, those of the National Freight Policy established in U.S.C. 167 and the National Rail Plan 2018 progress report, and are fully supported by the South Carolina State Rail Plan 2019 Update.

Table 5-1: Mobility and System Reliability Goal

Objective	Potential Measure
Reduce the number of system miles at unacceptable congestion levels ⁽¹⁾	Miles of NHS and state Strategic Corridor System above acceptable congestion levels
Utilize the existing transportation system to facilitate enhanced modal options for a growing and diverse population and economy	% change in tonnage moved by freight rail % change in rail passenger trips
Guiding Principles	
Improve cost efficiency of intermodal goods movement, increasing diversity in modal choice.	
Encourage availability of both rail and truck modes to major freight hubs (ports, airports, intermodal facilities)	
Use advanced technology, performance management, innovation, competition, and accountability in operating and maintaining the freight transportation system. ⁽²⁾	

Notes:

⁽¹⁾ Included in MTP Goals and Performance Measures

⁽²⁾ Included in National Freight Planning goals established under 23 U.S.C. 167

Table 5-2: Safety Goal

Objective	Potential Measure
Improve the safety, security, and resilience of the freight transportation system ⁽²⁾	FRA Reportable Railroad Incidents
Reduce rail grade crossing crashes involving fatality or serious injury. ⁽¹⁾	Fatalities and injuries in rail grade crossing accidents. Percent of crossings with active safety warning devices installed

Notes:

⁽¹⁾ Included in MTP Goals and Performance Measures

⁽²⁾ Included in National Freight Planning goals established under 23 U.S.C. 167

Table 5-3: Infrastructure Condition Goal

Objective	Potential Measure
Maintain or improve the current state of good repair of rail components of the freight transportation system ⁽²⁾	Miles of rail lines identified as out of service due to condition
Guiding Principles	
Improve prioritization of “last mile” infrastructure to intermodal facilities.	
Recognize the importance of infrastructure condition in attracting new jobs to South Carolina by considering economic development when determining improvement priorities. ⁽¹⁾	
Encourage availability of both rail and truck modes to major freight hubs (for example ports, airports and intermodal facilities). ⁽¹⁾	
Continue to coordinate with the Palmetto Railways to consider road and rail improvements needed to support the efficient movement of freight between the Inland Port and the Port of Charleston and between port terminals.	

Notes:

⁽¹⁾ Included in MTP Goals and Performance Measures

⁽²⁾ Included in National Freight Planning goals established under 23 U.S.C. 167

Table 5-4: Economic and Community Vitality Goal

Guiding Principles
Work with economic development partners to identify transportation investments that will improve South Carolina’s economic competitiveness. ⁽¹⁾
Encourage availability of both rail and truck modes to major freight hubs (ports, airports, and intermodal facilities). ⁽¹⁾
Partner with public and private sectors to identify and implement transportation projects and services that facilitate freight movements. ⁽¹⁾
Encourage rail improvements that will improve connectivity and reliability of freight movement to global markets. ⁽¹⁾
Improve the contribution of rail components of the freight transportation system to economic efficiency, productivity, and competitiveness. ⁽²⁾
Increase public awareness of the significance of goods movement and freight transportation infrastructure on SC economic sustainability and growth.
Partner with communities to improve “last mile” planning efforts in urban communities to minimize the impact of goods movement and improve efficiencies.
Raise profile of integrated multi-agency, state level freight planning.
Explore public-private investment in supporting rail transportation infrastructure.

Notes:

⁽¹⁾ Included in MTP Goals and Performance Measures

⁽²⁾ Included in National Freight Planning goals established under 23 U.S.C. 167

Table 5-5: Environmental Goal

Guiding Principles
Reduce adverse environmental and community impacts of rail components of the freight transportation system. ⁽²⁾
Work with environmental resource agency partners to explore the development of programmatic mitigation in South Carolina ⁽¹⁾
Partner to be more proactive and collaborative in avoiding versus mitigating environmental impacts. ⁽¹⁾

Notes:

⁽¹⁾ Included in MTP Goals and Performance Measures

⁽²⁾ Included in National Freight Planning goals established under 23 U.S.C. 167

Table 5-6: Equity Goal

Guiding Principles
Ensure broad based public participation is incorporated into all planning and project development processes related to rail infrastructure improvements, maintenance and operations. ⁽¹⁾
Ensure planning and project selection processes adequately consider rural accessibility and the unique mobility needs of specific groups

Notes:

⁽¹⁾ Included in MTP Goals and Performance Measures

5.2 Integration of the Rail Vision with Other Transportation Plans

The state’s rail vision is integrated with the state’s Multimodal Transportation Plan, Freight Plan, Interstate Plan, Strategic Corridor Plan, and Transit Plan through use of common goals and objectives.

5.3 Planned Rail Planning Process Changes

The South Carolina Department of Transportation is the designated Rail Planning Agency. The effort is part of the Office of Intermodal & Freight Programs responsibilities as stated in Chapter 1. No organizational changes have been proposed although a source of funding has yet to be identified to permit the Division to meet its rail responsibilities.

5.4 Potential Effects of Rail Program Implementation

There is no dedicated rail improvement program in South Carolina. There are, however, needs as identified in preceding Chapters, primarily in the freight element. These needs are based on preservation and improvement of the state’s existing rail system to maintain and better rail service for the benefit of rail passengers and freight customers, and promote economic development potential.

The projects listed in this discussion do not include any specific Class I railroad needs. Both CSXT and NS advanced general need categories, such as at-grade highway-rail crossings, capacity, and economic development.

As the state has no dedicated rail improvement program, the implementation of, and schedule for projects to meet the known needs is largely problematic.

5.4.1 Proposed Short-Range Passenger Rail Projects

No short-range (next four years) rail passenger projects have been identified. However, SCDOT will continue to partner with Georgia DOT and the Southeastern Corridor Rail Coalition in studying and identifying regional passenger rail routes to support the growing transportation needs in the southeast region.

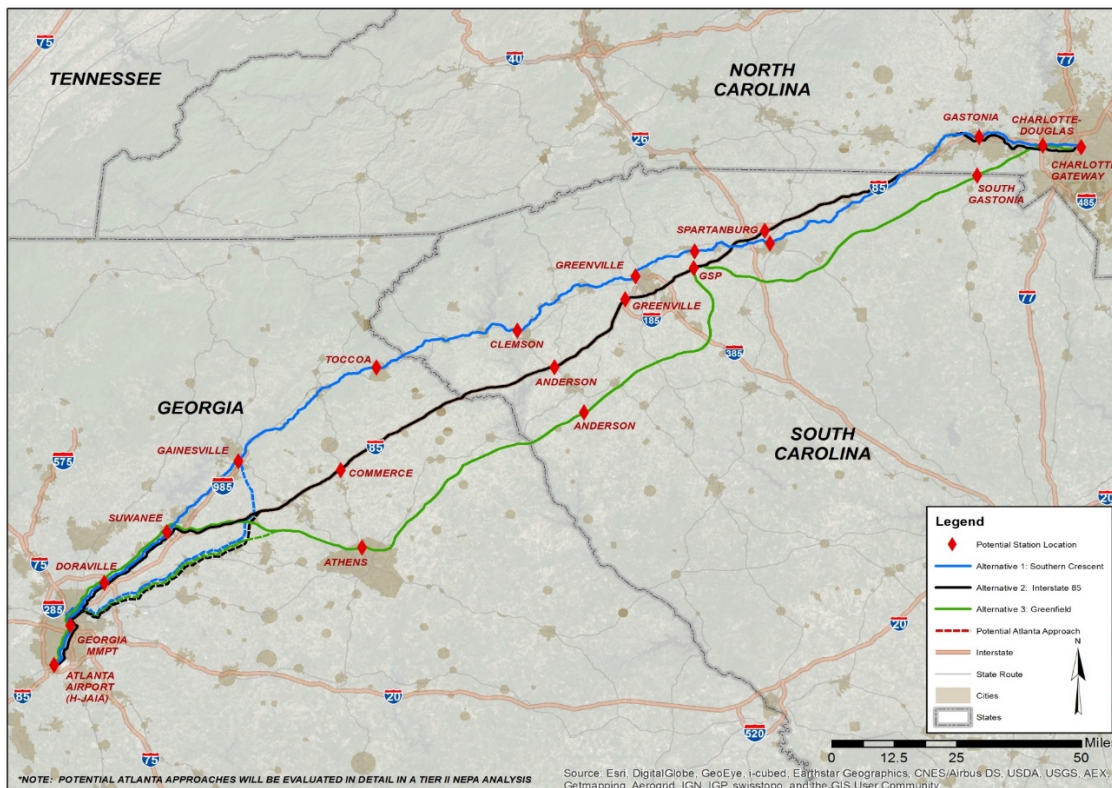
5.4.2 Proposed Long-Range Passenger Rail Projects

Several long-range passenger rail projects (4-20 years) for both intercity and commuter service have been considered as presented in previous Chapters.

5.4.2.1 Charlotte-Atlanta High Speed Rail Service

This project is currently under Draft Environmental Impact Statement (DEIS) review as submitted by Georgia Department of Transportation to the Federal Railroad Administration (April 2019). Three feasible routes have been presented that cross through the Upstate of South Carolina. Future final review and approval of the DEIS will present final costs and proposed implementation. The Tier 1 DEIS was published in the federal register on September 20, 2019 and the public and agency review and comment period occurred between September 20, 2019 and November 4, 2019. FRA, GDOT, SCDOT, and NCDOT held public meetings in each partner state to provide interested parties an opportunity to learn more about the Project, submit comments on the Project, and obtain feedback from the Project team on the Tier 1 DEIS. Following the close of the meeting and public comment period, FRA and GDOT will consider the public and agency input as well as the findings of the Tier 1 DEIS in selecting the Preferred Corridor Alternative. After FRA publishes the Tier 1 DEIS and the public comment period is completed, GDOT will prepare a combined Tier 1 Final EIS (FEIS) and Record of Decision (ROD) wherein the Preferred Corridor Alternative (Greenfield (Alternative 3)) will be presented (Figure 5-1). Should funding for further study become available, FRA and GDOT will then evaluate potential alignments (including the Atlanta Approach), stations, facilities, and detailed service characteristics in future Tier 2 analysis.

Figure 5-1: Atlanta to Charlotte Route Alternatives



Source: ATLANTA to CHARLOTTE PASSENGER RAIL CORRIDOR INVESTMENT PLAN | ALTERNATIVES DEVELOPMENT REPORT (October 2015)

5.4.2.2 Commuter Rail Projects

Commuter rail proposals in South Carolina’s three largest metro regions have been identified and subjected to very preliminary assessments, but none are currently being pursued. Due to cost and

propensity for implementation of commuter rail solutions, many areas are evaluating the alternative Bus Rapid Transit (BRT) as a viable option for commuting and reduction of congestion on major routes within their regions. Given roadway congestion in these regions, it is anticipated pursuit of BRT will be occurring within the next 20 years.

5.4.2.3 Amtrak

No proposals have been advanced for improvement of or addition to current Amtrak services.

5.4.3 Proposed Short-Range Freight Rail Projects

A number of projects have been advanced by the state’s short line rail carriers that total \$47.62 million in costs, as shown in **Table 5-7**. These projects fall in the rehabilitation, capacity/service and safety improvement categories.

Table 5-7: Short Line Railroad Needs by Improvement Category. (Need to update)

Type of Needs	Needs (Millions)
Rehabilitation	\$41.62
Capacity / Service	\$3.50
Safety	\$2.50
Short Line Total	\$47.62

Most of these projects are short-range in nature, or would be, if funding was in place today to implement them.

5.4.3.1 Proposed Long-Range Freight Rail Projects

Palmetto Railways, which is a division of the South Carolina Department of Commerce, is constructing the Navy Base Intermodal Facility (ICTF) on a 118-acre site on the former Charleston Naval Complex. The Navy Base Intermodal Facility will allow the Charleston region to facilitate the movement of goods and commerce over rail within the state and throughout the Southeast region of the United States, stimulating economic development within the region and providing connections to key regional infrastructure.

The location of this facility takes advantage of its close proximity to the region’s transportation infrastructure, including major roadways and the South Carolina Ports Authority. In addition, this facility provides equal connectivity to the area for both of the state’s Class 1 rail carriers, CSX and Norfolk Southern. The construction of this facility includes six different project elements and is planned to begin construction in 2020 with a two-year development timeline. A number of construction activities will be performed concurrently on the project site. Palmetto Railways is actively working with the USDOT Build America Bureau to secure the Railroad Rehabilitation Infrastructure Funding (RRIF) loan.

5.5 Passenger Element

With the exception of Charlotte-Atlanta High Speed project, no intercity service proposals have been advanced in the state. Others have been discussed but never progressed. The high speed service will provide an alternative means of intercity travel, improve travel times and thus create the potential for

reductions in highway passenger travel. In this case, it also has the potential to provide improved access to airports along the line and at its terminus stations.

Amtrak intercity service in the state consists of long-distance trains for which Amtrak has full fiscal responsibility and no state-supported regional service has been proposed.

Commuter rail service has the potential to partially reduce highway congestion and associated economic and environmental impacts in impacted urban areas. Again, no projects have been advanced to the stage financing is required.

5.6 Freight Element

5.6.1 Financing Plan

There are a number of freight rail projects that need financing, but state funding is not available at this time to establish an implementation program in the short term. Discretionary federal funding opportunities will be evaluated and discussed with statewide freight partners as they become available. However, lack of dedicated state funds for rail projects limits the states opportunity for public partnership and funds matching.

SCDOT (on behalf of Norfolk Southern and SC Ports Authority) was awarded a Better Utilizing Investments to Leverage Development (BUILD) Transportation Discretionary 2018 grant for a freight rail infrastructure improvement project in the South Carolina Upstate. The project will expand the Inland Port Greer (IPG), extend the IPG lead track, and lengthen the Carlisle Siding to approximately 15,100 feet. The IPG expansion includes acquiring additional equipment for the handling, loading, and unloading of containers and the paving of up to 40 acres.

The project will advance state of good repair by shifting freight transport from truck to rail, thereby reducing vehicle miles traveled and subsequent pavement damage caused by heavy trucks. The project will add inland transportation capacity to accommodate the economic growth that is expected at the port from the nearby automotive manufacturing facility and other manufacturers in the area. Quality of life will be improved by reducing highway congestion on Interstates 26 and 85. The project is a public-private partnership between the South Carolina Department of Transportation, the South Carolina Ports Authority, the auto manufacturer and the freight railroad.

5.6.2 Public and Private Benefits

The benefits of the state's freight rail service are substantial. They include provision of transportation alternatives, reduction of highway impacts, improvement of air quality, and expansion of economic development opportunities among others.

5.7 Rail Studies

No specific studies were identified in the outreach process. Expressions of transportation problems and lack of planning, however, were expressed and provide guidance of studies of various levels of scope and detail. The most frequently mentioned were:

- Intermodal connections;
- Prioritization of infrastructure projects;
- Location for additional inland ports;
- Unsafe at-grade rail-highway crossings;
- Last mile freight planning; and
- Continued evaluation of rail to contribute to the reduction of urban highway congestion.

5.8 Rail Capital Program Opportunities

5.8.1 Atlanta to Charlotte Passenger Rail

As was presented in the Atlanta to Charlotte Passenger Rail Alternatives Development Report (October 2015)³⁷ the vision of the Southeast High Speed Rail (SEHSR) Corridor, which is one of eleven USDOT-designated high-speed rail corridors, is to develop an integrated passenger rail transportation solution for the Southeast. The Atlanta to Charlotte corridor spans approximately 280 miles and connects the cities of Atlanta, GA, and Charlotte, NC, in a general northeasterly direction. The boundary of the Study Area for the project generally follows I-20 (between Atlanta and Columbia), I-77 (between Columbia and Charlotte), and the Norfolk Southern rail line (between Charlotte and Atlanta). The Study Area also contains I-85 between Charlotte and Atlanta as well as parts of surrounding metropolitan areas.

The Purpose of the Project is to improve intercity passenger travel between Atlanta and Charlotte by expanding the region's transportation system capacity, and improving trip time and reliability through high speed passenger rail services. The Project will provide transportation system capacity necessary to accommodate current and projected population and economic growth occurring along the SEHSR Corridor network including the following metropolitan areas in the Piedmont Atlantic Megaregion: Atlanta, Charlotte, Greenville, and Spartanburg.

Out of the six route alternatives, GDOT selected three to advance for further evaluation in the Tier 1 EIS, based on how well they addressed the Project goals and Need and Purpose Statement and input from the public. Partner State Departments of Transportation selected the Southern Crescent, I-85, and Greenfield Corridor Alternative to advance. Following public comments and outreach, the Greenfield Corridor was selected as the route to advance (see section 5.4.2.1. of this Plan).

Two sets of travel times and train performance were calculated for the Greenfield Alternative: one with a top speed of 125 mph (Alternative 3A) and one with a top speed of 220 mph (Alternative 3B), on a new greenfield alignment.

The overall cost of the Greenfield Corridor Alternative 3A is approximately \$6.2 billion with an estimated per-mile cost of \$22.6 million, as shown in **Table 5-8**. The majority of the cost is associated with FRA Standard Cost Categories (SCC) 10 (Track Structures and Track), 40 (Sitework, ROW, Land, Existing Improvements) and 50 (Communications and Signaling). SCC 40 accounts for a larger percentage of the overall total because of the need to purchase ROW for a majority of the corridor. SCC 10 and 50 are due to proposing a new two track typical section and structures along with a new signaling system.

³⁷ <http://www.dot.ga.gov/InvestSmart/Rail/Documents/Atl-Char/AtltoCharPRCIPAlternativesDevelopmentReport.pdf>

Table 5-8: Total Capital Cost by Major SCC Category for Greenfield Corridor Alternative 3A (\$2012)

Costing Category		Allocated Cost	Contingency (30%)	Total Cost
10	Track Structures and Track	\$2,176,316,722	\$652,895,017	\$2,829,211,739
20	Stations, Terminals, Intermodal	\$347,500,000	\$104,250,000	\$451,750,000
30	Support Facilities: Yards, Shops, Admin. Buildings	\$143,870,000	\$43,161,000	\$187,031,000
40	Sitework, Right of Way, Land, Existing Improvements	\$531,171,369	\$159,351,411	\$690,522,780
50	Communications and Signaling	\$701,300,160	\$210,390,048	\$911,690,208
60	Electric Traction	\$-	\$-	\$-
70	Vehicles	\$375,700,000	\$112,710,000	\$488,410,000
80	Professional Services	\$608,424,687		\$608,424,687
TOTAL COST		\$4,884,282,938	\$1,282,757,475	\$6,167,040,414
TOTAL COST PER MILE (273.16 MILES)				\$22,576,660

Source: ATLANTA to CHARLOTTE PASSENGER RAIL CORRIDOR INVESTMENT PLAN | ALTERNATIVES DEVELOPMENT REPORT (October 2015)

The overall cost of the Greenfield Alternative 3B is approximately \$8.5 billion with a per-mile cost of \$30.9 million as shown in **Table 5-9**. The increase in cost from Alternative 3A (\$2.3 billion) is primarily due to the addition of electrification along the route. Similar to Alternative 3A, a majority of the cost is associated with SCC 10, 40 and 50; however, SCC 60 electrification also accounts for a large percentage of the total cost.

Table 5-9: Total Capital Cost by Major SCC Category for Greenfield Corridor Alternative 3B (\$2012)

Costing Category		Allocated Cost	Contingency (30%)	Total Cost
10	Track Structures and Track	\$2,176,316,722	\$652,895,017	\$2,829,211,739
20	Stations, Terminals, Intermodal	\$347,500,000	\$104,250,000	\$451,750,000
30	Support Facilities: Yards, Shops, Admin. Buildings	\$143,870,000	\$43,161,000	\$187,031,000
40	Sitework, Right of Way, Land, Existing Improvements	\$531,171,369	\$159,351,411	\$690,522,780
50	Communications and Signaling	\$701,300,160	\$210,390,048	\$911,690,208
60	Electric Traction	\$1,496,752,904	\$449,025,871	\$1,945,778,775
70	Vehicles	\$453,600,000	\$136,080,000	\$589,680,000
80	Professional Services	\$841,918,140		\$841,918,140
TOTAL COST		\$6,692,429,295	\$1,755,153,347	\$8,447,582,642
TOTAL COST PER MILE (273.16 MILES)				\$30,925,401

Source: ATLANTA to CHARLOTTE PASSENGER RAIL CORRIDOR INVESTMENT PLAN | ALTERNATIVES DEVELOPMENT REPORT (October 2015)

5.9 Rail Strategies

5.9.1 Freight Rail Strategies

Strategies related to freight rail that have been incorporated in the Statewide Multimodal Transportation Plan and the Freight Plan, include:

- Explore dedicated rail infrastructure funding program.
- Reduce freight bottlenecks that cause significant freight congestion by investing in rail improvements that improve safety and travel times.

- Coordinate with the South Carolina Ports Authority and the Department of Commerce and identify funding to purchase abandoned rail right-of-way that has been identified as having future freight transportation applications.

5.9.2 Passenger Rail Strategies

Strategies related to passenger rail that have been incorporated in the Statewide Multimodal Transportation Plan, include:

- Coordinate with appropriate federal, state agencies and rail providers to advance passenger rail service from Charlotte to Atlanta through the Upstate of South Carolina.
- Coordinate with MPOs, COGs, state agencies and rail partners to explore initial intercity passenger rail feasibility studies for identified corridors in the state.
- Partner with FTA, MPOs, COGs, and transit providers to implement approved premium transit services in urban areas.
- Continue to coordinate with railroad companies to ensure that no right-of-way is abandoned and lost for future public use.
- Coordinate with the MPOs, COGs, and transit providers to identify funding to purchase abandoned rail right-of-way that has been identified as having future passenger rail transportation applications.

6 COORDINATION AND REVIEW

Stakeholders contributed to the development of the South Carolina Multimodal Plan 2040 Update (2019) through participation in stakeholder and public outreach efforts coordinated for statewide planning initiatives utilizing the MetroQuest Survey tool. Planning documents updated included:

- 2040 Statewide Multimodal Transportation Plan (SMTP) Update (2019);
- Interstate Plan 2019 Update;
- Strategic Corridor Plan 2019 Update;
- Public Transit and Coordination Plan 2019 Updates;
- Freight Plan 2019 Update; and
- State Rail Plan 2019 Update.

6.1 Rail Carrier Input

Short line railroads operating in South Carolina were contacted directly to solicit input to the State Rail Plan on needs. All carrier needs that were received in response to the SCDOT request for input are described in Chapter 4.

6.1.1.1 Freight Surveys

Utilizing the *MetroQuest* online public engagement product, in September 2019 the South Carolina Department of Transportation (SCDOT) launched the South Carolina Freight Mobility Survey specifically targeted at freight industry partners who operate and travel the transportation infrastructure in South Carolina. A link to the survey was provided to various partners including freight and logistics stakeholders, Metropolitan Planning Organizations (MPOs), Councils of Governments (COGs), the South Carolina Freight Logistics/Advisory Council and trucking industry partner outlets.

6.2 Coordination with Neighboring States

Facilities and services crossing state boundaries are currently limited to Amtrak passenger rail services and Class 1 railroad operations. Together with North Carolina, the state coordinates in high speed rail passenger planning through their participated in the Georgia DOT led Passenger Rail Corridor Investment Plan (PRCIP), which is part of a larger high-speed rail initiative on the behalf of the Federal Railroad Administration (FRA) that extends north to Washington, DC and is commonly referred to as the Southeast High Speed Rail (SEHSR) Corridor. SCDOT has informed North Carolina and Georgia DOTs of the State Rail Plan Update.

6.3 Involvement in Preparation of State Rail Plan

The public, rail carriers, local government agencies, and other stakeholders participated in the preparation of the Multimodal Plan, Freight Plan and State Rail Plan updates through the previously described public engagement mechanisms. Following release by the Commission, this plan was made available for public comment consistent with the current SCDOT Public Participation Plan.

6.4 Rail Related Issues

Previous outreach (2014) – The predominant tone of previous interview responses was positive as rail was seen an economical, environmentally friendly way to move freight. In addition, as South Carolina’s Upstate region both sources and consumes a large amount of the state’s TDL freight, the location of the Inland Port Greer was deemed reasonable by the respondents and identified as a way to both grow Greenville-area businesses and help reduce the volume of trucks on the I-26 corridor. However, some respondents feared that the inland port will cause some truck carrier’ business to decline and could cause additional, unwanted traffic issues on the roads that service the inland port’s Greer location. However, from an infrastructure perspective, having the multi-modal option was viewed as necessary and it will provide opportunities for geographic expansion to the west from the Upstate.

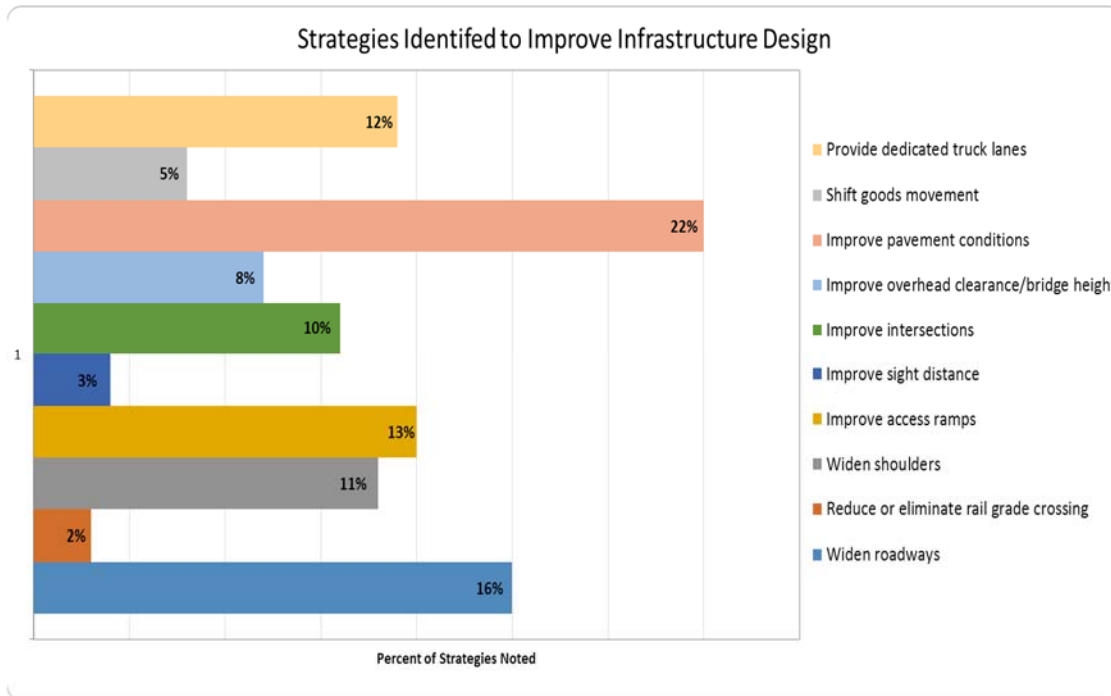
The freight stakeholders interviewed had many positive comments pertaining to the Statewide Multimodal Transportation Plan and the current state of Transportation, Distribution and Logistics in South Carolina. The strengths of South Carolina that were mentioned include the Port of Charleston and its deep water draft and a reliable work force. South Carolina’s outstanding cargo airports were cited for their ease of accessibility, and the state’s truck and rail capabilities were seen as reputable and effective. Finally, many respondents applauded SCDOT for their progressive leadership.

When asked about overall improvement opportunities for South Carolina’s TDL industry, many respondents focused on the state’s transportation infrastructure. Comments focused on areas of roads that have been neglected, needed infrastructure maintenance, and limited resources for our state’s infrastructure. Many of the key stakeholders interviewed suggested that if no solution is found to our state’s current infrastructure issues, there will be no reason for companies to set up businesses in South Carolina. Further, the newly announced inland port’s operations may be hampered if/when companies cannot successfully get to the port due to infrastructure and congestion issues. The general sentiment was that infrastructure repair and maintenance is needed to keep South Carolina TDL firms competitive, especially on our state’s bridges and interstates. Closures, detours, and re-routes can be severely detrimental to business and economic development.

Issues from Online Freight Surveys (2019) - Participants completed the survey in the four-week period that the survey as available through a dedicated link on the SCDOT website.

As shown in **Figure 6-1**, respondents were asked to select their top three strategies for improving infrastructure design (overall) which could result in increased efficiency of freight operations in South:

Figure 6-1: Strategies to Improve Infrastructure Design



Participants were offered an opportunity to utilize an interactive map of the state to identify locations affecting freight mobility and to suggest changes (add/remove) to the proposed 2040 Statewide Freight Network. Responders were asked to drag and drop at least three topical markers onto the map and to provide additional clarifying information when placing a marker by using the comment box following each suggestion.

A total of 168 map markers were placed in the interactive map by participants. The majority of feedback concerned congestion issues/locations (38%) and safety issues/locations (30%). Most congestion issues were predominantly specified on the South Carolina interstates. There was some correlation to the placement of the safety issue markers to congestion markers on interstates or metropolitan locations (Charleston, Columbia and Greenville). Significant congestion and safety concerns were identified in the Charleston region (specifically on the I-526 east and west corridors), the Columbia metropolitan area and the Greenville/Spartanburg region along and adjacent to the I-85 corridor. The other significant area of concern was road design and bridge height issues at various locations around the state.

Results of the 2019 MetroQuest Freight Mobility Survey suggest that there could be value in assessing statewide intermodal opportunities to relieve congestion and improve safety for both goods and passenger movement, particularly in our larger metropolitan regions.

6.5 Stakeholder Input to State Rail Plan

The valuable input provided by stakeholders during Statewide Multimodal Transportation Plan, Freight Plan and Rail Plan 2019 updates was considered and presented in the State Rail Plan in Chapter 4,

Proposed Freight Rail Improvements and Investments. Rail improvement needs identified by individual rail carriers operating in South Carolina were documented, including cost estimates where available.

In other chapters of the State Rail Plan stakeholder input served to:

- Show support for recent or ongoing rail developments, such as the Inland Ports in Greer (2013) and Dillon (2018), Charleston Harbor deepening and the Intermodal Container Transfer Facility in Charleston project;
- Highlight issues, concerns, and challenges for freight and passenger rail, including lack of funding, and highway maintenance/capacity needs;
- Support the need for continuing close coordination in multimodal transportation planning in the future between SCDOT and other agencies.

6.6 Coordination of State Rail Planning

As noted previously the South Carolina State Rail Plan was updated in parallel with other statewide planning initiatives that collectively results in the following long range planning documents:

- 2040 Statewide Multimodal Transportation Plan (SMTP) Update;
- Interstate Plan Update;
- Strategic Corridor Plan Update;
- State Public Transit Plan and ten Regional Transit Coordination Plan Updates; and
- Freight Plan Update.

APPENDIX A: South Carolina Code of Laws (Sec. 57-3-30)

SOUTH CAROLINA CODE OF LAWS

SECTION 57-3-30. Office of Railroads; establishment; responsibilities; comprehensive state rail plan; interagency cooperation.

(A) The Office of Railroads is established within the Division of Intermodal and Freight Programs. The office is principally responsible for:

(1) preserving railroad rights-of-way for future use and coordinating the preparation of a state railroad corridor preservation and revitalization plan;

(2) coordinating high-speed and intercity passenger rail planning and development;

(3) planning, developing, maintaining, and coordinating a comprehensive state rail plan for passenger and freight railroads and infrastructure services with other modes of transportation to help facilitate effective and efficient interstate and intrastate movement of people and freight;

(4) applying for and receiving state, federal, or other funds for passenger and freight rail service and infrastructure needs, high-speed and intercity passenger rail planning and development, and rail corridor preservation and revitalization programs; and

(5) preparing and submitting by February first of each year a full, printed, detailed report to the House Education and Public Works Committee and the Senate Transportation Committee containing an analysis of the:

(a) state railroad corridor preservation and revitalization plan; and

(b) comprehensive state rail plan for passenger and freight railroads and infrastructure services.

(B) Every five years the office must develop and prepare a comprehensive state rail plan for passenger and freight railroads and infrastructure services. The plan must be approved by the United States Department of Transportation. The plan, and any updates, must be submitted to the General Assembly.

(C) All departments, boards, public authorities, or other agencies of the State or its political subdivisions, local government, transportation authorities, and other local public entities must cooperate with the office, provide assistance, data, and advice upon request, and must reimburse any such entity necessary costs in the event of any expense. This authority does not preclude another governmental entity, public or private organization, or individual from entering into a contract or agreement concerning the purposes set forth in this section.

(D) Nothing in this section may be interpreted to subrogate the powers and duties of the Division of Public Railways to the Office of Railroads.

HISTORY: 2010 Act No. 206, Section 5, effective June 7, 2010.

APPENDIX B: South Carolina Port Tonnage

US Army Corps of Engineers
Waterborne Commerce Cargo Data
For South Carolina Ports
CY2018

Data Included for 2018 SC Ports:

Ocean to Goose Creek via Cooper River and Town Creek; to the Standard Wharf on Ashley River; to the Mount Pleasant Memorial Highway Bridge on Shem Creek; to the Airco Alloys Wharf on Shipyard River; Wando River to Cainhoy. Controlling Depth: 47 feet for 800 feet width across the entrance channel; thence 26.7 feet for project widths to head of project (15.7 miles); Shipyard River 28.4 feet to head of project (1.2 miles), Wando River controlling depth 41.6 feet for 400 foot widths to head of project. Project Depth: Charleston Harbor 45 feet; Shem Creek 10 feet; Ashley River 30 feet; Shipyard River 36 feet; Wando River 40 feet.

US Army Corps of Engineers Waterborne Commerce Cargo Data for South Carolina Ports
CY2018

460

2-Digit Code/Commodity	All Traffic Types Domestic & Foreign						Domestic						Foreign					
	All Traffic Directions	Intraport	Receipts	Shipments	All Traffic Directions	Shipments	All Traffic Directions	Intraport	Receipts	Shipments	All Traffic Directions	Intraport	Receipts	Shipments	All Traffic Directions	Intraport	Receipts	Shipments
10 Coal, Lignite & Coal Coke	16,460	0	15,691	769	14,052	0	0	13,954	98	2,408	0	1,737	671					
21 Crude Petroleum	22,174	0	22,174	0	0	0	0	0	0	22,174	0	22,174	0					
22 Gasoline, Jet Fuel, Kerosene	783,772	0	783,770	2	533,956	0	0	533,956	0	249,816	0	249,814	2					
23 Distillate, Residual & Other Fuel Oils; Lube Oil & Greases	933,306	249,185	623,470	60,651	535,450	249,185	265,082	21,183	0	397,856	0	358,388	39,468					
24 Petroleum Pitches, Coke, Asphalt, Naptha and Solvents	64,102	0	52,085	12,017	9,065	0	9,065	0	0	55,037	0	43,020	12,017					
29 Petroleum Products NEC	39,132	0	35,173	3,959	0	0	0	0	0	39,132	0	35,173	3,959					
31 Fertilizers	85,350	0	76,899	8,451	0	0	0	0	0	85,350	0	76,899	8,451					
32 Other Chemicals and Related Products	4,148,076	0	2,728,494	1,419,582	817,421	0	817,421	0	0	3,330,655	0	1,911,073	1,419,582					
41 Forest Products, Lumber, Logs, Woodchips	1,232,589	0	432,553	800,036	0	0	0	0	0	1,232,589	0	432,553	800,036					
42 Pulp and Waste Paper	903,101	0	17,890	885,211	0	0	0	0	0	903,101	0	17,890	885,211					
43 Sand, Gravel, Stone, Rock, Limestone, Soil, Dredged Material	736,119	5,025	706,837	24,257	5,025	5,025	0	0	0	731,094	0	706,837	24,257					
44 Iron Ore and Iron & Steel Waste & Scrap	1,325,816	0	1,260,370	65,446	77,195	0	76,920	275	0	1,248,621	0	1,183,450	65,171					
45 Marine Shells	69	0	6	63	0	0	0	0	0	69	0	6	63					
46 Non-Ferrous Ores and Scrap	373,975	0	284,328	89,647	0	0	0	0	0	373,975	0	284,328	89,647					
47 Sulphur (Dry), Clay & Salt	238,315	0	212,295	26,020	0	0	0	0	0	238,315	0	212,295	26,020					
48 Slag	42,083	0	25,181	16,902	14,423	0	0	14,423	0	27,660	0	25,181	2,479					
49 Other Non-Metal. Min.	32,595	0	8,892	23,703	0	0	0	0	0	32,595	0	8,892	23,703					
51 Paper & Allied Products	875,884	198	188,483	687,203	198	198	0	0	0	875,686	0	188,483	687,203					
52 Building Cement & Concrete; Lime; Glass	394,970	0	329,012	65,958	0	0	0	0	0	394,970	0	329,012	65,958					
53 Primary Iron and Steel Products (Ingots, Bars, Rods, etc.)	1,229,146	0	1,105,006	124,140	27,210	0	0	0	0	1,201,936	0	1,105,006	96,930					
54 Primary Non-Ferrous Metal Products; Fabricated Metal Prods.	973,037	398	731,468	241,171	3,919	398	398	398	3,123	969,118	0	731,070	238,048					

Source: US Army Corps of Engineers, <http://cwbi-ndc-nav.s3-website-us-east-1.amazonaws.com/files/wcsc/webpub/#/report-landing/year/2018/region/1/location/773>, accessed January 2020

2-Digit Code/Commodity	All Traffic Types Domestic & Foreign						Domestic						Foreign					
	All Traffic Directions	Intraport	Receipts	Shipments	All Traffic Directions	Intraport	Receipts	Shipments	All Traffic Directions	Intraport	Receipts	Shipments	All Traffic Directions	Intraport	Receipts	Shipments		
55 Primary Wood Products; Veneer; Plywood	161,269	0	146,606	14,663	0	0	0	0	0	0	0	0	161,269	0	146,606	14,663		
61 Fish	8,825	0	5,922	2,903	0	0	0	0	0	0	0	0	8,825	0	5,922	2,903		
62 Wheat	851	0	34	817	0	0	0	0	0	0	0	0	851	0	34	817		
63 Corn	7,589	0	51	7,538	0	0	0	0	0	0	0	0	7,589	0	51	7,538		
64 Barley, Rye, Oats, Rice and Sorghum Grains	18,729	0	14,690	4,039	0	0	0	0	0	0	0	0	18,729	0	14,690	4,039		
65 Oilseeds (Soybean, Flaxseed and Others)	119,142	0	5,229	113,913	0	0	0	0	0	0	0	0	119,142	0	5,229	113,913		
66 Vegetable Products	287,163	0	190,416	96,747	0	0	0	0	0	0	0	0	287,163	0	190,416	96,747		
67 Animal Feed, Grain Mill Products, Flour, Processed Grains	243,106	0	45,986	197,120	0	0	0	0	0	0	0	0	243,106	0	45,986	197,120		
68 Other Agricultural Products; Food and Kindred Products	1,524,814	0	379,575	1,145,239	0	0	0	0	0	0	0	0	1,524,814	0	379,575	1,145,239		
70 All Manufactured Equipment, Machinery and Products	6,961,489	600	4,942,103	2,018,786	600	600	0	0	0	0	0	0	6,960,889	0	4,942,103	2,018,786		
99 Unknown or Not Elsewhere Classified	1,039,588	0	490,976	548,612	0	0	0	0	0	0	0	0	1,039,588	0	490,976	548,612		
TOTAL	24,822,636	255,406	15,861,665	8,705,565	2,038,514	255,406	1,716,796	66,312	22,784,122	-	14,144,869	8,639,253						

Source: US Army Corps of Engineers, <http://cwbi-ndc-nav.s3-website-us-east-1.amazonaws.com/files/wcsc/webpub/#/report-landing/year/2018/region/1/location/773>, accessed January 2020

Intentionally Left Blank



MULTIMODAL TRANSPORTATION PLAN 2040



July 2020 Update



SCDOT

Drive Our Future

TABLE OF CONTENTS

1. Introduction.....	3
2. Plan Development.....	4
2.1 How was the MTP Update Developed	4
2.2 Partnership.....	5
2.3 The Update to the 2040 MTP.....	5
2.4 Plan Consultation and Outreach	5
2.4.1 Steering Committee	6
2.4.2 Stakeholder and Public Participation.....	6
3. Demographic and Socio-economic Characteristics.....	13
3.1 Population and Employment Trends	13
3.1.1 General State Population Trends	13
3.1.2 Urban vs. Rural Trends	14
3.1.3 Employment Trends	15
3.2 Vehicle Miles Traveled	15
4. Vision, Goals, Objectives, and Performance Measures	17
4.1 Vision, Goals, Objectives, and Performance Measures	17
4.2 Relationship To Other Plans.....	18
4.3 Mobility and System Reliability	19
4.4 Safety.....	19
4.5 Infrastructure Condition.....	20
4.6 Economic and Community Vitality	22
4.7 Environmental.....	23
4.8 Equity.....	24
5. Performance Management	24
5.1 Background	24
5.2 Performance Targets	25
5.2.1 Safety/PM-1.....	25
5.2.2 Pavement and Bridge Condition/PM-2.....	26
5.2.3 System Reliability, Freight Movement, and Congestion Mitigation & Air Quality Improvement Program/PM-3.....	29
5.3 System Performance.....	31
6. Environmental Mitigation.....	31
7. Safety and Security.....	32
8. Modal Inventory.....	37
8.1 Roadways –.....	37
8.2 Bridges	38
8.3 Aviation	39
8.4 Freight Rail.....	39
8.5 Passenger Rail	39
8.6 Water Ports.....	39
8.7 Inland Port	40
8.8 Mass Transit.....	40
8.9 Intercity Bus	40

8.10 Bicycle and Pedestrian	41
9. Modal Plan Summaries	42
9.1 Interstate Plan	42
9.2 Statewide Freight Plan	45
9.2.1 Freight Plan Outreach	45
9.2.2 Freight Transportation Inventory	45
9.2.3 Freight Strategies.....	47
9.3 Strategic Corridor Network	50
9.4 Statewide Rail Plan	53
9.5 Statewide Transit Plan	54
10. Multimodal Needs.....	56
10.1 Introduction	56
10.2 Roadway Needs	57
10.3 Bridge Needs	59
10.4 MPO/COG Program Needs	64
10.5 Safety Needs	64
10.6 Routine Maintenance Needs	64
10.7 Mass Transit Needs	65
10.8 Premium Transit and Passenger Rail Needs	65
10.9 Bicycle and Pedestrian Needs	66
10.10 Freight Rail Needs	667
10.11 Port and Waterway Needs	68
10.12 Aviation Needs	68
11. Transportation Revenues and funding gap.....	69
11.1 2017-2040 Revenue Forecast	69
11.2 Funding Gap	69
12. Findings and Strategies.....	71
12.1 Safety	72
12.2 Economic Competitiveness	73
12.3 Performance Management	75
12.4 Transportation Asset Management	76
12.5 Freight Improvements	78
12.6 Multimodal Enhancements	80
12.7 Partnerships	81
Appendix A	84
Survey Comment Summary	84
Appendix B	86
Survey Comments	86

1. INTRODUCTION

The South Carolina Department of Transportation (SCDOT), in partnership with the South Carolina Department of Commerce (SCDOC), South Carolina Ports Authority (SCPA), Federal Highway Administration (FHWA), Federal Transit Administration (FTA), and other key stakeholders have updated the South Carolina Multimodal Transportation Plan (MTP), “Drive Our Future”. Per the SC Code of State Regulations Chapter 63-10(B)(1) the MTP, South Carolina’s long-range transportation plan, is updated approximately every five years to reflect the latest information on travel and growth trends, goals and objectives, safety and security, infrastructure conditions, future deficiencies, and estimated funding, as well as the latest federal requirements.

The 2040 Multimodal Transportation Plan update includes fully integrated modal plans for the Interstate, Strategic Corridors, Public Transit and Human Health Service Coordination, Freight, and Rail.

The 2012 “Moving Ahead for Progress in the 21st Century” (MAP-21), and the 2015 Fixing America’s Surface Transportation Act (FAST Act), approved by Congress, requires state transportation plans to focus on a performance-based, outcome-driven planning process. The 2040 Multimodal Transportation Plan update addresses the enhanced federal performance based planning and programming requirements by providing a vision for improving future condition, performance, and accessibility of transportation infrastructure and services that enhance the mobility and economic competitiveness of South Carolina. Performance targets were developed by SCDOT in 2018 and approved by the FHWA. SCDOT worked in coordination with eleven (11) Metropolitan Planning Organizations (MPO) and ten (10) Council of Governments (COG) to adopt performance targets with the goal to ensure consistent statewide performance measures would be met through implementation of their Long Range Transportation Plans as required under SCR Chapter 63-10(B)(2). The current MTP, with a 2040 horizon, was approved by the Transportation Commission in December 2014.

Population in South Carolina has continued to increase. Between the decennial Census of 2010 and the forecasted population of 2018, the estimated population in South Carolina increased an estimated ten (10) percent or 458,763 residents. By the 2020 Census, this total is expected to grow to 600,000 new residents reaching population 5.2 Million and by 2040, the population is expected to surpass 6.3 million.

Over 30 million visitors come to South Carolina each year to enjoy its rich history, charming cities, beautiful beaches, and mountains. South Carolina is home to industry giants, such as BMW in the Upstate Region as well as Boeing, Mercedes Benz, and Volvo in the Charleston Region. South Carolina is also considered the “Tire Capital of the World” with Bridgestone, Continental, and Michelin manufacturing plants around the state.

The South Carolina Ports Authority (SCPA) relies on an effective highway and rail system to move goods throughout South Carolina as well as throughout the southeastern United States. SCPA operates the state’s vital seaport assets in Charleston and Georgetown. This is a \$53 billion-a-year economic engine generating 1 of every 11 jobs within the state. In October 2013, the first inland port opened in South Carolina allowing the Port of Charleston to reach 212 miles inland to Greer and in 2018, the second inland port opened in Dillon, South Carolina. The addition of these two South Carolina inland ports provides shipper’s access to more than 95 million consumers within a day’s drive while removing truck traffic from our congested roadways.

However, as South Carolina continues to attract new residents, tourists, and businesses, this growth has a tremendous impact on maintaining the 41,315 miles of state-maintained highways (which places South Carolina fourth, in the country, in terms of the largest state maintained system) and 8,412 bridges.

Growth trends in population, employment, vehicle miles of travel and transit usage indicate a greater demand for future mobility. This growth in demand has largely outpaced revenue streams, resulting in a significant obstacle to planning a 21st century multimodal transportation system that moves people and goods efficiently throughout the state.

South Carolina faces a tremendous challenge to meet increasing transportation needs, a common problem faced by states across the country. While SCDOT is responsible for maintaining the majority of the multimodal transportation system, the Department recognizes that other agencies and the private sector must collaboratively work together to ensure the multimodal transportation system is preserved, modernized, integrated, and expanded to provide improved mobility options and access to all South Carolinians, visitors, businesses, and industries.

2. PLAN DEVELOPMENT

A statewide long-range transportation plan is important not only for what it says and the direction it provides for future transportation investment, but also for the process used for its development. In short, a good plan development process brings the state's transportation partners and stakeholders together to establish a unified vision and direction for future investment; it incorporates consideration of modal needs and other analyses to ensure plan findings are technically sound, transparent, and justified; and it respects and is reflective of applicable federal and state requirements.

2.1 How was the MTP Update Developed

The 2040 MTP was updated from a variety of discussions, meetings, and technical analyses, including the following:

- **Stakeholder participation** – input and participation from the public, transportation partners, and modal experts.
- **Plan vision** – vision, goals, objectives, and performance measures developed with stakeholder and agency input.
- **Modal needs analysis** – demographic growth factors and existing conditions' impact on multimodal transportation services and infrastructure.
- **Financial analysis** – comparison of multimodal needs against projected federal, state, and local revenue.

During the development of the 2040 MTP Update, the following modal plans were reviewed and are available on the 2040 MTP Update website:

- Interstate Plan.
- Strategic Corridor Network Plan.
- Statewide Public Transit Plans and Human Health Service Coordination Plan.
- Freight Plan.
- Rail Plan.

2.2 Partnership

While SCDOT is responsible for maintaining the majority of the multimodal transportation system, the Department recognizes that other agencies must be involved to develop an integrated transportation system. Thus, the 2040 Multimodal Transportation Plan (MTP) was developed in partnership with the South Carolina Department of Commerce (SCDOC), South Carolina Ports Authority (SCPA), Federal Highway Administration (FHWA), as well as the 11 Metropolitan Planning Organizations (MPOs) and 10 Councils of Government (COGs).

South Carolina Department of Commerce promotes economic opportunity for individuals and businesses in the state through the recruitment of new businesses and assisting existing businesses with growth. The nexus between economic development and transportation is critical to decision making and transportation investment and SCDOC executive staff provided strategic guidance during the development of the 2040 MTP.

South Carolina Ports Authority works to increase economic investment in South Carolina while operating the state's seaport assets in Charleston and Georgetown, as well as the inland port located in Greer in the Upstate. South Carolina ports are dependent on the state's multimodal transportation networks to move goods in and out of the ports and SCPA executive staff provided strategic guidance during the development of the 2040 MTP.

The partnership has developed a new plan that addresses critical issues faced by SCDOT, SCDOC, SCPA, MPOs, and COGs. The vision, goals, and objectives set the foundation for the first performance-based long range transportation plan in South Carolina. Identifying the multimodal transportation needs and projecting revenue forecasts to 2040 provides crucial information that will assist the Department in allocating limited financial resources across a vast multimodal transportation system.

2.3 The Update to the 2040 MTP

There are a number of updates provided within this document to address numerous changes that have occurred since the 2040 MTP was approved in 2014. The horizon year will remain unchanged at 2040 as the plan will continue to provide the requisite 20-year horizon. The 2040 MTP incorporates SCDOT's Strategic Plan, Transportation Asset Management Plan (TAMP), 10-year Consolidated Plan and the State Transportation Improvement Program (STIP) into the decision making process in an effort to drive data driven decisions with a predictable outcome. SCDOT's Strategic Plan, TAMP, and 10-year Consolidated Plan were not available during the development of the previous 2040 MTP. The 2040 MTP Update used SCDOT databases, design standards, cost estimates, and FHWA and FTA supported analytical tools to develop the roadway and bridge needs. The 2040 MTP Update also includes bridge preservation, modernization, and replacement costs. This rigorous process provides a needs picture based on SCDOT data, design standards, and costs, using data and tools that allow comparable updates to be made in future years.

To identify the full multimodal transportation needs in South Carolina, the 2040 MTP Update identifies these needs based on input and reports from SCDOT, SCPA, MPOs, and COGs.

2.4 Plan Consultation and Outreach

Throughout the development of the 2040 MTP Update, there was continual coordination and consultation with a dedicated executive committee and project stakeholders.

2.4.1 Steering Committee

The 2040 MTP Update was advanced in partnership with staff from SCDOT and FHWA. The Steering Committee met numerous times over the course of the planning process to provide strategic guidance and provided feedback and agreement on:

- The vision, goals, and objectives that set the foundation for the performance-based long range transportation plan in South Carolina.
- The identification of the multimodal transportation needs.
- The development of a new baseline revenue and the 2040 revenue forecast.

2.4.2 Stakeholder and Public Participation

Stakeholder participation was an important part of updating the 2040 MTP. The following methods were used to solicit stakeholder feedback and input on vision, goals, objectives, performance measures, modal needs, and revenue projections:

2.4.2.1 MPO and COG information forums

During the development of the 2040 MTP Update, regional informational forums were hosted by SCDOT at the ten COG regional office locations and were attended by Metropolitan Planning Organization (MPO), Council of Government (COG), County Transportation Committee (CTC) members, county, municipal, FHWA, utility, local and state elected officials, SCDOT Commission members and staff. The purpose of the forums was to discuss current business practices and processes, and how they can be improved to enhance project delivery within the planning process; to receive any suggestions or guidance in the development of the 2040 MTP Update and other transportation related issues; and, provide updates on the latest legislative activities that may have impacts within their communities.

2.4.2.2 Web surveys

As an integral information gathering tool for the 2040 MTP Update, SCDOT utilized an online survey platform for approximately 45 days to receive feedback from the general public and stakeholders. The purpose of the survey was to gain insightful input on opinions of transportation services that will aid in the development of investment priorities. The survey contained three questions that asked participants to rank priorities, choose between competing investments, and assign priority values towards investment types. The survey covered the following topics:

- Priority of transportation ranking – What priorities are most important to the respondent?
- Investment Tradeoffs – Where should transportation investments be made between competing priorities?
- Investment Allocation – How and where should transportation investments be made?
- Demographics – A questionnaire to determine zip code, age group, household income, and primary mode of transportation.
- Opportunities for direct feedback – Fill in the blank comments will permit fill in the blank responses.

During the 45-day survey period, approximately 13,000 citizens, including 30 Spanish-speaking citizens, visited the survey and over 10,000 completed the surveys. An additional 2081 written comments were received supplementing the three survey questions. This method of collecting public input proved to be an effective tool when considering the challenges experienced with the public participation process during the 2014 MTP Update.

Below is a summary of the data received from the survey.

Survey Question 1: Investment Priority Ranking

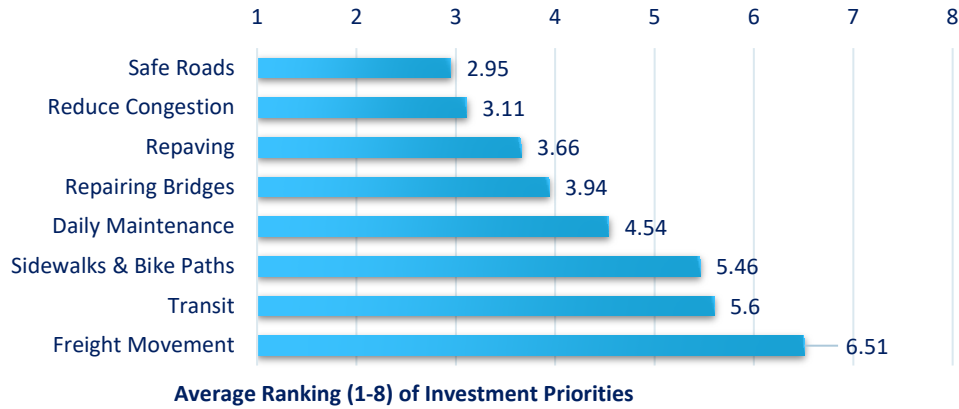
The first question asked the respondents to rank transportation priorities 1-8 (1 being highest and 8 being lowest) over the next 20 years. The following choices were to be ranked:

- ***Sidewalks and Bike Paths*** - Improve the connectivity and availability of sidewalks and bike paths.
- ***Repaving*** - Activities and investments aimed at protecting transportation Infrastructure by extending the service life and having smooth roads. Functions include preservation treatments and resurfacing.
- ***Safe Roads*** - Improve the safety of the roadways. Functions include rumble strips, wider and brighter pavement markings, wider/paved shoulders, improved clear zones, guardrail/cable barrier, improved signals and signage, etc.
- ***Transit*** - Improve bus transit services.
- ***Freight Movement*** - Improve the connectivity and mobility of the freight system.
- ***Repairing Bridges*** - Activities and investments aimed at protecting transportation infrastructure by extending the service life or replacement of bridges. Functions include bridge maintenance or bridge replacement.
- ***Reduce Congestion*** - Address traffic congestion by adding capacity, improving connectivity, access management, traffic signal time management, etc.
- ***Daily Maintenance*** - Activities that keep the roads and areas along the roads, within right of way, operating safely and effectively. Functions include mowing, snow removal, guardrail repair, drainage, maintenance, and fixing potholes.
- ***Public Comment*** – An optional public comment choice was also provided. Results of the public comment are provided later in this chapter.

Figure 2-1 displays the respondents recommended prioritization of project types. The figure illustrates the average ranking of the eight priority types provided in the survey question. The graph illustrates that safe roads, reduction of congestion, repaving projects, and repairing bridges were the highest priority, ranked in order. This prioritization of projects is consistent with four of the statewide investment strategies outlined in the 10-year investment plan. Investment priorities in the plan prioritize investments towards Interstate upgrades (Capacity and Congestion), Pavements (Repaving), Safety, Bridges, Freight and MPO/COG Programs.

Figure 2-1: Summary of Question 1, Infrastructure Preferences

MTP Survey Question 1 Average Priority Ranking



Survey Question 2: Investment Trade-offs

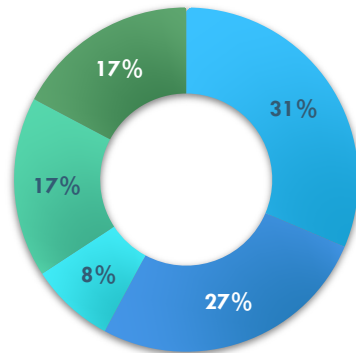
SCDOT identified several items critical in creating and maintaining a successful and long-term transportation system while recognizing it comes with trade-offs. Question 2 attempts to address the common Investment Trade-offs in a four-part question that asked respondents to choose a response of: strongly agree; agree; or provide a neutral response between two competing investments.

- **Infrastructure** – Widen and/or Add Capacity vs. Upgrade/Improve the quality of existing infrastructure.
- **Improve Mobility** - Increase capacity by adding lanes and/or other infrastructure vs. Manage demand with technology and other travel mode alternatives.
- **Safe and Secure Travel** - Invest more in safer roads i.e. paved shoulder, clear zone, guardrail, etc. vs. Invest more in intersection safety improvements.
- **Passenger Transit** - Increase transit and other passenger services on popular routes vs. Increase transit and other passenger services to new areas.
- **Public Comment** – An optional public comment choice was also provided. Results of the public comment section are provided later in this chapter.

Figures 2-2 to 2-5 on the next few pages provide a visual summary of each of the four responses.

Figure 2-2: Summary of Question 2, Infrastructure Preferences

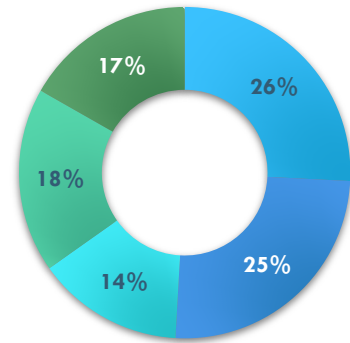
Infrastructure



- Widen/Add Capacity - Strongly Agree
- Widen/Add Capacity - Agree
- Neutral
- Upgrade/Improve Quality of Existing Infrastructure - Agree
- Upgrade/Improve Quality of Existing Infrastructure - Strongly Agree

Figure 2-3: Summary of Question 2, Safe and Secure Travel Preferences

Safe and Secure Travel



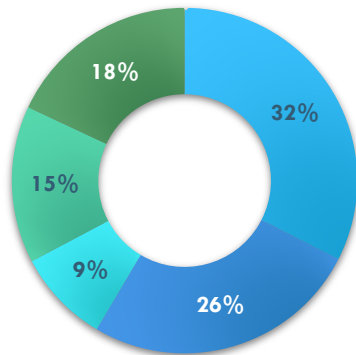
- Invest more in safer roads i.e paved shoulder, clear zone, guardrail, etc - Strongly Agree
- Invest more in safer roads i.e paved shoulder, clear zone, guardrail, etc - Agree
- Neutral
- Invest more in intersection safety improvements - Agree
- Invest more in intersection safety improvements - Strongly Agree

In Figure 2-2, respondents were asked their preference between infrastructure priorities. Respondents were asked if they preferred to widen/add capacity to the roadways or upgrade/improve the quality of existing roadways. Respondents preferred (58% to 34%) adding additional capacity/new lanes to existing infrastructure over improving/upgrading existing infrastructure.

In Figure 2-3, respondents were asked their preferences on safety investments. Should the state invest more money in safer roads (i.e. paved shoulder, clear zone, guardrail, etc.) vs. invest more in intersection safety improvements? Respondents preferred investments in safety measures such as paved shoulders, clear zones, guardrails, etc., over investments in intersection safety projects by a 51% to 35% margin. Approximately 14% of the respondents were neutral.

Figure 2-4: Summary of Question 2, Improve Mobility

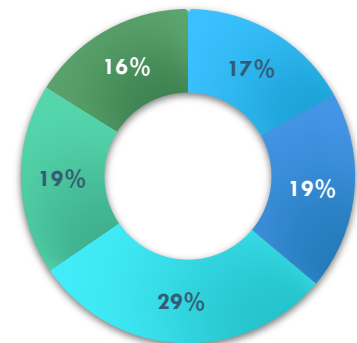
Improve Mobility



- Increase capacity by adding lanes and/or other infrastructure - Strongly Agree
- Increase capacity by adding lanes and/or other infrastructure - Agree
- Neutral
- Manage demand with technology and other travel mode alternatives - Agree
- Manage demand with technology and other travel mode alternatives - Strongly Agree

Figure 2-5: Summary of Question 2, Passenger Transit

Passenger Transit



- Increase transit and other passenger services on popular routes - Strongly Agree
- Increase transit and other passenger services on popular routes - Agree
- Neutral
- Increase transit and other passenger services to new areas - Agree
- Increase transit and other passenger services to new areas - Strongly Agree

In Figure 2-4, the respondents were asked to improve mobility by either increasing capacity/adding lanes or managing demand with technology or other transportation alternatives. Overwhelmingly, the respondents preferred adding capacity/lanes 58% to 33%.

In Figure 2-5, the respondents were asked if they preferred increased transit and other passenger services on existing routes or increase transit and other passenger services to new areas. The results were almost symmetrical. Approximately 36% favored improving existing routes while 35% favored expansion for new routes. Twenty-nine percent of the respondents were neutral.

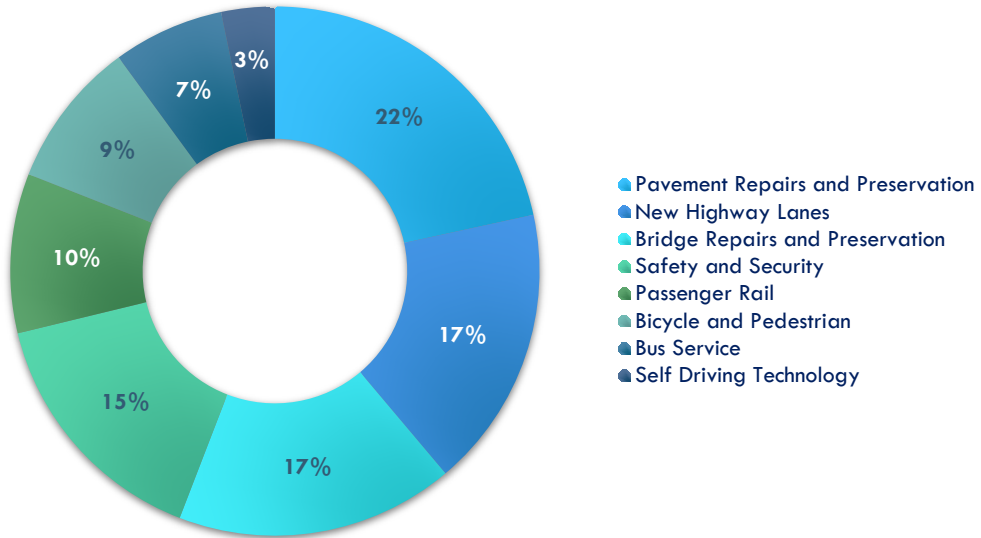
Survey Question 3: Investment Allocations

Question 3 asked, "If you could decide how transportation dollars in South Carolina are spent, how would you distribute them in these categories? You have coins equal to \$100." In this question, respondents were asked to assign \$100 worth of coins into one of eight transportation investment categories: Figure 2-6 shows the percentage of investments assigned to each priority. The majority of the respondents (71%) supported investing most of the allotted resources into Pavements, Capacity, Bridges, and Safety, in that order. Respondents indicated

that approximately 17% of the resources should go to support rail and bus service; 9% should be devoted to bike and pedestrian infrastructure; and 3% should go towards self driving technology. This survey question did not offer public comment.

Figure 2-6: MTP Update Survey Question 3, Priority Investments

Priority Investments



Survey Follow-up: Demographic information

At the end of the survey, respondents were asked general personal information that included race, zip code, age range, income, predominant transportation choice, and household size. Below is a general summary of the information received from the respondents. Full descriptions of the Demographics are found in Appendix A.

- Surveys were submitted from 390 Zip Codes representing 296 communities within all 46 Counties. Figure 2-7 illustrates the distribution of submitted surveys statewide. The pattern of the map illustrates a broad distribution of respondents within the state with the higher participation rate in the larger urban areas.
- 93.3% of respondents drove a single-occupant vehicle, 0.5% used public transportation, and 1.8% used bicycle/pedestrian as their primary mode of transportation.
- 67.3% of respondents were from households with three or more residents.
- 40.8% of the respondents reported household earnings of over \$100,000, while only 18.9% of the respondents reported annual earnings less than \$25,000.
- 89.5 % of the respondents reported as being White, 4.3% as other, 3.8% African-American, 1.3% Hispanic, 0.7% Asian, and 0.3% Native American.

Figure 2-8 is a word cloud summarizing the more than 2000 comments received within the survey period. This word cloud image is indicative of word frequency, with the highest values given to the most words commonly used. However, it does not capture multi-word phrases.

Social Media/Website – SCDOT created public service announcements broadcast through the SCDOT website, press releases in local newspapers, Twitter, Facebook and partnering public, private and non-profit organizations websites, and emails. During the public advertisement period, the following results from Facebook were noted:

- 159,329 people were reached.
- 390,291 times the ads were seen on a screen.
- 2.45 times per person reached.
- 6,547 total clicks. (These are the total number of clicks on the ad that led to the destination on or off Facebook).

Internal SCDOT technical review meetings - SCDOT technical experts in pavement, bridges, public transportation, freight, rail, bicycle and pedestrian, safety, and finance provided strategic guidance and review on 2040 MTP Update modal conditions and needs, revenue projections, and performance measures.

2.4.2.2.1 Web Survey Summary

The web survey summary along with the individual comments can be found in Appendix A and B.

3. DEMOGRAPHIC AND SOCIO-ECONOMIC CHARACTERISTICS

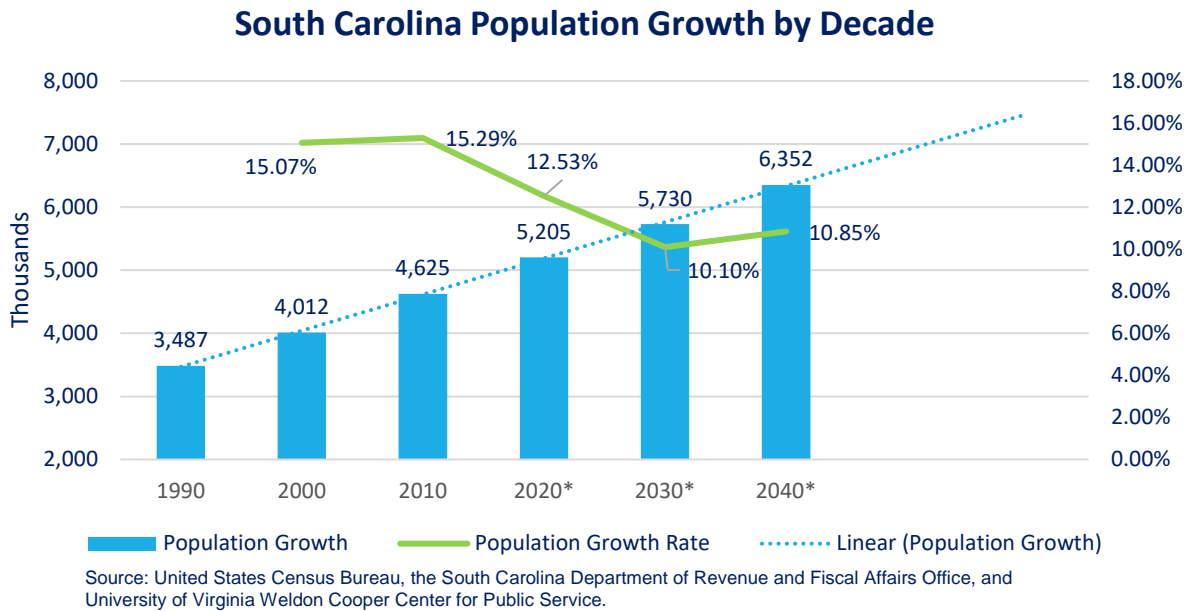
Demand for transportation services are primarily driven by socio-economic factors such as population and employment. Trends in these factors are briefly summarized below as they provide the foundation for the projected growth in transportation demand.

3.1 Population and Employment Trends

3.1.1 General State Population Trends

South Carolina's 2010 population placed it 24th in rank among the fifty states, compared to 26th in 2000. By 2020, the population is expected to reach 5.2 Million, a projected 12.5% increase (Ranked 11th nationally) and making it the 23rd largest state by population. In 2030, the population is expected to reach approximately 5.7 Million and by MTP Update horizon in 2040, the population is expected to exceed approximately 6.3 million residents. Figure 3-1 illustrates that population growth rates since 2000 have diminished however, the number of new residents added to the state have remained steady at between 55,000 to 60,000 annually. This pattern is expected to continue through 2040. South Carolina ranks 2nd in the region in annual growth rate from 2010-2018, ranking only behind Florida.

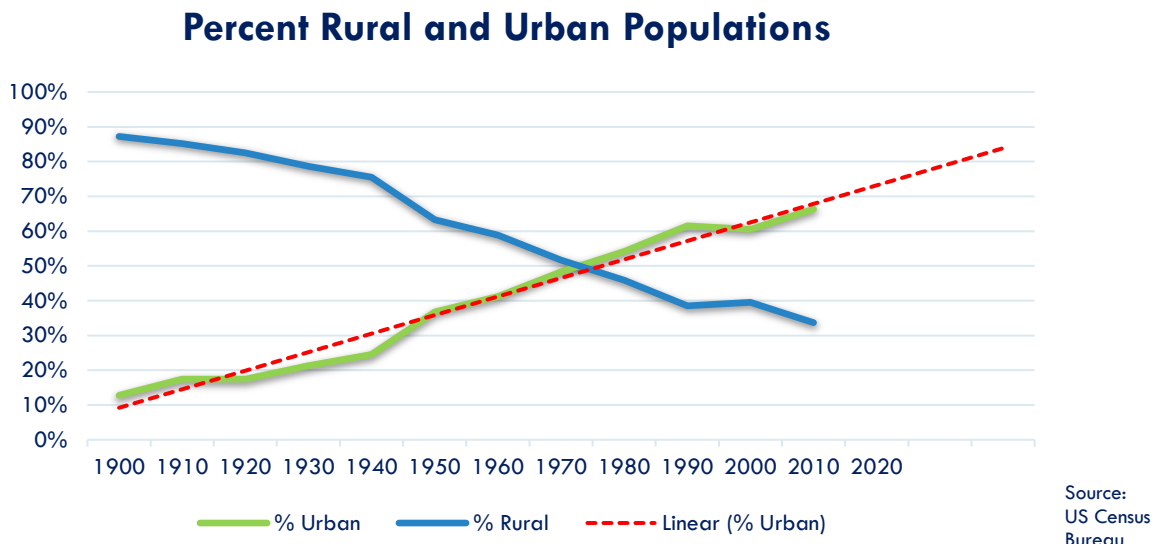
Figure 3-1: Population Growth by Decade



3.1.2 Urban vs. Rural Trends

Population growth rates within South Carolina reflect a national trend of migration from historically rural areas to more urbanized areas closer to major employment centers. In 2010, 66.3%, or approximately two-thirds of the population in South Carolina, was considered Urban, while 33.7% of the population was considered Rural. During this period, rural populations decreased for the first time since 1990. This trend should continue through the 2020 census where urban populations are expected to exceed 70% of the state population. Even with this consistent urban growth trend, South Carolina is relatively rural compared to National trends, which calculated that 80.7% of the total population was considered Urban and 19.3% deemed Rural.

Figure 3-2: Percent Urban and Rural Populations



3.1.3 Employment Trends

Between 2010 and 2017 South Carolina’s employment rate (population over 16 years of age in the labor force) decreased from 62.88 percent to 60.66 percent. However, the number employed grew by 138,203 or approximately 0.8 percent per year, which was lower than the national rate of 1.12. Between 2010 and 2040, the number of employed in South Carolina is expected to increase by 25 percent, from 2.24 million to approximately 2.80 million, based on the 2010 existing employment estimates and projected trend employment forecasts.

Table 3-1: 2010 and 2040 Socio-economic Data and Projections

Mode	2010 (Base Year)	2040 (Forecast Year)	Growth Projection	Annual Growth Projection
Population	4,625,308	6,352,000	37%	1.02%
Households	1,801,141	2,504, 923	39%	1.18%
Employment	2,243,697	2,800,016	25%	0.8%

Source Data: US Census Bureau. Population projections were based on population estimates

3.2 Vehicle Miles Traveled

The last few years have seen a steady climb in the usage of the highway system as measured by annual vehicle-miles of travel (AVMT). Vehicle-miles of travel on South Carolina roads ebbed in flow between 2010 and 2014. Economic condition improved in 2014 coming out of the recession and AVMT has increased 13.7 percent to 56.8 billion. Figure 3-3 shows vehicle-miles of travel in South Carolina from 2010 to 2018. Figure 3-4 illustrates that approximately 30 percent of the VMT occurs on the interstate system, even though interstates account for only two percent of public roads in the state.

Figure 3-3: Average Annual Daily Trips 2010-2018

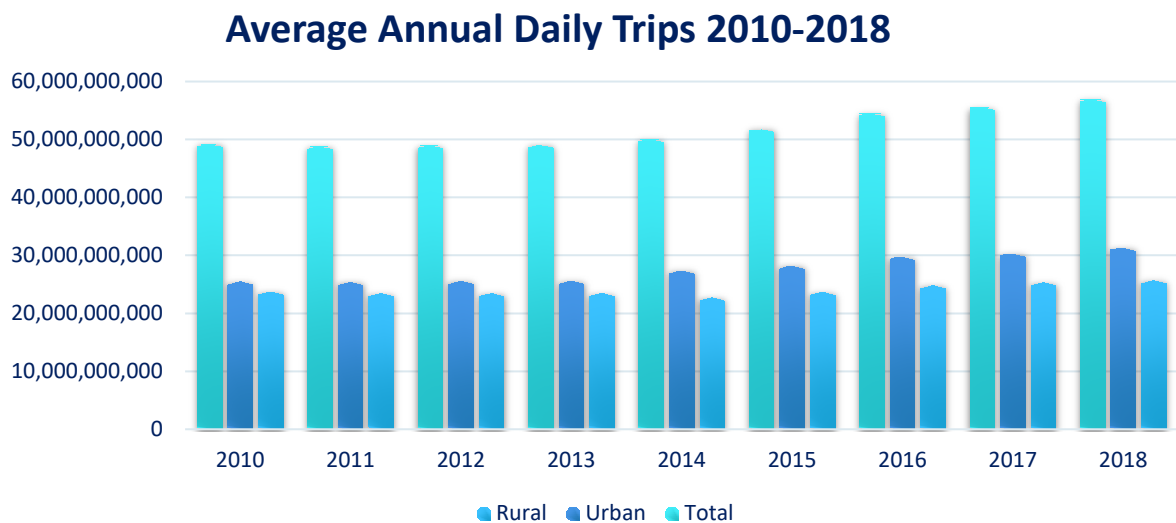
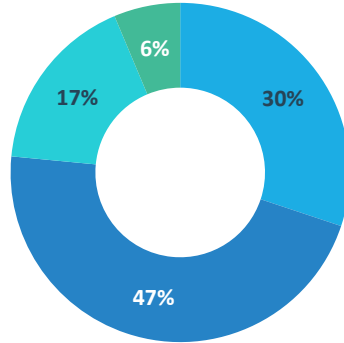


Figure 3-4: Percent of Average Annual Daily Trips by Road Classification

Percent of Average Annual Daily Trips by Road Classification



■ Interstate ■ Primary ■ Farm to Market Secondaries ■ Neighborhood Streets

4. VISION, GOALS, OBJECTIVES, AND PERFORMANCE MEASURES

4.1 Vision, Goals, Objectives, and Performance Measures

Establishing a meaningful strategic direction to drive multimodal investment decisions was a key part of developing the 2040 MTP Update. Plan goals and objectives define investment priorities and describe how SCDOT will work with its planning partners to achieve a shared transportation vision. Performance measures establish a way to determine how alternative investment strategies contribute to achieving the MTP Update goals and objectives to guide plan implementation. The 2040 MTP Update were developed in consideration of the 2018-2020 Strategic Plan, Mission, Goals, Strategies and Objectives.

4.1.1 Vision

A vision communicates the future in clear and definitive language. The purpose of a vision is to align an organization's internal and external expectations, plans, and actions. Typically visions describe the "what" and "why" for an organization. The vision for the 2040 Multimodal Transportation Plan update is:

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

4.1.2 Goals

Both South Carolina and the nation are facing significant challenges in maintaining the existing multimodal transportation system with limited funding resources. The 2040 MTP Update goals recognized these challenges, as well as the direction from the FAST ACT/MAP-21 goal areas in developing the following goals:

- **Mobility and System Reliability** - Provide surface transportation infrastructure and services that will advance the efficient and reliable movement of people and goods throughout the state.
- **Safety and Security** - Improve the safety and security of the transportation system by implementing transportation improvements that reduce fatalities and serious injuries as well as enabling effective emergency management operations.
- **Infrastructure Condition** - Maintain surface transportation infrastructure assets in a state of good repair.
- **Economic and Community Vitality** - Provide an efficient and effective interconnected transportation system that is coordinated with state and local planning efforts to support thriving communities and South Carolina's economic competitiveness in global markets.
- **Environment** - Partner to sustain South Carolina's natural and cultural resources by minimizing and mitigating the impacts of state transportation improvements.
- **Equity** - Manage a transportation system that recognizes the diversity of the state and strives to accommodate the mobility needs of all of South Carolina's citizens.

4.1.3 Objectives, Performance Measures and Guiding Principles

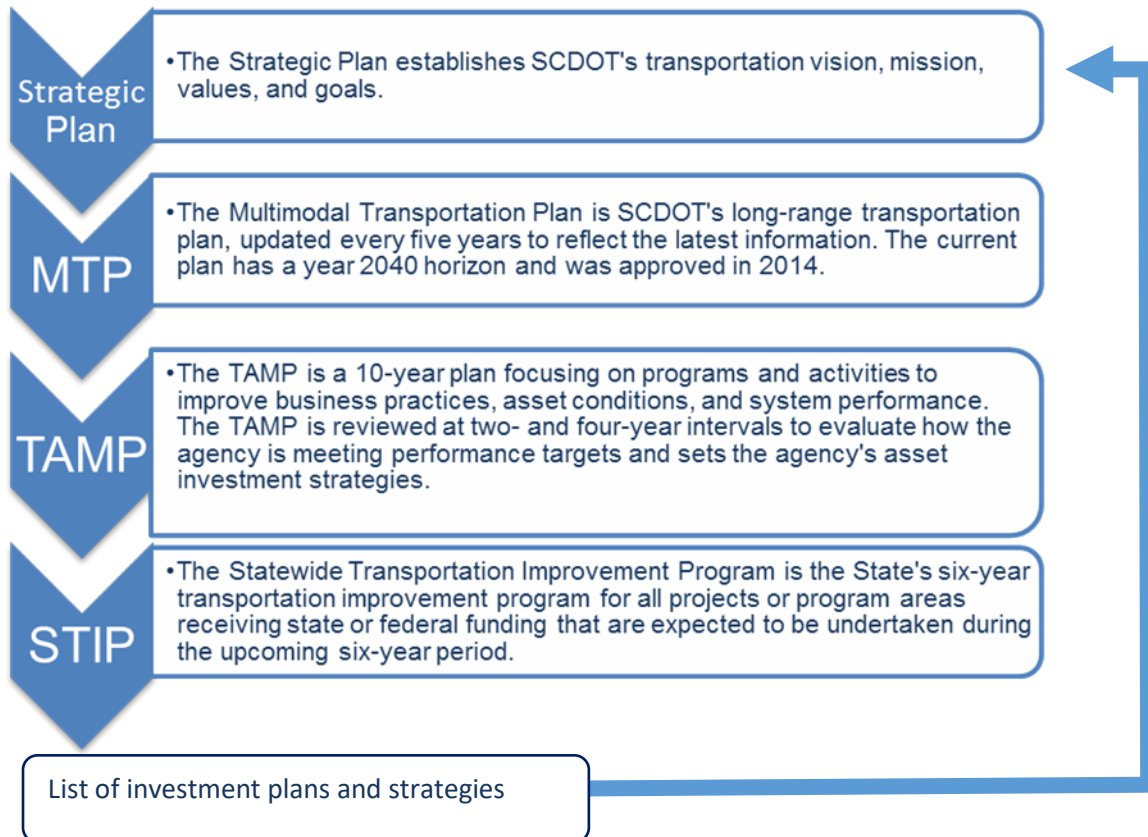
Objectives and performance measures are the foundation for tying the conceptual elements of a long-range plan, the vision, and goals, to program and project implementation. Objectives for the 2040 MTP Update define the outcomes that SCDOT intends to achieve related to each goal. Performance measures “operationalize” that objective and define how that outcome will be measured, monitored, and reported. Guiding principles are implemented through process or policy changes or through enhanced relationships with local government, other state agencies, modal owners, and operators.

Performance measures and Guiding Principles must be aligned and consistent for successful implementation of the 2040 MTP Update. In addition, these foundational pieces of the 2040 MTP Update need to be supported at all levels of SCDOT as well as by partners and stakeholders externally. Therefore, the development process included SCDOT executive and senior technical staff, key partners, and stakeholders. The following tables provide specific guiding principles, and as appropriate, objectives and performance measures for the updated MTP six goals.

4.2 Relationship To Other Plans

SCDOT develops and implements multiple transportation planning documents, including the Strategic Plan, Statewide Multimodal Transportation Plan (MTP), and Statewide Transportation Improvement Program (STIP). The MTP is the long range planning document that bridges the Strategic Plan to the 10-year Investment Plan and the STIP. Figure 5-1 shows the relationships between the agency’s other plans and the MTP.

Figure 5-1: MTP Relationship to SCDOT Planning Documents



4.3 Mobility and System Reliability

Goal: Provide surface transportation infrastructure and services that will advance the efficient and reliable movement of people and goods throughout the state.

Background: Improved mobility and reliable travel times on South Carolina’s transportation system are vital to the state’s economic competitiveness and quality of life. The FAST ACT and MAP-21 makes highway system performance a national goal and requires states to report on performance. SCDOT uses a combination of capital improvements and operations strategies to accommodate travel demand. Data on congestion is rapidly becoming more sophisticated, but estimating needs based on this data and linking investment strategies to congestion outcomes remains a goal of the agency.

Mobility and System Reliability	OP	I	SC	F	T	R	Performance Measures
Guiding Principle							
Encourage availability of both rail and truck modes to major freight hubs (for example ports, airports and intermodal facilities)	X	X	X	X		X	
Objectives							
Reduce the number of system miles at unacceptable congestion levels	X	X	X	X			% of person-miles traveled on the Interstate that are reliable % of person-miles traveled on the non-Interstate NHS that are reliable
Utilize the existing transportation system to facilitate enhanced modal options for a growing and diverse population and economy					X		% of transit needs met*
Improve travel time reliability (on priority corridors or congested corridors)	X	X	X	X	X		Truck Travel Time Reliability (TTTR) Index
Reduce the time it takes to clear incident traffic		X	X				Average time to clear traffic incidents in urban areas
Implement the Rural Interstate Freight Mobility Improvement Program goal to widen 140 miles of interstate highways		X	X	X			% of person-miles traveled on the Interstate that are reliable Truck Travel Time Reliability (TTTR) Index
Replace deficient major system to system interchanges.		X	X	X			% of person-miles traveled on the Interstate that are reliable Truck Travel Time Reliability (TTTR) Index
Utilize the existing transportation system to facilitate enhanced modal options for a growing and diverse population and economy				X	X		% increase in transit ridership*

***Legend:** OP – Overall Plan; I – Interstate; SC – Strategic Corridors; F – Freight; T – Transit; R – Rail

4.4 Safety

Goal: Improve the safety and security of the transportation system by implementing transportation improvements that reduce fatalities and serious injuries as well as enabling effective emergency management operations.

Background: Safe travel conditions are vital to South Carolina’s health, quality of life, and economic prosperity. In 2017 the SCDOT Commission approved the Rural Road Safety Program, which is part of the SCDOT 10-year Plan, to rebuild the State Highway System. This program targets the five percent of

the network where thirty percent of the fatal and serious injury crashes are occurring or 1900 Miles of SCDOT’s 41,000+ mile network. These 1900 miles will be broken down into 10-mile segments and are expected to be improved over the 10 year program. This three phased program includes engineering solutions that are tailored to the individual corridor to target specific safety issues. SCDOT collaborates with other safety stakeholders on the state’s transportation system. SCDOT maintains extensive data on safety; however, even state-of-the-art planning practices often cannot connect investment scenarios with safety outcomes.

Safety	OP	I	SC	F	T	R	Performance Measures
Guiding Principles							
Improve safety data collection, access, and analysis	X	X	X	X	X	X	
Improve substandard roadway (one or more of the minimum current design standards are not met)	X	X	X				
Better integrated safety and emergency management considerations into project selection and decision-making.	X						
Better integrated safety improvements for bicycle, pedestrian, and other non-vehicular modes in preservation programs by identifying opportunities to accommodate vulnerable users when improvements are included in an adopted local or state plan.	X		X		X		
Reduce preventable transit crashes					X		
Work with partners to encourage safe driving behavior.	X				X		
Objectives							
Reduce highway fatalities and serious injuries.	X	X	X		X		Number or rate of fatalities and serious injuries
Reduce bicycle and pedestrian and other vulnerable roadway users’ fatalities and serious injuries.	X		X				Total Number of Non-motorized Fatalities and Non-motorized Serious Injuries
Reduce roadway departure related fatality and serious injury crashes.	X	X	X				
Reduce fatal and serious injury crashes within work zones.	X	X	X				Number of work zone fatal and serious injury crashes
Reduce highway - rail grade crossing crashes involving fatality or serious injury.						X	% of crossings with active safety warning devices installed
Reduce fatal and serious injury crashes at intersections	X	X	X				# of crashes at intersections involving fatality or serious injury
Reduce fatal and serious injury crashes involving commercial motor vehicle	X	X	X	X			% of commercial motor vehicle crashes involving fatality or serious injury

***Legend:** OP – Overall Plan; I – Interstate; SC – Strategic Corridors; F – Freight; T – Transit; R – Rail

4.5 Infrastructure Condition

Goal: Maintain surface transportation infrastructure assets in a state of good repair.

Background: Rebuilding and preserving South Carolina’s transportation infrastructure is a primary element of SCDOT’s mission. This goal promotes public sector fiscal health by minimizing life-cycle infrastructure costs, reducing risks, improving decision making, improved system performance and improved transparency. Maintaining assets in a state of good repair is one of the national FAST Act and MAP-21 goals and requires states’ transportation and transit agencies to report on highway and transit

asset conditions. This is being achieved through the implementation of the Transportation Asset Management Plan (TAMP).

The TAMP is the Agency’s 10 year performance and risk based plan that also aligns directly with the agency’s 10 year investment plan. The goal of the plan is to enable SCDOT to use a performance based approach to pavement management through a blend of preservation, rehabilitation, and reconstruction projects to reduce the percent of South Carolina’s pavements considered to be in poor condition and to achieve a state of good repair and reduce the number of load-restricted bridges and structurally deficient bridges that are in poor condition. These goals align with FAST Act and MAP-21 goals which will assist the agency in meeting system performance targets.

Infrastructure Condition	OP	I	SC	F	T	R	Performance Measures
Guiding Principles							
Recognize the importance of infrastructure condition in attracting new jobs to South Carolina by considering economic development when determining improvement priorities.	X	X	X	X			
Encourage availability of both rail and truck modes to major freight hubs (for example ports, airports, and intermodal facilities).	X	X	X	X		X	
Coordinate with the Palmetto Railways to consider road improvements needed to support the efficient movement of freight between the Inland Ports and the Port of Charleston.			X	X		X	
Promote the use of Whole Life Management principles in the pavement, bridge, and maintenance management processes	X	X	X				
Objectives							
Maintain or improve the current state of good repair for the NHS.	X	X	X				Percentage of Interstate and Non-Interstate NHS system rated at good condition ³
Maintain or improve the current state of good repair for NHS Bridges.		X					Percentage of NHS Bridges rated as good
Reduce the percentage of Non-NHS Primary, Farm to Market Secondaries and Neighborhood Street road miles in Poor Condition while maintaining or increasing the % of miles rated as good.	X	X	X				
Improve the condition of the Non-NHS state highway system bridges	X	X	X	X			
Improve the state transit infrastructure that supports a state of good repair.					X		% of active duty transit vehicles past designated useful life
Legend: OP – Overall Plan; I – Interstate; SC – Strategic Corridors; F – Freight; T – Transit; R – Rail ³ MAP-21 and the South Carolina Strategic Plan both include a pavement condition goal. For consistency with this plan and FAST Act and MAP-21 requirements, the pavement condition for this plan is divided into two tiers --- one for the NHS and one for all other roads. In keeping with FAST Act and MAP-21 the objective for the NHS system reflects maintaining or improving current condition while the objective for the remainder of the system is consistent with the Strategic Plan approach of “managing deterioration”.							

4.6 Economic and Community Vitality

Goal: Provide an efficient and effective interconnected transportation system that is coordinated with state and local planning efforts to support thriving communities and South Carolina’s economic competitiveness in global markets.

Background: Transportation infrastructure is vital to the economic prosperity of South Carolina. Good road, rail, transit, and air connections across the state help businesses get goods and services to markets and workers get to jobs. Communities often cite desire for economic growth as a reason for seeking additional transportation improvements, and public officials frequently justify transportation spending on its economic merits. State-of-the-art planning practices, however, offer limited potential for connecting investment scenarios with travel choices outcomes.

Economic and Community Vitality	OP	I	SC	F	T	R	Performance Measures
Guiding Principles							
Improve access and interconnectivity of the state highway system to major freight hubs (road, rail, marine, and air).	X		X	X			
Determine economic impacts of potential projects and include quantitative results in the Act 114 project prioritization process.	X	X	X	X		X	
Work with economic development partners to identify transportation investments that will improve South Carolina’s economic competitiveness.	X	X	X	X	X	X	
Work with partners to create a project development and permitting process that will streamline implementation of SCDOT investments associated with state-identified economic development opportunities.	X						
Collaborate with state and local agencies to coordinate planning.	X						
Encourage local governments and/or MPOs to develop and adopt bicycle and pedestrian plans.	X						
Collaborate with public and private sectors to identify and implement transportation projects and services that facilitate bicycle and pedestrian movement consistent with adopted bike/pedestrian plans.	X						
Encourage coordination of transit service within and among local jurisdictions.					X		
Collaborate with public and private sectors to identify and implement transportation projects and services that facilitate freight movement.	X	X	X	X		X	
Encourage rail improvements that will improve connectivity and reliability of freight movement to global markets.				X		X	
Encourage availability of both rail and truck modes to major freight hubs (for example ports, airports, and intermodal facilities).	X	X	X	X		X	
Objective							
Utilize the existing transportation system to facilitate enhanced freight movement to support a growing economy.	X	X		X			Truck travel time index on the freight corridor network, Annual hours of truck delay, Freight Reliability

4.7 Environmental

Goal: Partner to sustain South Carolina’s natural and cultural resources by avoiding, minimizing, and mitigating the impacts of state transportation improvements.

Background: This goal is consistent with SCDOT’s current environmental policies and procedures. FAST Act/MAP-21 includes an Environmental Sustainability goal that requires states “to enhance the performance of the transportation system while protecting and enhancing the environment”. Other than air quality, quantitative measures and impacts to the environment are difficult to calculate at the plan level. For the most part the environmental goal will be measured as projects are selected, designed, constructed, and maintained over time.

Environmental	OP	I	SC	F	T	R
Guiding Principles						
Plan, design, construct, and maintain projects to avoid, minimize, and mitigate impact on the state’s natural and cultural resources.		X	X	X	X	X
Improve travel time delay on the Interstate and Strategic Corridor Network to reduce Greenhouse Gas emissions	X	X	X	X	X	
Work with state and public transit agencies to purchase clean or alternative fueled transit vehicles to reduce Greenhouse Gas emissions	X	X	X		X	
Collaborate with public and private sectors to identify and implement transportation projects and services that facilitate bicycle and pedestrian movement consistent with adopted bike/pedestrian plans.	X					
Partner to be more proactive and collaborative in avoiding vs. mitigating environmental impacts. Utilize Mitigation Forecast Model	X	X	X	X		
Encourage modal partners to be proactive in considering and addressing environmental impacts of their transportation infrastructure investments.					X	X
Work with environmental resource agency partners to explore the development of programmatic mitigation in South Carolina.	X	X	X	X		
Collaborate with permitting agencies to identify and implement improvements to environmental permitting as a part of the Department’s overall efforts to streamline project delivery.	X					

***Legend:** OP – Overall Plan; I – Interstate; SC – Strategic Corridors; F – Freight; T – Transit; R – Rail

4.8 Equity

Goal: Manage a transportation system that recognizes the diversity of the state and strives to accommodate the mobility needs of all of South Carolina’s citizens.

Background: Transportation is essential to support individual and community quality of life. As a public agency SCDOT has a public stewardship responsibility that requires it to evaluate needs and priorities in a way that recognizes the diversity of the state’s geographic regions and traveling public.

Objectives	OP	I	SC	F	T	R
Guiding Principles						
Ensure planning and project selection processes adequately consider rural accessibility and the unique mobility needs of specific groups.	X	X	X	X	X	
Collaborate with local and state agencies to encourage the provision of an appropriate level of public transit in all 46 South Carolina counties.					X	
Ensure broad-based public participation is incorporated into all planning and project development processes.	X	X	X	X	X	X

***Legend:** OP – Overall Plan; I – Interstate; SC – Strategic Corridors; F – Freight; T – Transit; R – Rail

5. PERFORMANCE MANAGEMENT

5.1 Background

On December 4, 2015, the Fixing America’s Surface Transportation Act (FAST Act) was signed into law. The FAST Act funds surface transportation programs—including, but not limited to, Federal-aid highways—for fiscal years (FY) 2016 through 2020. It is the first authorization enacted in a decade that provides long-term funding certainty for surface transportation.

The Moving Ahead for Progress in the 21st Century Act (MAP-21), enacted in 2012, included provisions to make the Federal surface transportation more streamlined, performance-based, and multimodal, and to address challenges facing the U.S. transportation system, including improving safety, maintaining infrastructure condition, reducing traffic congestion, improving efficiency of the system and freight movement, protecting the environment, and reducing delays in project delivery. The FAST Act builds on the changes made by MAP-21.

MAP-21 created the first performance-based framework for state DOT’s and MPO’s. The Map-21 national goal areas include safety, infrastructure condition, congestion reduction, system reliability, freight movement and economic vitality, environmental sustainability, and reduction in project delivery times. The objective of the performance-based program is for states to invest resources in programs, projects, and activities to make progress towards achieving the national goals.

The FAST Act shortens the timeframe for States and MPOs to make progress toward meeting performance targets under the National Highway Performance Program (NHPP) and clarifies the significant progress timeline for the Highway Safety Improvement Program (HSIP) performance targets.

The 2040 MTP Update is developed around the seven national goal areas and 17 performance measures. The performance indicators provide SCDOT the opportunity to measure progress toward the

2040 MTP Update goals, as well as a way to review and revise the effectiveness of the plan objectives, policies, and actions. FAST Act/MAP-21 requires the USDOT Secretary, in consultation with states and MPOs, to establish performance measures for the areas listed below in Table 9-1.

Table 9-1: List of Federal Transportation National Goal Areas and corresponding Performance Measures [23USC §150(b)]

National Goal Area	Performance Measure
Safety - To achieve a significant reduction in traffic fatalities and serious injuries on all public roads.	<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
Infrastructure Condition - To maintain the highway infrastructure asset system in a state of good repair	<ul style="list-style-type: none"> • Interstate Pavements in Good Condition • Interstate Pavements in Poor Condition • Non-Interstate NHS in Good Condition • Non-Interstate NHS in Poor Condition • NHS Bridges in Good Condition • NHS Bridges in Poor Condition
Congestion Reduction - To achieve a significant reduction in congestion on the National Highway System	<ul style="list-style-type: none"> • Annual Hours of Peak-Hour Excessive Delay (PHED) Per Capita • Non-Single Occupancy Vehicle (Non-SOV) Travel • Emission Reductions for NOx through CMAQ Projects (RFATS MPO Only)
System Reliability - To improve the efficiency of the surface transportation system	<ul style="list-style-type: none"> • Interstate Highway Reliable Person-Miles Traveled • Non-Interstate National Highway System (NHS) Reliable Person-Miles Traveled
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.	<ul style="list-style-type: none"> • Interstate Highway Truck Travel Time Reliability (TTTR) Index
Environmental Sustainability - To enhance the performance of the transportation system while protecting and enhancing the natural environment.	No Required Performance Measures
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	No Required Performance Measures

5.2 Performance Targets

5.2.1 Safety/PM-1

Effective April 14, 2016, the FHWA established the highway safety performance measures (23 CFR Part 490, Subpart B) to carry out the Highway Safety Improvement Program (HSIP).

Safety performance targets are provided annually by the States to FHWA for each safety performance measure. Current statewide safety targets address calendar year 2021 and are based on an anticipated five-year rolling average (2014-2018). South Carolina statewide safety performance targets for 2021 are included in Table 9-2, along with statewide adopted safety performance targets for the most recent reporting periods. Each MPO and COG within the State of South Carolina is required to adopt the annual safety targets within their Long Range Transportation Plans (LRTPs within 180 days of the State setting their targets (August 31st -February 27th). The MPO or COG may adopt their own targets, but must coordinate their findings with the SCDOT.

Table 9-2: Statewide Safety Performance Measures and Targets

Performance Measure	South Carolina Statewide Baseline (Five Year Rolling Average 2014-2018)	2021 South Carolina Statewide Target (Five Year Rolling Average 2017-2021)
Number of Fatalities	969.9	1005.0
Fatality Rate (per 100 Million VMT)	1.804	1.760
Number of Serious Injuries	2988.4	2950.0
Serious Injury Rate (per 100 Million VMT)	5.590	5.350
Number of Non-Motorized Fatalities and Serious Injuries	389.8	440.0

The SCDOT recognizes the importance of linking goals, objectives, and investment priorities to stated performance objectives, and that establishing this link is critical to the achievement of national transportation goals and statewide performance targets. Each MPO and COG should directly reflect these performance measures, and targets within their own planning processes including inclusion within the Transportation Improvement Programs (TIP) narrative and Long Range Transportation Plans (LRTP).

5.2.2 Pavement and Bridge Condition/PM-2

Effective May 20, 2017, FHWA established performance measures to assess pavement condition (23 CFR Part 490, Subpart C) and bridge condition (23 CFR Part 490, Subpart D) for the National Highway Performance Program. This second FHWA performance measure rule (PM-2) established six performance measures (Infrastructure Condition). MAP-21 requires SCDOT to develop a TAMP for all NHS pavements and bridges within the state. The TAMP must include investment strategies leading to a program of projects that would make progress toward achievement of SCDOT’s statewide pavement and bridge condition targets. These measures are included within the TAMP certified on August 31, 2019.

5.2.2.1 Pavement Conditions Measures

The pavement condition measures represent the percentage of lane-miles on the Interstate or non-Interstate NHS that are in good condition or poor condition. FHWA established five metrics to assess pavement condition: International Roughness Index (IRI); cracking percent; rutting; faulting; and Present Serviceability Rating (PSR). For each metric, a threshold is used to establish good or poor condition.

The pavement condition measures are expressed as a percentage of all applicable roads in good or poor condition. Pavement in good condition suggests that no major investment is needed. Pavement in poor condition suggests major reconstruction investment is needed due to either ride quality or a structural deficiency.

5.2.2.2 Bridge Condition Measures

The bridge condition measures represent the percentage of bridges, by deck area, on the NHS that are in good condition or poor condition. The condition of each bridge is evaluated by assessing four bridge components: deck, superstructure, substructure, and culverts. FHWA created a metric rating threshold for each component to establish good or poor condition. Every bridge on the NHS is evaluated using these component ratings.

Deck area is computed using structure length and either deck width or approach roadway width. Good condition suggests that no major investment is needed. Bridges in poor condition are safe to drive on; however, they are nearing a point where substantial reconstruction or replacement is needed.

5.2.2.3 Pavement and Bridge Targets

As Figure 9-1 displays, pavement and bridge condition performance is assessed and reported over a four-year performance period. The first performance period began on January 1, 2018, and runs through December 31, 2021. SCDOT reported baseline PM-2 performance and targets to FHWA on October 1, 2018, and will report updated performance information at the midpoint and end of the performance period. The second four-year performance period will cover January 1, 2022, to December 31, 2025, with additional performance periods following every four years.

The PM-2 rule requires states and MPOs to establish two-year and/or four-year performance targets for each PM-2 measure. Current two-year targets represent expected pavement and bridge condition at the end of calendar year 2019, while the current four-year targets represent expected condition at the end of calendar year 2021. Table 9-3 displays the PM-2 Performance Measures and Targets.

PM-2 targets are set on October 1, for two-year/four-year targets. The State’s 11 MPOs and 10 COGs have 180 days to adopt state targets or coordinate with the state to adopt their own targets. (Ex. October 1, 2020 to March 31, 2021).

5.2.2.3.1 Pavement Target Setting Process

Pavement performance targets were established as required by 23 CFR Part 490. The target setting process included internal staff meetings from Planning, Road Data Services, and Maintenance.

SCDOT analysts used collected data for the International Roughness Index, Cracking Percent, Rutting, and Faulting based on whether the pavement was asphalt, continuously reinforced concrete pavement (CRCP), or jointed concrete pavement (JPCP). Using historical data, staff developed deterioration models for the different pavements by segment. Over the 4-year period, staff also examined whether there were any planned improvements made to the pavements that would be inspected and reported to HPMS within four years based on the agency's investment strategies.

The aggregated data was presented to a workgroup of internal experts. Based on the methodology, the workgroup chose a median deterioration model that resulted in a projected good and poor value, taking into account improvements made on the Interstate and non-interstate NHS, as described in Table 9-3 below. The table illustrates that it is anticipated that both the baseline and 4-year targets for Interstate Pavements will remain below the maximum 5% poor rating.

Table 9-3: Pavement and Bridge Condition PM-2 Performance Measures and Targets

Performance Measures	South Carolina Performance Baseline	South Carolina 2-Year Target (2018-2019)	South Carolina 4-year Targets (2018-2021)
Percent of pavements of the Interstate System in Good condition	56.5%	N/A--	71.0%
Percent of pavements of the Interstate System in Poor condition	3.1%	N/A--	3.0%
Percent of pavements of the non-Interstate NHS in Good condition	7.2%	14.9%	21.1%
Percent of pavements of the non-Interstate NHS in Poor condition	4.3%	4.3%	4.6%
Percent of NHS bridges classified as in Good condition	41.6%	42.2%	42.7%
Percent of NHS bridges classified as in Poor condition	4.5%	4.0%	6.0%

5.2.2.3.2 Bridge Target Setting Process

The National Bridge Inspection Standards (NBIS) apply to all publicly owned highway bridges longer than twenty feet located on public roads. NBIS are federal regulations (23CFR 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 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). Staff analyzed historic NBI submittal data from 1992 through 2017 and developed a Markov chain analysis to forecast the bridges that would move from Good to Fair or Fair to Poor during the 2 and 4-year target window. Staff then collected data from our construction and maintenance offices to determine the number of bridges, and corresponding deck area that were to be improved in the same window of time. Table 9-3 clearly illustrates that both the 2017 baseline, 2 and 4-year targets are projected to fall below the maximum 10% of deck area that can be rated in poor condition for bridges on the NHS.

Figure 9-1: PM-2 and PM-3 Performance Period Schedule

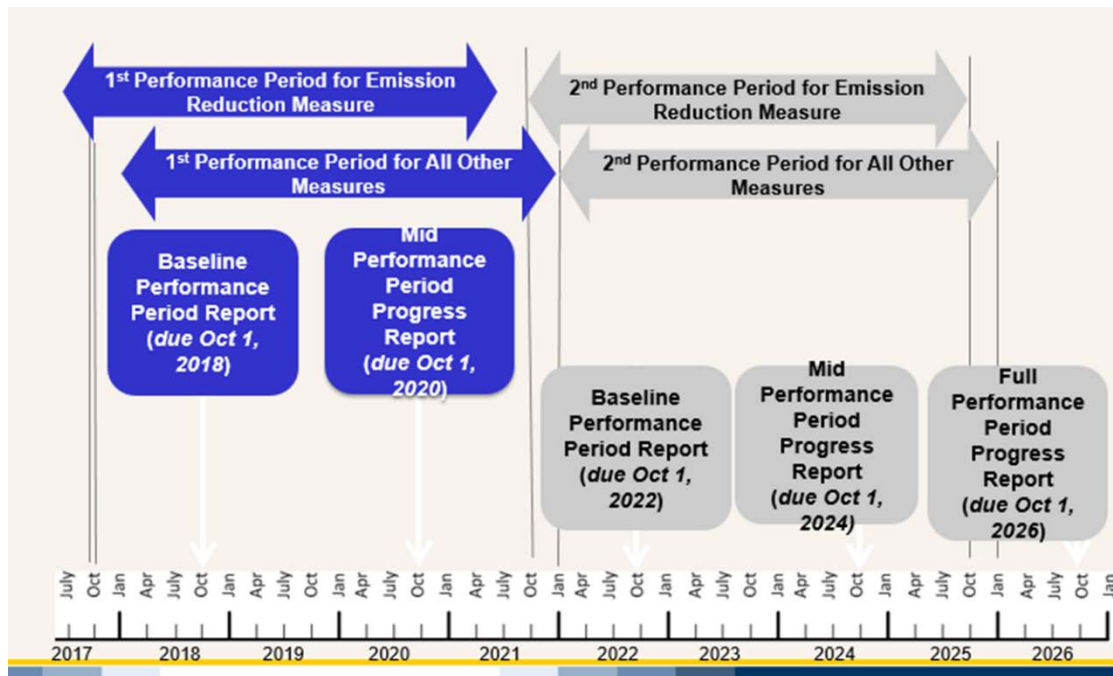


Figure 9-1 illustrates the performance-reporting period for PM-2 and PM-3 performance measures through 2026. Safety Performance reporting period is completed on an annual basis. The figure shows the breakdown of the first 2-year and 4-year, performance periods for PM 2 and PM 3 Performance measures.

5.2.3 System Reliability, Freight Movement, and Congestion Mitigation & Air Quality Improvement Program/PM-3

Effective May 20, 2017, FHWA established measures to assess performance of the National Highway System (23 CFR Part 490, Subpart E), freight movement on the interstate system (23 CFR Part 490, Subpart F), and the Congestion Mitigation and Air Quality Improvement (CMAQ) Program (23 CFR Part 490, Subparts G and H).

Table 12-2 is an illustration of the adopted PM 1 Safety Measures and Targets that are evaluated on an annual basis. The PM-2 Pavements and Bridges and PM 3 System Performance measures provide the 2018 baseline measurement and the 2-year and 4-year performance targets. By October 1, 2020, the SCDOT will report the progress of the PM-2 (Except Interstate Highways) and PM-3 performance measures and evaluate if they will keep the existing 4-year targets or adjust them as needed.

5.2.3.1 System Performance Measures

The two System Performance measures assess the reliability of travel times on the Interstate or non-Interstate NHS system. The measures are expressed as the percent of person-miles traveled on the Interstate or non-Interstate NHS system that are reliable. Person-miles take into account the number of people traveling in buses, cars, and trucks over these roadway segments. To determine total person miles traveled, the vehicle miles traveled (VMT) on each segment is multiplied by average vehicle occupancy.

5.2.3.2 Freight Movement Performance Measure

The Freight Movement performance measure assesses reliability for trucks traveling on the Interstate. A Truck Travel Time Reliability (TTTR) ratio is generated by dividing the 95th percentile truck travel time by a normal travel time (50th percentile) for each segment of the Interstate system over five time periods throughout weekdays and weekends (AM peak, Mid-day, PM peak, weekend, and overnight) that cover all hours of the day.

5.2.3.3 CMAQ Performance Measures

The peak hour excessive delay (PHED) measure assesses the hours of delay resulting from traffic congestion on the NHS during morning and afternoon weekday peak travel times. Peak travel hours are defined as 6 AM to 10 AM on weekday mornings, and either 3 PM to 7 PM or 4 PM to 8 PM on weekday afternoons.

The Non-SOV measure assesses the percent of vehicle travel that occurs with more than one occupant in the vehicle. This measure is based on person travel within the region, and non-SOV travel includes travel via carpool, van, public transportation, commuter rail, walking, or bicycling as well as telecommuting.

The CMAQ Emission Reduction measure assesses performance of the CMAQ Program through measurement of total emission reductions of on-road mobile source emissions. Total emissions reduction is calculated by summing two year and four year totals of emission reductions of applicable pollutants, in kilograms per day, resulting from all CMAQ funded projects.

Applicability of CMAQ Measures in South Carolina: CMAQ is currently applied only to the Rock Hill Fort Mill Area Transportation Study (RFATS) MPO, located in the greater Charlotte Area.

5.2.3.4 PM-3 Performance Targets

Performance for the PM-3 measures is assessed and reported over a four-year performance period. For all PM-3 measures except the CMAQ Emission Reduction measure, the first performance

period began on January 1, 2018, and will end on December 31, 2021. For the CMAQ Emission Reduction measure, the first performance period began on October 1, 2017, and will end on September 30, 2021.

SCDOT reported baseline PM-3 performance and targets to FHWA on October 1, 2018, and will report updated performance information at the midpoint and end of the performance period. The second four-year performance period will cover January 1, 2022, to December 31, 2025 (October 1, 2021, to September 30, 2025 for the CMAQ Emission Reduction Measure), with additional performance periods following every four years. Table 9-4 describes the adopted PM-3 Performance Measures and Targets.

Table 9-4: System Reliability, Freight Movement, and Congestion Mitigation & Air Quality Improvement Program PM-3 Performance Measures and Targets

Performance Measures	South Carolina Performance Baseline	South Carolina 2-Year Target (2018-2019)	South Carolina 4-year Targets (2018-2021)
Freight Movement			
Freight Reliability: Truck Travel Time Reliability (TTTR) Index	1.34	1.36	1.45
Highway Performance			
Interstate: % of person-miles traveled on the Interstate that are reliable	94.8%	91%	90%
Non-Interstate: Percent of person-miles traveled on the non-Interstate NHS that are reliable	89.8%	N/A--	81%
CMAQ – Congestion (RFATS MPO Only)			
Annual hours of Peak-Hour Excessive Delay per capita (PHED)	19.3 hours	N/A	34.0 hours
Percent of Non-Single Occupant Vehicle travel (Non-SOV)	21.5%	21.0%	21.0%
CMAQ – Air Quality (RFATS MPO Only)			
Emissions Measure: Total Emissions Reduction – NOx Benefit (kg/day)	N/A	448.487	448.780
Emissions Measure: Total Emissions Reduction – VOC Benefit (kg/day)	N/A	479.512	480.521

5.2.3.4.1 System Reliability and Freight Target Setting Process

System Reliability

To establish the baseline, two and four years for the System performance of the NHS used the historic Vehicle Miles Traveled (VMT) data from the latest South Carolina Statewide Travel Model. This was essential when trying to determine reliability targets. During the analysis it was found that VMT levels were largely dependent on the strength of the economy and less on population and fuel costs. Additionally, construction projects for the entire statewide NHS system such as capacity building, rehabilitation and repaving were factored in the final target

Freight Movement

The targets developed for TTTR were reviewed to examine maximum TTTR values and determine if tendencies were occurring. After reviewing time period values, the data from recent past years were

plotted to find any trends and preliminarily project out the two and four years targets. Next, all interstate construction projects were reviewed to determine if they had any potential effects on the TTR for the baseline and projected two year and four year targets. After evaluating the three steps, the two and four year targets were developed.

5.2.3.4.2 Congestion Mitigation Air Quality (CMAQ)

In South Carolina, the PHED, Non-SOV Travel, and On-road Mobile Emissions performance measures apply to the Charlotte, NC-SC UZA. The following agencies have planning area boundaries that overlap with the UZA: Rock Hill – Fort Mill Area Transportation Study (RFATS), Cabarrus-Rowan MPO, Charlotte Regional Transportation Planning Organization, Gaston-Cleveland-Lincoln MPO, NCDOT, and SCDOT. These agencies agreed upon unified PHED and Non-SOV Travel targets in Spring 2018 and CMAQ in 2017.

5.3 System Performance

In October 2020, the SCDOT will submit mid-term performance review for PM-2 and applicable PM-3 performance measures. At that time the agency will review the progress or regression against the applicable 2-year targets and reevaluate its 4-year targets to determine if adjustments are needed. At that time the Agency will file a system performance report with the FHWA.

6. ENVIRONMENTAL MITIGATION

Preservation of the environment and efforts to meet the mobility needs of a growing population, sometimes leads to unavoidable impacts. The identification of a full range of potential mitigation strategies should occur early in the transportation planning and project development process, so viable solutions to mobility and connectivity needs can be identified and implemented in a timely manner. To that end, SCDOT has utilized mitigation banks as an effective approach to preserve, enhance, and restore environmental resources. A mitigation bank is a site where wetlands are restored, enhanced, or preserved, expressly for the purpose of providing compensatory mitigation in advance of unavoidable impacts to wetlands or streams. Banking also creates an economic incentive for restoring, creating, enhancing, and/or preserving wetlands.

SCDOT has previously established six mitigation banks in South Carolina for transportation projects. However, these banks and other private mitigation banks are not located within the critical watersheds or ecoregions within the state. Forecasted mitigation needs are highest in the Lowcountry and Pee Dee Regions, whereas the only available current stream mitigation banks are located in the Sandhill and Piedmont regions. In addition, approved banks with a limited number of credits are not anticipated to meet future needs.

Even with the use of the Geospatial Mitigation Forecast Model, SCDOT recognizes that mitigation banks may not cover all areas within the state and may leave some projects with limited options for environmental mitigation. The present SCDOT environmental mitigation approach encourages and promotes input from sister state agencies including but not limited to SCDHEC, SCDNR, and SCDHEC-OCRM to provide guidance and examples of watershed needs or sensitive areas of environmental importance to the State of South Carolina. SCDOT also seeks input from NGOs and local community members during the public involvement stages of project development in order to identify additional environmental concerns or mitigation opportunities. Recently SCDOT began to advertise and solicit requests for mitigation bank credits in our critical watersheds in order to streamline the Clean Water Act

permitting process. After this activity by SCDOT, mitigation bank prospectuses submitted to USACE have more than doubled from previous years.

In response to these challenges, SCDOT is exploring proactive solutions in partnership with the University of South Carolina by updating the Geospatial Mitigation Forecast Model. The intended purpose of the Geospatial Mitigation Forecast Model is to identify stream and wetland impacts from current and planned transportation projects in relationship to corresponding watersheds and ecoregions. This will allow SCDOT to develop partnerships with industry experts, such as the mitigation banking community, as well as state and federal agencies associated with the establishment and approval of mitigation early on in project development and reduce mitigation related project delays.

7. SAFETY AND SECURITY

Safety on the State Highway System is the top goal for SCDOT. South Carolina continues to have one of the highest death rates in the nation. In 2018, the National Highway Traffic Safety Administration (NHTSA) indicated South Carolina had the highest number of traffic deaths per 100 million vehicle miles traveled in the nation, a position it has held since 2014. South Carolina has not dropped out of the top eight states with the highest fatality rates in almost 25 years. South Carolina's 2018 fatality rate of 1.83 is more than 60% higher than the national rate of 1.13 that same year. In the last five years, the national average fatality rate increased 5% from 1.08 in 2014 to 1.13 in 2018. During that same time period in South Carolina, the fatality rate increased 11% from 1.65 to 1.83.

The number of fatalities occurring on the State's roads began declining in 2007 from 1,077 in that year to a low of 767 fatalities in 2013. However, the number began to increase with 823 fatalities occurring in 2014, continuing to increase year over year to a high of 1,037 deaths in 2018.

South Carolina also had the 5th highest pedestrian fatality rate and the 5th highest bicycle fatality rate in the nation in 2018, by population. NHTSA recently released a report citing the highest number of pedestrian deaths in the nation in nearly 30 years.

The cost of vehicle crashes, injuries, and fatalities to society is staggering and greatly exceeds the funding dedicated to SCDOT for highway maintenance, operations, and improvements. In 2018, the South Carolina Department of Public Safety (SCDPS) estimated that the annual economic loss due to vehicle crashes, injuries, and fatalities was over \$5 billion. These statistics indicate the need to bring greater emphasis to safety in all aspects of highway planning, design, and operations.

The South Carolina Multimodal Transportation Plan incorporates the findings of the Strategic Highway Safety Plan (SHSP), which provides a coordinated framework toward eliminating deaths and severe injuries on South Carolina's public roads. This coordination requires combining and sharing resources and focusing efforts on areas with the greatest potential for improvement. This is the strategy behind the Rural Road Safety Program. The SHSP establishes statewide goals and identifies critical emphasis areas, which were developed in consultation with federal, state, local, and private sector safety stakeholders. The strategies developed involve the "4 E's" of safety: engineering, enforcement, education, and emergency response.

South Carolina has adopted Target Zero as the state's goal in addressing traffic-related deaths. To this end, the state is gearing its highway safety efforts toward eliminating traffic fatalities rather than merely reducing them. This is a radical departure from the traditional goal-setting approaches from earlier strategies, which had limited success in the reduction of traffic fatalities. Though not achievable

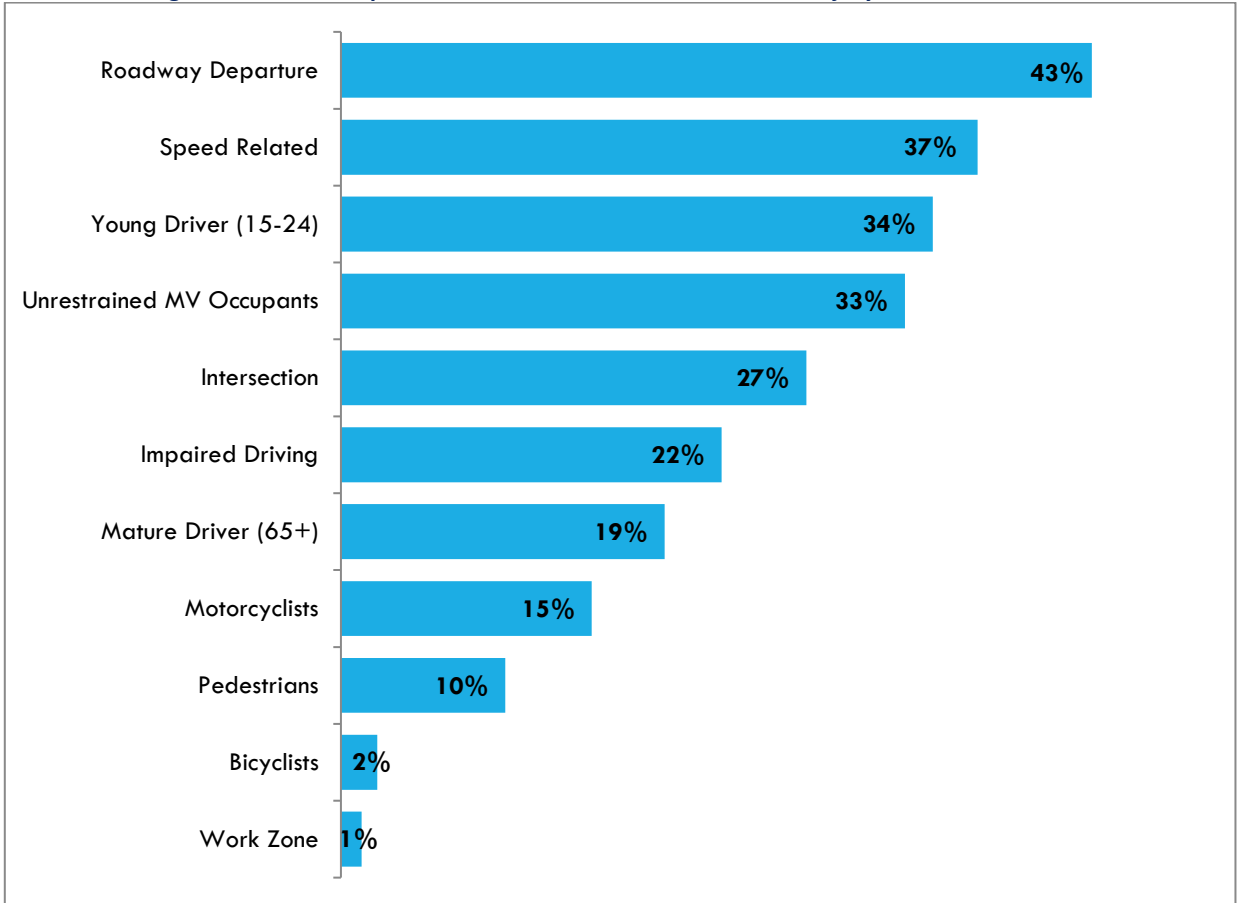
immediately, the goal of zero fatalities is a noble goal, one our state strives for and a goal with which everyone can live.

A data-driven approach was used to identify emphasis areas for the updated SHSP. As seen in Table 6-1 and Figure 6-1, data analyses revealed priority traffic safety areas accounting for approximately 90% of the total fatal and severe injury collisions from 2014 to 2018. While crash causation factors are often interrelated, the critical areas to target are evident. For example, roadway departure crashes, which represent the second highest crash type, may include inappropriate speed, unrestrained occupants, and a distracted driver. However, there are specific countermeasures that can be implemented with the goal of reducing the number of vehicles leaving the roadway.

South Carolina 2014-2018	Fatalities		Severe Injuries		Fatal and Severe Injury Collisions	
	# of People	% of Total	# of People	% of Total	# of People	% of Total
Roadway Departure	2,123	43.7%	5,985	40.4%	7,195	43.4%
Speed Related	1,950	40.2%	5,353	36.2%	6,098	36.8%
Young Driver (15-24)	1,600	33.0%	5,655	38.2%	5,678	34.2%
Unrestrained MV Occupants	1,582	48.8%	2,674	18.1%	3,709	32.6%
Intersection	1,020	21.0%	4,270	28.8%	4,460	26.9%
Impaired Driving	1,617	33.3%	2,917	19.7%	3,655	22.0%
Mature Driver (65+)	1,022	21.1%	2,850	19.2%	3,095	18.7%
Motorcyclists	597	12.3%	1,961	13.2%	2,401	14.5%
Pedestrians	707	14.6%	915	6.2%	1,574	9.5%
Bicyclists	93	1.9%	256	1.7%	346	2.1%
Work Zone	77	1.6%	149	1.0%	194	1.2%
Total	4,853	100.0%	14,807	100.0%	16,593	100.00%

Table 7-1: SHSP Preliminary Data Analysis, 2014-2018

Figure 7-1: SHSP Emphasis Areas Based on Fatal and Severe Injury Crashes 2014-2018



The major focus areas for the state are expected to remain similar to those identified in both the 2007 and the 2012 versions of the SHSP. While not finalized, the following emphasis areas are expected to be included in the updated 2020-2024 SHSP:

- Roadway Departure.
- Speeding.
- Occupant Protection.
- Intersection.
- Impaired Driving.
- Vulnerable Roadway Users, including bicyclists and pedestrians.
- Young Drivers
- Mature Drivers
- Commercial Motor Vehicles/Heavy Trucks.
- Work zone.

Each emphasis area in the SHSP includes an overview of the issue, performance period projections, national solutions, challenges, and successes. Strategies have been identified that will assist in meeting

the 2020-2024 SHSP’s goal of reducing fatalities and serious injuries. A biannual implementation plan will be developed to implement the strategies identified in the SHSP.

Strategic highway safety plans are designed to be multi-year planning documents aligned with performance goals established in other statewide plans for the total number of fatalities, severe injuries, fatality rate, and severe injury rate. The state’s annual Highway Safety Plan is submitted to the National Highway Traffic Safety Administration and contains targets identical to those set forth in the state’s annual Highway Safety Improvement Program submitted to the Federal Highway Administration,

Figure 7-2 depicts the five-year rolling average for the number of traffic fatalities since 2004. The 2016-2020 period indicates the performance target of 1011 traffic deaths, which was adopted by the state in 2019. The figure also includes a projection of 8 years until 2026 to align with SCDOT’s TAMP.

The trend line analysis and projection for the number of severe injuries is shown in Figure 7-3.

Figure 7-4 depicts the trend analysis for the fatality rate (number of fatalities per million vehicle miles traveled).

Figure 7-5 depicts the trend analysis for the severe injury rate (number of severe injuries per million vehicle miles traveled).

Figure 7-2: Traffic Fatalities 5-Year Rolling Average

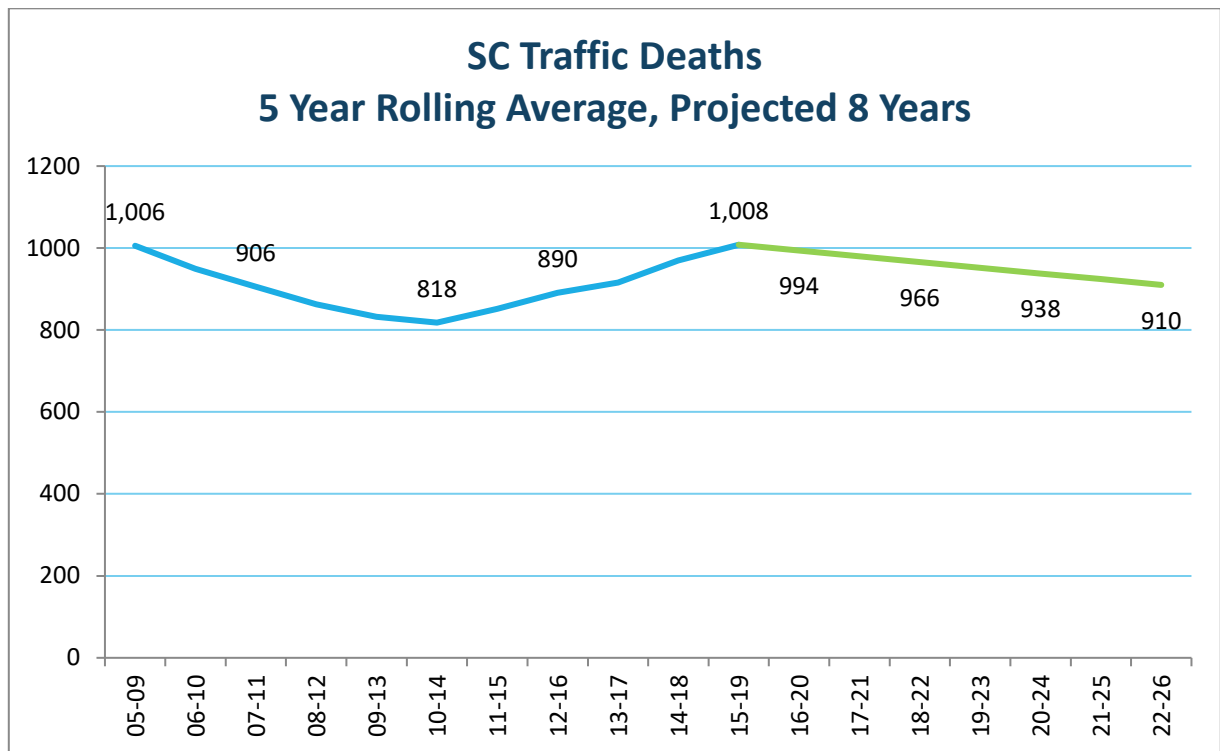


Figure 7-3: Serious Injuries

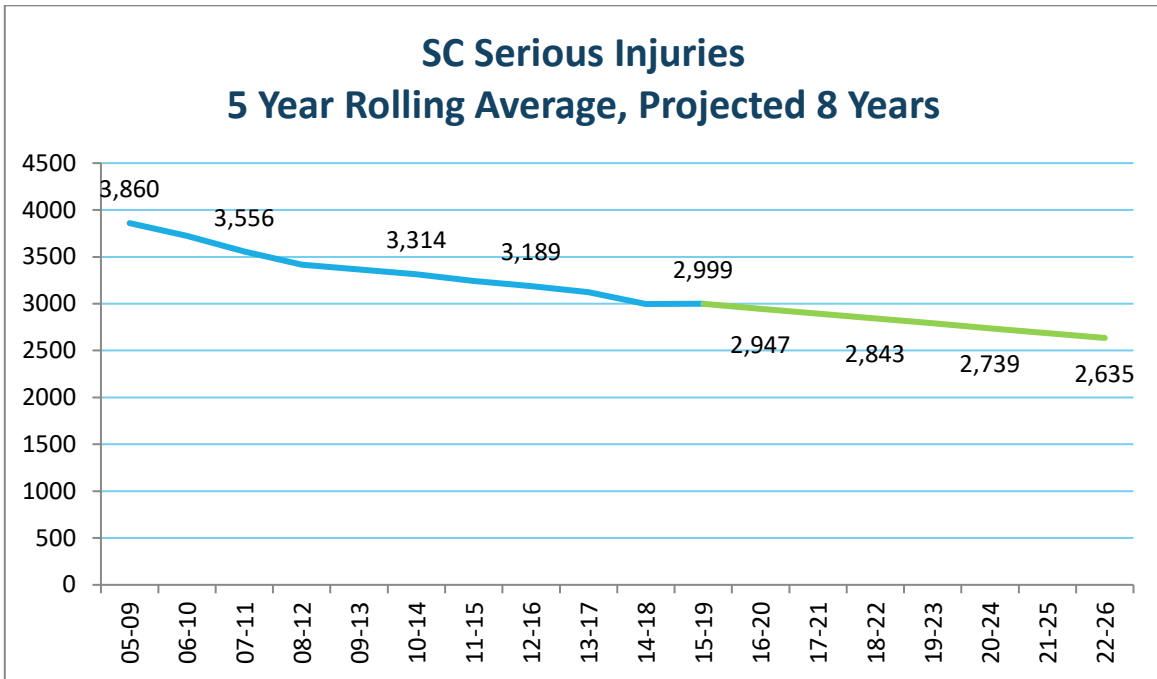


Figure 7-4: Fatality Rate Trend Analysis

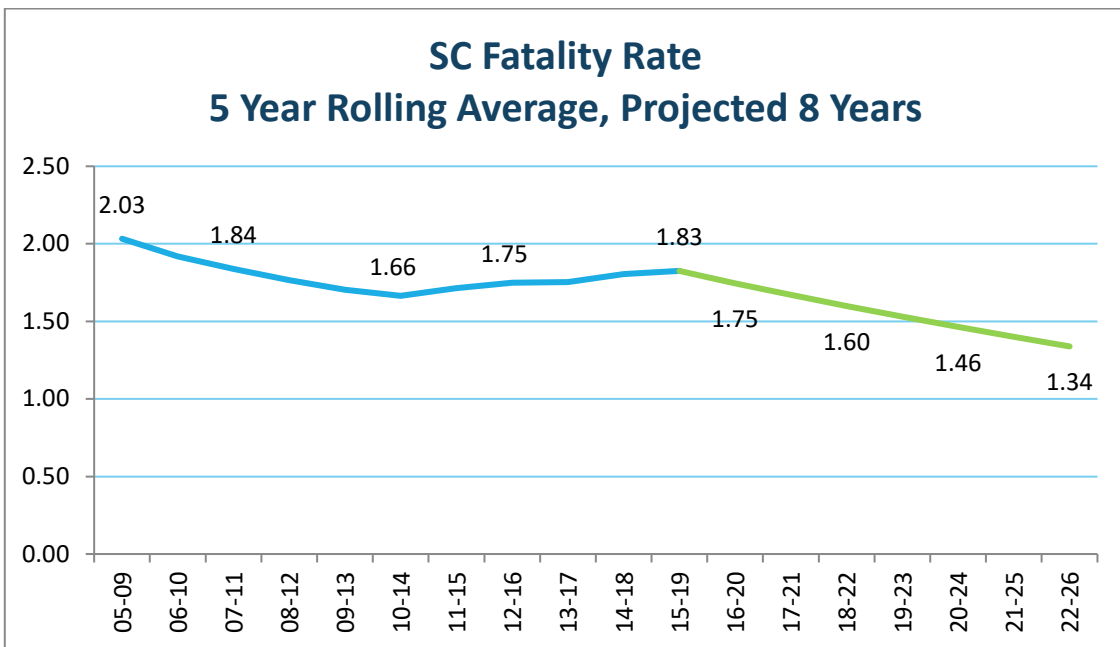
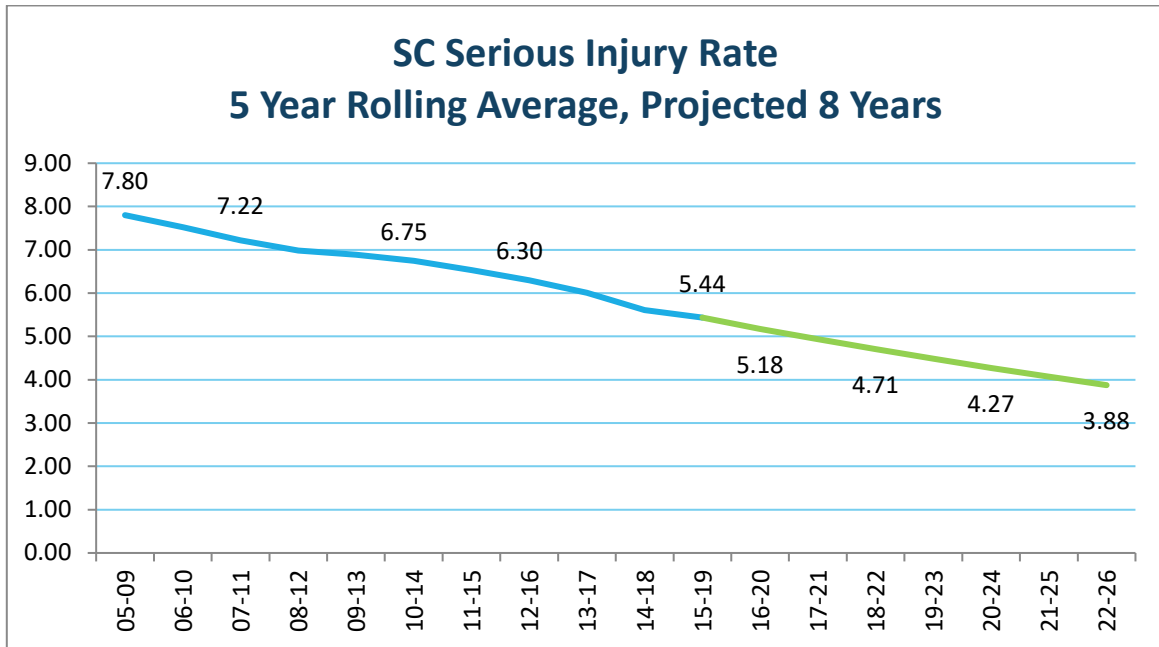


Figure 7-5: Serious Injury Rate Trend Analysis



8. MODAL INVENTORY

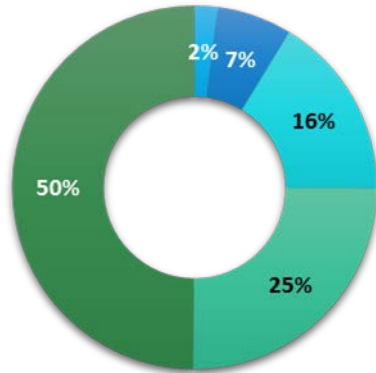
The following provides a snapshot of the South Carolina multimodal transportation system:

8.1 Roadways

The SCDOT has approximately 41,315 (2018) centerline miles and 90,675 lane miles of roadways, which is the fourth largest state-owned system in the U.S. Included in this mileage is 20,842 centerline miles of neighborhood streets, which means over half of the state-maintained system are low-volume, single purpose roads which are not eligible for any type of federal funds. The state-maintained lane miles are categorized into three groups: Interstate; Primary (Non-Interstate NHS and Non-NHS Primary); and Secondary (Farm to Market and Neighborhood Streets). The Primary category consists of all roads designated as U.S. highways or SC-routes. Secondary roads, which are the remaining state-maintained roads not classified as Interstates or Primary roads, amount to almost 62,713 lane miles or over 70 percent of the lane miles maintained by the state. Primary roads account for 24, 117 lane miles, while Interstate highways account for only 3,846 lane miles or 2 percent of the state system. Figure 8-1 and 8-2 illustrate the total centerline and lane mileage breakdown by percentage.

Figures 8-1: Centerline Miles by Percentage

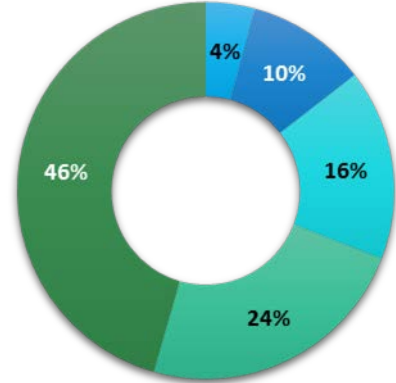
**Road Inventory %
Centerline Miles**



- Interstate
- Non-Interstate NHS
- Non-NHS Primary
- Farm to Market Secondary
- Neighborhood Streets

Figures 8-2: Total Lane Miles by Percentage

**Road Inventory %
Lane Miles**



- Interstate
- Non-Interstate NHS
- Non-NHS Primary
- Farm to Market Secondary
- Neighborhood Streets

8.2 Bridges

South Carolina has 9,401 bridges within the state boundary, which total a cumulative deck area of over 71.3 Million square feet. Ninety percent of all bridges in the state are owned by the state of South Carolina. The State-maintained bridge deck area totals 72.06 million square feet, or 94.8 percent of the total square footage in South Carolina. For the purposes of this analysis, all bridges are included. Additionally, the SCDOT maintains some bridges that are not classified as state owned. Table 4-1 illustrates the bridge ownership of all bridges within South Carolina. Figures 4-3 and 4-4 illustrate the bridge classification by percentage for total number of bridges and bridge deck area.

Table 4-1: South Carolina Bridge Ownership

Bridge Ownership	Number of Bridges	Bridge Deck Square Footage
State Owned	8,432	72,160,642
County Owned	845	1,658,417
City Owned	20	85,519.27
State Park	2	3,164.59
Other State Agency	15	1,018,040
Railroad	16	50,805.66
Federally Owned	71	218,496.6
Total	9,401	75,195,085

Source: FHWA Bridges and Structures inventory 2018.

Figure 4-3: Total percent of South Carolina Bridges by Deck Area and by Bridge Type

% of SC Bridges by Deck Area

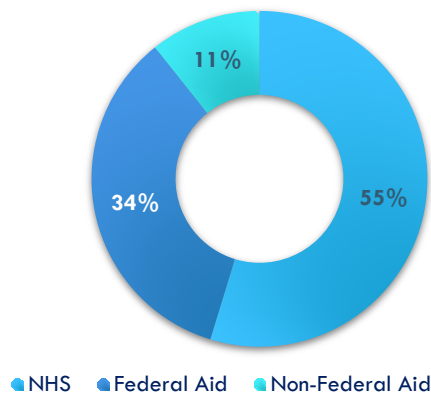
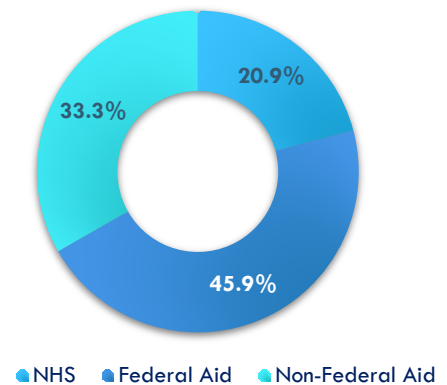


Figure 4-4: Total percent of South Carolina Bridges by Count and Bridge Type

% of SC Maintained Bridges by Count



8.3 Aviation

South Carolina has 53 airports included in the National Plan of Integrated Airport Systems (NPIAS (2018)). Of the 53 airports, 6 are primary commercial service airports, 45 are general aviation facilities, and 2 are reliever airports, defined by the FAA as high-capacity general aviation airports in major metropolitan areas that provide pilots with attractive alternatives to using congested hub airports.

8.4 Freight Rail

The freight rail system in South Carolina totals 2,400 miles with operations involving 11 different rail carriers. The Class I carriers include CSX Transportation and Norfolk Southern Railway, which account for 2069 miles or 86 percent of the state rail system. The Class III carriers or terminal companies make up the remaining 331 miles or 14 percent of the system. The carriers range in size from fairly small intrastate railroads to the large rail systems serving the entire eastern U.S.

8.5 Passenger Rail

South Carolina has four Amtrak passenger rail trains per day (or eight if trains in both north and south bound directions are counted) operating three routes with 11 stations connecting the southeast U.S. to points north. The tracks used by Amtrak are owned by the freight railroads (one by Norfolk Southern and two by CSX).

8.6 Water Ports

The South Carolina Ports Authority (SCPA) is the governing transportation body for seaport operations in South Carolina. Established by the state's General Assembly in 1942, SCPA owns and operates public seaport and intermodal facilities in Charleston and Georgetown. As an economic development engine for the state for the year ending June 30, 2018, Port operations facilitated nearly 190,000 statewide jobs and generated a \$53 billion economic impact.¹

SCPA is soon to be home to the deepest harbor on the U.S. East Coast at 52 feet, and the Port is an industry leader in delivering speed-to-market, seamless processes, and flexibility to ensure reliable operations, big ship handling, efficient market reach and environmental responsibility. The Port of Charleston primarily handles containerized cargo with container activities focused at North Charleston and Wando Welch Terminals, while a third is planned for the Naval Base Terminal.

8.7 Inland Port

The South Carolina Ports Authority (SCPA) is also the governing transportation body for inland ports located in Greer and Dillon. The South Carolina Inland Port Greer opened in October 2013 extending the Port of Charleston's reach 212 miles inland to Greer, and providing shippers with access to more than 95 million consumers within a one-day drive. Opened in April 2018, Inland Port Dillon utilizes an existing CSX intermodal train service to handle container movement to and from the Port of Charleston. Located within the Carolinas I-95 Mega Site, Inland Port Dillon is a critical transportation artery in the Southeast.

8.8 Mass Transit

Public transit is currently available to residents in 40 of the 46 counties in South Carolina through 27 publicly supported transit agencies operating throughout the state. Of these, six are exclusively urbanized, 14 are exclusively rural or non-urbanized, and seven offer both urbanized and rural services. Each transit agency provides a range of service options to residents, such as fixed-route, route deviation, or demand response service.

8.9 Intercity Bus

South Carolina continues to be served by two traditional Class A intercity bus carriers, Greyhound Lines and Southeastern Stages. Megabus, a low-cost carrier serving primarily larger markets, also

¹ South Carolina Ports 2018 Annual Report: <http://scspa.com/wp-content/uploads/scspa-10313-annualreport-2018-01.pdf>

operates a route through the State that stops only in Columbia. Greyhound and Southeastern Stages operate multiple routes with stops through South Carolina, with Charleston, Columbia, Greenville, and Myrtle Beach the most productive intercity bus stops in the state.

More than 85 percent of the State's population reside less than 25 miles from an intercity bus station/stop. All major intercity bus trip generators including colleges and universities, medical facilities, commercial airports, and military bases are generally well positioned relative to their proximity to intercity bus stops.

8.10 Bicycle and Pedestrian

Every day, many people choose biking or walking, instead of using motor vehicles. SCDOT recognizes the benefits of walking and bicycling accommodations to improve safety, mobility, and livability. A livable community is one that provides safe and convenient transportation choices to all citizens, whether it's by walking, bicycling, transit, or driving. Unfortunately, bicycle and pedestrian crashes and fatality rates have been rising recently nationwide and in South Carolina.

Based on 2018 data from the National Highway Traffic Safety Administration (NHTSA), pedestrian and bicyclist fatalities comprise of roughly 18 percent of all traffic fatalities in South Carolina. In 2018, there were 165 pedestrian and 23 bicyclist fatalities documented. This equates to a pedestrian fatality rate of 3.25, which is more than 1 $\frac{3}{4}$ times higher than the national rate of 1.92. Comparatively, South Carolina's bicyclist fatality rate of 4.52 is more than 1 $\frac{1}{2}$ times higher than the national average of 2.62.

Safety is SCDOT's number one priority, in both motorized and non-motorized transportation. SCDOT is committed to doing everything possible to improve those statistics. In 2018, SCDOT established a Pedestrian and Bicycle Safety Program and allocated \$5 million annually to this important program as part of the TAMP. Additionally, in 2019, SCDOT announced the development of a Pedestrian and Bicycle Safety Action Plan (PBSAP). The PBSAP will research and note the current state of pedestrian and bicycle safety in the state, increase our understanding of crash patterns, promote objectives and data-informed decision making, promote investment in proven safety countermeasures, and target locations with high needs and opportunities for successful outcomes.

The plan will be developed and collaborated with local and regional planning authorities to ensure walking and bicycling accommodations are documented as part of adopted plans by Metropolitan Planning Organizations (MPOs) and Councils of Government (COGs). These adopted plans will ensure coordination occurs in a strategic and fiscally responsible manner.

Many MPO and COG agencies have developed or are developing bicycle and pedestrian plans into their Long Range Transportation Plans and their Transportation Improvement Programs.

9. MODAL PLAN SUMMARIES

During the development of the 2040 MTP Update, an Interstate Plan, Strategic Corridor Network Plan, Public Transit and Freight Plan, and Rail Plan were developed using the overarching goals, objectives, guiding principles, and performance measures from the 2040 MTP Update. The following provides a summary of each plan.

9.1 Interstate Plan

The purpose of the South Carolina Statewide Interstate Plan is to support South Carolina's statewide vision and goals by documenting existing and projected conditions on the state's interstate network in a way that is easily understood and helpful to all stakeholders and members of the public and to guide decision makers in investment decisions.

South Carolina's network of 11 Interstate freeways includes 851 centerline miles and 3,859 lane-miles of roadway. In 2017, vehicle-miles of travel (VMT) on this network amounted to 16.07 billion VMT, which accounted for 29 percent of total VMT in the state, even though Interstate highways account for only 2 percent of the lane-miles.

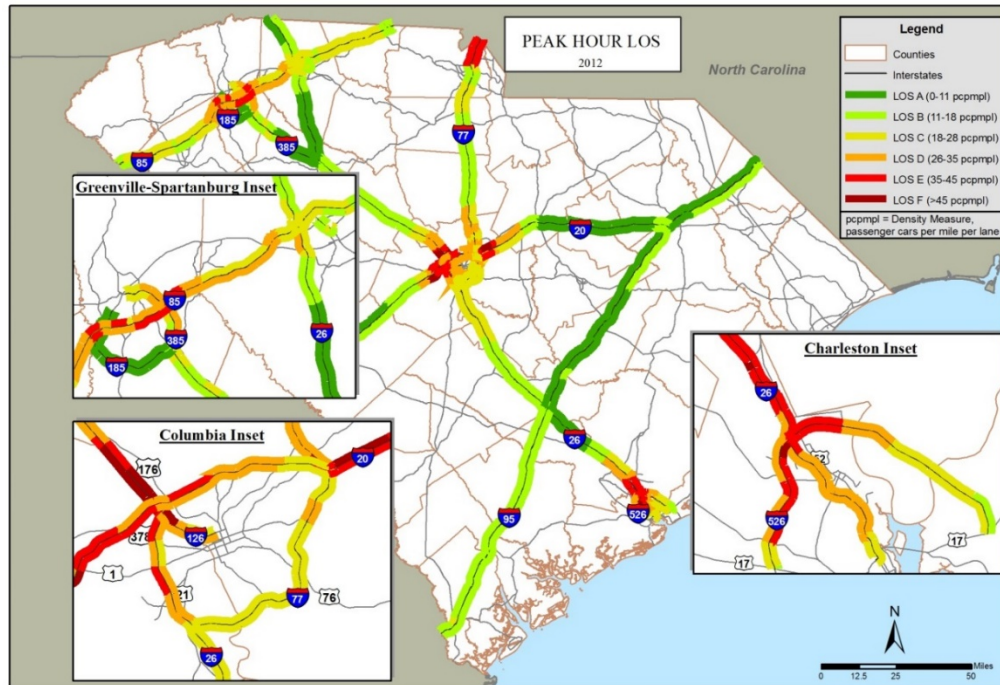
The Interstate Plan uses a revised methodology to determine existing Interstate mainline capacity needs. The methodology uses vehicle probe speed data to determine freeway density for the entire South Carolina Interstate system. The vehicle probe speed data is collected every few seconds from millions of anonymous GPS-enabled vehicles and mobile devices, as well as traditional road sensors, which provides real-time and historical traffic speed information.

The freeway density analysis resulted in a summary of the existing points of recurring congestion and bottlenecks for each of the 11 interstate freeways in South Carolina. Overall, it was estimated that 31 percent (264 centerline miles) of the existing Interstate system operates at a level of service (LOS) C or worse for at least one peak hour of an average weekday. Figure 9-1 shows the level of service during the average weekday peak hour on the Interstate system. As illustrated by maps of the 2040 Interstate conditions, gradual rates of growth in traffic volumes can be observed across the Interstate system. Decreases in levels of service are expected in metropolitan areas across the state, with particularly high growth in volumes and congestion the Charlotte metropolitan area and suburban Rock Hill. At the southern border of South Carolina and the Georgia state line, a decrease in level of service is occurring as the Lowcountry region grows in both residential and industrial activities in concert with the continued growth in freight activity at the Ports of Savannah and Charleston. This, in turn, with no programmed increase in capacity along I-95 will result in the decrease level of service.

The most congested corridor segments include:

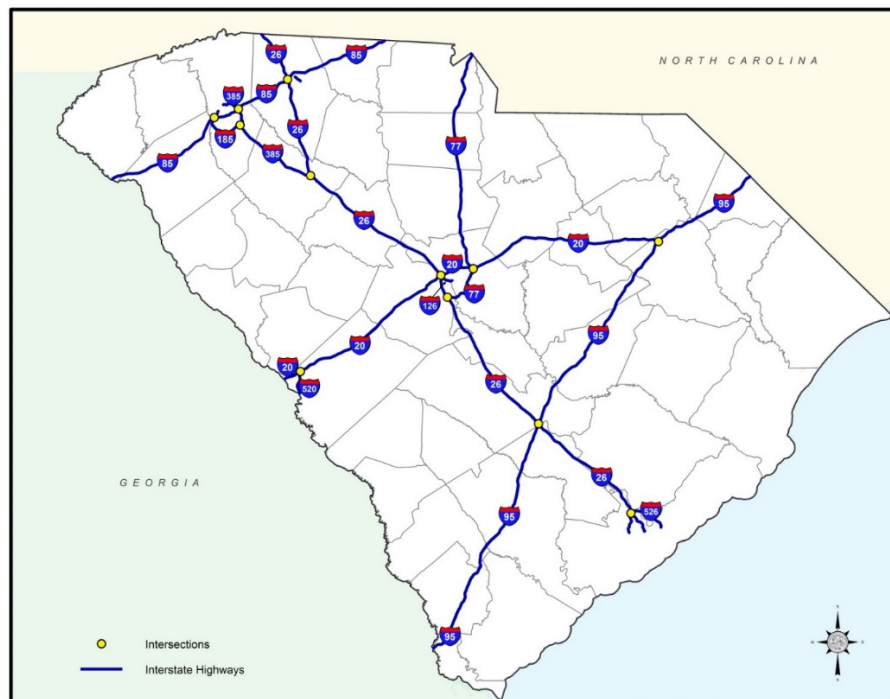
- I-526 from I-26 (Exit 17) to US-52/Rivers Ave (Exit 18) in Charleston
- I-526 from N Rhett Ave (Exit 19) to Virginia Ave (Exit 20) in Charleston
- I-26 from St. Andrews Rd (Exit 106) to I-20 (Exit 107) in Columbia
- I-526 from US52/Rivers Ave (Exit 18) to N Rhett Ave (Exit 19) in Charleston
- I-85 from I-385 (Exit 51) to Pelham Rd (Exit 54) in Greenville

Figure 9-1: 2012 Existing Conditions Peak Hour LOS



There are twelve (12) interstate system to system interchanges in South Carolina. These include: I-85 at I-385, I-20 at I-26/ I-126, I-26 at I-526, I-26 at I-95, and I-20 at I-95, I-26 at I-85, I-20 at I-77, I-26 at I-77, I-26 at I-385, I-85 at I-585, I-20 at I-520, and I-85 at I-185. The location of these interchanges can be found in Figure 9-2. These interchanges can represent bottlenecks or choke points on the interstate system, as turbulence due to lane-changing, merging, and weaving maneuvers reduce capacity.

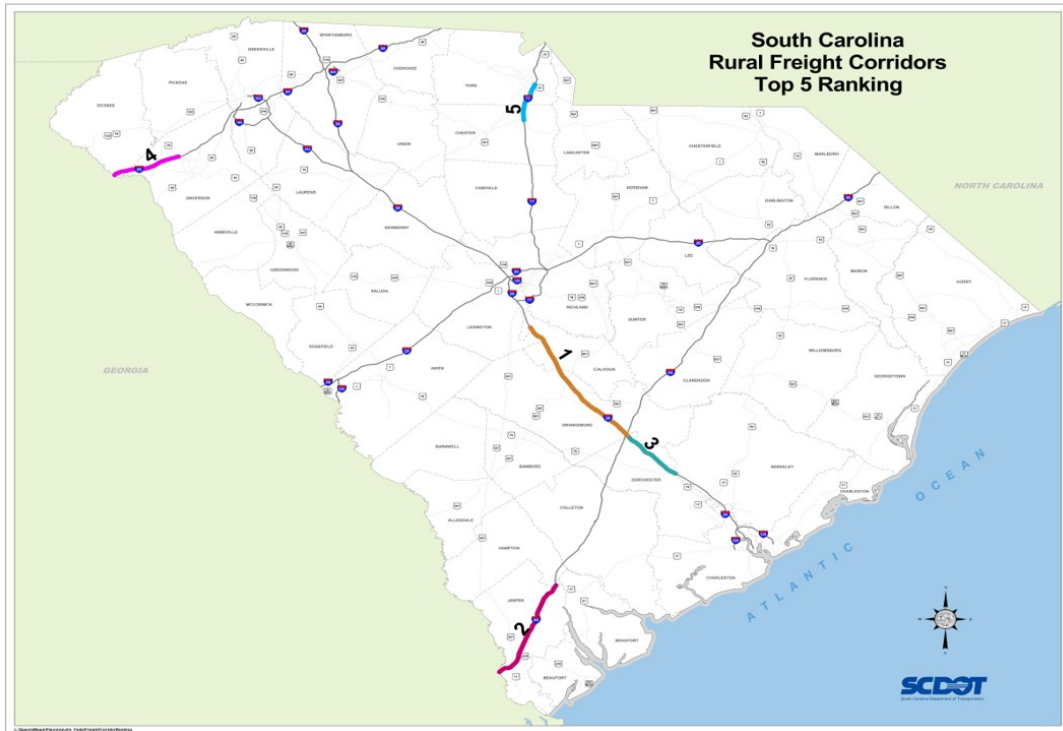
Figure 9-2: Existing Interstate System to System Interchanges



SCDOT recognized the critical importance of a select group of these interchanges as part of the Strategic Plan, particularly with regards to freight pinch points across the state. Those select interchanges are: I-385 at I-85 in Greenville, I-20 / I-26 / I-126 in Columbia and I-26 at I-526 interchange in Charleston. The I-385 at I-85 interchange improvement project has been advanced to construction and is now essentially complete with all lanes open in their final configuration. The I-20 / I-26 / I-126 interchange in Columbia and the I-26 at I-526 interchange in Charleston are in the design and development phases. An additional system to system interchange, I-26 at I-95, has been identified for improvement as part the of the Rural Interstate Freight Mobility Improvement Program.

The Rural Interstate Freight Mobility Improvement Program is designed to increase mobility along the interstate freight network by focusing on high-density segments of the system located in rural areas. During the development of the program, 18 rural freight corridors were identified. Rural segments were determined based on MPO Boundaries and segment termini were determined based on logical termini done in accordance with National Environmental Protection Act requirements. Each segment was ranked using a number of criteria and the top 5, totaling 125 miles or 15% of the entire system were identified as shown on Figure 9-3. In the 10 year investment plan, the SCDOT has committed and average of over \$442 Million per year to system upgrades. In 2024, an expected \$80-million of \$114 Million from an expiring tax credit will go annually towards increasing mobility and targeting high-density truck freight areas.

Figure 9-3: Rural Interstate Freight Mobility Improvement Program Top 5 Corridors



Rank	Freight Corridor	Begin	End	Length (in miles)
1	I-26	Old Sandy Run Road/Exit 125	I-95/Exit 169	43
2	I-95	GA State Line	US 17/Exit 33	33
3	I-26	1-95/Exit 169	Ridgeville Rd/Exit 187	18
4	I-85	GA State Line	US-76/Sc-28/Exit 19	19
5	I-77	SC-9/Exit 65	US-21/Exit 77	12

9.2 Statewide Freight Plan

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. On December 4, 2015, the President signed into law the Fixing America's Surface Transportation Act, or "FAST Act." On October 14, 2016, the U.S. Department of Transportation published Guidance on State Freight Plans and State Freight Advisory Committees. This update of the South Carolina Statewide Freight Plan (SFP) is accomplished in coordination with the South Carolina Department of Transportation 2040 Multimodal Transportation Plan (MTP) Update and satisfies the requirements as outlined in the FAST Act regarding freight.

9.2.1 Freight Plan Outreach

Stakeholder engagement was conducted specifically for the purpose of updating the SFP. The engagement was conducted utilizing an online survey engagement platform. The survey included visual and interactive elements to educate our Stakeholder groups and gather informed input. Targeting the trucking, supply chain and logistics industries as well as State and local public agencies, survey topics included questions about infrastructure and truck parking needs. The survey also included an interactive map, inviting participants to review and comment on the proposed updates to the Statewide Freight Network and share input on safety, congestion, bridge, oversize/overweight, and truck parking issues. The survey was announced directly to the Stakeholder audience and ran for 28 days during September 2019 to October 2019.

MAP-21 provides guidance for the development of a SFP, including the establishment of a State Freight Advisory Committee (SFAC) to assist in the development of the plan and to provide an ongoing advisory role in statewide freight planning. The FAST Act echoes a recommendation that each state establish a consultation mechanism with a SFAC. While USDOT has no statutory requirement that a SFAC approve a State Freight Plan, SCDOT partners with the "South Carolina Logistics Council" which supports SCDOT Freight planning efforts as the SFAC participates in the concluding phases of the development of the SFP and supports on-going freight related planning activities. The inaugural meeting of this committee was held in May 2014. The Logistics Council meets on a quarterly basis.

9.2.2 Freight Transportation Inventory

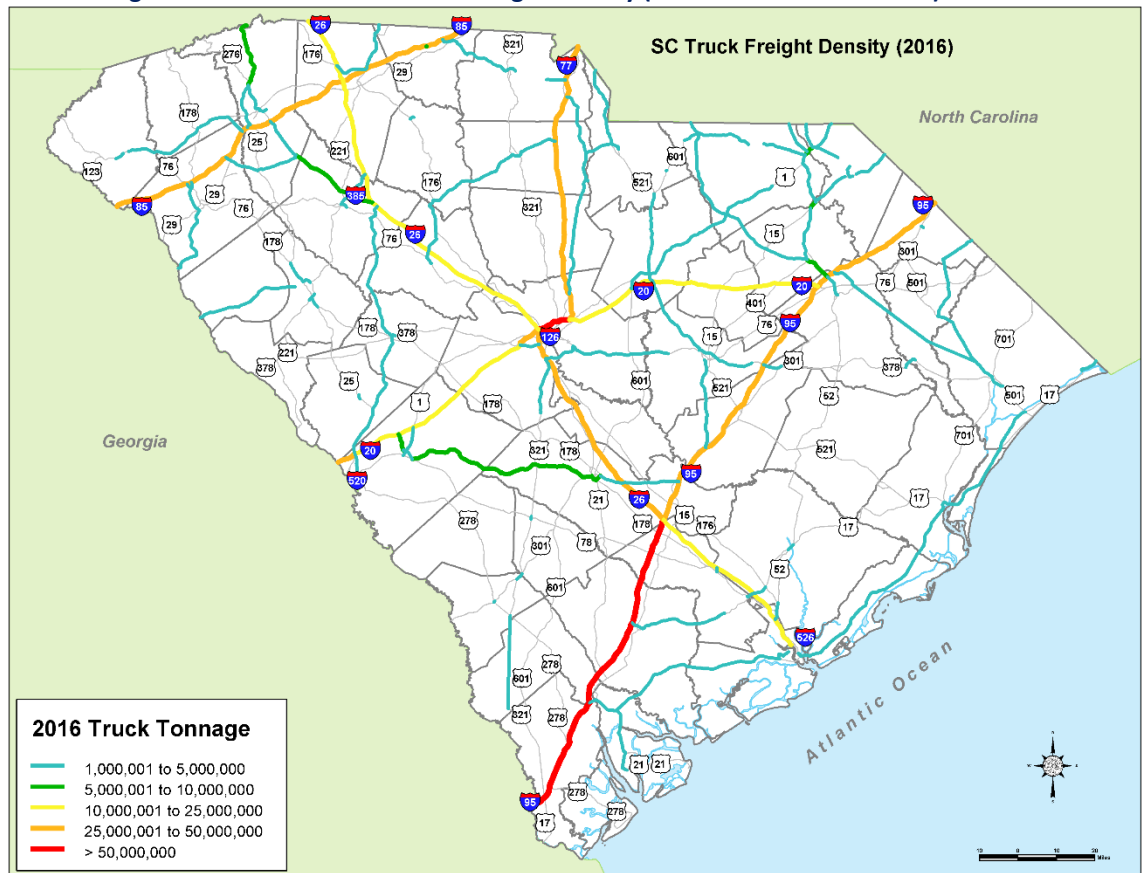
The SFP includes an inventory of transportation assets that contribute to the movement of goods in South Carolina, and that includes all modes of transportation, regardless of asset ownership. The inventory also includes a profile of goods movement for South Carolina, summarizing the tonnages and commodities for both historical years and forecast years of data, aligning data analyses for the MTP Update and the SFP.

- Over 465 million tons of freight, valued at nearly \$739 billion, moved across South Carolina's freight network in 2016.
- Trucking accounts for the largest modal share: 375.1 million tons (81 percent) valued at \$611.8 billion (83 percent).
- Rail comprises the second largest modal share at 63.2 million tons (14 percent) and \$93.6 billion (13 percent).
- Major truck and rail tonnage movements are followed by pipeline water, and air respectively.

9.2.3 Freight Strategies

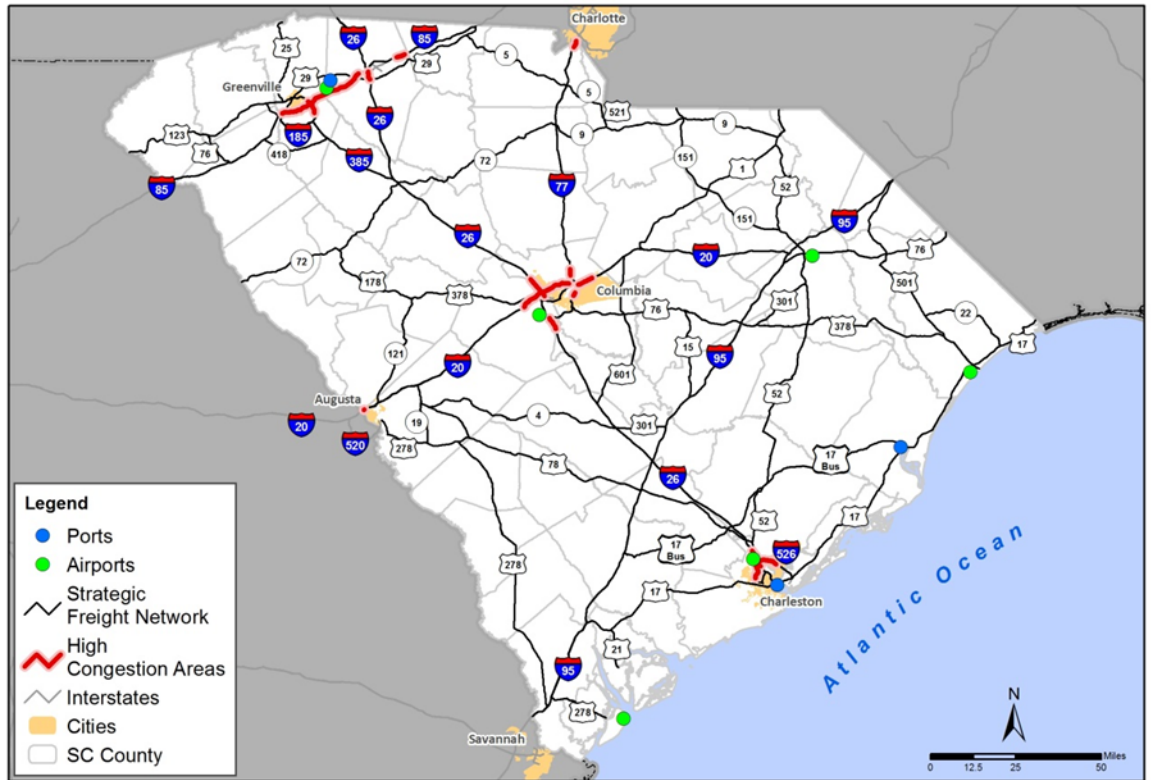
Building on the overarching goals and objectives of the MTP Update, the SFP addresses the performance measures identified for the 2040 MTP Update, as well as expands upon the overall goals and incorporates the needs of the freight community of South Carolina, reflecting input from freight stakeholders and information derived from other elements of the 2040 MTP Update. The SFP identifies the freight system and infrastructure available for goods movement, presents estimated demands on the freight system, and recommends potential project and policy level strategies to accomplish these goals. Figure 9-6 shows freight tonnage moved by truck on South Carolina roads in 2016.

Figure 9-6: South Carolina Truck Freight Density (Transearch 2016 Baseline)



Density and Level of Service analyses were completed for the interstate system in South Carolina as part of the South Carolina MTP Update. This analysis identified bottlenecks and congested corridors along the interstates, as shown in Figure 9-7.

Figure 9-7: Freight Bottleneck Locations (2019)



The following describes the freight congestion points and bottlenecks identified along the interstates in South Carolina.

- 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. In addition, during the PM peak hour, the bottleneck points along I-20 include the three interchanges with Broad River Road, I-26, and U.S. 378.
 - @ I-77 Interchange: No mitigation activity is presently underway or proposed for this interchange.
 - @ Clemson Road Interchange: Widening activities are taking place along Clemson Road near the Clemson Road interchange. These activities are expected to help improve how the interchange functions which in turn should help alleviate traffic issues through the interchange.
 - @ Broad River Road Interchange: It is expected that the bottleneck issue will be addressed through the Carolina Crossroads Project. The Carolina Crossroads Project seeks to improve mobility and enhance traffic operations by reducing existing traffic congestion within the I-20/26/126 corridor while accommodating future traffic needs.
 - @ I-26 Interchange: It is expected that the bottleneck issue will be addressed through the Carolina Crossroads Project.
 - @ US-378 Interchange: Intersection improvements are proposed at US 378 and Corley Mill Road. It is expected that the improvements to the intersection will alleviate the current

backups currently seen between Corley Mill Road and I-20 and will allow the interchange to better function which in turn should help alleviate traffic issues through the interchange.

- I-26: In the Columbia area, the I-20 interchange is the primary bottleneck point during the AM peak hour and the I-20 and St. Andrews Road interchanges are the primary bottleneck points during the PM peak hour. 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.
 - @ I-20 Interchange: It is expected that the bottleneck issue will be addressed through the Carolina Crossroads Project.
 - @ St Andrews Road Interchange: It is expected that the bottleneck issue will be addressed through the Carolina Crossroads Project.
 - @ US 52 Connector/Ashley Phosphate Interchange: No mitigation activity is presently underway or proposed for this interchange.
 - @ I-526 Interchange: The I-526 West Project is expected to address bottlenecks along the I-526 corridor. The project is currently in the development phase and identified as a high priority for implementation.

- 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, primarily due to weekly graduation ceremonies of Fort Jackson.
 - @ Forest Drive: No mitigation activity is presently underway or proposed for this interchange.

- 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.
 - @ Woodruff Road/I-385 Interchange: I-85 is currently being widened from six lanes to eight lanes from near Exit 40 to near Exit 69. It is anticipated that the end of construction activities combined with the improvements to I-85 will help alleviate traffic issues through the interchange.

- I-126: The I-26 / I-20 / I-126 interchange is the primary bottleneck along I-126 westbound during the PM peak hour. It is expected that the bottleneck issue will be addressed through the Carolina Crossroads Project.

- I-385: The primary bottleneck along I-385 is the interchange with I-85. A new interchange has been created within the general footprint of the current interchange with new lanes, ramps, and

bridges, with the widening of I-385 through the project limits. The project also included construction of ten new bridge structures which included two flyovers, rehabilitation of two existing bridge structures, and modifications to the substructure of one existing bridge to facilitate this new interchange system. Construction has essentially been completed on this critically important freight project.

- 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.
 - @ I-26 Interchange: The I-526 West Project is expected to address bottlenecks along the I-526 corridor.
 - @ Leeds Avenue Merge: The I-526 West Project is expected to address bottlenecks along the I-526 corridor.
 - @ Paul Cantrell Boulevard Interchange: The I-526 West Project is expected to address bottlenecks along the I-526 corridor.

Freight planning policy strategies are outlined in the SFP that support a multimodal approach to transportation policy and funding scenarios. The SFP also includes strategies to address alternative funding scenarios, placing emphasis on projects included on the Statewide Freight Network.

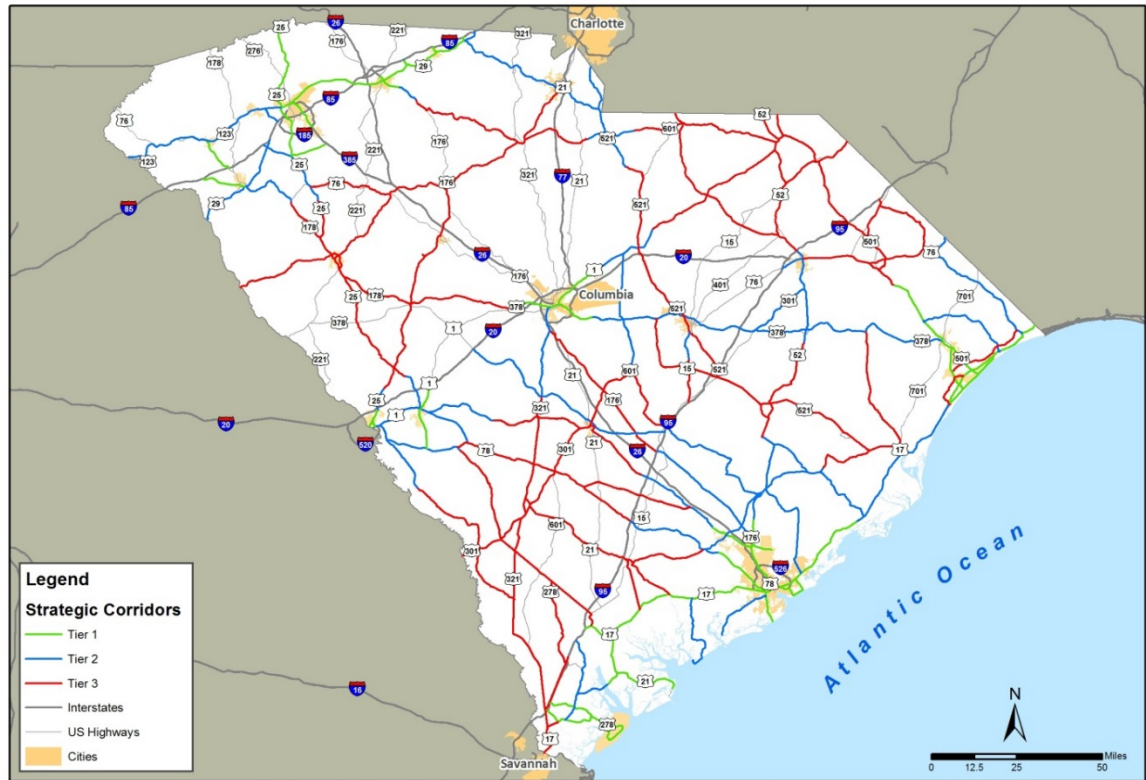
9.3 Strategic Corridor Network

The Statewide Strategic Corridor Network is a connected, continuous system of non-interstate roadways that serves the traveling public and movement of freight for intercity and interregional travel.

The process used to update the Strategic Corridor Network consists of three principal components: technical analyses, system refinements, and public and stakeholder input. The purpose of the technical evaluation is to provide an objective, quantitative, and repeatable process for developing the strategic corridor network. A three-tiered system approach was reviewed and approved by the MPOs and COGs and used to update the strategic corridor network. The 3,598-mile network is illustrated in Figure 9-8.

The Strategic Corridor Network Plan is based on a revised methodology for determining existing corridor capacity needs calculating traffic congestion, which utilizes vehicle probe speed data. A “Vehicle Hours Lost Index” was developed for each strategic corridor by taking the weighted average of the “Vehicles Hours Lost” for each segment in the corridor. Future corridor capacity needs were identified through a level-of-service analysis that was produced by the statewide travel demand model.

Figure 9-8: Strategic Corridor Network Tiers



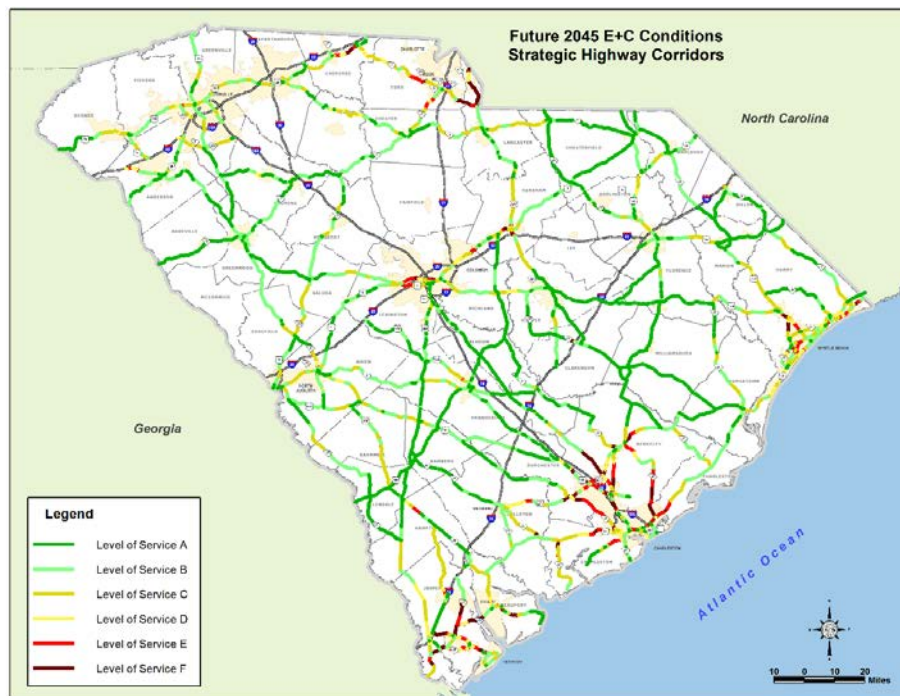
Using these analyses, it was estimated that 11 percent (396 centerline miles) of the 2010 network was operating at a LOS C or worse. Based on the updated 2015 travel model network, this number increases slightly to 12 percent or 433 centerline miles.

Under 2040 conditions, it was projected that 27 percent (971 centerline miles) of the strategic corridor network will be operating at a LOS C or worse. Based on the updated travel model’s 2045 network, this projection rises to about 37 percent or 1333 centerline miles.

Figure 9-9: 2010 Strategic Corridor Network Conditions



Figure 9-10: Future Strategic Corridor Network Conditions (2045)



9.4 Statewide Rail Plan

The South Carolina State Rail Plan 2019 Update was prepared to be consistent with the 2040 MTP Update, the Statewide Freight Plan and other modal plans, including adoption of common goals and objectives and a planning horizon year of 2040.

SCDOT is South Carolina’s “State Rail Transportation Authority” as defined by the Federal Passenger Rail Investment and Improvement Act of 2008 (PRIIA). SCDOT ensures that the State Rail Plan documents the State’s strategies on freight and passenger rail transportation – including commuter rail – within the State’s boundaries, establishes priorities and implementation approaches to enhance rail service in the public interest, and serves as the basis for Federal and state rail investment.

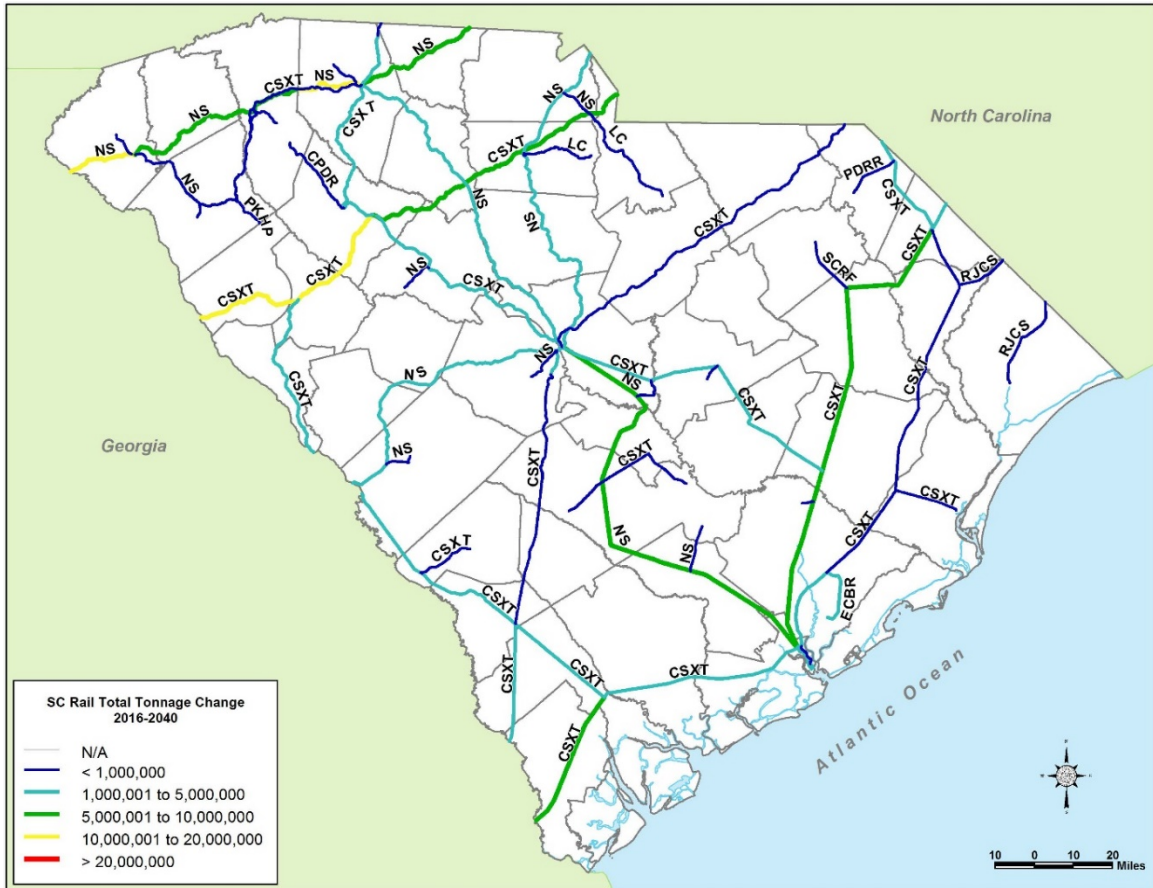
The South Carolina rail system is operated by 11 freight rail carriers. The carriers range in size from small intrastate railroads to members of large rail systems serving the entire eastern U.S. Of the line haul railroads, two are Class I carriers and the remainder are local carriers or switching and terminal companies. Palmetto Railways, a branch of the South Carolina Department of Commerce, operates three railroad subdivisions.

Rail freight serves a dual role in the state’s economy by providing efficient transportation of raw materials and goods for industries and businesses located here, as well as a distribution channel for products exported to other states and countries. The freight rail network in South Carolina serves an equally important role in the region and national economy with 46 percent of rail tonnage and 58 percent of rail freight value passing through the state. A review of rail freight movement in South Carolina finds that 63.2 million tons of goods were moved by rail in 2016, representing an estimated value of \$93.6 billion in goods. By 2040, freight is projected to grow by 68 percent to 106.5 million tons (Figure 9-11) representing an estimated value of \$190.2 billion (over 100 percent increase). This includes an estimated increase in coal shipments across the state’s rail system of less than 1% percent by 2040. Excluding coal, rail movements are expected to increase by 68.5 percent by 2040 with intermodal shipments representing the largest growth sector for rail.

The State Rail Plan identifies opportunities and issues that impact rail movements in South Carolina, including the widening of the Panama Canal, the Greer inland port, the Dillon inland Port, the Charleston Naval Complex container terminal, and the planned Intermodal Container Transfer Facility (ICTF) with dual rail access, as well as rail corridor improvement initiatives such as CSX’s I-95 Corridor, its “A line” from Florida to the Northeast, and the Norfolk Southern Crescent Corridor, the railroad’s main track from the Northeast to New Orleans, all of which offer opportunities for rail operating improvements.

The State Rail Plan notes that it will not be possible to take advantage of the future opportunities without funding for needed rail investments. As demonstrated throughout the Rail Plan, many public and private benefits can result through enhanced coordination between public interests and the freight railroads. The State Rail Plan also includes a description of passenger rail services within the state of South Carolina.

Figure 9-11: Rail Total Tonnage, 2016-2040



9.5 Statewide Transit Plan

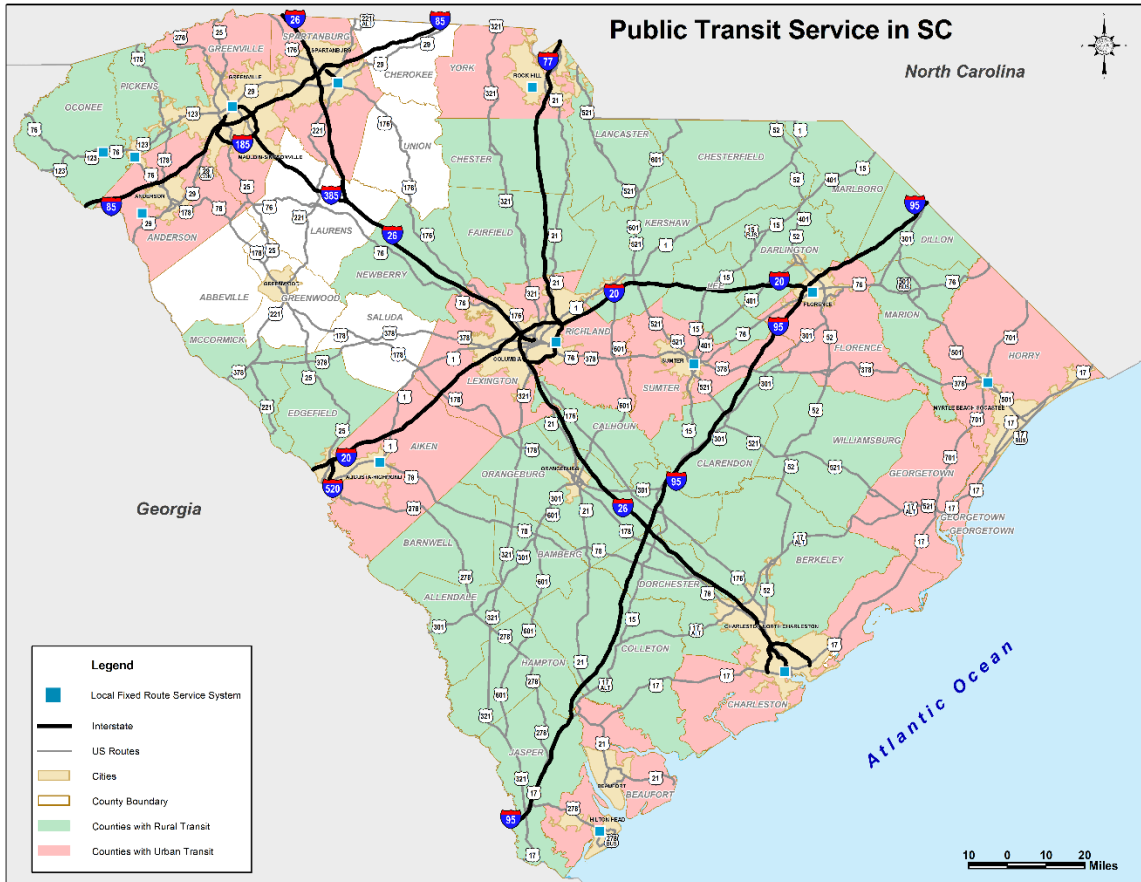
The South Carolina Statewide Public Transportation Plan Update was prepared in coordination with the development of the 2040 MTP Update. The purpose of this update was to identify existing public transportation services, needs, and strategies to 2040.

Public transit is currently available to residents in 40 of the 46 counties in South Carolina through 27 publicly supported transit agencies operating throughout the state (Figure 9-12). Of these, six are exclusively urbanized, 14 are exclusively rural or non-urbanized, and seven offer both urbanized and rural services. Each transit agency provides a range of service options to residents, such as fixed-route, route deviation, or demand response service. In 2017, South Carolina public transportation agencies provided more than 12.4 million trips.

All but six of the 46 counties in South Carolina have some level of general public transit services available to their residents. The following counties are identified as not having public transit service supported by any of the funding programs administered by SCDOT:

- Abbeville County, Upper Savannah Region
- Greenwood County, Upper Savannah Region
- Laurens County, Upper Savannah Region
- Saluda County, Upper Savannah Region
- Cherokee County, Appalachian Region
- Union County, Catawba Region

Figure 9-12: Public Transit Service



Key findings of the Statewide Transit Plan Update identified 12.4 million one-way trips provided for fiscal year 2017, an increase of 5.2 percent from the 11.8 million one-way trips provided in fiscal year 2011, the base year for the previous Statewide Transit Plan. Utilizing the same methodology and analysis as identified in the previous Statewide Transit Plan, 43 percent of transit needs were met in 2017 due to continued enhancements in service and operating efficiencies statewide. This represents a slight decrease from the estimated 44 percent met in 2011, which can be attributed in part to significant population and employment growth combined with comparatively modest transit revenue growth over the same period. While progress continues to be made, over 50 percent of identified statewide transit needs remain unmet.

More than 85 percent of the State's population reside less than 25 miles from an intercity bus station/stop. All major intercity bus trip generators including colleges and universities, medical facilities, commercial airports, and military bases are generally well positioned relative to their proximity to intercity bus stops.

10. MULTIMODAL NEEDS

10.1 Introduction

For the 2040 MTP Update, 22-year needs on the State's multimodal transportation system were assessed. The roadway, bridge, transit, bicycle, and pedestrian needs quantify costs over the 22-year plan timeframe required to address expected deficiencies and to achieve across-the-board acceptable multimodal system performance. The freight rail, port and waterway, and aviation needs were provided by SCDOT's partner agencies. These planning horizons are much shorter than the year 2040. The freight rail estimates cover only current needs, the port and waterway needs are projected to the year 2022, and the aviation needs are projected to the year 2023.

Funding these needs will involve the partnership of federal, state, regional, local governmental agencies, and non-government agencies, as well as the private sector. SCDOT receives federal and state funds to maintain and address roadways, bridges, public transportation, and bicycle and pedestrian needs.

The freight rail needs are addressed by the Palmetto Railways, private Class 1 railroads (CSX and Norfolk Southern), and private short line railroads. Port and waterway needs are addressed by the South Carolina Ports Authority and the U.S. Army Corps of Engineers. Aviation needs are addressed by federal and state funds provided to the Department of Aeronautics.

10.2 Roadway Needs

Beginning in 2018, asset management provisions enacted in the Moving Ahead for Progress in the 21st Century Act (MAP-21) require SCDOT to develop and implement a Transportation Asset Management Plan (TAMP). This plan is a risk-based asset management plan to achieve and sustain a state of good repair over the life cycle of the assets and to improve or preserve the condition of the National Highway System (NHS).

SCDOT embraces this approach and adopted its TAMP in 2019. This plan was developed in unison with the Department's 10-year Investment Strategies, which focuses on maintenance preservation and safety of the existing transportation infrastructure; directing investments based on a hierarchy of highway systems and priority networks; integrating risk-based prioritization; implementation of performance based planning and decision making processes; improving safety; advancing lifecycle cost in investment programming; and enhancing mobility.

SCDOT's approach to managing its pavement system involves the development of investment strategies that optimize system performance with the existing and future budget allocations. SCDOT investigates different investment scenarios and recommends target-achieving strategies or options that minimize the agency's risks at the lowest practical cost. The results of this scenario analysis enables SCDOT to better estimate system financial needs and manage resources effectively by ultimately tying investments to SCDOT strategic priorities.

The pavement systems evaluated in the 10-year plan and aligned targets are listed below:

- **Interstate Pavement System**
 - Goal - To improve and maintain the pavement condition from 65% Good in 2016 to 92% Good in 2027 for the Interstate Highway System.
- **Primaries/Major Roads - (Primary Highway Pavement System)**
 - Goal - To improve and maintain the pavement condition from 19% Good in 2016 to 53% Good in 2027 for the Primary Highway System.
- **Farm to Market Secondaries – (Previously known as the Federal Aid Secondary System)**
 - Goal - To improve and maintain the pavement condition from 19% Good in 2016 to 40% Good in 2027 for the Farm to Market Secondary Highway System.
- **Neighborhood Streets – (Previously known as the Non-Federal Aid Secondary System)**
 - Goal - To improve and maintain the pavement condition from 13% Good in 2016 to 25% Good in 2027 for the Neighborhood Streets.

Table 10-1: Ten Year Pavement Targets

	2016 (Actual) % Good	Ten- year Target % Good	Average 10-Year Allocation (in millions)
Pavements			
Interstate	65%	92%	\$135.0
Primaries / Major Roads	19%	53%	\$272.5
Farm to Market Secondaries	19%	40%	\$112.5
Neighborhood Streets	13%	25%	\$121.0

The 10-year fiscally constrained targets outlined in this plan are based on best available current data. States are required to collect and report pavement data to FHWA based on the federal pavement performance measures, which uses rideability, cracking percentage, rutting, and faulting condition data. While SCDOT has historically collected these types of data, the collection method was not aligned with new federal standards. In the process of changing its pavement condition data collection, SCDOT staff approximated pavement condition data using the federal measures for 2016.

Annual funding allocations for each pavement system are designed to achieve specific targets outlined in the agency 10-year plan as determined by the pavement condition/funding model. Funding for preservation is currently set at ten percent, with the remaining funding allocated for rehabilitation, and reconstruction work types based on the percentage of assets eligible for that type of work determined by asset condition. Pavement programs are managed on a network basis. The interstate pavement program is prioritized on a statewide basis. For the other pavement networks, funding is allocated on a county-by-county basis, determined by the counties' share of the statewide pavement assets eligible for preservation, rehabilitation, or reconstruction from the agency's annual budget.

With the passage of Act 40 in May of 2017, SCDOT projects it will receive an additional \$600 million in state revenue when it is fully phased in. This additional revenue will enable SCDOT to greatly improve the condition of its assets by 2027. However, even with this additional funding, due to the size of SCDOT's highway and bridge systems, SCDOT does not project for its system to reach a state of good repair during the TAMP's ten-year timeframe. It will likely take 20 years to recover the system that has decayed over the past 30 years. For the purposes of the TAMP, SCDOT defines its pavements and bridges to be in a state of good repair as the projected condition that can be achieved in 20 years utilizing the level of funding projected to be available through 2037. Table 10-1 lists the projected percentages of good and poor pavements and bridges using the data and prediction models currently available. SCDOT may update the state of good repair as data and deterioration models are updated, or if additional funding becomes available.

Managing the fourth-largest highway system in the United States involves a careful analysis of competing priorities. With the \$600 million SCDOT is budgeting toward its pavement systems on average over the next 10 years, it is forecasting significant improvement in the percent good of its pavements. These are targets established by SCDOT based on observed financial and historic system performance trends, projected revenue, and industry capacity to deliver. Fiscally-constrained targets are assumed to be realistic in nature and emulate the existing and projected fiscal environment of the agency.

SCDOT will monitor its pavement asset condition data annually to track its investment strategies against its 10 year targets. Recent data trends already show an improvement of pavement to good repair across all road systems in the state. With these recent trends SCDOT will continue to monitor the pavement throughout the state but at this time, SCDOT does not forecast a funding gap for pavements in the 2040 Horizon Year. If the data trend results in a significant deviation from the 10 year asset condition targets, the agency will consider alternative strategies to close the performance gap, or consider amending its 10-year targets if analysis shows the gap cannot be closed.

10.3 Bridge Needs

SCDOT maintains 8,412 bridges and culverts² on the roadway system that are 20-feet or more in length. SCDOT's approach to managing its system involves the development of investment strategies that optimize system performance with the existing and future budget allocations. SCDOT investigates different investment scenarios and recommends target-achieving strategies or options that minimize the agency's risks at the lowest practical cost. The results of this scenario analysis enables SCDOT to better estimate system financial needs and manage resources effectively.

As with the roadways, SCDOT also utilizes the TAMP to evaluate, plan and invest into South Carolina's bridge system. Bridge investment strategies include a combination of routine maintenance, preservation, rehabilitation, and replacement activities. The most common routine maintenance activities include concrete spall repairs, repairs to bridge rail, cleaning of bearing assemblies, pile repairs, debris removal, and cleaning drainage weep holes. Preservation strategies include painting, deck patching, and sealing expansion joints. This approach enables SCDOT to address structurally deficient bridges while ensuring that bridges in good condition are effectively preserved to delay the higher cost of rehabilitation or replacement. Rehabilitation activities include deck replacements, bearing replacements, and other major repairs. SCDOT implements these investment strategies with the objective of achieving the following:

- Identify and Inventory structurally deficient bridges
- Extend the life of the State's bridge system
- Reduce the number of structurally deficient bridges
- Target closed and load-restricted bridges

Targeting structurally deficient (SD) bridges and closed or load restricted (LR) bridges is a strategic priority of SCDOT. These bridges are programmed into three categories: structurally deficient bridges on the National Highway System (NHS), structurally deficient bridges located on the non-NHS, and load restricted bridges located on the entire statewide system. Currently, SCDOT has 548 Structurally deficient bridges and 311 load restricted bridges within the state. Based on historical trends, it is anticipated that both structurally deficient and load restricted bridges will increase by 38 bridges per year for a total of 76 bridges per year. Therefore, approximately 2380 bridges will either become structurally deficient or load restricted by 2040. This data is illustrated in Table 10-2.

² As of 2018

Table 10-2: Structurally Deficient & Load Restricted Bridges

	Total System Bridges	Current # of Bridges (SD or LR)	Trend 2013-2018 (Bridges/YR)	Additional Bridges 20 Year	2040 Total (Current + Additional)
SD NHS	1691	85	6	120	205
SD Non-NHS	6721	463	32	640	1103
Load Restricted	8412	311	38	760	1071

SCDOT currently allocates \$145 Million per year towards the bridge program and intends to add another \$15 Million to the budget from future tax credits in 2024. The funding gap for the 2040 Horizon Year is expected to be approximately \$1.67 Billion, or \$76 Million per year. These additional funds would help improve the current trends rates of structurally deficient and load restricted bridges in the state. These improvements per category are as follows:

- **Structurally Deficient Bridges – NHS System**

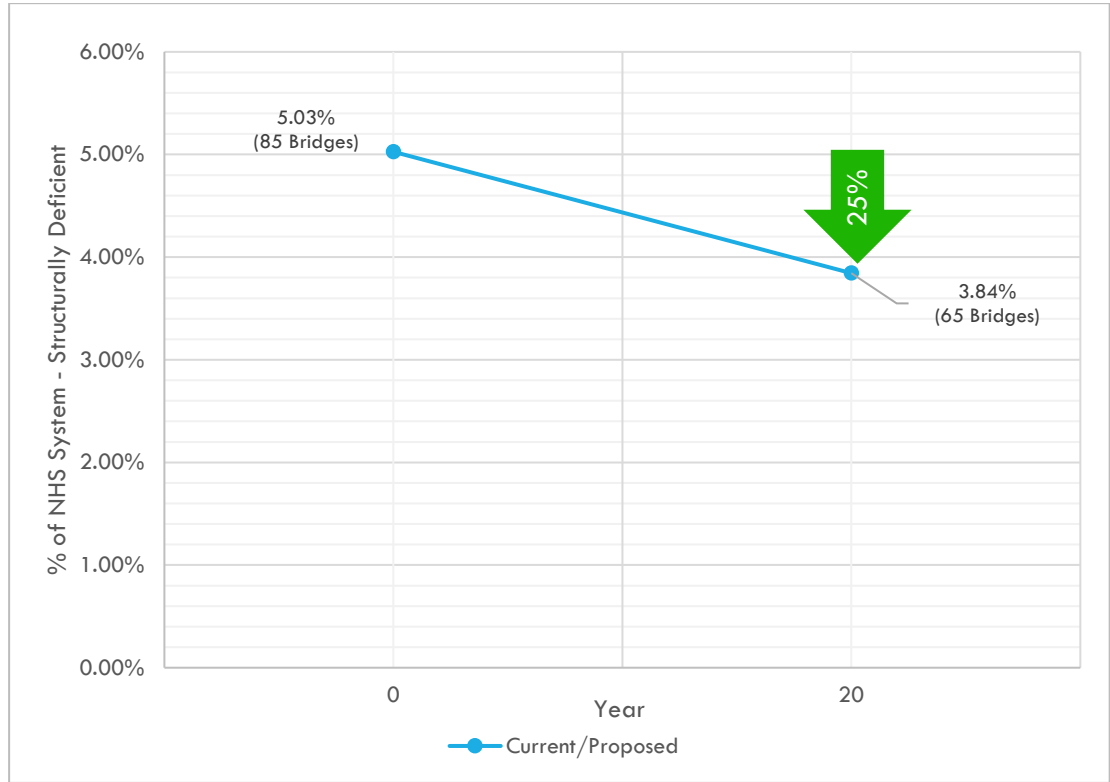
Currently, 5.03% of the bridges located on the states NHS are deemed structurally deficient. The Department’s goal is to reduce the percentage of structurally deficient bridges on this system by 25% by repairing or replacing 142 bridges on the NHS system within the next 20 years. Current and future structurally deficient bridges numbers and associated system percentage on the NHS can be seen in Table 10-3.

Table 10-3: NHS System - Structurally Deficient

Total Number of Structures on the NHS System	Current # of Bridges (SD or LR)	Current % of Bridges (SD or LR)	Predicted # of Bridges in 2040 (SD or LR)	Predicted % of Bridges in 2040 (SD or LR)
1691	85	5.03%	63	3.75%

The current and projected NHS System trend is shown on Figure 10-1.

Figure 10-1: NHS System - Structurally Deficient Trend



- **Structurally Deficient Bridges – Non-NHS System**

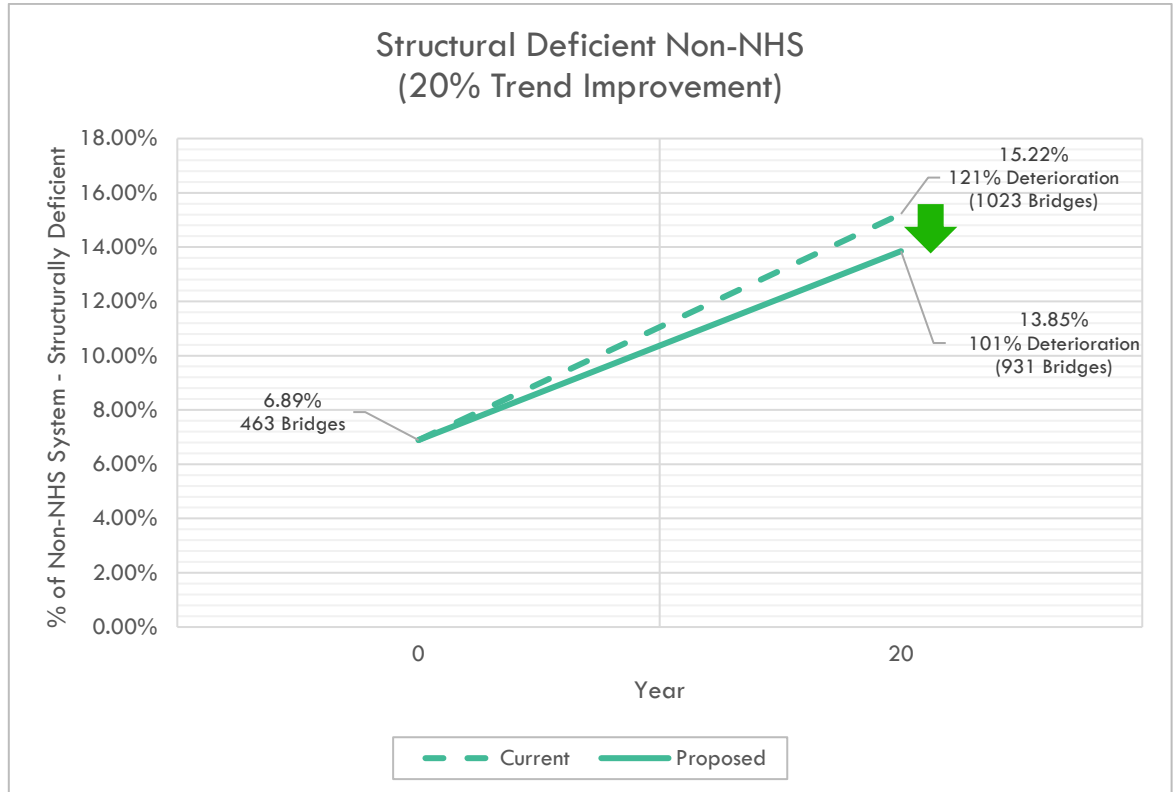
Currently, 6.89% of the bridges located on the states non-NHS are deemed structurally deficient. It is predicted that this rate will increase to 15.22% over the next 20 years. The Department’s goal is to reduce this rate 20% by repairing or replacing 172 bridges on the non-NHS system within the next 20 years. Current and future structurally deficient bridges numbers and associated system percentage trend rates on the non-NHS is shown in Table 10-3.

Table 10-3: Non-NHS System - Structurally Deficient

Total Number of Structures on the Non-NHS System	Current # of Bridges (SD or LR)	Current % of Bridges (SD or LR)	Predicted # of Bridges in 2040 (SD or LR)	Predicted % of Bridges in 2040 (SD or LR)
6271	463	6.89%	931	13.85%

The current and projected non-NHS System trends are shown on Figure 10-2.

Figure 10-2: Structurally Deficient non-NHS Bridge Trends



- Load Restricted Bridges – Statewide System**

Currently, 3.70% of the bridges located on the statewide system are deemed load restricted. It is anticipated that this rate will increase to 4.17% over the next 20 years resulting in an additional 351 load restricted bridges to the system. The Department’s goal is to reduce this trend rate by 25%. This reduction will reduce the number of load restricted bridges on the system to 3.27% by repairing or replacing 796 load restricted bridges on the statewide system within the next 20 years. Current and future statewide load restricted bridge numbers and trend rates can be seen in Table 10-4.

Table 10-4: Load Restricted Bridges – Statewide System

Total Number of Structures on the Statewide System	Current # of Bridges (SD or LR)	Current % of Bridges (SD or LR)	Predicted # of Bridges in 2040 (SD or LR)	Predicted % of Bridges in 2040 (SD or LR)
8412	311	3.70%	275	3.27%

The current and projected load restricted trends are shown on Figure 10-3.

Figure 10-3: Statewide Load Restricted Bridge Trends

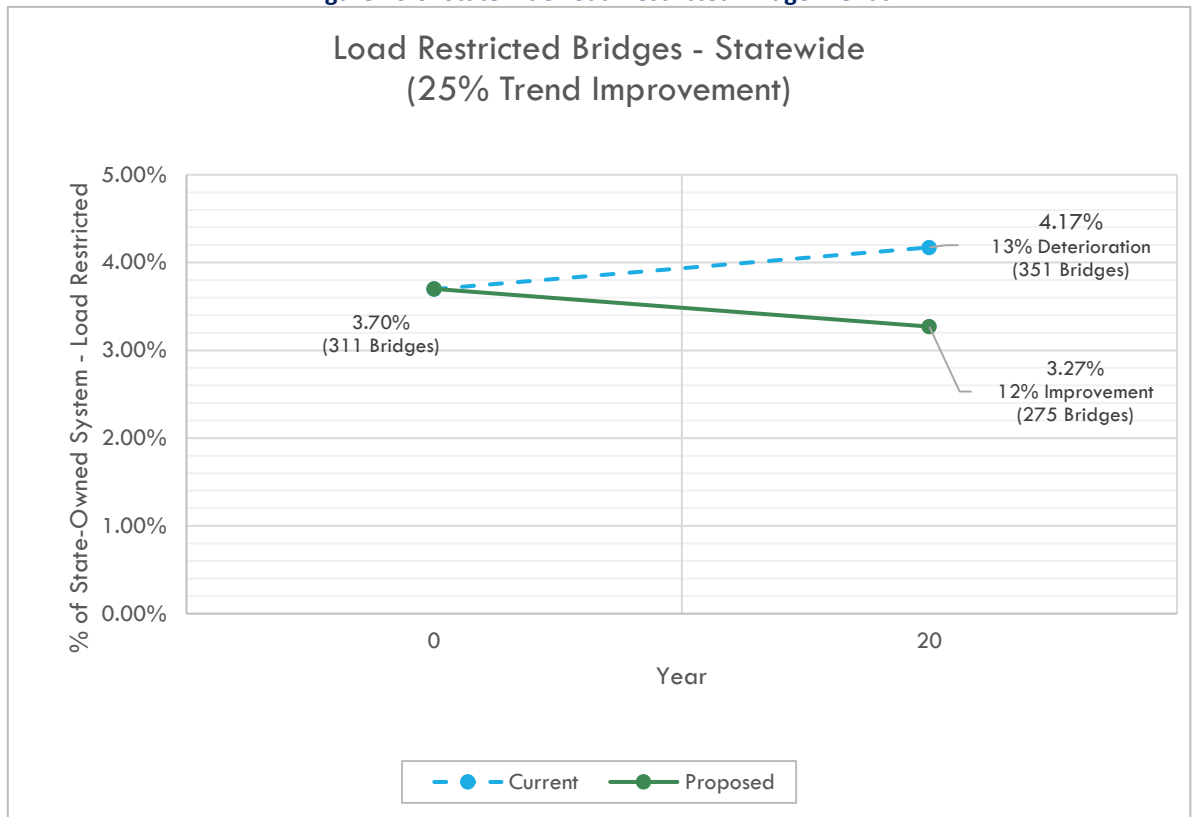


Figure 10-4: Ten-Year Projected Performance and Funding Levels for Bridge Systems

Bridges (by number)	# Structures	% VMT	% Good	% Poor defined as % SD*	% Good	% Poor defined as % SD	Average Annual Funding Level
NHS	1,745	56%	48%	6%	66%	0%	\$114.5M
Non-NHS	3,883	37%	46%	11%	41%	11%	\$18M
Off-System	2,794	7%	40%	9%	36%	10%	\$18.5M
Bridges (by deck area)	Bridge Deck Area† (square feet)	% VMT	2016 Baseline		10-Year Target		Average Annual Funding Level
NHS	39,110,289	56%	42%	4%	60%	0%	\$114.5M
Non-NHS	24,903,895	37%	50%	10%	41%	15%	\$18M
Off-System	7,607,110	7%	51%	7%	44%	10%	\$18.5M
			2016 Baseline Condition		10-Year Target		Average Annual Funding
Load Restricted Bridge Program			348 Bridges		0		\$36.5M
NHS Structurally Deficient Bridge Program			51 Bridges		0		\$114.5M

10.4 MPO/COG PROGRAM NEEDS

South Carolina is the sixth (6th) fastest growing state in the nation with an increase in population of approximately 10% over the last 10 years. Due to this growth, SCDOT faces a tremendous challenge to meet increasing transportation needs of the state. Congestion continues to be a major problem, especially on the primary routes within the metropolitan areas. SCDOT recognizes that it must work collaboratively with their MPO and COG partners to ensure the multimodal transportation system is preserved, modernized, integrated, and expanded to provide improved mobility options and access to all South Carolinians, visitors, businesses, and industries. SCDOT relies solely on our MPO and COG partners for prioritizing these needs within their region.

Currently, SCDOT allocates \$138 Million to the urban and rural areas of the state, for system upgrade projects. This funding is based off 2010 Census population and is divided amongst twenty-one separate MPO and COG entities. One concern is that MPOs and COGs do not receive enough funding to address the congestion needs of the transportation system. MPO funding ranges from \$2.5 Million to \$19.2 Million annually, while COG funding ranges from \$2.2 Million to \$7.6 Million annually. It costs approximately \$8 Million per mile to widen a roadway from two lanes to five lanes. While most of the smaller MPOs and COGs receive less than this on an annual basis, it makes it extremely difficult for these areas to address capacity needs in their region. Therefore, congestion reduction needs remain unmet throughout the state.

The funding gap for the 2040 Horizon Year is expected to be approximately \$2.2 Billion, or \$100 Million per year. This increase in funds allows the MPOs and COGs greater flexibility within their programs and provides additional funding to manage an uphill battle towards congestion reduction throughout the state.

10.5 Safety Needs

Safety of the state's highway system continues to be SCDOT's top priority. The Strategic Highway Safety Plan (SHSP), Pedestrian and Bicycle Safety Action Plan (PBSAP), and the Rural Road Safety Program provide a coordinated framework toward eliminating deaths and severe injuries on South Carolina's public roads. With over 1,000 fatalities a year on South Carolina roadways and in order to address the safety needs of the state, a major investment of over \$2.5 Billion through 2040 is planned on our state's highway system. This funding would help address reductions of crashes, injuries, and fatalities throughout the state and is crucial to properly address and expedite the major safety focus areas in South Carolina.

10.6 Routine Maintenance Needs

The South Carolina Department of Transportation operates the fourth largest state maintained highway system in the nation, consisting of approximately 41,315 miles of roadway. The task of managing the service-life and rate of deterioration for such a large system is a difficult task on its own. Couple that with a backlog of deferred maintenance, a fast-growing state in terms of population and the recent successive natural disasters, and it is easy to understand the monumental task at hand for the maintenance and preservation of this immense highway system.

SCDOT's task over the next 20 years and beyond is to repair and rebuild its transportation network to ensure that our citizens and businesses can travel on a safe and reliable system. This is a core function of SCDOT and accordingly, SCDOT has been entrusted with the responsibility to effectively and efficiently utilize

taxpayer funds to turn the status of the state-owned transportation network around. By following these principles, SCDOT takes a proactive approach to preserve our highway system by performing numerous maintenance activities including: highway preservation, shoulder and ditch repair, drainage improvements, vegetative management, guardrail repairs, litter control, signs, and utility permits. This infrastructure needs an increased and recurring level of funding for repair and development of a consistent preventive maintenance program. An investment of \$750 Million through 2040 is needed to properly maintain the highway system in South Carolina.

10.7 Mass Transit Needs

Public Transit Needs

The initial 2040 public transit operating and capital needs were based on a review of annually submitted transit operating, performance and asset management statistics, existing services and future needs identified by public input, feedback from local COGs, MPOs and individual transit agencies, and needs identified in existing plans, where available.

The long-range transit operating and capital costs to maintain existing services were developed as follows:

- Operating Costs: To calculate the long-term needs for maintaining existing services, a baseline constant dollar for operating expenses was applied to each of the transit agencies for the life of this plan, which extends to 2040. The costs were then aggregated by region and for the statewide total.
- Capital Costs: To calculate the capital costs for maintaining existing services, two separate categories were used:
 - Cost for replacing the existing vehicle fleet, and
 - Non-fleet capital costs.

The second scenario for estimating future public transportation needs is enhanced services, which simply implies a higher level of service or more service alternatives for residents than exists today. The enhanced service needs include more frequent service, evening, weekend, and employment-based services, as well as rural transit connections to major activity locations.

When preparing the current update to the 2040 Statewide Multimodal Plan, the same methodology and analysis were carried forward and utilized to ensure consistency in reported needs. Based on this analysis, and using a base year of 2017, cumulative public transit needs to maintain existing transit services total \$1.9 billion, and for enhanced transit services total \$1 billion. Total annualized needs amount to \$124.5 million.

10.8 Premium Transit and Passenger Rail Needs

Premium transit includes transportation alternatives such as bus rapid transit (BRT), light rail, commuter rail, and high-speed rail. The need for premium transit has been explored in multiple areas in South Carolina over the years, with one currently under development.

The Lowcountry Rapid Transit project, led by the Berkeley-Charleston-Dorchester Council of Governments, is a proposed 26-mile bus rapid transit system currently under development between

Charleston, North Charleston, and Summerville and anticipated to provide two million passenger trips per year. Initial planning-level construction costs as identified in 2015 are estimated to be \$360 million, with annual planning-level operating costs estimated to be \$5.9 million. These costs are not included in the 2040 figures identified in Table 11-1.

In November 2016, Charleston County voters passed a half-cent sales tax to fund roadway, transit and green space projects. Approximately \$60 million of the transit funding identified in the referendum for project development and \$180 million for construction is intended as matching funds for federal grants under the Federal Transit Administration's Capital Investment Grant program to assist with the remaining construction costs of the project. The project is expected to commence revenue service in 2025.

As of 2019, the RFATS MPO is undertaking a premium transit analysis along the heavily-travelled I-77 corridor to Charlotte to update a planning-level analysis originally completed in 2007. The 2007 analysis resulted in a locally preferred alternative for a phased BRT system along the US 21 corridor, with a conceptual planning-level costs estimate of \$516 million. The current analysis will update the preferred alternative as well as the cost estimates.

As part of the Atlanta to Charlotte Passenger Rail Corridor Investment Plan (PRCIP), the Federal Railroad Administration (FRA) and the Georgia Department of Transportation (GDOT), in partnership with SCDOT and the North Carolina Department of Transportation, led a Tier 1 Environmental Impact Statement (EIS) for the extension of the Southeast High Speed Rail (SEHSR) corridor from Charlotte, North Carolina to Atlanta, Georgia. The vision of the SEHSR Corridor is to develop an integrated passenger rail transportation solution for the Southeast, including proposed high-speed rail from Washington, DC through Richmond, VA, Raleigh and Charlotte, NC, and from Charlotte to Atlanta, Georgia. The ongoing study identified three options for the proposed Atlanta to Charlotte corridor through Upstate South Carolina, and is expected to identify a preferred alignment and an updated planning-level cost estimate when completed in 2020.

10.9 Bicycle and Pedestrian Needs

Several bicycle and pedestrian needs have been identified on state-maintained roadways. These include planning, design, right of way, and construction costs and are based on current bicycle accommodation deficiencies, proposed improvements in adopted MPO/COG and local government plans, and the review of other MPO/COG planning documents. Pedestrian needs, such as sidewalks, are included in the overall modernization needs for the primary and secondary highway system. The SCDOT will be working closely with the MPO and COG agencies to develop a standardized method of data collection and project prioritization in order to assist them in successfully implementing their plans and determining the statewide-anticipated needs and costs estimates.

Funding for bicycle and pedestrian needs come from various sources. These funding sources include: MPO/COG programs, Transportation Alternative Program (TAP), Pedestrian & Bicycle Safety Program and County Transportation Committees (CTC).

MPOs and COGs receive \$138 Million annually for system upgrades in our rural and urban areas. This funding is divided amongst 21 different entities. These funds can be and often are used for bicycle and pedestrian accommodations for projects identified within their programs.

TAP funds are used for projects that expand travel choices and improve the transportation experience by improving the cultural, historic, and environmental aspects of our transportation

infrastructure. These funds are typically used for bicycle and pedestrian facilities throughout the state. Approximately \$7.4 Million is distributed annually toward eligible projects within this program.

The Pedestrian and Bicycle Safety Program focuses on high rate bicycle and pedestrian crashes throughout the state. These assessments are implemented in accordance with the 4 E's of Transportation Safety: Engineering, Enforcement, Education, and Emergency Response. SCDOT allocates \$5 Million annually towards these assessments.

The "C" Program is a long-established partnership between the South Carolina Department of Transportation (SCDOT) and the forty-six counties of South Carolina to fund the improvements of state roads, county roads, city streets, and other local transportation projects. "C" Funds come from 2.66 cents per gallon of the state gasoline tax distributed to each of 46 counties based on population, land area, and rural road mileage. Beginning July 1, 2018 the CTC's portion will increase .3325 cents per gallon through 2021, when the total will equal 3.99 cents per gallon. Once fully implanted, the CTC's will receive approximately \$135 Million annually towards the "C" Program. This increase must be used exclusively for repairs, maintenance and improvements to the state highway system.

SCDOT recognizes the need for bicycle and pedestrian accommodations throughout the state. With the development of the Pedestrian and Bicycle Safety Action Plan (PBSAP), the Department will coordinate with stakeholders including: MPOs, COGs, County Transportation Committees (CTC) and others, to ensure bicycle and pedestrian accommodations are considered in the development of projects. Additional funding needs for these accommodations are included in the overall assessment of needs identified in the MPO/COG Program needs.

10.10 Freight Rail Needs

The future needs for short line rail projects totals \$47.62 million and includes rail rehabilitation projects (\$41.62 million); Rail capacity/service expansion projects (\$3.5 million); and rail safety improvement projects (\$2.5 million). Based on the previous Statewide Rail Plan (2014), Class I railroads are estimated to have approximately \$100 million in needs for grade crossing improvements, capacity increases, and bottleneck relief.

The Rail Grade Safety Program was established to address rail grade and crossing safety nationwide. SCDOT was charged with inspecting every public crossing for appropriate traffic control. MAP-21 continued the annual set-aside for elimination of hazards at railway-highway crossings from the state's HSIP apportionment. Funds are eligible for projects at all public crossings. Fifty percent of the funds must be used for the installation of protective devices at railway-highway crossings. The 2015 Fixing America's Surface Transportation Act (FAST Act) continues the annual formula set-aside for Railway-Highway Crossings (Section 130) Program under 23 USC 130(e). The funds are set-aside from the Highway Safety Improvement Program (HSIP) apportionment. Per 23 USC 130(d), each State is required to conduct and maintain a survey of all highways to identify railroad crossings that may require separation, relocation, or protective devices, and establish and implement a schedule of projects.

In South Carolina, from 2013 to 2017, railway-highway crossing collisions accounted for an average of 2.2 fatalities per year and 7.8 severe injuries per year. The number of fatalities at rail grade crossings demonstrated a slight uptick in the most recent five-year average. There are 3,967 highway-rail crossings in South Carolina, with 2,657 located on public roadways, 1,296 crossings on private roads, and 14 pedestrian crossings. Improvements currently consist principally of converting at-grade crossings protected with flashing lights to gated crossings. In the process, each of the 2,700 public crossings in the

state is ranked for priority. The rankings are re-evaluated on an annual basis. As of 2020, SCDOT currently has 7 grade crossing improvement projects underway.

10.11 Port and Waterway Needs

The South Carolina Ports Authority (SCPA) owns, manages, operates, and finances the public port terminals in South Carolina. These include the Ports of Charleston and Georgetown and Inland Ports located in Greer and Dillon, South Carolina. SCPA, the State of South Carolina, and other government agencies and partners are currently investing in nearly \$2.6 billion in port-related infrastructure that will enhance operational performance and transportation infrastructure related to the movement of cargo at the Port and throughout the State. Projects include recent investments along with planned investments through Fiscal Year 2022³:

- SCPA funded investments include \$1.678 million for the Hugh Leatherman Terminal (HLT) Phase 1 construction, Wando Welch Terminal improvements, Inland Ports Greer and Dillon and other terminal investments.
- Capital Investments not funded by SCPA include \$971 million for the Charleston Harbor deepening, HLT Port Access Road, Wando Wharf strengthening, Inland Port Greer expansion, Inland Port Dillon investment and a new intermodal rail facility through Palmetto Railways.

10.12 Aviation Needs

Aviation needs were represented within the South Carolina Aeronautics Commission (SCAC) 2018 System Plan Technical Report⁴ and are based on individual airports' 5-year Capital Improvement Plans (CIPs). Airports in South Carolina have their own individual capital improvement plans (CIPs) that identify development projects, equipment purchases, and other actions that require funding. CIP projects within the SCAC 2018 System Plan for system airports require a significant investment, totaling nearly \$417 million over the next five years; on average, \$83.4 million per year will be required to fund all existing CIPs. By CIP project category, runway projects make up the largest share of costs, followed by taxiway projects, and apron projects.

Through another statewide planning effort, SCAC has identified pavement maintenance and rehabilitation projects that are needed in the next few years to address the needs of the state's existing airport infrastructure. Funding needs for the next five years are not all-inclusive, as there will undoubtedly be additional funding requirements that are not yet known. Estimated costs indicate that to fully fund all known projects, maintenance needs, and equipment purchases, approximately \$768.6 million will be needed over the next five years. This amount includes the aforementioned individual airport CIP projects.

³ <http://scspa.com/cargo/planned-improvements/capital-plan/>

⁴ http://www.scaeronautics.com/download/2018SystemPlanTechnicalReport_Final-Entire%20ChaptersV2.pdf

11. TRANSPORTATION REVENUES AND FUNDING GAP

11.1 2017-2040 Revenue Forecast

Evaluating whether SCDOT will have adequate financial resources to accomplish its goals and meet future modal needs is a critical part of the planning process. A conservative transportation revenue forecast to 2040 was developed, based on historic trends, from SCDOT’s federal, state, and local net revenue sources. On average, \$1.89 Billion will be available per year to maintain and address multimodal transportation system needs and improvements totaling \$41.58 Billion from 2019-2040.

11.2 Funding Gap

While the recent increase in funding for infrastructure at the state level has enabled SCDOT to set a course to get to a state of good repair over time, South Carolina will still be faced with tremendous needs relating to congestion and capacity strains on the road network. The 2040 MTP multimodal transportation needs totals \$2.34 Billion to address and maintain highways, bridges, bicycle and pedestrians and mass transit. With funding level of \$1.94 Billion to address these multimodal needs over the same time period, SCDOT is projecting a \$403 Million annualized gap as shown in Figures 11-1 and 11-2.

Figure 11-1: 2040 Funding Gap by Program Category

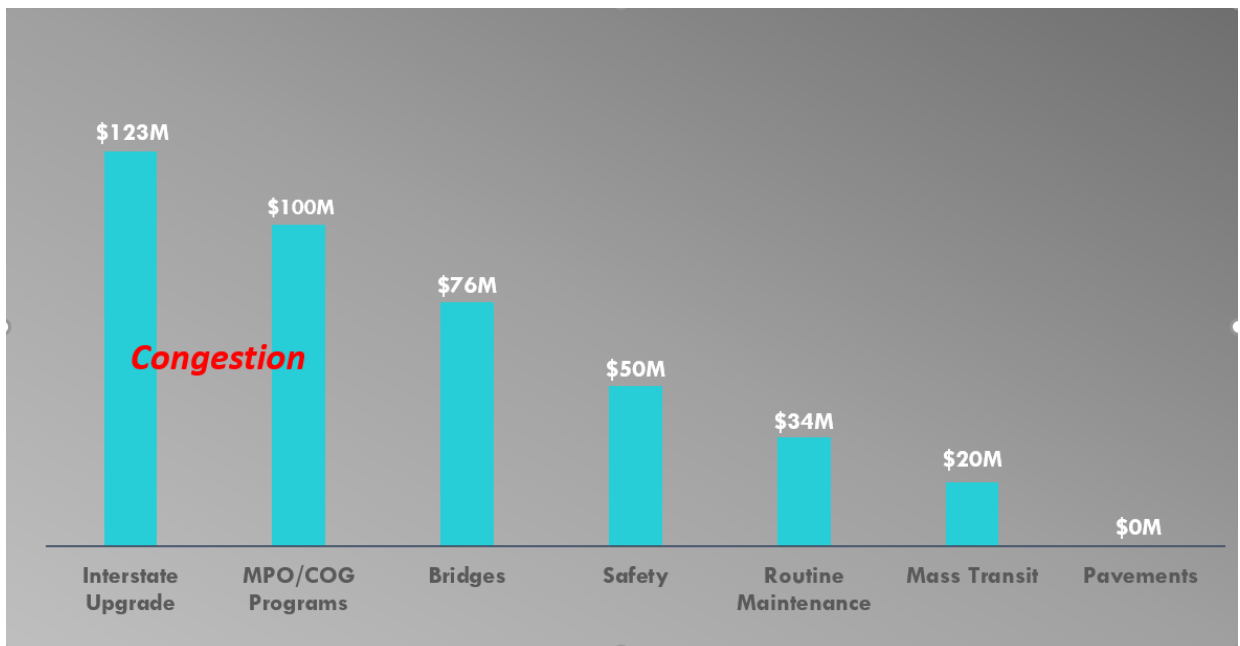


Table 11-2: Summary of 2040 Planned Highway, Bridge and Transit Funding, Needs and Gap

Mode/Category	2019-2040 MTP Annualized Funding	2019-2040 MTP Annualized Need	2019-2040 Yearly Average Gap	2019- 2040 Total Gap
Interstate System				
Interstate System Upgrade	\$441 Million	\$564 Million	\$123 Million	\$2.76 Billion
Pavements				
Interstates	\$135 Million	\$135 Million	\$0 Million	\$0 Million
Primaries	\$269 Million	\$269 Million	\$0 Million	\$0 Million
Farm to Market Secondaries	\$140 Million	\$140 Million	\$0 Million	\$0 Million
Neighborhood Streets	\$121 Million	\$121 Million	\$0 Million	\$0 Million
Subtotal	\$665 Million	\$665 Million	\$0 Million	\$0 Million
Bridges				
Bridges	\$313 Million	\$389 Million	\$76 Million	\$1.67 Billion
MPO/COG Program				
MPO/COG Program	\$138 Million	\$238 Million	\$100 Million	\$2.2 Billion
Safety				
Safety	\$100 Million	\$150 Million	\$50 Million	\$1.1 Billion
Routine Maintenance				
Routine Maintenance	\$174 Million	\$208 Million	\$34 Million	\$748 Million
Mass Transit				
Mass Transit	\$104.7 Million	\$124.5 Million	\$19.8 Million	\$435.6 Million
Totals				
Totals	\$1.94 Billion	\$2.34 Billion	\$403 Million	\$8.91 Billion

12. FINDINGS AND STRATEGIES

Some of the key findings of the 2040 MTP, which draw upon analyses conducted for the five modal plans (Interstate, Strategic Corridor Network, Public Transit and Human Health Service Coordination, Freight, and Rail) as well as the MTP itself, may be summarized as follows:

- **Funding**
 - Funding to address the and maintain the multimodal needs of highways, bridges, bicycle/pedestrian, and transit are projected to total \$8.91 Billion through 2040.
 - With funding level of \$1.94 Billion to address these multimodal needs over the next 22 years, the Department is projecting a \$2.34 Billion need over the same amount of time. This equates to a \$403 Million yearly annualized funding gap.
- **Safety**
 - Safety on the State Highway System is the top goal for SCDOT. An increase of \$50 Million, would significantly increase the current safety initiatives and advance safety projects throughout our state.
- **Roadways**
 - Recent data trends already show an improvement of pavement to good repair across all road systems in the state. SCDOT does not forecast a funding gap for pavements in the 2040 Horizon Year.
- **Bridges**
 - Based on historical trends, it is anticipated that both structurally deficient and load restricted bridges will increase by 38 bridges per year. Therefore, approximately 1520 bridges will either become structurally deficient or load restricted by 2040. It is anticipated that an additional \$76 Million per year is needed to address the future bridge deterioration.
- **Freight**
 - Freight tonnage moved by truck is expected to increase by 60 percent from 375 million tons in 2016 to 599.6 million tons in 2040.
 - Freight tonnage moved by rail is expected to increase by 69 percent from 63.2 million tons in 2016 to 106.6 million tons in 2040.
- **Capacity/Congestion**
 - In 2011, 31 percent of the interstate system operated at LOS C or worse for at least one peak hour – a percentage that is expected to rise to 62 percent by 2040.
 - The most congested corridor segments in the state include:
 - I-526 from I-26 (Exit 17) to US-52/Rivers Avenue (Exit 18) in Charleston
 - I-526 from N Rhett Avenue (Exit 19) to Virginia Avenue (Exit 20) in Charleston
 - I-26 from Saint Andrews Road (Exit 106) to I-20 (Exit 107) in Columbia
 - I-526 from US-52/Rivers Avenue (Exit 18) to N Rhett Avenue (Exit 19) in Charleston
 - I-85 from I-385 (Exit 51) to Pelham Road (Exit 54) in Greenville

- I-26 from US-17 (Exit 199) to I-526
- Today, 11 percent of the existing Statewide Strategic Corridor Network operates at LOS C or worse.
- By 2040, 27 percent of the existing Statewide Strategic Corridor Network will operate at LOS C or worse.
- **Transit**
 - In 2017, 43 percent of transit demand was met.
 - In 2017, transit services in South Carolina provided 12.4 million one-way trips.
- **Public Outreach**
 - Over 10,000 MTP surveys were completed during public outreach. An additional 2081 written comments were also received.
 - Top two priorities as commented in the survey were, pavement repair/preservation and road widenings/congestion relief.

These and other findings from analytical tasks, together with valuable input received during the stakeholder and public outreach efforts and continuous contributions and guidance from Department staff, provided the background and context for MTP Update strategies. Based on the 2040 MTP Update planning process, the strategies are categorized by the following areas:

- Safety
- Economic Competitiveness
- Performance Management
- Asset Management
- Freight Improvements
- Multimodal Enhancement
- Partnerships

12.1 Safety

Background – Safety on the State Highway System is the top goal for SCDOT. South Carolina continues to have one of the highest mileage death rates in the nation. In 2017, the National Highway Traffic Safety Administration (NHTSA) indicated South Carolina had the highest fatality rate in the nation. South Carolina has held the nation’s highest fatality rate since 2014. During that time period, the State’s fatality rate has decreased from 1.89 fatalities per 100 million vehicle miles traveled in 2014 to 1.78 in 2017.

The number of fatalities occurring on the State’s roads began declining in 2007 from 1,077 in that year to a low of 767 fatalities in 2013. However, the number has begun to increase with 823 fatalities occurring in 2014 and each year thereafter, reaching a high of 1,020 in 2016 before decreasing slightly to 989 in 2017. Preliminary figures for 2018 indicate another increase, to 1,037 traffic deaths. South Carolina also had the 3rd highest pedestrian fatality rate and the 8th highest bicycle fatality rate in the nation in 2016.

The cost of vehicle crashes, injuries, and fatalities to society is staggering and greatly exceeds the funding dedicated to SCDOT for highway maintenance, operations, and improvements. In 2017, the South Carolina Department of Public Safety (SCDPS) estimated that the annual economic loss due to vehicle crashes, injuries, and fatalities was \$4.5 Billion. These statistics indicate the need to bring greater emphasis to safety in all aspects of highway planning.

Related Goals – Safety is directly tied to one of the six 2040 MTP Update goals:

- **Safety Goal:** *Improve the safety and security of the transportation system by implementing transportation improvements that reduce fatalities and serious injuries as well as enabling effective emergency management operations.*

This MTP Update goal addresses SCDOT’s core functions of designing, constructing, maintaining, and operating the state’s transportation systems and improvements thereto. Safety is one of the national MAP-21 goals requiring states to achieve a significant reduction in traffic fatalities and serious injuries on all public roads.

Safety Performance Measures – Specific performance measures designed to monitor and track the impact of safety strategies include:

- Number or rate of fatalities and serious injuries.
- Number of bicycle/pedestrian fatalities and injuries.
- Number of roadway departure crashes involving fatality or injury.
- Percentage of crossings with active safety warning devices installed.

Strategies to Address Safety – SCDOT and SCDPS jointly updated the Strategic Highway Safety Plan (SHSP) based on the *Strategic Highway Safety Plan MAP-21 Interim Guidance* issued by the FHWA Office of Safety in April 2013. The state just recently began the process to perform the next update to the SHSP. While the exact number is not yet known, it is anticipated that approximately 10-12 focus areas will be identified through a data driven process in coordination with the South Carolina Department of Public Safety. The emphasis areas will be addressed through engineering, enforcement, education, emergency medical services, policy, public health, and communications.

A sample of safety activities from the 2018 SHSP Implementation Plan are listed below:

- All Areas:
 - Provide updated safety language to SCDMV for the SC Driver’s Training Manual.
 - Maintain and enhance SHSP website.
- Roadway Departure Emphasis Area:
 - Implement Phase I of the Rural Road Safety Program.
 - Conduct briefings at SCLen meetings, providing data identifying areas to focus enforcement efforts.

12.2 Economic Competitiveness

Background – Transportation infrastructure is vital to the economic prosperity of South Carolina. Good road, rail, transit, and air connections across the state help businesses get goods and services to markets and workers get to jobs.

Related Goals – Economic competitiveness is one of the six 2040 MTP Update goals:

- ***Economic and Community Vitality Goal:*** *Provide an efficient and effective interconnected transportation system that is coordinated with state and local planning efforts to support thriving communities and South Carolina’s economic competitiveness in global markets.*

Economic Competitiveness and Community Vitality Performance Measures – Specific performance measures designed to monitor and track the impact of economic competitiveness and community vitality strategies include:

- Annual hours of truck delay.
- Truck travel time.
- Truck reliability on the freight corridor network.

Strategies to Address Economic Competitiveness – Potential economic competitiveness strategies are drawn from the Freight, Interstate, Strategic Corridor Network, and State Rail modal plans, and include the following:

- Address last and first mile connections to intermodal facilities from the Interstate or Strategic Corridor Network.
- Conduct Interstate traffic operations and feasibility studies as needed for critical freight Interstate corridors identified as lowest performing.
- Increase internal collaboration and coordinate transportation infrastructure investments to better align freight transportation system goals and the performance as a whole by:
 - Further developing and supporting the SCDOT rail division as they work closely with private sector railroads and Palmetto Railways to increase the resiliency, effectiveness, and efficiency of the freight transportation system; and
 - Increase presence and engagement of the Deputy Secretary for Intermodal Planning with his/her counterparts with the Port of Charleston.
- Work with partners to improve the project development and permitting process that streamlines implementation of SCDOT investments associated with state-identified economic development opportunities.

Strategies to Address Community Vitality – Potential community vitality strategies are drawn from the MTP Update, Rail Plan, and Statewide Public Transportation and Coordination Plan, and include the following:

- Continue to coordinate with appropriate federal and state agencies, and rail providers to advance passenger rail service from Charlotte to Atlanta through the Upstate of South Carolina.
- Continue to participate as a partner with the Southeast Rail Coalition.
- Coordinate with railroad companies to ensure that right-of-way is preserved for future public use.
- Work with the counties, MPOs, COGs, and transit providers to preserve abandoned rail right-of-way that has been identified as having future transportation applications.

- Partner with FTA, MPOs, COGs, counties, and transit providers to identify opportunities to implement approved premium transit services in urban areas.
- Advance multimodal options for residents and visitors in all areas of the state, including public transportation.
- Close the gap between transit funding needs and available funding levels, with strategies such as:
 - Increase efforts to leverage federal dollars.
 - Allow greater flexibility for local jurisdictions to generate funds.
- Implement strategies in the updated Statewide Transit Plan, including:
 - Establish reliable, coordinated information resources.
 - Develop coordinated mobility management strategies for each region.
 - Promote the need for and benefits of public transit to residents and public officials to gain support for funding services.
 - Identify opportunities for pooling costs for fuel, insurance, and other common expenses.
 - Identify opportunities for sharing staff, facilities, and administrative services.

12.3 Performance Management

Background –

The 2040 MTP Update goal areas were developed around the national goal areas and several performance measures were identified for five of the seven goal areas. The performance indicators provide SCDOT the opportunity to measure progress toward the 2040 MTP Update goals, as well as a way to review and revise the effectiveness of the plan objectives, policies, and actions. FAST Act/MAP-21 requires the USDOT Secretary, in consultation with states and MPOs.

Upon the state setting approved performance targets, MPOs and COGs are required to:

- Adopt state targets OR set their own performance targets within 180 days of State-set targets.
- Coordinate with their relevant State and public transportation providers when setting their own performance targets.
- Communicate their targets to the State for inclusion in the Multimodal Transportation Plan.
- Develop a system performance report as part of their Long Range Transportation Plan.

Related Goals – Performance measures for the following four 2040 MTP Update goals include:

- *Mobility and System Reliability*
- *Safety and Security*
- *Infrastructure Condition*

- *Economic and Community Vitality*

Strategies to Address Performance Management:

- Coordinate with MPOs and COG'S in selecting performance measure targets to ensure consistency statewide.
- Coordinate with public transportation providers throughout the state in selecting performance measure targets.
- Integrate other performance plans into the performance-based process, including the following:
 - MPO Long Range Transportation Plan (LRTPs)
 - SCDOT and MPO Transportation Improvement Programs (STIP and TIPs)
 - Transportation Asset Management Plan (TAMP)
 - Transit Asset Management Plan (TAM)
 - Strategic Highway Safety Plan
 - Highway Safety Improvement Program
 - CMAQ Performance Plan
 - Freight Plan

12.4 Transportation Asset Management

Background – On August 20, 2019, the FHWA gave its certification approval to SCDOT's Final Transportation Asset Management Plan (TAMP). This 10-year investment plan, updated every four years, uses transportation asset and performance management as a best management practice. SCDOT has fully embraced these concepts for all of its programs. The Secretary of Transportation and the governing board of the agency, the SCDOT Commission, have reaffirmed the importance of the TAMP for accountability and transparency regarding the use of tax payer funds especially in light of the 2017 legislation that dramatically increased state funding for infrastructure in South Carolina. Tying a planned investment level to a predicted outcome is a major shift in the way SCDOT manages its programs and is essential to earning the public's trust through the effective deployment of resources to achieving results. SCDOT's TAMP is all-inclusive by incorporating state and federal funding together for a more robust plan for the State.

SCDOT is responsible for 41,315 (2018) centerline miles of roadway in the state, 53 percent of the state's total 77,364 miles of public roadway. South Carolina maintains the 4th largest roadway system in the nation. SCDOT also maintains 8,412 bridges that are over 20-feet in length,⁵ as well as shorter bridges and culverts. SCDOT plays an important role in coordinating and channeling federal transit funding to the state's regional transit agencies responsible for the operation and maintenance of transit vehicles and facilities.

The American Association of State Highway and Transportation Officials (AASHTO) describes "transportation asset management as a strategic and systematic process of operating, maintaining, upgrading, and expanding physical assets effectively throughout their lifecycle. It focuses on business and engineering practices for resource allocation and utilization, with the objective of better decision making based upon quality information and well-defined objectives."

⁵ As of December 31, 2018.

Transportation asset management is a business model, a decision support system, and a management approach that can be used across SCDOT to address six core questions:

- What is the current state of infrastructure assets?
- What are the desired levels of service and performance levels?
- Which infrastructure assets are critical to sustained performance?
- What are the best investment allocation strategies for operations, maintenance, replacements, and improvement?
- What are the challenges and risks to implementation?
- What is the best long-term investment strategy?

The goal of a transportation asset management program is to minimize the life-cycle costs for managing and maintaining transportation assets, including roads, bridges, rails, and roadside features. It is important for a transportation asset management program to support a strategic resource allocation process that uses a performance-based approach to maintain and preserve physical assets.

Related Goals – Asset Management is directly tied to one of the six 2040 MTP Update goals:

- ***Infrastructure Condition Goal: Maintain surface transportation infrastructure assets in a state of good repair.***

Preserving South Carolina’s transportation infrastructure is a primary element of SCDOT’s mission. This goal promotes public sector fiscal health by minimizing life cycle infrastructure costs, while helping to keep users’ direct transportation costs low. Maintaining highway assets in a state of good repair is one of the national MAP-21 goals and requires states and transit agencies to report on asset conditions. SCDOT maintains extensive data and analytical capabilities associated with monitoring and predicting infrastructure condition.

In addition to Infrastructure condition, asset management also supports the state’s goals for mobility and reliability, economic and community vitality.

Asset Management Performance Measures – Federal law requires states to set two and four-year targets for their pavement assets on the interstate and non-interstate NHS and bridge assets on the NHS by May 2018 and every four years thereafter using the federal measures (23 CFR 490). SCDOT developed a detailed methodology, which included analyzing the deterioration of its pavement and bridge assets, determining the percentage of its pavement and bridge assets that were likely to move from fair to poor condition, and determining the percentage of its assets that are likely to move to good condition based on finished construction projects.

To maintain the highway infrastructure asset system in a state of good repair, the National goals are defined in MAP-21/FAST Act and require that within the TAMP, SCDOT address 6 pavement and bridge performance measures and develop two and four-year targets. The required performance measures used in the development of the targets are as follows:

- Percent of Interstate pavements in Good condition.
- Percent of Interstate pavements in Poor condition.

- Percent of non-Interstate NHS pavements in Good condition.
- Percent of non-Interstate NHS pavements in Poor condition.
- Percent of NHS bridges by deck area in Good condition.
- Percent of NHS bridges by deck area in Poor condition.

Strategies to Address Asset Management

- Manage and maintain the risk based asset management plan by appointing an Asset Management Plan technical review committee.
- Conduct annual TAMP risk assessment of key assets.
- Identify communication strategies to disseminate transportation asset management information to key stakeholders.
- Manage risks in a way that optimizes the success of the organization rather than the success of a single business unit or project.
- Create a comprehensive inventory of transportation infrastructure assets.
- Develop a data governance plan for assets.
- Develop and maintain a strong commitment beginning with senior management to develop and maintain a risk management program and culture.
- Promote implementation by open communication and coordinating project development with industry partners.
- Identify the best investment strategies to operate, maintain, replace, and improve critical transportation infrastructure assets.
- Develop analytical tradeoff/decision support tools within the transportation asset management decision making processes.

Integrate Risk Management into SCDOT Organization

- Support the integration of enterprise risk management into strategic planning, department controls and department performance measures.

12.5 Freight Improvements

Background – MAP-21 includes a variety of provisions to promote freight movement and performance with the overall goal of improving economic competitiveness in the global economy. MAP-21 requires state DOT's to develop freight networks and to identify critical rural freight corridors, and recommends states develop freight plans to improve the movement of freight throughout the state. The FAST Act supports and continues this overall performance management approach, within which states invest resources in projects that collectively will make progress toward national goals. During the development of the 2040 MTP Update, the Executive Committee stressed the importance of identifying freight bottlenecks and potential enhancements to improve freight efficiency on the interstate mainline and interchanges, strategic corridor network, and rail lines.

Related Goals – Freight improvements are tied to the following 2040 MTP Update goals:

Mobility and System Reliability - Provide surface transportation infrastructure and services that will advance the efficient and reliable movement of people and goods throughout the state.

- **Safety and Security** - Improve the safety and security of the transportation system by implementing transportation improvements that reduce fatalities and serious injuries as well as enabling effective emergency management operations.
- **Infrastructure Condition** - Maintain surface transportation infrastructure assets in a state of good repair.
- **Economic and Community Vitality** - Provide an efficient and effective interconnected transportation system that is coordinated with state and local planning efforts to support thriving communities and South Carolina's economic *competitiveness in global markets*.
- **Freight Improvement Performance Measures:**
 - Truck travel time index on the freight corridor network.
- **Strategies to Address Freight Improvements:**
 - Prioritize projects designed to improve freight mobility and eliminate freight bottlenecks.
 - Continue to monitor intermodal connectors for maintenance and operations issues.
 - Continue to identify and close any first/last mile gaps near major intermodal centers and manufacturing hubs.
 - Prioritize improvements along major truck corridors.
 - Develop a common information technology solution/protocol to share real-time information with freight system users.
 - Ensure freight implications and benefits are included in the SCDOT project prioritization process.
 - Identify opportunities for enhanced truck parking availability and information management.
 - Identify and prioritize substandard roadways on the Statewide Freight Network in the SCDOT maintenance/construction program.
 - Continue work with state agency partners like Palmetto Railways and SCPA to identify opportunities to support freight movement by identifying potential efficiencies created by utilizing multiple modes or a complete mode shift.
 - Identify portions of state highway mileage that has a strong correlation between truck volumes and substandard ratings.
 - Prioritize work to reinforce bridges on the National Highway System and Statewide Freight Networks that are structurally deficient.
 - Enhance efforts to inform the public on the importance of freight to South Carolina.

- Continuously monitor the Statewide Freight Network performance measures to identify and rectify system challenges before they become problems.
- Prioritize freight projects across the modes.
- Develop a tool to analyze the impact of proposed freight projects.

12.6 Multimodal Enhancements

Background – In order to achieve the MTP Update’s vision of *safe, reliable surface transportation and infrastructure that effectively supports a healthy economy for South Carolina* it is critical that all modes of transportation work seamlessly together in an integrated and coordinated manner.

Related Goals – Multimodal enhancements address a number of the 2040 MTP Update goals, including:

- **Mobility and System Reliability:** *Provide surface transportation infrastructure and services that will advance the efficient and reliable movement of people and goods throughout the state.*
- **Economic Competitiveness and Community Vitality:** *Provide an efficient and effective interconnected transportation system that is coordinated with state and local planning efforts to support thriving communities and South Carolina’s economic competitiveness in global markets.*
- **Equity:** *Manage a transportation system that recognizes the diversity of the state and strives to accommodate the mobility needs of all of South Carolina’s citizens.*

Multimodal Enhancement Performance Measures – While quantifiable outcome based performance measures related directly to multimodal enhancements are difficult to construct, surrogate measures may be used, such as:

- Number of non-motorized fatalities and injuries
- % of active duty transit vehicles past designated useful life

Strategies to Address Multimodal Enhancements – A key transportation strategy for the SCDOT is to develop multimodal options for residents and visitors in all areas of the state, including public transportation. Many regions in the state have adopted policies that focus on addressing both existing transportation deficiencies, as well as growth in demand through expansion of transportation alternatives. In addition, the SCDOT plans to adopt a Bike-Ped Safety Plan policy in support of alternative modes of transportation. Strategies are drawn from the MTP Update and Statewide Public Transportation and Coordination Plan, and include the following:

- Integrate approved local bicycle routes into system preservation activities.
- Coordinate with MPO and COG staff to update the bicycle and pedestrian existing and planned system GIS files and incorporate into the Integrated Transportation Management System (ITMS).
- Include approved MPO and COG bike and pedestrian improvements in new projects when feasible and in compliance with current Departmental policies.
- Integrate safety improvements for all users of roadways in preservation programs by identifying opportunities to better accommodate vulnerable users, such as pedestrians or bicycles.
- Coordinate with regional transit agencies to implement recommended performance measures.

- Increase coordination among public transportation providers.
- Accommodate the growth in numbers of elderly persons and the general population.
- Maximize technology to increase efficiencies for all public transit agencies.
- Establish reliable, coordinated information services.
- Utilize software applications to assist with trip scheduling and system planning.
- Coordinate with transit agencies to develop GIS files of transit routes and services areas with transit-supportive demographic data.
- Build relationships between human service agency services and Metropolitan Planning Organizations that have expanded their boundaries and now must work together.
- Improve efforts to leverage federal dollars to address multimodal needs.
- Allow greater flexibility for local jurisdictions to generate funds to address multimodal needs.
- Consider expanding transit service across the state, including rural areas with limited service and commuter services to employment centers.
- Deploy more fuel-efficient transit vehicles.

12.7 Partnerships

Background – While SCDOT is responsible for maintaining the majority of the multimodal transportation system, the Department recognizes that other agencies must be involved to develop an integrated transportation system. Thus, the 2040 MTP Update was developed in coordination with the Federal Highway Administration (FHWA), Federal Transit Administration (FTA) as well as the 11 MPOs, and 10 COGs within South Carolina.

Related Goals – All six MTP Update goals require partnerships to be achieved.

- **Mobility and System Reliability** - *Provide surface transportation infrastructure and services that will advance the efficient and reliable movement of people and goods throughout the state.*
 - To advance mobility and system reliability, key partnerships include MPOs, COGs, Class I railroads, regional and short line railroads, South Carolina Public Railways, SCPA, freight shippers, regional transit agencies, and human service providers
- **Safety and Security** - *Improve the safety and security of the transportation system by implementing transportation improvements that reduce fatalities and serious injuries as well as enabling effective emergency management operations.*
 - To improve safety and security of the transportation system, key partnerships include MPOs, COGs, regional transit agencies, Department of Public Safety, Department of Motor Vehicles, and state and local law enforcement and emergency services.
- **Infrastructure Condition** - *Maintain surface transportation infrastructure assets in a state of good repair.*
 - To maintain transportation infrastructure assets, key partnerships include MPOs, COGs, regional transit agencies, and County Transportation Committees.

- **Economic and Community Vitality** - *Provide an efficient and effective interconnected transportation system that is coordinated with state and local planning efforts to support thriving communities and South Carolina's economic competitiveness in global markets.*
 - To support South Carolina's economic competitiveness in global markets, key partnerships include MPOs, COGs, Class I railroads, regional and short line railroads, South Carolina Public Railways, SCPA, Department of Commerce, regional transit agencies, Aeronautics Commission, and state and local Chambers of Commerce.
- **Environment** – *Continue to partner to sustain South Carolina's natural and cultural resources by minimizing and mitigating the impacts of state transportation improvements.*
 - To sustain natural and cultural resources, key partnerships include MPOs, COGs, County Transportation Committees, and environmental resource agencies.
- **Equity** - *Manage a transportation system that recognizes the diversity of the state and strives to accommodate the mobility needs of all of South Carolina's citizens.*
 - To accommodate mobility needs, key partnerships include MPOs, COGs, private intercity bus operators, regional transit agencies, human service providers, and cycling stakeholders.

Strategies to Address Partnerships

- **Coordinate with state and local law enforcement and emergency service providers to implement the Strategic Highway Safety Plan (SHSP).** Achieving the 15 goals identified in the SHSP that directly impact highway safety through engineering, enforcement, education, emergency medical services, policy, public health, and communications requires coordinated communication and collaboration among numerous state and local agencies.
- **Maintain or improve the current state of good repair on the NHS.** Continue work with state agency transportation partners to identify opportunities to support efficient freight movement by identifying potential efficiencies created by utilizing multiple modes.
- **Provide an efficient and effective interconnected transportation system that is coordinated with the state and local planning efforts to support thriving communities and South Carolina's economic competitiveness in global markets.** Work with economic development partners to identify transportation investments that will improve South Carolina's economic competitiveness. Coordinate with the public and private sector to identify and implement transportation improvements and services that facilitate the efficient movement of people and goods. Collaborate with communities to improve "last mile" planning efforts in urban communities to minimize the impact of goods movement and improve efficiencies.
- **Improve access and interconnectivity of the state highway system to major intermodal facilities.** Transition private sector partners to play an active role in the SCDOT planning process in the future, including the development of a Freight Advisory Council. Undertake an effort with SCDOT's public and private partners to educate the public on the importance of freight to South Carolina, including elected officials, and the general public. Work with rail, marine, and air partners to share expertise and create cross-functional relationships to help identify non-highway projects and key connectors on the strategic freight network.
- **Partner to sustain South Carolina's natural and cultural resources by minimizing and mitigating the impacts of state transportation improvements.** Work with environmental resource agency partners to explore the development of programmatic mitigation in South Carolina.

- **Coordinate with the South Carolina National Heritage Corridor.** Coordinate with the South Carolina National Heritage Corridor. Promote the National Scenic Byways Plan to bring economic and quality of life benefits to communities across the state.
- **Improve premium transit options.** Collaborate with Federal Transit Administration, MPOs, COGs, counties, and providers to identify funding sources for future design and implementation activities that would be required to implement feasible premium transit services in urban areas.
- **Improve safety at railroad grade crossings.** Collaborate with the railroads to prioritize grade crossing improvements and explore opportunities to make small public improvements to leverage the railroad’s responsibility to maintain and improve crossings.
- **Identify a Strategic Statewide Freight Network that supports all modes and users.** Formally incorporate outreach to various freight partners to capture rural accessibility and the unique mobility needs of specific groups.

Appendix A

Survey Comment Summary

Comment Theme	Summary Of Comments
<i>Infrastructure Condition and Maintenance:</i>	<ul style="list-style-type: none"> ▪ Poor/rough Pavement Condition. ▪ Potholes are not being fixed. ▪ Scheduling/timing of repaving projects, taking too long. ▪ Inequity of projects between urban and rural areas. ▪ Quality of paving work. ▪ Drainage/Flooding. ▪ Quality and timing of Maintenance. ▪ Striping and signage deficiencies. ▪ Poor bridge condition. ▪ Mowing, trash, and debris clearance.
<i>Transit and Mobility</i>	<ul style="list-style-type: none"> ▪ More multimodal transportation options other than the traditional single occupant vehicle. ▪ Development of new light rail service, high speed rail, passenger/commuter rail and intercity rail service. ▪ Need for new, innovative, improved, or expanded bus service that is operated efficiently and cost effectively. ▪ Opposition to publically funded transit systems or at the very least, opposed to bus service. ▪ The need for more public transportation options to unserved rural and urban populations. ▪ Improve/introduce transit service that focuses on serving employment centers. ▪ Increase the efficiency and frequency of service, and provide expanded routes as needed. ▪ Link transit to bike and pedestrian options. ▪ Consider using HOV Lanes and Toll Lanes.
<i>Capacity</i>	<ul style="list-style-type: none"> ▪ Add more lanes to the existing 2 lane Interstate segments to serve existing and future demand. ▪ Concerns that adding new lanes is not a long term solution to addressing congestion management issues. ▪ Focus on “Striking a balance” between maintaining existing and adding new infrastructure. ▪ Add new lanes to major roadways in congested areas. ▪ Add new thoroughfare route’s including the I-73 route to Myrtle Beach. ▪ The need for wider roadways to include paved shoulders and inclusion of bike and pedestrian facilities. ▪ Build more roads to keep up with growth and development. ▪ Add truck only lanes. ▪ Improve connectivity.
<i>Safety</i>	<ul style="list-style-type: none"> ▪ Prioritization towards high-risk roadway and intersection improvements. ▪ Improved quality and locations of striping, signage, street lighting and reflective devices. ▪ Provide more and safer crosswalks for pedestrians. ▪ Improved and safer roadway and intersection design. ▪ Widen and pave shoulders. ▪ Use of more roundabouts. ▪ Need for more safety barriers such as guardrails and cable barriers. ▪ Support and opposition to the use of rumble strips.

Comment Theme	Summary Of Comments
	<ul style="list-style-type: none"> ▪ Support and opposition to removing trees and other vegetation within the road right of ways. ▪ Improve hurricane evacuation routes. ▪ Improved bicycle and pedestrian safety in school zones.
Design	<ul style="list-style-type: none"> ▪ More Roundabouts. ▪ Support use of the diverging diamond interchanges. ▪ Design new roads with bike lanes and or wider shoulders. ▪ Location , timing, and operation of signals. ▪ Install longer merge lanes. ▪ Limit new curb cuts. ▪ Limit left turn movements. ▪ Opposition to the use of medians to block certain traffic movements. ▪ Use more R-Cut or other innovative designed intersections.
Bike/Pedestrian	<ul style="list-style-type: none"> ▪ Bikes should not be allowed on the roadways. ▪ It's not the states responsibility to provide bike facilities. ▪ Provide more sidewalks and pedestrian accessibility. ▪ Build bicycle/pedestrian facilities when constructing new roadways. ▪ No rumble strips. ▪ More and safer bike routes. ▪ Bike and pedestrian facilities help reduce congestion, increase capacity, and improve public health. ▪ Bicyclists need to follow the traffic laws. ▪ Provide more striped bike lanes, wider paved shoulders, grade separated/protected bike lanes and multiuse trails.
Congestion	<ul style="list-style-type: none"> ▪ Reduce congestion by adding new lanes and roads. ▪ Reduce congestion by limiting residential growth. ▪ Reduce Congestion by improving the timing of signalization. ▪ Reduce the time it takes to complete roadway projects . ▪ Reduce congestion by increasing multimodal transportation options. ▪ More roads and lanes alone will not solve congestion.
Enforcement and Education	<ul style="list-style-type: none"> ▪ Speed limit, aggressive driving, and texting while driving laws needs to be enforced. ▪ More liter control. ▪ Provide red light cameras on traffic lights. ▪ Increase driver's education requirements. ▪ More law enforcement presence on the highways. ▪ Enforce traffic laws on bicyclists.
Freight	<ul style="list-style-type: none"> ▪ Focus the movement of freight by rail over trucks. ▪ Improve railroad crossings. ▪ Separate Trucks from Cars on the Highways. ▪ Too many trucks on the roads. ▪ Restrict truck traffic during peak hours. ▪ Create more designated truck routes.
Funding/Taxes	<ul style="list-style-type: none"> ▪ Change the state's funding structure for collecting revenues by requiring motorists to pay on a per mile basis opposed to a per gallon gasoline tax basis. ▪ Provide permanent transit funding. ▪ Use exactions on developers from new developments (Dedicate ROW and/or Build/Widen Roadways). ▪ Give more money to growing counties. ▪ Distribute monies more equally throughout the state.
New Technology	<ul style="list-style-type: none"> ▪ Use of Intelligent Traffic Signalization (ITS). ▪ Electronic vehicles and convenient charging stations. ▪ Electric Buses.

Comment Theme	Summary Of Comments
	<ul style="list-style-type: none"> Autonomous vehicles.

Appendix B

Survey Comments

Survey Question 1 Comments
I'm assuming road widening is part of adding capacity. This is a must in certain areas.
We need more emphasis on making the state bicycle-friendly. In Columbia, need safer bridge crossings, esp. Klapman Blvd bridge, river crossings from riverfront park, cross-town pathways.
safe roads should always be combined with sidewalks and bike paths
1. You seem to be suggesting you will only focus on safety for motorists. 2. Bridge repair should include adding/maintaining quality space for people on bikes and foot.
As this is written it gives the impression walking/biking, transit etc. will not reduce congestion. I beg to differ as there are more ways to reduce congestion than just building more roads and adding lanes.
Need much more focus on bike/pedestrian infrastructure and safety.
More safe sidewalks and bike paths. I don't want to have to use the car for short trips, but I have to because many roads and intersections are dangerous to cross on foot.
There are many places I would prefer to ride my bicycle to if we had bike paths! If you look at the success generated by the Swamp Rabbit Trail you see a small example of what can be achieved. We need a lot more.
Require wider shoulders on all roads and protected. bike paths wherever possible
Three comments: (1) For the "Sidewalks & Bike Paths" item, bridges are a crucial bottleneck in the system. Please provide multi-use paths on all new/expanded highway bridges that have local roads nearby that could connect in. For example, for I-526 in Charleston, the Westmoreland, Don Holt, and James B. Edwards bridges could all provide invaluable connectivity for walking and biking if multi-use paths were added to the bridges, similar to the Ravenel bridge. (2) The "Safe Roads" items listed seem geared toward highways. For smaller local roads, please consider: reduced lane widths (11' max, 10' would be safer and still provide similar capacity); curb bulb-outs, tighter turning radii, refuge islands, and no-turn-on-red signs at intersections used by pedestrians; and "Bikes May Use Full Lane" signage everywhere instead of "Share the Road" (this is FHWA's best practice now; see https://mutcd.fhwa.dot.gov/knowledge/faqs/faq_part9.htm#signsq5). (3) In general, I think SCDOT should focus more on maintaining existing assets than building new/bigger ones. Our total network needs to be sustainable to maintain.
I think walking/bike paths or golf cart /moped road are needed in the beach areas of the low country
I believe bike and pedestrian trails should be responsibility of local governments not state dot.
Consider safer bike paths, several people have died, bikes, walking but some drivers, in chas. are in a hurry a lot of accidents'
Remove the current third party road design engineer. They have fouled the Ravenel, Wando and Dorchester road projects to mention a few Bikeways are a waste of money as they are used less than . 5% of the tome
The roads around here are extremely dangerous and unwelcoming to pedestrians and bicycles. I've travelled all over the US and the low country must be the worst in this category
SC is behind the times for walking and cycling paths. It could be promoted as a health issue
Please make SC safer for pedestrians and cyclists! I grew up here, and could ride my bike all over town but cannot safely do so now. And please time your lights!
We needs more cycling lanes in All the Pee Dee area.
Rumble Strips and such should only be used when they do not negatively impact bicyclists. When a bike lane or separated path is provided.

I think Washington State requires separate bike lanes on all new roads or repaired roads. We should do the same.
Crossing walk sign's timer needs to be extended before it turns orange. You are not even half way across the road and it turns orange.
For every new road or repacking a bike lane should be added! Would love to bike safely from goose Creek to downtown where I work. A path from goose Creek to Summerville as well. Use of old railroad tracks or parallel path to tracks even use of wide center medians for this purpose.
With every road there should be a bike and pedestrian right of way alongside that road. We need to make all roads comparable with all forms of transportations.
Bike paths feel good, but are a waste of money and space from a utilization standpoint. Could add at least one more lane. Better to build a park.
The past sins of omission regarding bicycle and pedestrian infrastructure need to be corrected, along with appropriate measures in new infrastructure
The past sins of omission regarding bicycle and pedestrian infrastructure need to be corrected, along with appropriate measures in new infrastructure. Do not use resurfacing and pavement preservation inappropriately on roads that are too degraded for such treatments, alligating for example.
The past sins of omission regarding bicycle and pedestrian infrastructure need to be corrected, along with appropriate measures in new infrastructure. Do not use resurfacing and pavement preservation inappropriately on roads that are too degraded for such treatments, alligating for example. Transit needs to include intercity and metropolitan train service
Adding Sidewalks and Bicycle infrastructure to projects reduces congestion at almost 0 additional cost in the scheme of things.
Roads are becoming too congested with bikes and people. Drivers need a place to DRIVE
Bike lanes are also a safety improvement with traffic slowing effects. Some roads should be closed to decrease maintenance needs created by political construction of roads.
Bike lanes are also a safety improvement with traffic slowing effects. Some roads should be closed to decrease maintenance needs created by political construction of roads. Bridge replacement or improvement should include pedestrian walk ways especially in municipal projects.
Bike lanes are also a safety improvement with traffic slowing effects. Some roads should be closed to decrease maintenance needs created by political construction of roads. Bridge replacement or improvement should include pedestrian walk ways especially in municipal projects. Rail transportation of freight, light rail public transportation, and bus transportation should be used to decrease wear and tear and associated maintenance for our roadways. Mass transit opportunities also increase public resource access and utilization to connect citizens with jobs, education, and health care.
I would love some sidewalks and bike paths in more rural areas - those roads are often narrow and dangerous as is, and when pedestrians and cyclists want to get around it can become more dangerous for everyone. I would never walk or bike on the roads around my house because of the safety issue, but I wish I could. Also, we could use a transit option to get from Lexington to Columbia to reduce traffic in that busy corridor!
Sidewalks should be separate from bike paths.
I don't want to lose vehicle lanes for bike lanes.
Make cyclists use the freaking sidewalk!!!!
Bike lane multi use lanes
Separate bike lines
Please let bicycles use the sidewalks! No one else does. Riding in traffic is suicide
Better system of wheelchair accessible buses
Sidewalks & Bike Paths, Transit all help reduce congestion. So they are all equally important.
Invest in transit, bike and pedestrian infrastructure, fix the road and focus on moving people, not cars.
SC needs to connect sidewalks and build interconnected trails so people can walk to stores. Safe bike lanes that actually are useful to get around and don't end abruptly ending in the middle of nowhere. Light rails connecting cities.
If there is a bike path bikers must use them
Sidewalks should be separate from bike lanes. Two different issues.

Bike paths,
South Carolina is one of the worst states for using bicycles as a form of transportation. The mild climate and terrain makes it a great candidate, but poor planning and prioritization of pedestrian/bike resources makes it unsafe.
Please consider sidewalks to shopping areas. I'm Aiken SC, traffic could be reduced if sidewalks were completed from neighborhoods to major shopping centers.
Please consider sidewalks to shopping areas. I'm Aiken SC, traffic could be reduced if sidewalks were completed from neighborhoods to major shopping centers. Sidewalks should include a lane for bicycles.
Bike lanes preferred to bike paths.
Bikes and pedestrians are not the same thing. Need more BIKE LANES.
This area isn't very pedestrian or bicycle friendly, with very few shoulders or paths. Too many accidents involving both. Also, when car accidents occur, no effort is made to redirect traffic, causing major back-ups.
Bicycles seem to be taking over secondary roads. This is dangerous for the cyclists as well as the motorists.
Bike paths need to be larger and separated with additional lines. Cars drift to the shoulder sometimes and will hit the biker.
Many neighborhoods don't have a sidewalk system at all or one that connects to areas of commerce.
Improved and additional sidewalks and bikeways will reduce road congestion and maintenance costs by taking cars off roads. Sidewalks and bikeways will also improve our environment by reducing emissions. Neighborhoods should be connected without requiring getting in a car.
No bicycle lanes, NO BICYCLES. ALL vehicles keep RIGHT except to pass. Use BOTH lanes to point of MERGE, the ALTERNATE merge. Also called ZIPPER merge.
Need new laws on "recreational biking on public roads.
ADA compliance should be a priority
more bike lanes!
Especially bicycle lanes
More like lanes.
Important but bikes and walkers don't mix. Athletic cyclists travel at 20 mph. Cyclists need their own lane.
I live between Blythewood & Elgin, and see many pedestrians and bicycle riders trying to share roads with narrow & trashy shoulders. One day, I saw a woman trying to push her walker through high grass on a shoulder. This practice of building roads with little or no accommodations for pedestrians is just wrong and needs to be changed.
Bike lanes!
I don't think bicycles should be on any main hwy's. I can't believe there are not more deaths due to being on a bike in a 55 mph zone. I've have rounded a curve & there would be bikes & a semi coming in the other lane terrorizes me when this happens. I drove semi & if I would have been in it may not could have stopped Choices would have been hit other semi head on (kill driver) , run off hwy(kill self) & wreck or run over bikes (kill bikers). I don't like any of those do you? If you can't do the min 45 then you should NOT be on the hwy because you are a ROAD HAZARD !!!! If a car has the min of 45 mph for safety then were does it make sense to put a bicycle in a 45 min zone.
Sidewalks and bike paths should not be implement led at all until all the roads are in good condition. Same goes for the rumble strips,
Sidewalks and bike paths should not be implement led at all until all the roads are in good condition. Same goes for the rumble strips and transit.
Bike Paths! Bike Lanes!
Bike paths need a barrier between vehicles and they need to be regularly sweep to prevent flats
Definitely need to look in Bike paths
There are not nearly enough bike paths and sidewalks. Both need to be wider than what is common here. Sidewalks should be wide enough for 2 people to comfortably walk side by side. Bicyclists should not be expected to ride in an unprotected lane barely wide enough for a single bicycle. Bike paths must be protected by barriers (for example poles) so cars cannot drift into them.

A single white line between a bike and a diesel doesn't work. Also, unless distracted driving is dealt with, why would you put a bike or a pedestrian on the same road separated by only a white line ... ???
Biking on congested urban streets is a risky undertaking. More consideration for cyclists would be beneficial.
Bike lanes are needed to prevent collisions, injuries, and fatalities. The growing popularity of e-bikes means more bikes on the road. Every bike on the road = one less car on the road.
Greenville and surrounding areas have become a very bike friendly town. DOT should make bike lanes available throughout the area !
With the Swamp Rabbit Trail, our area has become a very active and attractive area. Walking and biking have become very popular and useful!
We need more greenways. Use Madison Wisconsin as a model.
Since most roads are built without shoulders, barriers to bike and pedestrian traffic are more pronounced in SC than other states.
Wide protected bike Lanes in cities, wide shoulders in county.
My old mum wants to bike to work, and I'm not keen on her dying in the process.
Please allow a wide one way dedicated bike path in Murrells Inlet along Business 17.
Bikes traveling on roads is dangerous. If they don't have a bike lane they shouldn't be there . Someone is going to get hurt
bike paths are usually underutilized and expensive to build. A lot of the road right of ways do not have room for bike lanes and a lot of cyclists won't stay in them anyway.
PLEASE consider at least adding a wider shoulder and/or bike lanes to roads. I moved to Horry County from MD. I love it here, but have essentially given up cycling for fear of my life. Motorists here seem to hate anyone on a bicycle. Cycling is healthy, saves fuel, helps lessen congestion, and is environmentally cleaner. Thank you!!
To me this is very important. I would love to cycle more but the roads are just not safe. They need to be buffered bike lanes.
I think a lot could be done to reduce congestion just by requiring kids to ride school buses, car pool or walk/bike to school. I think it is ludicrously unsafe for bicycles and golf carts to be allowed on roads with cars and trucks...clearly they cannot keep up with traffic well enough to avoid or prevent accidents. Very dangerous. And being required to ride on the same side as cars as opposed to facing oncoming traffic is very unsafe. Bikes and golf carts have much more in common with pedestrians than they do with cars and trucks and they should be treated accordingly. Until they are given some protection we will have a lot of unnecessary injuries and deaths. So I don't support any bike lanes etc. since they all end with bikes riding in heavy, fast moving traffic.
Rails to trails!! Utilize old railroad paths for safe walking/running/biking areas
we need bike trails!!!!and pedestrian-safe roads. multilane roads make people drive faster and result in more accidents and deaths
Bike paths need to be wide enough to accommodate Golf Carts where there is a real presence of them. Why should bikers and walkers who are mostly young people. Older people depend of golf carts to get outside in the fresh air. It's not fair that the new road ways would not include them also. What's another 16 in. Also what is with all the bike lanes out on interstates. I have only seen bikers there if it's a race. But if u make it safe for them you need to make it safe for our golf carts. Too
Bicycles should not be allowed on any road that automobiles use as they cause congestion and road rage. If they are to be allowed on the roadways they should be licensed, insured, be able to maintain a minimum speed, fly a large orange warning flag on an 8 foot pole, wear reflective clothing and most importantly obey all traffic laws.
Bicycles should not be allowed on public roadways. Number one safety hazard!
Any new construction should be required to justify not including sidewalks and bike paths, including bridges.
Old neighborhoods need sidewalks just like the new high income neighborhoods
bike paths need their own lane. many highways are too busy for bike riders to use safely
Bicycles need to have their own lanes and not use current lanes used by motorized traffic. Many highways are too dangerous for bike riders to use!

As someone who tries to reduce their carbon foot print by occasionally cycling 20-50 miles to work I need to have more peace of mind knowing I'll have a lane that is less likely cause me get hit by a vehicle.
Bike paths and sidewalks need to be sufficiently wide to provide safety from vehicles just inches away. Consider the "European" model where there are small medians between vehicular traffic and bike/pedestrian use. A 3' bike lane just inches from speeding vehicles is extremely risky and dangerous.
Unprotected bike lane shared with cars (pictured) - it is suicide ride. You ignoring the stats (how many bicyclists recently died and why?)
Bicycles shouldn't be allowed on the roads. They are just asking for death.
stop making city streets smaller and more congested by adding bike lanes!
I don't think bicycles should be allowed near busy highways. A bike path should only be on two lane roads, but they should not be allowed on the roadway at all. Too many deaths in our area already.
this is a blanket statement but some actual usable bike paths in the country would be nice
I would like to see sidewalks on roads with schools. For example Five Forks Rd in Simpsonville only has a sidewalk in front of one side of the school. There are hundreds of kids, I would suspect, that could walk to school if sidewalks were put the entire length of Five Forks Rd. This would drastically reduce morning and afternoon congestion!
Bike paths are good but last on list of importance.
I live in Florence where the 'side of the road' equals about 1/4" beyond the white line. I was on a bicycle training ride last year for a race, hugging that white line. I was hit by a car doing 65mph and spend three months in the hospital learning to walk again. If you want to 'share the road' then put more bike lanes in. thanks.
Rifle Range road in Mount Pleasant needs dedicated bike Lanes. There are too many bicycle riders that use this road and it causes traffic to slow and swerve to go around them.
Vision Zero advocates taking away traffic lanes to give to bikes/pedestrians. This results in more congestion and wrecks/injuries. See National Motorist Assoc www.motorists.org
State sponsored cyclist's rights and responsibilities campaign
Bike Lanes are so dangerous. Especially the one at Faris and Augusta in Greenville County. You have to cross over the bike lane to make a right turn. Bicycles are not taxed to help cover Road maintenance and therefore should not be on the main roads at all.
Having a lane for bicycles is totally dangerous. Especially at Faris and Augusta in Greenville county. You have to cross over the bike lane in order to make a right hand turn. Bicyclist do not pay a road tax in order to use them unlike owners of vehicles pay out the wazoo in Road tax.
Making SC more bike friendly attracts a healthier transpland and keeps natives healthier
Bike lanes need brighter safety marking
Not mentioned in this list, but I-73 is top on my list.
More roads Less housing developments
Add the infrastructure ancillary roadways including extending Gardner Lacey, RT 31 Interchange at Augusta Plantation and the SELL line
I-95 needs more lanes. It's always backed up. The I-26 /I-95 intersection needs to be improved. It's dangerous when getting off I-95 and getting on I-26 west. There isn't enough distance to merge left off the 1-95 ramp to I-26. Cars are traveling so fast and traffic is so heavy that you're forced to stop or get into the emergency lane on the shoulder. And, cars are merging right to get on I-95 south at the same time. Plus, there are potholes at this location and there are 18 wheelers on the Ralph shoulder. It's such a mess. Please do something
Roadway expansion is crucial. Lighting on roads needs to be implemented
Connecting Ashley river road to Charleston/ North Charleston via another way than 526/ or Cosgrave or just making Ashley river road wider.

Be proactive. Start building bridges now before they break.
Please give serious thought to expanding for the future and not just the here and now like the disaster of I-26 & Bees Ferry Road. Both were obsolete by the time the projects were done. Glenn McConnell should have been expanded years ago to at least 3 lanes the whole way.
Build a second bypass that mirrors 526 from far side west Ashley / Johns Island to Cainho/huge through Moncks corner
build 5-10+miles to next exits expressway above current I26 pathway
Add new road infrastructure, such as roads above roads, dual highways, expanding roadways to allow for more traffic
Finish the Berlin g parkway
Adding and expanding bridges
The state is not making the roads with enough lanes.
3 lanes needed on 26 from 29483 until it meets 3 lanes in Cola. Very dangerous to travel the 2 lane stretch. Thanks!
South Carolina is the only section of 95 that is only 2 lanes
Add more lanes when road construction is being planned. Think out into the future by 20-25 years as to what the population could be. Instead of expanding to 3 lanes make them 4 as an example.
More lanes and better off ramps
More lanes and better off ramps Truck lanes would help with traffic I've almost been hit by dump trucks and freight trucks changing lanes without looking or signaling
More lanes. Better on/off ramps and trucks lanes which is a huge part of the traffic issues
Hwy 101 widening. North south roadways need improvements
Complete I526 to James and Johns Island and I526 widening from I26 to US17 S
Desperately need a bridge in Georgetown county from the beach to 701 near Plantersville.
Interstate hwy's in SC should be a minimum of three lanes for a direction.
Need 3 lanes on 95 in SC like other states.
Having 3 lanes of traffic
Look into making 3 lanes of traffic, specifically on 26 between 77 and 95
Build Route 73 to the beach.
More roads that go thru and connect. More roads!! Fix 26/526 interchange. Should be top priority.
Continue 77 from Columbia down to Statesboro to relieve 95/26
I95 through SC needs to be 3 lanes each direction. This is long overdue.
There needs to be another way across Lake Wylie other than 49
Bridge across Lake Wylie from Ft Mill to Rockhill to relieve traffic through Lake Wylie.
Build bridge from Ft Mill to Rockhill to reduce traffic through Lake Wylie
roads need more lanes, we have built more subdivisions and businesses and the roads are the same and now no one can get anywhere. 26 needs another lane for the entire length of the road. Charleston to Asheville.
3 lanes on I-95, (Georgia to N. Carolina). 3 lanes on I-26 (I-95 to N. Carolina)
It would work well if we had an extra lane specifically designated for trucks like in our neighboring states.
Most important is winding 501 between MB and Conway
Mostly on a federal level in which one can pass through our state N to S and E to W with at least 3 lanes each way.
Please add additional lanes more quickly. It takes entirely too long to widen the highways that so critically need it.
Widen I 95
Hurry up and start with all of the Interstate highways !!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
I95 from rt 26 south needs at least 3 lanes each way

Make I26 eight lanes wide
I live in northern IL. 521 needs widening asap!
I-95 needs to be widened to six lanes. SC is a bottleneck!
Highway 90 in Horry County need to be 4 lanes with a center lane.
Highway 90 in Horry County need to be 4 lanes with a center lane. A bus that runs the length of 17 and up 501, take Uber the rest of the way.
Make 95 in some areas 3 lanes
Make 95 in some areas 3 lanes. Post signs left lane for passing .
Why does Columbia have 15 lanes of interstate in and out and Charleston only 3
We need I-73
Better entry and exit from Horry County. No all roads lead to Conway.
Minimum of 3 lanes on I-26 and I-95 throughout state
More like lanes. Safer roads for cyclists. Less potholes
SC needs a new interstate to Myrtle Beach. Too much congestion on 501 and 38.
Highway to connect Myrtle Beach to 95 or 74.
You're so far behind now with urban sprawl it's laughable. There are 2 lane roads that should have been expanded to 4 or 5 lane years ago. Hwy 76 between I-26 and Chapin comes to mind...
We need an interstate running from Clemson to Beaufort.
The bridge going into lake Wylie (49) needs to be widened for the growing community and the roads on both sides as well. And the light at the CVS on 49 in lake Wylie needs timed better. It causes congestion to the bridge everyday!
We used to have roads and interstates people would marvel at and envied - no more. My most needed road project is the bridge at the GA-SC border being widened along with I85 being widened to Exit 19. The bridge is getting dangerous because of the condition of the asphalt. It is way too narrow. I was recently told that it's a priority but only for 2023 and what if funds are left over from other projects. Tell me, when we're there ever funds left over from a road project? I drive this road twice a week from SC to Atlanta. This needs attention from the DOT, governor and the state and federal government.
You need to make 95 three lanes both ways! It's a disgrace to drive into SC and squeeze into two lanes.
There are still major transportation links needed in SC! Build I-73 and complete the Mark Clark Expressway. Columbia needs a Southeastern Beltway from I-20 to I-26 in lower Lexington County. Greenville, SC needs a limited access connector from US 25 at Travelers Rest to I-85 or I-385. Rock Hill area needs a high speed direct parkway or limited access road from I-77 eastward to US 521. Lower Cherokee County needs an east/west direct access primary highway from I-85 at/near Cowpens across to York, and on to Rock Hill to connect with I-77. Beaufort needs a better connection to I95 for civilian and military purposes - IE: a direct link from US21 at Gardens Corner to US21 where it meets US 17 near I-95 is needed to eliminate the long southward curve. US378 and related bridges need to be improved to 4 lanes from SC51 to Conway. A new evacuation route needs to be built from the Murrels Inlet area westward across the Pee Dee Rivers to tie into SC Hwy 261 with an improved route from there to Lake City. Don't totally give up on building new connector roads.
I-95 entering SC Georgia must be widened like Florida and Georgia did years ago.
Lower dollar but high return. Perform intersection improvements. Add double left turn lanes, add right turn lanes, fix the numerous off-ramps that only have 1 lane exits.
Make I 95 three lanes
The existing roads in SC are in terrible shape. Fix those, then add roads or widen existing roads.
6 lane I95
adding lanes between Summerville and I526 will make a huge difference
Need another bridge to Hilton Head Island
Need another bridge to Hilton Head Island. Because of 278 going from 3 lanes down to 2 and the HH Island bridge being only 2 lanes East and West is causing backups this needs to be immediately address.

The 302 bridge in Aiken. Forcing trucks onto smaller side roads
Add more lanes on our interstates especially in the low country. The I - 75 and I - 26 corridors are in desperate needs of widening for the amount of traffic on them. Travelers from out and in state wish they had other options but we don't.
Traffic from Seneca through Clemson on 123 is horrendous. We need a by-pass or additional lanes
All interstates must be a minimum of 6 lanes, I-95, I-26. Finish I-73.
Widen interstate highways to unite with bordering states.
I 95 should be 3 or 4 Lanes on each side. And needs paving
We desperately need I-73 here in Horry County. Also the SELL lifeline. No easy emergency ways out of the area.
Widen all interstate roads to 3 lanes
Expand I 95 to three lanes
I 26 needs to be 3 lanes all the way from Greenville to Charleston. Too many trucks and LOTS of congestion!!
We all want I73!!
Make trucks stay to the right. Enforce long established driving rules like keep right except to pass and no passing on the right. Establish a HOV lane.
Add an additional Moped/scooter lane. Must be operated by a licensed driver with insurance.
I drive I26 frequently. It is disgusting. condition is horrible and should easily be 3 lanes each direction
Wider roads and extra lanes where possible will help reduce congestion
we need new Roads Like I 73 Hwy 31 & Highway 22 in Horry County . I see no strategic plan for new roads . you can only widen existing corridor so much .
Columbia needs a bypass interstate around the city connecting all major interstates: I-26 in Swansea and Chapin, I-77 in Blythewood and I-20 Past exit 51 and Elgin.
Most important to me is adding to both ends of Hwy 31 ASAP.
Tournament Blvd is awful, it needs to be widened to another lane at McDowell's Shortcut and put in a roundabout like at the shopping center at 544 & 17 in the Target shopping center. That one works but it has 2 lanes. Also all our lights are timed wrong and cause congestion. Please get a specialist in to do this. Do not let them put in housing on the golf course at Garden City Connector without widening that road to 2 lanes, it will be awful otherwise. Make the developer put in the two lanes.
Incorporate transportation and transit in growth areas before it gets out of hand.
New freeway into Greenville from Seneca/Clemson area that completely bypasses Easley
An interstate highway from Myrtle Beach to I95
There are several roads that desperately need to be widened. Henderson Gap is just one of many. Its dangerous to drive down as it has several hills and sharp turns.
Interstates congested because of trucks passing trucks slowly. Need 3 lanes from Columbia to Charleston on 26
26 to Charleston from Columbia needs to be three lanes all the way to Orangeburg From Harbison to Newberry on 26 it needs to be three lanes the entire way. Post slower traffic move right signs we know it's the law but people don't follow the law
Widening all roads and 521 in Indian Land and Lancaster SC
More lanes added on busy highways in urban areas!!!!!! LONG OVERDUE!!!!!!
I26 and I95 both need to be 3 and 4 lanes from NC to the coast and Georgia to NC line. Build a bridge over Goose Creek and route these trucks out of the city. Bridge could dump out around Clements Ferry. Make the bridge toll to pay for it. Diamond Interchanges at Ashley Phosphate & I26 would fix a ton of traffic delays in that area as well as many others. Diamond interchanges keep traffic moving in masses.
Our interstates are 20 years behind with their capacity to handle their current volume. We need three lanes on I-85, I-26 and especially I-95. I travel on all three monthly and they are a disaster!

More lanes on I95 from Ga to NC, complete I526 Johns Island, improve existing I526!! Make I26 6 lanes where it's 4.
Need four lanes on I-26 from Charleston to COLUMBIA
Need to make all major interstates 3 lanes in each direction
Make I-26 and I-95 6 lanes. This should have been done 30 years ago!
Roads all need to add lanes. 2-lanes is not sufficient for this population!
Get in Horry County and widen 501 and 701
Get in Horry County and widen 501 and 701, when paving or repaving use a company that does quality work instead of using the lowest bidder, pave roads where there is sufficient water drainage off the roads to prevent avoidable accidents due to ponding.
Making all the interstates 6 lanes is the only priority. Look at Google maps (Red) any day and you see what happens when population doubles and nothing is done about congestion.
Widening of Interstate 95.
Highway 9 traffic lights need to stay on green longer side streets traffic back up. Widen because of all the new neighborhoods!
3 lanes entirety of 26
For the love of God, PLEASE join Georgia and Florida in making I-95 six lanes!!
We need more access in and out of Charleston, as well cross streets, to ease traffic on such streets as Ashley Phosphate
Build east-west highway from upstate that connects to highway 95. This would relieve much congestion in Columbia area
85 should be 3-4 lanes through our whole state to reduce congestion. Arrest more speeders!!
Build a new freeway from I85 To Hwy 123 Bypassing Easley.
All freeways in the greater Charleston area should be, at minimum, 4 lanes travelling in each direction. Not including merge lanes for entry and exit.
All freeways in the greater Charleston area should be, at minimum, 4 lanes travelling in each direction. Not including merge lanes for entry and exit. There is a great need for enforcement of proper lane usage by tractors hauling freight containers. Too many container trucks are riding in the passing lane for the entirety of I-526.
All freeways in the greater Charleston area should be, at minimum, 4 lanes travelling in each direction. Not including merge lanes for entry and exit. There is a great need for enforcement of proper lane usage by tractors hauling freight containers. Too many container trucks are riding in the passing lane for the entirety of I-526. Not just repairing existing bridges, but building more bridges. There are currently only 2-3 bridges across each major river in the Charleston metro. More bridges would allow drivers to use surface streets more than freeways, which would help alleviate congested traffic.
Additional lane on Maybank Hwy going off Johns Island. It should not take 30 mins to go 1 mile !!!!!!!
items don't wait. 1 complete I526 2widen or expand I26 Chas 3East bound off ramp at Ashley Phosphate fix horrible design 4 Patriot Blvd bike lanes 5Water run off I 26 more drain holes 6 light and signage overhead can't see with Trucks need side signs especially lights then people could see and not run.. Downtown Chas street name signs on overhead not just side st sign. Street and lights in two directions or actually see what driver sees not just a sign put. Can't see signs and lights when behind trucks on Ashley Phosphate due to also the uphill direction. Just ride with me my observation. Also that off ramp signage for truck lane too close to Ashley Phosphate for no right lane for trucks plus the road turns signs can't be seen because of backup cars...
Widen 501
congestion on I85 could be reduced with more lanes and smarter merge lanes along with passenger rail between hubs like Charlotte, Spartanburg and Greenville
Interstate route to MB. Too hard to get her

<p>We the people of the Grand Strand need a bypass to get around the 17 bypass. Tired of all the new roads being built in Greenville , Columbia , Charleston.</p>
<p>I've traveled I-26 and I-95 quite a bit this summer and can tell you we're very close to gridlock at times on both roads. Need at least a 3rd lane everywhere and may want to consider confining 18-wheelers to the right lane. Our State will suffer economically if we fail to widen these roads. AND SOON!!!</p>
<p>complete widening on I-26 so that it is 3 lanes all the way from Columbia to Charleston. Widen I 95 to 3 lanes to the SC/GA line . Re-Pave Hwy 292 in Spartanburg County (especially from Inman S.C. to Lyman, SC . Look at traffic patterns & consider creating a parallel road to Hwy 9 in Boiling Springs, SC . Traffic volume has increased due to growth. Thank you</p>
<p>Reducing congestion should involve expanding transit.</p>
<p>What about reducing congestion by having public transit? More lanes = more traffic</p>
<p>Reducing Congestion does not have to necessarily cost in hardware. Let's invest in smart engineers that can figure out optimal ways to route traffic and create intersections and signals that make sense.</p>
<p>Daily traffic congestion in the Myrtle Beach, Murrells Inlet, Pawley's Island areas is a NIGHTMARE.</p>
<p>I believe if congestion is reduced, then the roads could be safer. I drive 500 + miles a week and I've seen a thing of two. One thing that happens is the traffic, roads and signals induce urgency in drivers. For example, if they see a yellow light they drive through the intersection with about 3 or 4 more cars following, clearly on a red signal. Because the thought is if I don't make this light, I'll have to sit for another few minutes to catch the next light. And just because you have a green light doesn't mean you're going to get through the intersection. Sometimes waiting for 2 or more light changes is normal. This is where the drivers are influenced by the traffic patterns and signals. They know if they don't catch this light they'll be waiting.</p>
<p>Congestion is absolutely the worst thing and South Carolina more roads are needed</p>
<p>The congestion and constant backup on 526 and 26 is insane and needs to be addressed.</p>
<p>Reduce congestion, improve planning, and infrastructure prior to influx of 1000s of new residents coming to state every month. Properly manage road construction projects so they do not take years to complete.</p>
<p>Reducing congestion, safe roads, and repaving can all be positively impacted by increasing transit and pedestrian infrastructure. transit and walk/bike infrastructure decreases congestion, decreases stress on roads because of fewer vehicles, making it longer between repaving.</p>
<p>Reducing congestion, safe roads, and repaving can all be positively impacted by increasing transit and pedestrian infrastructure. transit and walk/bike infrastructure decreases congestion, decreases stress on roads because of fewer vehicles, making it longer between repaving. Reducing congestion by "adding capacity" is shown not to be very effective - it only invites more traffic.</p>
<p>Suburban sprawl is hitting some areas FAST, and the current roads are too congested with the thousands of new drivers going to work and coming home. Example: Five Forks and surrounding areas</p>
<p>Do things to keep traffic moving as much as possible</p>
<p>Widening roads is like adding another hole in the belt to treat obesity.</p>
<p>Reducing congestion is number 1. The rest are so far off my radar they're not even relevant when compared with reducing congestion.</p>
<p>NE Columbia continues to overbuild (new neighborhoods popping up constantly). The roads aren't able to sustain the growing amount of traffic without massive back-ups.</p>
<p>We really need more roads to comber congestion when accidents on 26 or 76 or heaven forbid if both at the same times.</p>
<p>Congestion elimination is a non-attainable goal, as fast as you increase capacity it is full; therefore alternatives like walking, biking and transit should be priorities. Please note, I think there's tremendous potential in "smart signals". I have seen serious congestion significantly improved with sensors and proper signal algorithms. In my opinion much of the congestion I see in urban/suburban areas is self-induced with non-logical flow created by poor signal use / technology.</p>
<p>Invest money into timers for lights. So much congestion happens from lights changing for a right on red for example</p>
<p>This could decrease the amount of vehicle traffic</p>

<p>SC needs a new interstate to Myrtle Beach. Too much congestion on 501 and 38. On the wrap up I drive for two or more, not one alone, there are not enough questions to properly answer this question.</p>
<p>I used to live in Summerville and North Charleston but moved to Georgia just outside Atlanta for work in 1998. We have family in SC and visit about three times per year. The traffic Charleston and Dorchester counties is worse than Atlanta. I understand it is more land-locked there but it discourages us from visiting and has contributed to our decision to never live there again.</p>
<p>Hwy 123 near central. Is ridiculous I drive interstate 85 daily an if it can stay moving there's no reason it is taking me 45 min to go 2 miles</p>
<p>Rock Hill needs more and better main roads. The few are too crowded.</p>
<p>Adding capacity has a demonstrated negative effect on congestion.</p>
<p>We need to leverage intermodal if there are no plans to expand interstate highways as NC and GA have done. Congestion combined with road repairs makes the impedes the flow of goods and tourism.</p>
<p>Congestion could be reduced by working on transit, on time schedules, 3rd lane on 501 as transit only/HOV lane. ?</p>
<p>Johns Island traffic light timing sucks!!! 4 minute light at River and 700 is mind numbing especially when it changes 3 to 3 times to get through it. And what up with all the stupid little right turn lanes in places which need left turn lanes . I.e. Brownswood at Murraywood 29455</p>
<p>Lexington traffic on the 378 (Sunset) is ridiculous with the roadways being overwhelmed. I transit from Lexington to Shaw AFB 5 days a week. I can get to Shaw within an hour when I travel at 4 am but the same ride takes me 2 hrs. in the evening with bumper to bumper traffic in Lexington...from the I26 to hwy 6</p>
<p>Lexington traffic on the 378 (Sunset) is ridiculous with the roadways being overwhelmed. I transit from Lexington to Shaw AFB 5 days a week. I can get to Shaw within an hour when I travel at 4 am but the same ride takes me 2 hrs. in the evening with bumper to bumper traffic in Lexington...from the I26 to hwy 6. Repaving: finish 378 in Sumter...horrible road conditions...why a .20 tax on fuel but no project underway...thieves!!!Safety - would you please light your highways? I've had to file two claims with my insurance due to debris or animals in the road...was to dark to see them (I77 & 378) Safety - remove all if the crap, broken down cars off the side of the highway...in one particular instance, a car sat on the Shop Rd ramp to I77 for over six weeks. On 378 in Sumter County...during the hours of darkness, you can hardly see the vehicles until you're in top of them.</p>
<p>Highways are ridiculously congested!!</p>
<p>Since Kingsley in Fort Mill was built, the traffic has been awful. We need to improve congestion and safety. Circles may work to help with left hand turns.</p>
<p>There should only be one on this list and that is to reduce congestion</p>
<p>Keep traffic moving on bypass Rte. 17 in 29588 zip area</p>
<p>Hwy 123 from 93 to Seneca and back is a nightmare in the mornings and afternoons. It seems that the traffic light at college Ave is the problem.</p>
<p>Hwy 123 in Clemson is a parking lot in the morning and afternoon. More student housing right on 123 is not the answer it only compounds the problem.</p>
<p>Congestion could be limited if making all intersections do not block. I have missed green lights because of too many people blocking the intersection.</p>
<p>In-town congestion needs to be addressed most in my opinion! (I am in Berkeley/Charleston county and at rush hours traffic can be brutal.) — IMO better public transit could help with this. There is no bus service from Goose Creek to N Charleston or Summerville and that would be extremely helpful for many.</p>
<p>There has to be a balance between the top 4 and number 5.I don't think congestion can be ignored.</p>
<p>many of these options will help reduce congestion if utilized properly.</p>
<p>Focusing on reduction of congestion will also enhance safety, freight movement, and encourage bridge repair. Obviously daily maintenance and repaving will also be enhanced ... and certainly required.</p>

The only priority for me is reduced congestion on interstates. Looking at traffic on Google Maps any day and seeing the RED is revealing. The RED means the road is unusable.
Hwy 8 From Easley to Hwy 81 is too crowded. Traffic backs up 1/2 mile or more.
One improvement from Summerville to downtown will NOT fix the congestion and lack of a safe and maintained infrastructure.
if by "reduce congestion" you mean give people options outside of their cars to reduce car traffic, then yes. If you mean widen highways and build more new roads, then no.
Roads are overcrowded and drivers are not focused on other vehicles making it unsafe to bike ride on the highway.
Complete 526 loop is number one as it will reduce congestion
Our roads are in such a bad need of repair. Congestion between Spartanburg and Columbia is terrible and also Conway and Aner going to the coast. Because of that backup I no longer go to the coast.
Whoever designed the I-26/526 interchange is an absolute embarrassment to the engineering community.
Plan ahead, not react after the need is obvious. Require intersections to have turn lanes. Require builders to pay for improvements needed due to their construction.
Traffic light at 57 and 111 in little river
Trucks need their own separate highway. Their own truck route!
Right turn lane needed from going north on tpc Blvd to 707 in Murrells Inlet
You have deliberately impeded traffic going to James Island by closing one lane to an optional right turn going from the Wappoo Creek Bridge to Maybank Highway, and did this five years ago when it had been safe and working for fifty years.
In Myrtle Beach, it is very confusing on Bypass 17 when the 3rd outer lane appears and disappears. It makes no sense, as a new resident to the area. Also the number of crossroad intersections over 17 bypass need to be reduce and changed to actual exit ramps to handle the increasing traffic in the area. Additionally, a secure 4 lane highway out of the coastal area is needed for hurricane evacuation
Reduce the appearing/disappearing 3rd outer lane on 17 Bypass in Myrtle Beach. This option is very confusing.
Reduce the appearing/disappearing 3rd outer lane on 17 Bypass in Myrtle Beach. This option is very confusing. Also eliminate the number of crossroad entrance on 17 Bypass. Instead change them over to clover leaf exit/entrances. also a safe, dry 4 lane highway is needed from the coast for hurricane evacuation. The population along the coast is growing faster than the infrastructure.
There is such a lack of planning in this state. I recently went to Florida where they have made four lane roads even it's out in a country area. These areas have sidewalks and concrete drains. I was shocked at the disrepair of our roads compared to other states.
Far too many multi-lane intersections with no signal lights. Many would be great candidates for roundabouts.
Turn Sumter st in Columbia parallel parking into 45 degree parking in the 1400 block
HOV express reversible lane on interstates
Adapt and elevate roads for sea level rise and tidal flooding
Please spend more resources 1) to assure high quality materials and installation to reduce maintenance and repairs and 2) to improve storm water containment to reduce road flooding and damage. An ounce of prevention is worth a pound of cure.
Please spend more resources 1) to assure high quality materials and installation to reduce maintenance and repairs and 2) to improve storm water containment to reduce road flooding and damage. An ounce of prevention is worth a pound of cure. Is there a way to improve and streamline the financing 'system'? With so many organizations, each trying to get the other to pay, little gets done, and very slowly. Too many dogs in the fight. 'Can't we all just get along?'
The rumble strips put on shoulders - unsafe for bicyclists! Make shoulders wider - 4 feet?
Reduce the congestion caused by left turns that are not signal controlled and install sensors lights.
Drainage

NO TOLL ROADS PLEASE.
Street lights on all freeways and busy main roads. Maintenance kept up on the street as well as traffic lights. More sidewalks and crosswalks. All must be well lit. Red light cameras for main roads. Too many people run the red lights and there is no consequence. Have the stop lights switch to red when emergency vehicles are coming so everyone can move over and let them through.
When you get on 1-26 East at 205, that accel lane should continue all the way to the 209 exit.
Nothing will be resolved until there are 2 ways to get on HHI bridge. Rental cars need to have add on required transportation scans for cross Island. The shuttle is not local enough - it only services tourists.
Speed Limits based on 85th percentile rule
We need to design roads that will handle the influx of vehicular traffic in 20 years from now.
the busses are great but if i could ride a train/rail from Columbia's suburbs to Columbia & then to Charleston, Greenville, Charlotte, Atlanta & the like it would relieve me & many others from driving on the roads & would open up businesses & tourism to Columbia
Someone in Beaufort put medians with plants into a two lane road that had a center turn lane throughout. Most of the left hand turn lanes never get a green arrow, just a flashing yellow one. Two lanes is difficult to make a U-turn in now that we have to double back to most businesses.
Put in turn lanes instead of ground crossovers. Such as on 17 business.
Toll roads where needed and an electronic toll pass compatible with other states.
More environmentally friendly projects. Animal passage, grass overflow parking, plant prairies along areas you don't want to maintain, fix low water dams and outdated culvert crossings.
INTERSTATE to INTERSTATE ramps/interchanges need a better design, which could allow two or more lanes to take the exit without having to merge with flow trying to exit where others are trying to merge into the flow. School zone traffic flow appears to b an afterthought. Surely the State could make and provide some flow templates for the various locations.
creating opportunities to pass slower moving vehicles.
What about improved rail crossings so we don't get stuck in downtown Columbia because of slow, frequent and stopped freight trains?
I have travel all over the US and have seen many road designs. Look at Texas and see how they handle large volumes by reducing left turns, as well as NJ. Taxes better suited to our needs.
Lane courtesy laws, temporary sections of 2 lane interstates increased to three with "trucks use right lane" to allow for passing and speed limit reform to allow for brisk prudent use of passing lanes without consequence for doing ones part to relieve congestion.
Make more cloverleaf's that keep traffic moving
Fix Flooding areas
Please design roads with useable shoulders.
Please design roads with useable shoulders, keep drainage ditches clear, and clear roads of debris, keep overgrown roadsides mowed, and pick up trash on a scheduled basis. Remove plantings that obstruct driver views at turns and intersections.
Make all lights NO turn on red. Put left turn lanes in and bigger intersections and sync the lights when downtown or major roads
Traffic lights should be placed in areas where there is a backup of traffic due to high usage. Not placed at affluent neighborhood where these residents don't even pay attention to stop signs.
Circle on Longpoint Road dangerous due to unusual and poor design
Would like an option for adding additional lights to roadways.
Reduce speed in areas that were once rural and are now urban. Increase crossings for pedestrians.

<p>Research Telegraph in Detroit area Michigan. There's 50,000 people traveling it daily in some parts and it's seamless.. mainly because of the U-turns required to make a left instead of lights. We need to re-design highway 17, not just add lanes. Feel free to contact me for info.</p>
<p>Traffic light timing and synchronization- it's an easy win building bigger roads</p>
<p>Interstate 385 & Haywood Road. Should have/could have reduced congestion if it had been a clover leaf design. I realize it may not have been in the budget but how much more will it cost to re-do instead of doing it originally. Same exact thing with 85 & Pelham Road exit. You should have estimated the congestion going into Michelin while they were building the new headquarters to put up with all the traffic exiting before Michelin was finished. Same thing with budget here. Spend a little more to alleviate all the problems we give now. You're now doing this with 385 & the gateway. Didn't anyone realize when BMW moved here that the people would also come here? Not only BMW but all their suppliers. Need to think ahead. Budget needs to include long range planning. Woodruff Road is still a joke. No planning ahead.</p>
<p>Left hand turns across traffic are dangerous and should be minimized.</p>
<p>Left hand turns across traffic are dangerous and should be minimized. Evacuation routes are not sufficient for the volume of traffic now that construction is booming again and population is growing at a fast pace. Overpasses are great at busy intersections, but installing new lights north and south of the overpass negates their purpose.</p>
<p>Please re-configure the intersection in front of Miller's Produce on Pineville-Rock Hill Rd (Andrew L Tucker Rd, State Rd S-46-48, Flint Hill Rd, and Pineville-Rock Hill Rd intersect here)</p>
<p>Left hand turning only lane on two lane high ways like 521. There is ample room in the median to create these lanes to help eliminate cars stopping in the main flow of traffic.</p>
<p>All left turns should have a left turn lane or close access and have vehicles drive to closest access that provides a separate turn lane.</p>
<p>Keep traffic delays because of train crossings at a minimum.</p>
<p>Rethinking reducing travel lanes and put in bike lanes. Taking away travel lanes for vehicles adds to congestion and is a stupid idea. Also, huge housing developments going in and road doesn't accommodate existing traffic. Traffic patterns need to be considered prior to building. Roundabouts - seriously? They only add to congestion.</p>
<p>more passing lanes to pass safely around big trucks especially along the south to north corridors</p>
<p>Close the truck lane down to regular 4 wheeled vehicles and only open to large trucks with more than 2 axels or vehicles towing loads. Way too many people use truck lanes as "super passing lanes"</p>
<p>The double bridges are bad. If you go over it at 55 mph its almost throwing your car off the bridge</p>
<p>All freeways in the greater Charleston area should be, at minimum, 4 lanes travelling in each direction. Not including merge lanes for entry and exit. Also, creating a sufficient timed traffic light system instead of the sensor-based traffic lights that are in place, would allow traffic to flow more smoothly during heavy commute times. There is a great need for enforcement of proper lane usage by tractors hauling freight containers. Too many container trucks are riding in the passing lane for the entirety of I-526. Not just repairing existing bridges, but building more bridges. There are currently only 2-3 bridges across each major river in the Charleston metro. More bridges would allow drivers to use surface streets more than freeways, which would help alleviate congested traffic. In regards to repaving; try hiring an actual civil engineer to design and execute the repaving of roadways. There are several major roadways and highways with sharp curves that are not banked correctly for the posted travel speed. Also, adding what's called a "crown" in the center of a roadway allows water to shed efficiently and reduces hydroplaning risks.</p>
<p>The Wando Welch put traffic is out of control. The Don Holt bridge is a monument to poor design and woefully inadequate</p>
<p>The Wando Welch put traffic is out of control. The Don Holt bridge is a monument to poor design and woefully inadequate. Passenger rail from Charleston to Columbia and Greenville?</p>
<p>Redesign outdated intersections. Add left turn signals, utilizing them and those that are already in place, to improve safety and reduce congestion.</p>
<p>Speed limits in congested areas need to be enforced. Downtown Charleston especially. Either enforced or raised then enforced.</p>
<p>Restrict truckers from selected highways making them cars only. NY. NJ, CT all implement this successfully.</p>

<p>Truckers drive hazardously! They have no rear license plate to even try to report them. The police do not have any traffic control presence. The roads are not well lit, roads are striped with non-reflective paint, medians are not well marked. There are no vehicle safety inspections. Pickups do not have their loads tied down. Trailers do not have directional signals or running lights</p>
<p>Speeding, tailgating, aggressive driving all need to be curbed.</p>
<p>Roadway safety should include increases enforcement- red light runners, speed and road age</p>
<p>Litter control</p>
<p>There should be more penalties for people who drive in the bike lane. There should also be more sidewalks near schools.</p>
<p>With efforts to improve education/awareness for DRIVERS re: pedestrian and bicycle safety - reduce distracted driving</p>
<p>Need to make it the work zone speed to 15 mph</p>
<p>More speed enforcement</p>
<p>I do not approve of bicycles on major roads or highways at all. If they are going to use them they need to have their own lane strictly enforced and they should have to abide by the laws of the road like the rest of us. It would be safer for all concerned.</p>
<p>Get broken down or wreck vehicles off road sooner of major highways</p>
<p>Street lights on all freeways and busy main roads. Maintenance kept up on the street as well as traffic lights. More sidewalks and crosswalks. All must be well lit. Red light cameras for main roads. Too many people run the red lights and there is no consequence. Have the stop lights switch to red when emergency vehicles are coming so everyone can move over and let them through. Potholes need to be properly fixed to be flush with the existing road. Sometimes when filled, they are worse than the pothole itself. Keep people accountable of their work.</p>
<p>All of them. Also dedicated force of traffic cops to enforce rules.</p>
<p>Would like to see more speeding tickets given for speeding drivers on I-26.</p>
<p>Although not exactly the purview of SCDOT, traffic rules must be better enforced. For example, in my 1.5 mile commute, I routinely see at least three red lights run each day.</p>
<p>Law Enforcement should be included in the survey. In my opinion, enforcement of current traffic laws should be #1.</p>
<p>Need law enforcement as category.</p>
<p>Really confidence from local law enforcement to actively engage in offending motorists.</p>
<p>Too many drivers running red lights. Install cameras and fine them</p>
<p>I would like to see signs on all the interstates that say "Keep right except to pass" and "Slower Traffic Keep Right". I travel to/from Charleston to Greenville frequently and I think the traffic that sits in the left lane refusing to move creates very dangerous situations on the highways. In fact, I think it is the biggest contributor to accidents on the interstates.</p>
<p>More traffic stops to reduce deaths because of poor driving habits, speeding and road rage.</p>
<p>Put speed limits to where people drive. Like 520 speed limit is 60mph. Most people drive 70 mph. It should be 70.</p>
<p>Every day of every week I watch people run red lights, ignore 'no turn on red signs' and drive at reckless speeds. You have the "absolute worst" record on deaths on the roads (US national statistics). Harsher penalties, speed cameras, cameras at junctions etc. would all help.</p>
<p>Increase driver's education requirements. I've been yelled at when legally using crosswalks by drivers who do not understand the pedestrian signals. This is dangerous.</p>
<p>Increase driver's education requirements. I've been yelled at when legally using crosswalks by drivers who do not understand the pedestrian signals. In the span of a week, I saw three cars stop and then intentionally run red lights - two straight through the intersection and one left turn.</p>
<p>do something about people who speed and tailgate</p>
<p>Red light cameras in trouble spots. I've never seen so many red light runners anywhere as we've traveled cross country repeatedly over the past 50 years. Speeding and red light runners are a real danger here.</p>
<p>motorcycle filtering at red lights/ stopped traffic should be legalized.</p>

I drive on Highway 85 daily and the majority of the congestion I notice involves slow drivers in the left lane. I have never seen a police officer enforce the law that states the left lane is for passing.
Do bicyclists ever get ticketed for running STOP signs? I've never seen a bicyclist stop at a STOP sign.
Left fast lane is for passing not driving slow in.
Enforce all driving laws
At the very least, on I526 semi-truck traffic need to be using right most lanes as it does on I26.
Much more ENFORCEMENT of the speed limits is desperately needed.
More Highway Patrol on I26 during morning and evening commutes.
Really need to teach bicycle safety, rules of the road, to kids in school.
Catch speeders and cell phone – texting No blinking yellow lights other than late at night. No roundabouts in Neighborhoods
Biggest issue is mobile phone use. Enforce the law, heavy fines, take cars away. Just get them off the phones while driving
Need to reduce property taxes and increase gas taxes. We need the out of state travelers to share the cost. Also need to find a way to charge bike riders for maintaining bike lanes and trails. Get law enforcement to slow people down and ticket for red lights, illegal turns, cell phone use. I see people texting every day on the road. It's extremely frustrating to know they will never be held accountable.
Enforce basic traffic laws on all roads. Too many people not using blinkers when changing lanes, not abiding by headlight rules especially when raining, etc... Just about every manhole in the state is sunken in and is just as bad as hitting a pot hole.
I think speed limits should also be revisiting. SC allows 70 miles per hour on the interstate highway system and other freeways. However, this means people generally drive much faster. I believe the top posted speed should never go above 65 mph.
Enforce the smaller law, like no turn signal, going of the white line, and putting up cameras at intersections control Traffic. TV adds on how to drive, safely, how to stop, pass. and show the dangers of what happens when we do not do them... not just DUI and Speeding. We can make our roads safer if we all know how to be safe, and if there are penalties for not. I would like to help in any way I can.
Do something about running a red light.
Move freight by rail
Move freight by rail
Effective management of freight movement and mass transit that works for most will reduce traffic congestion thus saving millions of dollars in the need to build new roads.
Truck traffic near any port cities is out of control. Higher highway heavy taxes and more enforcement is needed
Improve rail. Discourage trucks and home delivery
I only have this higher because of the timing and stopping of the trains that block side roads off of Rutherford road.
Timing and stopped trains off Rutherford for long periods is a problem.
We should be encouraging use of rail to reduce hauling by truck for long distances
We should be encouraging use of rail to reduce hauling by truck for long distances
As I have visibility on the freight movement, I don't think it's a reasonable question to be asking. How can I speak to importance when I have no knowledge of it?
Need a rail system!!! Separate lanes for trucks and commercial vehicles.
This is for the tractor trailer trucks that are going to and from the SC Ports, destroys every mile of the state's roads. Also, they cause of many deaths on the low country roads. These trucks also cause most all of the traffic problems. My suggestion would be, example: I-26 going into Charleston, give the tractor trailer and container truck ONE LANE ONLY for these trucks to travel on. KEEP ALL OF THE TRACTOR TRAILER ON ONE LANE STARTING APPROX. 10 MILES OUT FROM OUR LARGE CITIES. On I-26 there is already a lane that could be made into a LARGE TRUCK LANE.

The traffic going to and from the ports needs to be addressed. So many trucks on the interstate and exit at long point rd is ridiculous
Reduce heavy truck traffic on local roads. Fix pot holes quickly after rain and/or salting is finished.
Take freight completely off the roads or limit the time frame they can travel in the lowcountry. In other words, can't travel during 6-8am or 4-6pm.
Freight movement is a top priority and it should NOT interfere with local citizens and communities. Alternative routes should be given to the truck drivers and routes should not at loss of quality of life to locals!
Spread the wealth around quit wasting money on redoing projects that already exist in the upstate. Widen 95!!!! All the way and finish widening 26. 85 and 385 already have enough brand new concrete!!!!
Freight rail grade crossings and delays are a problem.
I think it needs to be cost efficient to get from one major city in SC to another and within cities.
I think it needs to be cost efficient to get from one major city in SC to another and within cities transit system
I think it needs to be cost efficient to get from one major city in SC to another and within cities. Could trains be a part of the system? Especially for moving freight.
Having an Inland Port was a great idea but it ought to be CLOSED until the highway system is FULLY expanded to accommodate the added 18 wheeler traffic.
SC should require all trailers to have license plates. Too many homemade, unsafe and uninspected trailers bouncing and beating up the roads and they pay nothing, If someone is pulling one that is swerving or bouncing there is no way to identify it. It's past time SC move into the 21st century.
Can we add a dedicated trucker lane for hilly areas of the state where loaded trucks slow the pace on the highway? The aggressive driving attempts I see to get around the trucks is dangerous and the cause of far too many costly accidents, in terms of lives as well as financial loss.
reduce the weight of 18 wheelers and keep them of state roads dodging scales on the interstate.
Decrease speed limit on North Highway 14. Too many BIG trucks and road is curvy
Freight needs to be separated from car transport. Trucks do not stay in slow lanes, they pull out in front of people, and tailgate. We need a system to de-incentivize freight movement during rush hour traffic. Perhaps restrictive rules about in which lane they can travel during these times, i.e. a freight lane, much like an HOV lane.
We need to get freight off the roads during peak commuting hours or at least restrict lanes (like hov but fro truck). We need to get students and teachers to school more efficiently as traffic increases drastically during the school year. Can teachers get vouchers for living by schools? Can there be a disincentive for parents and students driving? Awards/rewards for walking/biking? This is first place public transportation should work. Large companies should also be brought to the table to reduce traffic. Stagger start times? It is about reducing traffic, not increasing capacity.
Keep 18-wheelers out of neighborhoods requiring them to travel truck routes instead of shortest distance.
All of this is tied to my top priority which is to allow for increased mobility across the lowcountry WITHOUT personal cars. E.g. - Freight movement BY RAIL would be more important to me than increasing lanes to provide for more freight movement on the highways.
use the rail road
Keep freight with railroads as much as possible. Reduce congestion by building biking and walking areas for people. possible use the RR for some type of transit like it once was.
We need higher taxes on ports and freight containers! Truckers are poor drivers and are doing the most damage to roads.
If we could use the rail system to move big freight it wouldn't be an issue for our roads.

<p>Unprotected bike lane shared with cars (pictured) - it is suicide ride. You ignoring the stats (how many bicyclists recently died and why?) Freight - the roads are dedicated to it today. But economy doesn't belong to the freight. Two trucks side to side on two lane road make traffic moving slow or don't go. Don Holt bridge, rush hour. Road merges, trucks all over. Maybe it is time to do better road designs and avoid bottlenecks? Trucks - right lane only in between am and pm rush hour. The buses - tell audience the truth. What is full bus means? Standing, sweating, sexually harassed? Why do you have a half transparency? Why the economic growth must change the quality? Why our tax dollars will be used against our needs? Where are the technical solutions? Why do we move backward (busses) but not forward (self-driving cars)? Why the survey has no focus on it at all? I hope you read it all. Thank you.</p>
<p>Along with increases in freight activity comes the problem of where all these trucks will park as they face HOS compliance requirements. We need municipal parking to allow adequate rest breaks and safe operation.</p>
<p>Create designated truck routes rated at 80,000 lbs., and all other State rds. would be at 30-40000. Anyone wanting to run heavy loads would need permits. Install New asphalt with deeper base, thicker top coat. More expensive to install, but will hold up better to increasing traffic loads. Install appropriate street lighting at all controlled intersections. Many depend upon business lighting and it is NOT adequate. More public service announcements on save pedestrian and bicycle use of roads, higher fines for unsafe vehicle operators.</p>
<p>Restrict large trucks from being in left most lane on all interstates.</p>
<p>Be very careful to equalize all funding . Make sure it's balanced and fair without politics being involved.</p>
<p>Make all Semi drivers stay in the right lane or the two right lanes where applicable through the whole state</p>
<p>With all the money coming in, the progress should be way ahead.</p>
<p>Time to take emphasis and funding away from cars . Hate to say that but the future cannot see continued widening of highways to allow people to keep moving to suburbs !</p>
<p>Increasing the quality, funding, and quantity of public transportation, as well as increasing the number of crosswalks and ensuring pedestrian safety through the enforcement of relevant laws both decreases congestion and increases road safety.</p>
<p>Consider impact fees on new construction to help defray infrastructural and safety personnel costs.</p>
<p>Limit new development force impact fee Limit curb cuts</p>
<p>Why does South Carolina always have to be last in public transportation and safe roads. It's maddening considering how much we pay in taxes. Where's all the money??</p>
<p>The central issue is project scoping and budgeting. If the state continues to deny the need to borrow to keep up with growth, it will implode logistically. The scope of projects has been minimal since civil war reconstruction. Minimize government does not work with unnaturally rapid population growth. Take a hint from Tennessee and create enjoyable roads. Yes, ample merge space and interstates that forcibly sort traffic. Yes, a traffic system that prioritizes right of way to the main flow of traffic using timers that do not force speeding to keep up. Yes, left AND right turn lanes at intersections. Yes, medians on all main thoroughfares. Yes, a bigger road budget and higher taxes. Yes, a lot more imminent domain to stop wasting so much damn time and gas out of everyone else's pocket and create better alternate route parity. It's time to grow, not dawdle and cower to each road sign easement and flowerbed. Your population will double in ten years and the people will be voting. Poor planning will not cause voter retention. But you could multiply growth if you change your approach, and that wins elections. The newcomers are from the north. They are laughing.</p>
<p>Make developers responsible for expanding roads directly related to the new development. Thereby not impeding flow of traffic.</p>
<p>Make developers responsible for expanding roads directly related to the new development. Thereby not impeding flow of traffic.</p>
<p>Builders should have to pay for access roads into their developments. Taxpayers should not foot the bill for new/wider roads due to new housing developments.</p>
<p>I was under the impression that the penny tax would be used for improved bike paths.</p>
<p>Bikes don't use gas so they don't pay taxes! Put the money someplace else like bridges.</p>
<p>More cars use the roads than everything else combined, so they need to be top priority</p>

Give grants to universities to engineer longer lasting road surfaces. Even if more expensive, it would save constant replacement and inconvenience.
We need better and permanent funding for transit across the state
Potholes and replacing are urgent on many of our "commute" roads. I've given up driving southbound (of SC-165) SC-61 in Dorchester County because the road surface is so bad.
Better paving. Replaced 385 in Laurens County is horrible road surface.
I95 is HORRIBLE! It is by far the roughest interstate thru SC. We pulled a 5th to and from FL, worst state we have ever driven thru. It's a wonder we still have wheels, tires, and a camper. I've never been jarred so hard so much in my 33 years of driving
St. Peter Church Rd. Lexington when will it be repaved
please repave the Swamp Rabbit Trail...it is dangerous to walkers, runners and cyclists
Paying or putting gravel down for dirt roads.
invest in red light cameras. I DO NOT understand why you pay police to stand in the middle of the road on Sundays. When there are literally traffic lights, ped. crossings etc. within three feet. What a colossal waste of \$\$\$\$\$\$
More attention to daily maintenance (grass mowing) especially. Some of the on off ramps in my area (Myrtle Beach) are really overgrown with high weeds and obstruct vision for merging. NC seems much better in tune than we are.
The Wando Bridge is a disaster. Pasting it together while trucks continue to increase is not wise. A new bridge needs to be disowned and funded that removes the trucks from the general flow. The trucks are killing us.
Invest in street sweepers, clean junk (furniture, car parts, retread) from roadways and breakdown lanes. Do it promptly. SC highways are dirtier than other 3rd world countries!
keep all roads in good condition
keep all roads in good condition
Fix our roads!!
I-26 needs to be finished and have all lanes clearly painted
I-26 needs to be finished and have all lanes clearly painted there needs to be continuous lanes near 526 and I-26
The pot fill systems is either outdated or just ineffective. Pots holes return very quickly and get worse
bridges not built for the amount of traffic today and the continual weight of trucks - bridges must be rebuilt or shored up immediately
The roads in Charleston are absolutely terrible. Riddled with potholes. Terrible quality roads. It destroys tires and cause unsafe driving condition when wet.
Please repaving roads such as Sherwood Dr .
Very important, but there has to be a way to improve and maintain existing at the same time. I ranked all maintenance related activities higher than reduce congestion because I am assuming that when congestion is fixed that road improvements to. Existing infrastructure are improved also.
I travel all over the country and drive on the roads of many states. We lag horribly behind in safe and smoothly paved roads.
repair the roads correctly...don't do the sloppy work being performed now.
Potholes and terrible road conditions need to be fixed especially in the lowcountry tri-county area (Charleston, Summerville, Dorchester, etc.). Also, there have been too many fatal auto-pedestrian accidents in 2019, we need sidewalks and bike paths for safe ways for people to commute via foot/bike.
There's really no comparison between the first two and the rest. Repave the roads and fix the bridges, please.
Hard to put priority on the first 5. Maintenance priority needs to be elevated significantly in SC as it affects commerce. Multiple "significant" industries have made remarks on the state of the infrastructure in SC. These tasks should be top priority of DOT, with the remaining items (transit, sidewalks/bike paths, etc.) being the focus of this study

The roads are in such bad shape from weather events - flooding and freezing - fix the infrastructure first. Then focus on making it easier for people to get around without needing a car.
Everything about the roads needs improved. Brighter road markings to indicate traffic flow, re-timing lights and reducing congestion.
Work with neighborhoods who have small SCDOT roads to help repave, provide traffic calming, etc.
roads look like a 3rd world country. plus the fact when they are worked on the contractors make it more dangerous with poor signage.
It seems like we do too much patchwork instead of investing in high quality replacement products on the front end. We need to build wide, multilane roads that include bike paths and shoulders at the beginning of development/redevelopment so we patchwork isn't required as often. I notice we use a lot of asphalt instead of concrete and rebar. Why is that?
Pay to maintain what is currently built. Expand if can after that.
Resurface roads so there is safety. Also so my teeth don't get jarred out of my head on most roads. Spend our tax dollars wisely and in ALL areas if the state, not just in the places the powerful live and travel.
Please repair and widen I-95 and I-26 in the lower part of the state. Our interstates are horrible in comparison to our neighboring states. We have a MAJOR bottleneck problem when entering the state.
If roads were monitored and paved in a timely manner, you would lessen or possibly eliminate the need for daily maintenance
Roads in the TriCounty Area near Charleston SC are as bad as any I've have seen in the South. MONEY is not being used in the Low Country for repairs, maintenance or improvement. It is my opinion that more money is being used up state. SAD!
Continue to replace and repairing also inspecting bridges and overpasses much as possible to continue to keep drivers safe
The overall condition of roads in SC is TERRIBLE. Potholes, crumbling edges, and ruts are the overwhelming norm, not the exception. Surely money is allocated for road repair. Where does it go? It apparently does not go toward fixing roads. I have lived on a main, secondary state road for 19 years. The road was in bad shape when I moved here and in 19 years, it has never been repaved! Someone comes out once in a while to throw some blacktop crumbles into the holes, but within a few weeks that has disintegrated and the same holes are back. Pave the roads!
Repaving should be part of maintenance and making the roads wider, adding sidewalks, etc.
In rural areas especially- mow BOTH sides of ditches so the weeds don't turn into trees. Most home owners don't have tractors & equipment to do this!
There seems to be a lot of roads in SC that are in need of paving, yet ones that don't need it seem to be a getting paved . What's up with that why waste time and money paving those roads that don't need it . Fix the awful roads !!!!
some options are repetitive. Daily maint. and repaving roads is really the same
Repaving of roads in Greenville city and county has been too slow you have our tax money where are our new roads
Stop putting in plugs and actually fix the roads. Rural roads are horrible.
Possum hollow is in dire need of repaving and 521 need to be widen
SCDOT must tear down and replace overpass structures that prevent proper widening of all of SC's highways.
Please repave to a point that pavement lasts
I don't think daily maintenance is an option and should not be included on the list.
SC should be ashamed of how they have NOT cared for the roads, moved from another state and have been shocked and disgusted! This is the worst state for roads both paving and daily maintenance!
We need a 24/7 hazard maintenance request app portal That weekend send pictures with GPS coordinates or separate coordinates to Identify the problem areas. There needs to be a way to receive feedback and follow up on when the problem will be remedied.
Why hasn't Hwy 29 from Greer to the Spartanburg line been repaved? It seems that Greer is always left by the wayside with only patches which don't last. Also Hwy 290 from Greer to Travelers Rest should be totally repaved. Just patched

again. Some areas are like driving over a washboard. This is a very busy road and with all the development will only get worse. Please take these concerns seriously. Thank you.
We definitely need our roads paved
Our secondary roads are horrible
Pave Clarendon Rd in north Beaufort County
If you accomplish repaving, repairing bridges and reducing congestion would equal safer roads.
Repaving/fixing roads and bridges should be priority 1....SC has some of the worst roads in the nation.....I have a little bit of knowledge on this, I am a OTR truck driver ...
I recently drove from Myrtle Beach to Pinehurst NC and was really impressed with all the freshly paved roads in NC
It would be really nice of people Didn't make fun of me being from SC and laughing about how bad our roads are! I-95 is atrocious near GA, as are many other main roads.
Our roads are in horrible shape. Where is the tax money going that is allocated for repairs? Greenville County is building houses/communities faster than the roads are being maintained resulting in too much traffic for our roads to handle! I'm sure this is not just Greenville. Does anyone drive around and check out the quality of our roads??? I am tired of re-aligning my car because there was another unexpected pot hole on the road!
The road I live on is so bad you half to drive in the center and all but stop to pass another car. Bike lanes in SC are so unsafe most drivers use the bike lane as extra space to drive i do not ever feel safe riding in a bike lane along any street/road!
Coated to other parts of the US, this isn't a huge issue in SC, better trained drivers and will maintained roads will alleviate congestion
It would be nice for some of the rural roads to be repaired to where they do not tear back up in two weeks
We need our roads brought up to standard as soon as possible
Filling in holes NEVER WORK! Just paved a small patch
Keep up what we have.
There are way too many potholes and a great need for repaving of roads
Bridges first. The highways "should" be on a regular maintenance schedule. The bridges are crumbling and having band aids put on them by using asphalt patches. Latex works wonders!
Bridges first. The highways "should" be on a regular maintenance schedule. The bridges are crumbling and having band aids put on them by using asphalt patches. Latex works wonders! The berms need maintained to resolve puddling and hydroplaning. I've noticed centerline crowns almost nonexistent, inefficient paving over existing crumbled asphalt. Seems the entire system could use a review and overhaul.
Our roads are the worst! I have traveled across the country & none are as bad as SC! Even our roads that are repacked are done bad! How!?!
When repaving they should bond me surfaces to old. Right now they repave the same areas above every 6 months. Scam.
Contractors hired for DOT projects, especially resurfacing of roads, need to do a better job and use better materials so taxpayers get roads that last longer before the maintenance is needed again.
Replace lightbulbs in existing road lighting and add more
Fix the Roads and Enforce the requirements that asphalt should conform too. I know one of the major contractors and I also know the pavement doesn't meet standards to save cost
It seems all the money is spent on roads at the beaches or roads leading to the beaches. No local maintenance or paving ever takes place.
Please change to a different paving material that's recycled, green, and one that doesn't pothole. Use recycled materials for pavement such as repurposed tires. Change to solar lighting.

<p>this daily maintenance - some of it is useless. it is like saying i have a butter knife to protect me from intruders in my home.</p>
<p>Please ride Love Springs Rd in Gaffney S.C. so you can see firsthand the state of disrepair.</p>
<p>SC should do an intense maintenance & repair of all existing roads & bridges before new projects that are not critical.</p>
<p>Add and keep clean bike lanes on roads</p>
<p>Need to fix the roads. Almost had a wreck on 418 because of the road. My tire blow out.</p>
<p>Response time for pothole/shoulder repair is good BUT repairs are inadequate and only last a few days.</p>
<p>The same pothole repair method on roads with a 25mph speed limit when used on highways not only results in damaged cars, it's causing wrecks when drivers attempt to avoid potholes. We all know from experience the pothole could be 2" or it could be 8".</p>
<p>Before anything, repair our existing roads.</p>
<p>Why is it that road work in Colleton county SC is always last. Lots of I 95 have been repatched and Colleton county will beat you to peace's!</p>
<p>Stop paving with asphalt and do it right with concrete. Do it once and be done with it.</p>
<p>Rural roads in SC are worse than any other state I've visited. Poorly laid out, small or no shoulders, poorly maintained, and unnecessarily dangerous.</p>
<p>Repair and fix roads to a safety standard fix. Potholes only need to be fixed if there aren't to many in a short distance. Streets need to be repacked instead otherwise they will become a danger for drivers and cars involved. Restrictions on bad roads for construction vehicles and eighteen wheelers</p>
<p>I have lived off Gap Creek Rd off Highway 25 in Marietta for 4 years and the road has never been maintained. No repaving, no painting of lines or reflectors. I have to write every year to get high grass mowed. Not acceptable. We all pay taxes and get no services from Greenville County.</p>
<p>Improve current roads</p>
<p>only 3 above line: repaving, repair bridges, bike paths</p>
<p>Build and repair roads before construction of new developments. I.e. Deerfield Plantation.</p>
<p>You're infrastructure has not kept up with the amount of people moving into the area. Example; Johns Island. People will die if there is an emergency. They won't be able to get off the island.</p>
<p>Clean up the trash and debris. It is shameful how the roads and shoulders are kept.</p>
<p>eliminate cracks, fissures, potholes, bumps by reducing the number of vehicles using I-26 between exit 199 and Charleston end-of-highway.</p>
<p>Finish 526</p>
<p>Roadwork needs to include repairing all secondary roads</p>
<p>Jessamine Road is in Terrible shape - Please REPAVE It. Please.</p>
<p>SIGNAGE! So many roads and streets aren't identified with signage. If they are, the sign isn't placed in sight be until you've passed it. Busy intersections should have street sign overhead the traffic lights.</p>
<p>Signage (rather lack of) is a major problem in SC, especially in tourist areas. Many streets don't even have street signs and if they do they aren't visible. In busy intersection the street signs hold be above the traffic with the traffic lights.</p>
<p>the roads need to be repaved and paved correctly. Not just spraying tar and putting rock does not fix it . Wire road all the way to 2nd Texas is awful with pot holes. They wash out every time it rains.</p>
<p>Backing up the asphalt truck, shoveling off some asphalt, smacking it down with the back of the shovel, and driving off is NOT toad repair.</p>
<p>Backing up the asphalt truck, shoveling off some asphalt, smacking it down with the back of the shovel, and driving off is NOT toad repair. Repaving and improving less traveled roads is important, however the project does NOT need to be drug out over the course of multiple years. If the contractor is behind schedule no matter the reason, they should never be allowed to receive an "early completion" bonus on renegotiating the completion date. Its not early...its past due no matter how you look at it.</p>

Highway 25 is full of potholes and "patched asphalt " .
Highway 25 is full of potholes.
Finish Interstate 526
Paving company that did Hwy 170 should be used more often. Minimal disruption, fast, looks good.
You HAVE to finish 526. James/west Ashley traffic has reached a breaking point. We need relief!!!
Rural roads in the eastern part of the county have been atrocious for years. Buford, Camp Creek, Unity, Taxahaw, Rich Hill are riddled with many, many potholes. Very dangerous when you meet oncoming traffic.
there needs to be a huge improvement in street signs.... highway signs .. speed limit signs. The signage around here is AWFUL. Also, proper left turn lanes instead of the goofy ones we have now, where you sit forever at a green light because the left turn light is still on. Some fools are putting up these signals.
Native plants for the roadsides instead of Bahia grass.
Our roads need to be replaced instead of patching and there are way to many bridges that have been closed for years and still hasn't been touched. Just wondering what exactly my tax dollars are going to?
Before beginning new construction, the existing roads need to be repaired. The existing roads, particularly Hwy 200 north of Lancaster are literally falling apart and are not safe to drive on.
Necessary for upkeep and maintenance on existing roadways
The road I drive every day is falling apart and only gets crappy patch jobs, while roads that are in better shape are getting repaved properly.
Regular road cleaning and debris removal
Roads in and around Mauldin need repaved please.
Known heavy traffic roads (even neighborhood roads that get a lot of traffic) need at least weekly maintenance. During the school year, there is a road that is heavily traveled and the random patches done to the potholes that always open back up within 2 weeks of being repaired isn't enough.
If maintenance is performed such as drainage improvements this will reduce pothole repairs and resurfacing.
I travel Old Camden Monroe Hwy. Daily. It is full of pot holes. Would be great to have it repaved.
Congestion could be reduced by working on transit, on time schedules, 3rd lane on 501 as transit only/HOV lane. ? Sidewalks already constructed are left full of weeds, unkempt. That comment leads to the daily maintenance issue. Horry County is lucky if it gets biannual highway sweeping, center lane sweeping on 3 and 5 lane roads. Yet ask about daily. At least monthly maintenance would be great! Taking care of repaving, congestion, repairs should do a lot for safety measures. And it would help with moving freight.
Please clean ditches along the 900 block n Vidalia Rd.in Seabrook, S.C. Thank You
Repairs schedules are taking too long to complete.
Please take lessons from GA on how to replace or fix potholes that are smooth and long lasting. Travel some secondary GA roads and feel the difference!!
the roads should had never gotten as bad as they are now such as Hwy 276 ,Marietta SC to Travelers Rest , going to or from Greenville, never ending pot holes and rough patches ,not even safe for abs brakes, it needs fixing before anything new is started. there also continuously tearing up my steering and suspension ball joints used to last year's now it's just last 6 months
Fix the roads! Patching is not repairing or fixing
We have some of the worst roads in the nation. It is embarrassing
Road repair training is desperately needed and said repairs need to be inspected that they are done correctly!!! Inverted potholes should not be an approved repair and cold patch pounded with a shovel should be a temporary fix and not considered a permanent repair
Quaker Road in Dorchester County needs to be repaved badly.
Traffic light timing and synchronization improvements for a cheap quick win

The secondary roads and some of the main roads in Sumter County are in terrible shape
Larger, clearer and well-lit signage.
Traffic light timing hasn't been updated in years
Real fixes for the statewide potholes. Not temporary patches. When paving, do it right so we don't have the pothole problem!
Timed lights would help
Please repave Possum Hollow Rd. ASAP. It has so many pot holes.
We need to fix our roads before we spend any more money on bike paths & sidewalks.
Light them up. Many times you get in a left lane and do not know it ends unless you live there
The roads in Greenville county, particularly around Greer, have substantially increased use without increased road maintenance. This is dangerous.
Improve street signs! Tourists make last minute turns because signage is so poor
Paving existing roads in-bad repair should be job one. This is why we passed the gas tax bill and that's what we need ASAP. All the money had better be going on repaving our roads or I will be starting a class action lawsuit ASAP.
Signs entering the city of N Chas. Flashing overhead signs as on I-526 Don Holt...channel/station to get updated problems before Summerville/Goose Creek/West Ashley and Downtown
The Upstate is in desperate need of repaving and heavy congestion relief. We need arteries to get out of and around town... Mauldin Lauren's Road is a morning and afternoon mess, Simpsonville and Fountain Inn are just as congested as Mauldin. How do I know? It takes me over 50 minutes to travel 17 miles in the morning and a little over an hour in the afternoon to get home!
Need paved road on Z.C.Clarkson Rd in Hopkins SC
Potholes
Potholes
Dismayed by the premature failure of newly built roads and bridges. For example, the Catawba Bridge on 77 had chunks of concrete and steel rebar falling into the Catawba river. Tell the public how this is being remedied and then i will have enough confidence to answer survey questions. Newly built SC roads are destroyed by a high water table? Road DRAINAGE? Then tell us how you're building up roadbeds properly with enough sand & GRAVEL to keep water at bay.
No new roads!!! You won't even maintain existing roads!!!!
This is an absolute must!!! You can't see the lines on most of our busiest roads at night. It is even worse when it is raining. This has got to be causing accidents.
More road repairs
More road repairs
I view repaving, daily maintenance, and repairing bridges all as "maintaining existing infrastructure". It's basic asset management. Nothing new should be added until we have maintained what we have. In fact, I'd encourage studies to seek ways to "reduce liabilities" by eliminating lesser utilized and unhelpful infrastructure that we are currently maintaining. After that, safety should be top priority. Next up would be the combination of transit and other alternative forms of congestion management. Yet again, I feel that transit and congestion management are the same thing- why else would we have passenger rail other than to move people without putting the cars on the roads?
Start taking steps to significantly anticipate and prepare for the impacts of climate change on our transportation systems. Asphalt mix design needs attention here as the default temperature for design set decades ago is no longer valid. Sea level rise is also a major concern.
Start taking steps to significantly anticipate and prepare for the impacts of climate change on our transportation systems. Asphalt mix design needs attention here as the default temperature for design set decades ago is no longer valid. Sea level rise is also a major concern. It is worth investing in the electric vehicle support systems as well.
Interstate maintenance has improved, but state roads in the upstate are still in poor shape and need to be addressed immediately

You supposed to be able to see the "fog line" or the white line on side of road at night and or raining and CAN'T. that needs to be addressed
When you still have to avoid the pot hole repair job we have quality problem. Fix the road right the first time and it may last longer.
The roads SCDOT reclaims and pave seem to last better than the ones done by contractors.
Please get I-20 between mm61& 51 finished and repaved. It's painful for me and my car when driving, especially between 61 & 51 mile markers.
The pot holes I have to swerve to avoid destroying my car need fixing
Traffic stop lights to prevent accidents in blind spot locations, high traffic areas etc. add speed bumps near walkways across the road because it's hard to see pedestrians
Keep gutters clean where they are present.
State Highway 269 in Fairfield County is an embarrassment.
We need more speed limit signs. One was knocked down 35 yrs. ago near my home and never replaced. It was on W. Buena Vista Ave in N .Augusta ...speed is awful on this St. I called DOT but no luck.
Bridges all over SC are in unsafe condition especially in our rural areas. They have become so expensive but something needs to be done to make our bridges safe to use!!
I find it a little tough to rank these. The picture shown when I click on daily maintenance is a pothole repair. I would think that's part of safe roads. Why would safe road and repairing bridges be 2 different categories? Why would repaving be it's own category?
It seems the roads around here are constantly getting potholes and having them filled. And few have shoulders for when you have to dodge a pothole. Why not construct them better in the first place so they can last longer?
Having safe and clear roads without potholes and other car damaging hazards will make everyday life easier.
Repaving #1,Transit#2 Bike paths #3
My wife drives in the left hand lane on some interstates just to avoid the potholes. She then slows down other traffic and increases congestion. Maintenance is very important and has improved in recent years.
Every road I travel on needs resurfacing.
Locust hill road needs to be widened and repaved
Add more lights especially to the interstate system
700 railroad Ave. Need repair. Sidewalk too high and road are too low. I broke my ankle last week because if that. Please fix it
The backroads are really bad like Moore and Hunt Road in Anderson County
Highway 296 Reidville road is a HAZARD from Greenville all the way to interstate 26. FIX THE DERN THING!!
Water stands on joints of all bridges. Need repairs
These roads in Cherokee county are very bad and they are Dillon street, Hwy 221 at NC state line to Chesnee and hwy 11 at Chesnee city limits to Cowpens Battleground.
Paving the roads. Roads are bad
Lovesprings road in Gaffney SC need more than just patching little here little there. lots of autos, motor cycles, big trucks, bicycles use the road. We are drive in middle of road to stay out of the potholes.
Geer Hwy (US 276) From Travelers Rest to the State line needs a repave ASAP.
Way too many potholes. Route 17 in Little River, etc.
Complete Route 31to NC border
I would love to see more of the "back roads" paved rather than just the main roads. There's a lot of dangerous potholes on the back roads all across SC. I'd also like to see more streamlined maintenance instead of shutting down all but one lane on

<p>busy roads like I-85. The current setup for the maintenance being done on I-85 is incredibly dangerous and causes entirely too much congestion.</p>
<p>All roads needs to be redone to many holes</p>
<p>Repair the bridges and make them safer</p>
<p>Roads in smaller counties like Edgefield and Saluda are in desperate need of repair. Too many large cracks bumps and pot holes. Cost taxpayers hundreds to thousands in car damage repair. This should be the top priority. It why most of us said yes to this tax.</p>
<p>Highways and high traffic roads in small counties like Edgefield and Saluda are in desperate need of repair. The large cracks, bumps and countless potholes do hundreds and thousands of dollars in damage to our cars. This is why most of us said yes to the tax. This should be the top priority</p>
<p>Highways and high traffic roads in small counties like Edgefield and Saluda are in desperate need of repair. The large cracks, bumps and countless potholes do hundreds and thousands of dollars in damage to our cars. This is why most of us said yes to the tax. This should be the top priority.</p>
<p>I would like see Bryant Rd In Spartanburg County repave from Hwy 221 to Old Furnace Rd and Archer Rd From Floyd Rd to Boundary Dr in Spartanburg County and Repave Chesnee Hwy From I -85 and Hwy 221 to Spartanburg City Limits</p>
<p>The roads are in awful shape and need immediate repair. There are too many potholes and crumbling roads in my county</p>
<p>Paving dirt roads. Blackstone Camp Rd Beech Island SC</p>
<p>All roads need to be repaved that have pot holes, tree roots growing under pavement pushing it up causing huge bumps across the road. This causes vehicles being knocked out of line. Over all we just need better roads.</p>
<p>The pot holes on the side roads in Greenville and Marietta area are bad</p>
<p>Not only the highway roads need repaving but our secondary high travel roads seem to be the worse roads around. Fews Chapel Rd in Greer is a cut through from Jordan Rd and Highway 14. This road is in shambles and all that gets repaired occasionally are pot holes. This is NOT the cure .</p>
<p>Burnt gin Rd in Gaffney SC hasn't been paved in over 40 years. Road is a danger.</p>
<p>Burnt Gin Rd in Gaffney is dangerous. Not paved in 40 years.</p>
<p>This is a low priority. SC needs to improve basic infrastructure! Greenville Co is growing and our roads are not safe, full of potholes, and too congested.</p>
<p>Hwy 275/25 from Greenville to Ceasers Head has to be one of the worst . most pot hole roads in SC</p>
<p>Staunton bridge Rd in Greenville SC near Whitehorse rd. needs to be repair because there is a big hole right between the road and the sidewalk.</p>
<p>Repave correctly the first time</p>
<p>Having been a commercial driver for 40 years I can say that Hwy 276 from sr11 to Pickens county is the worst road ever. Pot holes, buckled pavement, cracks on both sides and an upcropping at the bridge in Cleveland that practically gets you airborne. Total embarrassment for a scenic highway.</p>
<p>Is there anyway SC DOT can insist the City of Charleston install the smart light at River Rd and Maybank Highway on John's Island</p>
<p>Edwards Mills road in Greenville/ Taylors area needs to be worked on. So many holes on this road. Cause of this road I had to replace 2 tires on my car</p>
<p>The condition of all roads is EXTREMELY poor & whoever designed 526 from Clements Ferry to I26 should be sued.</p>
<p>SC Hwy 221 South of Woodruff in Spartanburg County. In bad need of resurfacing.</p>
<p>Ashmore Bridge Rd needs repaving .Hwy 25 leading into Greenville also needs repaving as well as 85</p>
<p>Duck Pond Rd. Walhalla SC bridge is out</p>
<p>Duck Pond Rd. Walhalla SC bridge is out</p>

If you would just focus on reducing our congestion by closely monitoring and preventing over development, repave pretty much all of our roads and then maintain them daily and focus on repairing our bridges, then you can turn our existing infrastructure into a safe.
Complete 526 loop
Please consider black jack road it's pot holes have cost me two splitters on my charger
Some roads you travel went it is raining you can't see the lines on the road.
Example: 385 paving project. I have seen where they have certain spots along 385 then RIP asphalt up then pave and repeat again in the same spot. I feel tax payer money going down the drain on this project.
Filling pot holes don't do any good if it is not done right
Repairs need to be done correctly or cars are damaged for years
QUALITY of work. Among other work, pothole repairs should last longer than a week. Bridge/Road junctions shouldn't bounce drinks out of cup holders. QUALITY!
Clean up the disgusting trash along our SC highways and keep them mowed .
We have roads in Oconee county that are literally crumbling away and have huge potholes. Sitton Mill Rd Seneca
Fixing potholes
Fixing potholes
If you guys don't repave ALL roads in SC.. NO new roads or bridges until ALL roads are paved
Stop wasting our tax \$ and repave roads! NO new projects until ALL SC roads are repaved!
The daily maintenance needs done I the cross way in Edgefield on crest rd. the cross way needs painting.
repair I85 St. lights in Greenville county
Proper paving is critical. Previous repaving work has NOT been to standard from less than adequate tack and prep before paving. Road surfaces everywhere unravel or delaminate within a year of paving.
Please repave Dougherty Road; it's in bad shape. Also, the intersection of Legion Road and Highway 421 has been repaved several times but always develops huge potholes. It needs to be permanently fixed.
Alternatives to relieve congestion like autonomous vehicles
Please help reduce congestion by maximizing our existing infrastructure and TIME OUR TRAFFIC SIGNALS. Please. I understand the coordination between federal, state, and local entities, but please time them. IT's SAFER and GREENER.
Synchronize traffic lights .
The nature of transportation is changing from gasoline/diesel fuel to electric vehicles. EV infrastructure will be a pressing need.
Intuitive traffic signals that can sense the amount of cars at all hours of the day is important.
EV charging at Rest stops.
Replace current I-85 lighting in median with LED solar lighting... or remove them.
Synchronize lights but don't build new roads for capacity. Put new road money into keeping roads and bridges up. Existing roads should constrain development.
Electric vehicle charging stations
Create electric vehicle charging stations
Go to all electric
I am very concerned about the radiation that will be emitted by planned autonomous vehicles and use of 5G wireless on the roads. I am electro sensitive and will not be able to tolerate being in the community around this technology. Makes me very sick (especially heart rhythm abnormality verified by my cardiologist). It is not an option for me and I don't see anyone in authority considering scientists health warnings about the increase in radiofrequency radiation and use of 5G.

Synchronize traffic lights.
Need to prepare for self-driving vehicles now
Add more EV high speed charging stations, I drive a Tesla.
Not just the main road
What exactly does this mean?
I didn't see the "above this line" requirement. I hope the ranking is reported correctly instead of omitted.
Saves drivers time and energy costs!!
Needs to move every two hour.
Translate-Very confusing. Very poorly written
i do not see how to rank these items!
Please STOP bringing new companies into Dorchester and Charleston areas. Build future companies and expansion near I95. Upgrade rail system from I95 to Charleston ports and eliminate or significantly reduce large transit trucks from in and out of ports, I26, I526 and I41 to reduce traffic, roads/bridges maintenance costs and general law enforcement, infrastructure and general management costs and public frustrations. Please do the math for 3, 5 and 10 years ROI and re-elections risks before saying no. Do it right for the people who are already live in Charleston and Dorchester counties.
I have no confidence SCDOT manages highway construction effectively or efficiently.
Remove the current third party road design engineer. They have fouled the Ravenel, Wando and Dorchester road projects to mention a few
Potholes
it would be very nice to see 707 and 31 W completed before I die.
To many new houses roads can't accommodate all the new cars
They are All important Hard to prioritize
To much seemingly uncontrolled development in Horry County. Developers should be held responsible for some costs.
This question should really be contextualized. For instance, urbanized areas will have differing opinions that rural.
Don't take forever to complete a project. You r already behind with solving problems. Stop building permits till road plan done first & impact on existing roads
The survey stopped 😞
Would like to see some agreement among state and local governments on these priorities!
Protection of cultural resources.
Demand quality work from contractors! And hold them responsible for repairs when it is not done!
These are important now!
Quality of life is most important and more development/roads/people/noise/congestion does not achieve that.
Stop allowing so much growth
I tried for days to call and talk to someone in the right of way maintenance dept.. THEY DON'T ANSWER THEIR PHONE--EVER!
We need a cohesive plan that recognizes Greenville/Spartanburg will be a "big city" within the next generation 25 -
None
The infrastructure planning is ridiculous. With the growth it's already at least 10 years behind. There is little to no confidence that SCDOT could even figure out how to catch up. Nor have they shown any ambition or capability to do so. See filling pot holes (the easiest thing to do yet it I've seen multiple have to be fixed a week after being "fixed") as the prime example.
Please they don't go places like in Ravenel
Love them but don't like the idea of reducing the number of lanes for traffic.

All of these topics are closely related this making them difficult to prioritize. Indeed, in most cases doing one or more will have a direct impact on something else on the list.
Agree
Pothole patching
These are NOT mutually exclusive items!
These are all absolutely critical to a functioning transportation infrastructure system.
These are tough questions to answer...we want our officials to study and/or hire experts who know what efforts would benefit our roads and travelers most.
STOP WASTING TAX MONEY ON social programs, BUILD ROADS, STOP THE BS.
QUIT ALLOWING SO MUCH HOUSING DEVELOPMENTS TO BE BUILT AND CONCENTRATE ON ROADS POLICE, FIRE AND SCHOOL NEEDS BEFORE ANY MORE LAND IS RAPED FOR DEVELOPMENT. ALSO ENTICE CLEAN AIR INDUSTRY TO COME TO HORRY COUNTY. STOP RELYING ALL ON TOUREST INDUSTRY.
Best would be to put a moratorium on most new building, except to replace existing structures. We're running out of room for more roads and depleting green space.
They are all pretty much basic needs that are needed regardless of priority. Some of the issues are more prioritizing what is done where based on urgent need within a category rather than any one category having priority over the other.
These are all basic needs that must be addressed. It is important that how each is addressed is based on real need and practical locations.
They have been working on 85 between Spartanburg and Greenville since the 70's . Find companies that can finish the work quicker , after all they were able to rebuild LA. in six months .
Unable to do the rankings. Program doesn't work.
A lot of these issues overlap so input WILL lead to logical fallacies and false conclusions. Of course people want to do all of these things, but some of these things overlap. For instance, improving transit and improving bike and pedestrian pathways will reduce congestion, so wanting one of those things will cause the others. This is a poor question that anyone in this field should understand as a fundamental truth...
A lot of these issues overlap so input WILL lead to logical fallacies and false conclusions. Of course people want to do all of these things, but some of these things overlap. For instance, improving transit and improving bike and pedestrian pathways will reduce congestion, so wanting one of those things will cause the others. This is a poor question that anyone in this field should understand as a fundamental truth. And then daily maintenance with repaving and bridge repairs? I'm starting to lose hope in this questionnaire, and this is the first question.
Whichever contractors you use now, please stop. How hard can it really be?
When are you going to quit planning. 10 years ago all this forecast was put out, for the long range.. I guess planning if the priority that is a daily chore at the Department.. plan after plan after plan, and never a plan to show; WHAT IS BEING DONE, AND WHEN IT WILL BE FINISHED.. DANG..
What's the point of ranking? These are ALL SCDOT responsibilities and you must do them all well.
You need to monitor the work these pavers & road crews do, some of their work is pretty shoddy.
In Sioux Falls, SD, residents must keep the sidewalks along their property free from snow. Could we ask residents in our communities to keep sidewalks along their property free from yard debris so that walkers and wheelchairs might pass?
My ranking order would likely change if I lived in a different SC area.
Infrastructure must come first.
All these items are important.
This seems to me more of a local issue rather than a statewide issue.
None at the moment
Please use same terminology as budget allocation

Definitely one of the most important things!
The survey is misleading as local concerns vs state concerns would be ranked different and not sure which is being sought in this survey. I answered for locally.
The tournament and McDowell shortcut corner is getting worse by the day. Many times blocking 17 bypass. With many more developments building within a mile or two from here this should get done ASAP. Please inform us what is going on!
All the above are all important. The roads are way behind other states!
No opinion
Audit the Infrastructure Board
Impossible questions as most are of equal importance
After current roads are fixed
The roads in SC are some of the worst I've ever experienced. Completely unacceptable for a state that collects property/state taxes
SCDOT needs to make a better effort with keeping the public informed of upcoming paving projects!!!
Have a great chance to plan ahead better as southern part of Greenville county get developed. Set up an organized plan for development around all cities as they grow.
Unless it's in an urban environment there is no use for this
They are all important.
Fort Mill has had the fastest growth anywhere and yet has the worst infrastructure in the state. It cannot hold the continued growth sustainably without immediate change to the infrastructure.
The rural areas of SC need attention,, also I-95 & I-20.
I consider repairing unsafe roads under maintenance or repaving...I put 'safe roads' last if simply things like rumble strips and lighting
I understand that corruption is the life blood and soul of South Carolina culture, however it needs to be put aside long enough to at least get us I to the 20th century.
Very important
Indian Land area is getting worse by the day
After closely observing scdot for the past 5 months they waste an incredible amount of time and tax payer money - exceptionally inefficient,
All items seem important, wouldn't want to lose out on any of them being a priority
all of these items are extremely necessary to satisfy infrastructure needs
Prioritize Myrtle Beach, Horry County population explosion traffic issues. Must be pro active
worst road system of any state I have ever lived in
Not really interested in this. We don't utilize it at all
Kelly Mill/Hardscrabble Rimer Pond/Wilson blvd Langford Rd/Main st Blythewood
Help fix our roads by LIMITING POPULATION DENSITY in all areas. We have the \$s enough to upkeep and maintain existing roads. Do NOT use millions of dollars to complete 526 to John's Island. Limit the growth and stop giving tax breaks to profitable companies for their presence in our community. Put the priority on preserving our existing quality of life. Say no to allowing more development which enables hundreds or even thousands of more people.
I have ordered this yet is shows I have two items to do?
By taking care of the top four you automatically take care of number 5.
I have rated the way I think should tack place
Pothole patching

Pothole Patching
Cut all of right of way
Stephen road Edgefield County
Driving on the interstate is like the wild wild west and can be scary. Please please please, not only make them safer, but working with the public to improve safer driving habits.
Need to check 29841 for increased traffic on Georgia Avenue
You should ask if this info is from person living in rural, small town, or city .
Will you really pay attention to these surveys?
Reduces accidents
Stop approving massive housing development without considering the residual impact on existing roads that were NEVER designed for massive traffic. Developers simply MUST take accountability for expanding roadways and keeping traffic flowing...NOT clogging it up as is currently happening within Greenville County (LACK of planning) Commission.
To where?
1
A look at Google Maps traffic reveals SC roads are often unusable.
Stop doing major construction during peak tourism dates
No options
Recruiting and retaining transportation professionals in-house
Waste of money and dangerous
Cut down growth too many people now
Like HWY 92
Valley Falls Rd by USCS
Parris Bridge Road
Pothole Patching
Highway 215 in Union county
Pothole Patching
Timely completion of projects.
Timely completion of projects. Projects started or near completion. Then work stops. MUST COMPLETE.
I 95
Taylor's has grown and roads are inadequate
Pothole Patching
increase the speed limit on I-85 to 70-75 mph
Please look into recycled plastics for roadways. Also: some of the recent paving looks very shoddy.
Safe roads are my #1 concern but I do not agree with the SCDOT functions for a safe road. Rumble strips are not conducive to bicycle riding. Wider and brighter pavement markings are fine, but so is investment in NACTO street crossing facilities, guardrail/cable barriers are not for urban locations ; complete streets, narrower streets, slower speeds, medians, tighter radii are all missing.
You seem to be suggesting you will only focus on safety for motorists.

The deaths of pedestrians in our state is unacceptable. We must spend more funds on designing safety for people not just for cars
Safe roads that don't flood should be a top priority.
Bring back state car inspections. Mk the standard of what can be driven on the roadways a priority and this will help w/ safety, accidents and breakdowns. Save money! The merge lanes onto major highways need to be extended. Divers have serious issues merging in this state. Thank you.
We are too high in fatalities. Drivers don't care for each other. Too many distracted and careless driving. Lack of education. Lack of respect. The technology is not there yet to make autonomous driving a reality.
Safe infrastructure is a necessity, especially when there are evacuations.
Safe roads includes each and every items of this list.
On HWY 501 the Grady Rd by Dollar General in Mullins, there needs to be a red light there, when asking about it they always say there is not enough traffic that passes that area but they are wrong we live here and have to get on and off the road, we have been asking for this in this community for a long time. No one listens to the us here in this community.
Night driving in this state compared to other states roads feels unsafe with how dark it is in a lot of spots. Additionally, mid interstate yield/crossover lanes (526/26) is insane. Wider shoulders and brighter visibility in the rural areas would be ok, but extra lanes are severely needed in the Charleston area over shoulders.
Better lighting on some roads
Desperately need a major highway for tourist traffic and hurricane evacuations in and out of myrtle beach! It should be a direct path from Myrtle Beach to highway 95 somewhere near Florence. It is a serious safety issue!
Concrete islands raised 6" above the roadbed are extremely dangerous to motorcycles and pedestrians. These islands are poorly marked and not visible at night and they increase the cost of road building when painted lines and markings will achieve the same results
Get rid of and stop installing concrete islands that are raised above the road surface 6". This is a hazard to motorcycles and pedestrians. Use painted lines and road markings in place of these dangerous and costly islands
Stop cutting down trees! The trees are not the problem. Inattentive (=texting) drivers are the problem.
Add cable barriers, more lanes, more roadways
Add cable barriers, more lanes, more roadways. Too many pot holes and worn out roadways. Not enough traffic control devices or officers hired to complete traffic duties
Yes b/c too many pedestrians are getting hit by vehicles
You included "Rumble Strips" in "Safe Roads." Rumble strips make roads very unsafe for cyclists. They force cyclists to ride further into the road and leave no safe space to move over to the right when necessary. They leave no room to ride safely to the right of the rumble strip. They cause falls for inexperienced cyclists trying to get across them. They are downright dangerous.
Traffic light synchronization Proper markings/reflectors/directional arrows in each lane
#1 improve dangerous intersections. Example: Tournament Blvd & McDowell Shortcut intersection
Including wildflower verges and tree canopy. With such wide reaching roads, this would go a long way towards helping our state and our world. Tree canopies would help with heatwaves and also shelter pedestrians and cyclists from the hot sun and help to encourage exercise.
Including wildflower verges and tree canopy. With such wide reaching roads, this would go a long way towards helping our state and our world. Tree canopies would help with heatwaves and also shelter pedestrians and cyclists from the hot sun and help to encourage exercise. Also I would love train quiet zones and upgrade our crossings to have quiet zones in Cayce, Columbia, West Columbia.
The roads I drive on are unsafe. I wish someone from scdot could ride around with me for a day and see the terrible dangers I encounter. You need to fix things that have been left undone for many years.
Pavement markings need to be brighter

Redo signs, adding if necessary or moving sign placement especially for major highways, ex. 52/rivers connector getting to 26 sign needs to be before light to get people in correct lane
The state death statistics for pedestrians and bike riders is unacceptable We need safe intersections for all users We needed separation of vehicles from people on bikes
Better markings
How many more cyclists and runners need to be hit before we add safe biking/running ways?
Install Roundabout at Tournament Blvd and Mc Dowell Shortcut to prevent accidents Tournament is very busy In Murrells Inlet 29576
Safe Roads - please do NOT do more rumble strips.
Number 1
Potholes
This is also a safety improvement with traffic slowing effects.
It is not that safe roads are not important, but rather that they would likely be accomplished via the other priorities.
Safe roads and repairing bridges are the top priorities
Add lots of street lights. 26 should be lit up at night. Add street lights to all busy intersections. Add more crosswalks that are lit. Make sure maintenance is kept up on the lights. Add red light cameras so people quit running red lights. Plus that is extra money that could be put towards maintaining the area. Give people tickets for speeding, not using blinkers, road rage etc...:Add signals that emergency vehicles can get through. Put up bill boards and start running commercials to move right for lights and sirens.
Safe roads for me does not mean increasing road width or more lanes--we need more transportation options, not more or bigger roads, at least within cities.
Safe roads/reducing congestion for me does not mean increasing road width or more lanes--we need more transportation options, not more or bigger roads, at least within cities.
Safer roads also means slowing traffic through traffic calming measures such as planting trees, not just removing trees for when people going high speeds crash. Safer roads should be safer for all users- pedestrians, cyclists, and drivers, not just drivers. I would have ranked safe roads higher if this had been included.
Signage to improve drivers' behavior, i.e. "Left Lane for Passing Only" signs on our highways could improve congestion.
Rumble strips seem to force those of us who ride our bikes further into traffic and make it harder for cars to pass us. They then get more frustrated and pass in unsafe situations.
It's impossible for me to separate *safe roads* with *repairing bridges* and *daily maintenance* good luck with having these overlapping items giving you real feedback
I would like modern roundabouts and other new intersection innovations to be considered when planning to improve movement of traffic. This is not only in the interest of reducing congestion, but also for safe roads.
To help determine safety concerns .. check with local FD's where they have routine MVA's
Before SCDOT even considers biking paths, they need to create shoulders on roads. I am a fairly new resident & I see this as a tremendous safety risk not having road shoulders. If someone forces you off the road, it will be a serious end result.
Safe roads include more breaks in traffic to allow people trying to enter left across long congested roads opportunity to do so and at connector 30; need a light to STOP the right turn traffic so pedestrian, bikes and oncoming LEFT turners have ability to get on connector 30 off Folly
1. Additional options for hurricane evacuation from the coast. Too much congestion! 2. New major roads should be constructed so they don't go underwater during floods!
We don't need rumble strips. It is hazardous to bicyclists. If you need them to drive, you don't need to be driving.
Accelerating current road projects; the I-20 construction around Columbia and the construction in Greenville have been going on for years. These construction areas are dangerous.

Headlights 24/24 would increase pedestrian and bike safety at zero cost
Rumble strips are a great safety improvement, but as an active cyclist, having a periodic gap in the strips, like you do with driveways would allow cyclists to safely get to the shoulder when traffic approaches from the rear.
THE RUMBLE STRIPS SHOULD OUT OF THE TRAVELED LANE, I RIDE ON THE RIGHT SIDE OF THE LANE OUT OF THE TRAVEL LANE. TO DAD THEY FORCE DRIVERS TO RIDE ON THE CENTER LINES TO MUCH
To reduce secondary wrecks on interstate, How about smart roads. Put more message boards and congestion ahead lights on interstate. You got all that fiber running along major roads, use it to save lives!!!!
I believe good quality roads that are WELL PAINTED ROADS will promote safer roads
A safe road is not only scaled to traffic and angled appropriately for curves, it has safe pavement.
The really elaborate memorials constructed on the highways are distracting. What if we use the blue signs as a template and have a "caution yellow" safe driving memorial sign at on-ramps. Families could purchase a plaque (like restaurants and gas stations on the blue) in honor of and with name/date of the loved one to place on the yellow sign.
There needs to be more lighting on all city, county, and interstate roads. Reflectors aren't the answer. Solar lights yes.
Rumble strips help protect distracted drivers and force cyclists on the road. Cyclists are being endangered because of drivers not following the rules of the road.
please stop clear cutting the trees on the interstate!!!
Adding verbiage that mentions 'To I-20' or similar on the I-26 split to Spartanburg *BEFORE* you decide which way to go would be beneficial
Interstate 26 needs guardrails in many locations. The trees in the median are too close to traffic lanes. I've seen tree limbs right up to the fast lane.
Rumble Strips reduce the available road space that can be used by cyclists and mopeds
I26 and 20 is a death trap.
How about more red lights. There was two wrecks in 8 hours at the same intersection (Gosset Rd Sha Ln and Dewberry Rd) and the congestion there from 3-5 is ridiculous especially with the road work on 85. Also how about a red light at Mayo Rd and Hwy 221 people don't follow the speed limits and it makes it harder to get on to 221
Allowing motorcycles to lane split or filtering between lanes at a stop light will reduce traffic, reduce motorcycle accidents, and also reduce damage to motorcycles (i.e. having to cut off the motorcycle to prevent overheating)
Improving safety and clear views for short entrance ramps, such as White Horse Rd (Hwy 25) into I-185 toward Columbia, and Laurens Rd onto I-85S; and also, exit ramp from I-85 onto Laurens Rd. The White Horse Rd entrance to I-185 has very low visibility due to trees, often speeding traffic at rush hour, and no merge lane due to a bridge at the end of the ramp. For a semi or car to get into the flow of traffic that won't slow down to allow safe merging, it's dangerous to try to merge from a complete stop. Many wrecks happen here, including being rear-ended by people who are looking behind them to try to gain visibility to merge yet not realizing that a car in front has come to a complete stop. Happens every day. Please address! Thank you for listening!
Improving safety and clear views for short entrance ramps, such as White Horse Rd (Hwy 25) into I-185 toward Columbia, and Laurens Rd onto I-85S; and also, the exit ramp from I-85 onto Laurens Rd. The White Horse Rd entrance to I-185 has very low visibility due to trees, often speeding traffic at rush hour, and no merge lane due to a bridge at the end of the ramp. Further, a driver is forced to look backwards to gain view of oncoming traffic, through trees that weren't trimmed back during a recent trim. The lack of view and no merge lane often forces a driver to a complete stop. For a semi or car to get into the flow of traffic that won't slow down to allow safe merging, it's dangerous to try to merge from a complete stop. Many wrecks happen here, including being rear-ended by people who are looking behind them to try to gain visibility to merge yet not realizing that a car in front has come to a complete stop. Happens every day. Please address! Thank you for listening!

<p>Improving safety and clear views for short entrance ramps, such as White Horse Rd (Hwy 25) into I-185 toward Columbia, and Laurens Rd onto I-85S; and also, the exit ramp from I-85 onto Laurens Rd. The White Horse Rd entrance to I-185 has very low visibility due to trees, often speeding traffic at rush hour, and no merge lane due to a bridge at the end of the ramp. Further, a driver is forced to look backwards to gain view of oncoming traffic, through trees that weren't trimmed back during a recent trim. The lack of view and no merge lane often forces a driver to a complete stop. For a semi or car to get into the flow of traffic that won't slow down to allow safe merging, it's dangerous to try to merge from a complete stop. Many wrecks happen here, including being rear-ended by people who are looking behind them to try to gain visibility to merge yet not realizing that a car in front has come to a complete stop. Happens every day. Please address! Thank you for listening!</p>
<p>If you take care of the first two, some of the rest will logically be included.</p>
<p>Rumble strips should be limited to highways that prohibit bicycle traffic. Rumble strips cause bicycle falls.</p>
<p>Pavement markings are faded at pine street crossing Saint John St. and also at Isom St. There are other places and if it is raining it is hard to see where the lanes are.</p>
<p>Maintaining and keeping safe what we have should be a non-negotiable priority</p>
<p>Reflective paint alone would make roads safer. Can't see current paint if it's raining in the middle of the day.</p>
<p>we need more evacuation routes from the coast</p>
<p>I think safe roads should include paving and repairing bridges, along with daily maintenance. All of these items make our roads safer to travel. People swerving to miss potholes, poor road conditions, etc.. make for dangerous roads.</p>
<p>Put a moratorium on new home building until our roads and highways are capable of supporting the population. We also need more stop lights at dangerous intersections.</p>
<p>Where there are no sidewalks, there aren't even safe shoulders to walk. All highways should have bike lanes. Drivers often don't pay attention and drive faster than allowed. Clearly visible bike lanes (maybe with paving in a different color) would help.</p>
<p>Priority wider paved shoulders. Some roads have no shoulders at all. Making right turns you can fall off the edge sometimes hitting the bottom of your car because of 6 inch drop or more.</p>
<p>Priority wider paved shoulders. Some roads have no shoulders at all. Making right turns you can fall off the edge sometimes hitting the bottom of your car because of 6 inch drop or more. Bike paths on some roads would also be a safety feature for riders as well as traffic that can become left of center avoiding walkers & riders.</p>
<p>Safer passage for areas with increased golf cart/moped traffic.</p>
<p>Make edges of roadway easier to see at night with reflective paint.</p>
<p>Thought should be given to how the rumble strips on roads impede the safety of runners, walkers and bikers . There is absolutely nowhere to go when a car approaches any of the three. If rumble strips are going to continue to be a part of our roads for driver safety then a wider area of pavement on the shoulder of the road needs to be added for the safety of the runner, walker and biker. I participate in all three activities on the road I live on and everyday it is problematic and I am having to jump into the ditch for my safety when I walk or run. Drivers lay in their horns when I bike on the main road . If I had an area to move over to when a car is behind me , it would not be a problem but currently the rumble strips present more problems than help.</p>
<p>Rumble strips are NOT safe. They make it dangerous for cyclist, and cause drivers to over compensate steering into oncoming traffic!</p>
<p>Pave road shoulders. People are dying on a regular basis from running off roads without shoulders. Inexcusable.</p>
<p>Cycle's have no place on our roads & highways...safety issue!!!</p>
<p>Safe roads was ranked down because the description only focused on improving automobile safety and not pedestrian, bike, and transit safety.</p>
<p>Hazard boards need better use than traffic death totals that don't get changed</p>
<p>Motorcycle safety, lane splitting, filtering.</p>
<p>Ripping out Trees is and was a terrible idea. If THAT's what you mean by safe roads.... never!</p>

Safe roads is not independent of daily maintenance, and the two should work together.
Safe roads is not independent of daily maintenance, and the two should work together. Congestion- should consider rerouting of freight trucks, particularly through residential areas (which supports road health), as well as, partnership with the charlotte light rail system for a stop or two within the fort mill city limits.
I have a young family and I want them to return home just as they left. Healthy and whole. Safe roads is not independent of daily maintenance, and the two should work together. Congestion- should consider rerouting of freight trucks, particularly through residential areas (which supports road health), as well as, partnership with the charlotte light rail system for a stop or two within the fort mill city limits.
Safer shoulders, fewer dangerous pot holes and sidewalks...especially around the schools.
need speed signs on s 4 193 cedar grove rd. Townville SC 29689 traffic is dangerous
More focus on motorcycle safety as well
Wide safe Shoulders!!!
Wide safe Shoulders!!! Traffic lights timing should be part of routine maintenance
Hurricane Evacuating
Over development is making evacuations unsafe and traffic impedes the safe and quick evacuation during emergencies
More lanes on evacuation routes away from the coast to allow safe and timely flight during emergencies instead of parking lot syndrome for hours on end. What if there was a tsunami ? Thousands would simply perish with no hope of escape.
There needs to be permanent barriers, such as poles, between bike paths and next door lane of traffic. Also, the next door lane of traffic needs to be wider than the outer lane of traffic!
Safe roads, Safe Workers, safe for motorists
Ensure all hurricane/emergency evacuation routes are designed at the worst case scenario to remain open to traffic during emergency events. (i.e. grand strand was cut off from the world after flooding, so help redesign and fix critical areas on evacuation routes.)
We need to widen/expand our highways and add HOV lanes and wider shoulders in some areas of congestion. Also need to focus on getting the large semi-trucks off the highways. Safety is key for highway workers and commuters/travelers.
improve roads for safe travels
New Cut Road & I-26 intersection is dangerous... congested and very short merge lanes for tractor trailers and is loaded with distribution facilities with more coming
Rumble strips are NOT safety improvements as executed in SC! Only effective with wide enough shoulder to allow road users to stay on the road (cars) or shoulder (cyclists).
We need to ensure our roads are safe, and that they are maintained in a manner that doesn't wait until a catastrophe to do repairs.
More durable, effective safety products, i.e. reflective markers that get plowed up, paint that don't reflect, so many painted lines at some intersections leads to confusion. Better system to insure a quality product/service for what the tax payer is paying for.
Need safety on bridge before something happened
More S.H.E.P truck service on interstate highway
More S.H.E.P truck service on interstate highway If a road needs to be repaved stop patching it and repave it its saves taxpayers money
More S.H.E.P truck service on interstate highway If a road needs to be repaved stop patching it and repave it its saves taxpayers money Put in to law that all tractor trailer travel in the far left lane of the highway and if a vehicle is not to travel in the fast lane in less it is passing another vehicle
wherever rumble strips are installed on back roads, the shoulders need to be wide enough for bicycles
SC needs to improve basic infrastructure! Greenville Co is growing and our roads are not safe, full of potholes, and too congested.

We need more reflectors and lights on the roads, especially the backroads.
For safety
All freeways in the greater Charleston area should be, at minimum, 4 lanes travelling in each direction. Not including merge lanes for entry and exit. Also, creating a sufficient timed traffic lag system instead of the sensor-based traffic lights that are in place, would allow traffic to flow more smoothly during heavy commute times. There is a great need for enforcement of proper lane usage by tractors hauling freight containers. Too many container trucks are riding in the passing lane for the entirety of I-526. Not just repairing existing bridges, but building more bridges. There are currently only 2-3 bridges across each major river in the Charleston metro. More bridges would allow drivers to use surface streets more than freeways, which would help alleviate congested traffic.
On I 77 and I 26 there are numerous signs where the reflective lettering is no longer there. It is dangerous for night driving, or travelers that visit our state to find their appropriate exits, and safe planning for lane changes.
Please stop with the rumble strips. Cyclists cannot use the few wide shoulders we have if rumble strips are present.
We live off of hwy 357 Lyman/Greer, the under bridge for the frohawk river has a large dip in it and is getting worse each month. Something needs to be done immediately before it collapses. Then the repaving of 357, NOT cover massive potholes but pave it. Signage for no trucks weighing X amount lbs. Living in the area of several schools, around 4 or 5 p.m., I see children walking 357 in the ditch and if your familiar with this road, then you know it is a very curvy road. Teens have been hit in the past after dark. We need a walkway/bicycle lane for these children. Some may have had a sports practice, band, event that kept them past bus times, these children have no other choice but to walk 357 to get home.
Return Church Road in Seneca is an absolute disgrace and a safety hazard period!
127 BYPASS IN LAURENS COUNTY NEEDS GUARD RAILS ASAP!
I think more bridge rails should be put in place such as one should be replaced on Macedonia Street in Edgefield it's very dangerous without one.
What I wish most, for safety of all is that all money and work resources be thrown at ONE project at a time to finish it quickly, months, not years (think bridges). After Japan's earthquake they replaced an overhead highway in two weeks. Having highway lanes closed is dangerous. I try to not drive through construction zones due to fear of being rear ended. Please promote zipper technique, which I just learned from news item on local tv!
Give local jurisdictions more say in how their roads operate.
Please give more \$\$ to countries with exploding growth
All transit should be self-sufficient and be done w/o taxpayer funding.
Outlying cities like Travelers Rest, Marietta, Cleveland need help with roads and repaving, not just Greenville, Columbia and Charleston. Help every city equally.
Change funding structure to pay per mile travelled; Trucks should pay way more as the design and maintenance is determined by their usage; Electric cars MUST pay for their road use/maintenance and they do not with the gas tax.
Increase quality and quality of transit services and options. To include rail and Bus Rapid Transit.
As our urban roads become more crowded with cars, we must look to other transportation options that are sustainable and affordable.
What exactly does this mean, about freight? Why isn't mass transit listed as improving congestion? Clemson runs a great bus to ICar in Greenville. Why doesn't the state do more of this? Or add light rail? I'd live to take a train to Charlotte or Atlanta. I'm risking my life by driving.
What exactly does this mean, about freight? Can rumble strips be further out so bikes can be on the road safely? Can improved visibility be done without hacking down all the greenery? Why isn't mass transit listed as improving congestion? Clemson runs a great bus to ICar in Greenville. Why doesn't the state do more of this? Or add light rail? I'd live to take a train to Charlotte or Atlanta. I'm risking my life by driving.
Please expand all kinds of public transportation!
Add rail transit to the busiest corridors, such as Lexington-Columbia, Chapin-Irmo-Columbia
Consider higher capacity mass transit than buses, like light rail, in urban areas or Charleston, Columbia and Greenville.

Some states have shuttle buses that connect the state east to west and north to south. I depended on these when living there and STRONGLY believe that bus connection is vital for a better served populace
I live in Columbia and the trains dear god the trains. THE TRAINS.
Get cars off the roads. Improve other systems of transit like a metro line or buses. How about emissions checks for all our aging jalopies?
I'm not in favor of adding capacity to roads because I believe that this ultimately brings about more traffic (not less congestion).
Would be nice if freight movement is separated from normal traffic.
Better transit needs to include Rail. Badly. Light rail in Greenville/Spartanburg makes roads safer and reduces congestion
transit should include other public services other than buses. how about a train?
The focus has always been on cars. We must start shifting to better transit and improved bike and ped facilities.
I could care less about bike paths or "transit services".
Car pooling is never mentioned and there are no commuter lots to encourage it.
An Electric trolley or a mass transit In the Grand Strand area would help tourism and parking and traffic
High speed Rail
Connect to Charlotte's Light Rail
It's a shame there is no public transit route from North Charleston to Daniel Island. I would ride it every day to work from Park Circle! Also, this may be pie in the sky, but a bike lane along the Don Holt Bridge would be wonderful.
Public transportation in Charleston sucks. Its in desperate need of a major overhaul
Need light rail from Charlotte to Fort Mill.
You need to start moving ahead on designs for transit hubs and major redesign of at least freeway roads. We need clover leaf on and exits for freeways. Example congestion at Ashley Phosphate. There should be a transit hub in Summerville so that I am able to take an express to high connected areas such as Mt Pleasant, Downtown etc. start now and get 526 completed SC had some of the worst roads just look at 95 going into Georgia.
Should have a train/tram network from Moncks Corner to Downtown/my. P to fully.
Bus only option for transit? Give me a break! We need light rail with buses serving smaller routes from rail stations.
Sidewalks should be mandatory to any new road or subdivision. Bus/transit service would be important if possible, but removing a lane of traffic to support a bus if not and never will be a good option, it will just create more congestion
Given how far behind we are in terms of multimodal transportation, it and attractive forms of mass transit should be our top priorities.
Focusing on multimodal transportation infrastructure is the best way to reduce congestion and add capacity on our roadways
Invest long term in other forms of public transportation.
Let the incorporated cities and towns deal with mass transit, bicycle paths, and sidewalks themselves. We just don't need these things out in the county. I rode the full length of the Metro from Scott AFB, IL, to St. Louis, MO, many times. The areas around it, including out in the country, are blighted because of it. Once you get away from the areas where it runs, things are nice again. We don't need anything like that here, so just STOP it!
Get it through the dense heads that run Greenville County that frequent, safe transit options are for more that folks going to & fro from their jobs. Normal citizens want reliable transit too for shopping of tourist activities so we don't always need to rely on our car. Need more tax-payer funding in transit!
More emphasis on public transit options need to be included to reduce dependence on private automobiles.
In transit there needs to be more than 1 vendor on contract customers are asking vendors why only 1
I would like more focus on Transit for SC. and have the DOT look into funding Intercity rails similar to NCDOT's Amtrak service to Connect all the major cities in SC and Charlotte

We need more rail. I live in Beaufort. I should be able to ride a train between our major cities like Charleston, Columbia, & Greenville. Then add Savannah & Charlotte. there is too much emphasis on automobiles.
Transit would be nice but it won't stay safe. There are too many idiots out there.
Priority lane for bus on highway or HOV lanes. My favorite bus to get downtown is getting discontinued because of lower ridership and I think due to being chronically late due to traffic on I-26
Transit would be the top of the list if it included some kind of light rail system
With the growth in the Lake Wylie area, alternate ways to commute into Charlotte needs to be addressed
No public transportation! Busses bring unnecessary people in that have no business here. Busses cause traffic backups with constant stops. Try real time traffic camera for red lights to keep traffic moving
Greater transportation options for low-income people.
We need a passenger that runs from Charleston to Columbia right down the middle of I26 instead of widening our roads. With key points to pick and drop off for passengers to get to work or home.
Tri county lite rail would be amazing
Improving travel from SC to Charlotte for the millions that live in SC, but work in NC.
Improving travel for the many people who commute from SC to Charlotte
GET RID OF ALL PUBLIC BUS TRANSIT SERVICES ALL TOGETHER.
Addressing transit and alternative modes of transportation can have the outcome of reduced congestion without needing to add additional lanes.
Light rail system in the Charleston area to better reduce congestion
Need a rail system!!!
Transit for the unemployed is so important. There life stops if they can't from point A to point B.
The Charleston metro area really needs to choose one or multiple mass transit plans. There are multiple ways to both take advantage of existing infrastructure as well as development of new systems.
Dedicated funding for intercity rail and transit
I'm confused about what "transit" means. Like, public transportation? Or just moving?
We need public transportation. Transportation is the #1 reason for turnover in our DC operation.
We need to provide more alternative transportation infrastructure to reduce congestion. Please help us with safe cycling options.
We need public transportation and mass transportation such as light rail
These suggestions or options are based on traveling and transit in 2019; they are not looking forward to 2040. My biggest priority is to prepare SC for radical growth and be ready to absorb the growing number of commuters by establishing more opportunities for moving people efficiently: more appealing mass transit, establishing and endorsing HOV lanes, etc.
Adding more lanes does not necessarily equate with less congestion. We need to investigate other modes of transportation such as rotary wing between municipal airports and regional / international airports plus ferry service in the sea islands may be possible. Bus transportation (Palmetto Breeze) is broken.
The only effective way to reduce congestion is to get folks out of their cars providing MORE mass transit.
Designing for ALL modes of transportation should be priority number ONE
Electric buses and light rail. Mass public transportation.
Alternative transportation and making it more attractive and accessible is preferable to making more lanes and more highways.
Transit will never really work in SC, Would love it higher, but just won't happen
Transit is critical. Our urban areas can't manage more car traffic.

I would like to see more rail service to reduce congestion on the roads. Greenville to Columbia, Charlotte, Atlanta, Charleston
Connecting different transportation modes to OZ is important along with workforce development.
High speed commuter trains to connect cities and towns could solve several problems
Need more transit options with longer hours to allow low-income and disabled people to have better access to job. Also need more Intercity transit.
No 1 is high speed rail from Rock Hill to Charleston through Columbia. And Greenville to Myrtle Beach through Columbia. All should have the ability to carry your bicycle.
Need a train from the Upstate to Charleston. More lanes will not solve our transit woes. Money would be better allocated on building robust public transit infrastructure.
Stop focusing on roads and cars, and more on moving people safely by alternative means
Mass rail transit is a must commuter light rail and high speed (Charlotte Spartanburg Greenville to Atlanta) (Greenville Columbia Charleston) Charlotte Columbia Augusta)
Mass rail transit is a must commuter light rail and high speed rail (Charlotte Spartanburg Greenville to Anderson and onto Atlanta) (Greenville Columbia Charleston) (Charlotte Columbia Augusta)
Think green as much as possible by investing in biking, walking, and mass transit and moving away from car culture
If you provide efficient alternate modes of transportation such as transit and safe cycling, it will reduce the traffics volume, thus allowing for better traffic flow and less need for significant repairs.
Passenger and commuter rail
Light rail in Fort Mill and Rock Hill into Charlotte #1 priority.
Need better transportation in rural areas for folks to work
Mass transit - busing & rail in burbs of Charlotte & West of Charleston
Transit should not be limited to bus- all mass transit or any means that gets us out of a car alone.
High speed rail to Atlanta and Charlotte
Light rail addition?
Please make trails or side roads for all the golf carts and mopeds. Therein lies a lot of the reasons for road congestions!
Add a light rail that transports passengers
Take a look at Denver CO as a model of paved bike/walk paths and light rail. People would commute in ways other than car if available.
Bussing to connect ask areas of Summerville
Transit options need to include not only bus, but also expanded rail and/or light rail networks in cities.
Trains in Charleston, not buses
Hi Thank You! I believe a rail system connecting Northwood's mall to goose creek suburbs to Summerville should at least be talked about in a 10 - 20 year plan way. That's it ! I'm thankful that u guys are doing this. I grew up in mtp and i left it and so did everyone I know
Mass transportation, not just buses but rails, trains, are a top priority.
Public transit needs to keep improving in our state. Grease allocation of funds for public transit is needed.
We have inadequate options for people who don't own cars. The sidewalks are insufficient in number. Existing ones are uneven and often blocked or littered with tree limbs and branches. I've fallen several times. At night the lighting is inadequate. The number of crosswalks is inadequate and many existing ones need traffic lights like the ones recently installed on Millwood. The bus system needs to have more routes and have them all run every 30 minutes until 11 pm. They say that there aren't enough riders, but ridership would increase if the mode itself was more accessible and reliable for expanded times. This would decrease traffic congestion.
Rapid public transit which is ecologically sound, and a program to convince people to use it.
The priority should be some type of high speed rail system, NOT individual automobiles.

<p>The priority should be some type of high speed rail system, NOT individual automobiles. Buses are not maintained and do not travel to any area to which I plan to travel. This is a short sighted system. Freight movement should be on trains as well, limiting the number of dangerous trucks on the highways.</p>
<p>The priority should be some type of high speed rail system, NOT individual automobiles. Buses are not maintained and do not travel to any area to which I plan to travel. This is a short sighted system. Freight movement should be on trains as well, limiting the number of dangerous trucks on the highways. Repaving needs to be environmentally friendly solar roadway, not heat sucking asphalt.</p>
<p>It needs to be more wide spread into the west Columbia, Cayce ,Lexington areas. And into areas with neighborhoods, low income. A route suggestion for west Cola would be to extend the route that goes to Lexington medical center on out 378. Then left onto Leaphart road. It could follow Leaphart all the way to hwy 1 and then hwy 1 becomes meeting street back to downtown.</p> <p>A lot of places along this route could simply be taken all the way to town or stops along the way including dining and shopping.</p>
<p>Transit and sidewalks are a way to reduce congestion. SCDOT needs to convey that to residents - transit HELPS those who choose to drive their own cars. Also, safe roads need to be safe for pedestrians and bikes, not made so that it's impossible for non-drivers to get around.</p>
<p>I live in the country. I drive. My friend lives in the city and i have to drive to pick her up from a bus stop if I don't just get her from her slum housing, err, residence with inadequate services.</p>
<p>We really need more continuity in the tri county area of the lowcountry. Charleston county has a decent bus system if you can get to the buses. That can be rough for the people in Berkeley county.</p>
<p>We need light and regional rail systems</p>
<p>Mass transit other than buses such as light rail</p>
<p>Number one priority: mass transit other than buses. Light rail is imperative in urban areas especially Charleston, Berkeley, and Dorchester counties</p>
<p>What about light rail and commuter trains?</p>
<p>Maybe let's add some rail transit in and round the outskirts of larger cities like Columbia, Charleston, Spartanburg, Greenville, etc. This helps with congestion.</p>
<p>Light rail! Places like Charleston, rock hill/charlotte, the Grand Strand would do more to reduce congestion than simply mire buses</p>
<p>Light rail line connecting Anderson, Oconee, Pickens, Greenville, Spartanburg and Cherokee counties.</p>
<p>Please don't waste money on express lanes, HOV lanes or light rail type systems</p>
<p>Living in the myrtle beach area, with a lot of low income areas, a more extensive public transit system would make it easier for people to get to work or appointments, reduce the number of unsafe vehicles on the road, and relieve some of the traffic congestion</p>
<p>Living in the Myrtle Beach area, with a lot of low income residents, a more extensive public transit system would make it easier for people to get to work or appointments, reduce the number of unsafe vehicles on the road, and relieve some of the traffic congestion. Also, especially on highway 501, through Myrtle Beach and Carolina Forest, pedestrian footbridges may increase pedestrian safety, as there are no controlled crosswalks, and the light patterns currently are not conducive to them.</p>
<p>overhaul transit resources by implementing a commuter-rail system between Charleston and st. George.. this reduces highway traffic and assures travelers they will leave and arrive at their destinations on time.</p>
<p>A system similar to Marta would be nice.</p>
<p>Where are the trains?</p>
<p>Where are the trains? Car free roads?</p>
<p>Trains and Car free roads</p>
<p>Mass transit for Ft Mill SC</p>

<p>"Transit" should include preserving rail corridors between cities for future commuter trains. A very important one from downtown Greenville to the ICAR campus has already been converted to a bike path.</p>
<p>Light rail to outer areas. I would love to drive my car or walk a few blocks to a centralized parking area and then take a rail into town, across town, to work off I-77.</p>
<p>Alternate transportation plan to include mass transit, bike and walking paths to reduce congestion.</p>
<p>We need better mass transit!!!! light rail/etc.</p>
<p>Traffic is much less of a problem during the summer when teachers, students and parents driving their kids to school do not flood the system. Instead of putting money into greater capacity, we need to improve use of public transportation and bike/foot paths to get kids and teachers to school. Can we reward teachers living close to schools? Can they ride the bus? Carpool? Have separate busses? Can we incentivize biking/walking to school (walking club, environmental club, awards at end of year?). Can we discourage parents dropping kids off. Many people are going to the same place at the same time - this seems like a perfect chance to come up with great ideas for public transportation. Freight needs to be separated from car transport. Trucks do not stay in slow lanes, they pull out in front of people, and tailgate. We need a system to de-incentivize freight movement during rush hour traffic. Perhaps restrictive rules about in which lane they can travel during these times, i.e. a freight lane, much like an HOV lane.</p>
<p>How about other things like mono rail type transit</p>
<p>Transit should include other options not just bus (meaning other mass transit options)</p>
<p>Why is "transit" limited to bus service? What about light rail options?</p>
<p>Get some commuter trains!! Progression!!</p>
<p>Improve passenger trains as well</p>
<p>I'd love to see some more ecofriendly public transportation options</p>
<p>Trains! Commuter trains. Georgetown to Charleston. Columbia to Georgetown. Georgetown to Myrtle beach. Columbia to Greenville and major cities in-between. Transit busses as well connecting cities to cities. Even just for commuting hours.</p>
<p>In addition to improved bus transit with more frequent services, especially in our metro areas, I'd like to see light rail between metro areas. Suggestions: Downtown Columbia to Lexington, Columbia to Greenville, Columbia to Charleston, Columbia to Charlotte</p>
<p>Monorail service for shoreline</p>
<p>Monorail service for shoreline Fewer trucks or more taxes from them for roads</p>
<p>Monorail service for shoreline Fewer trucks or more taxes from them for roads Fewer roads</p>
<p>It is obvious that we as a society need to get people out of their cars. This is a sociocultural issue: people need to see the value of taking up space in public as walkers and cyclists.</p>
<p>High speed rail from Greenville to Charlotte</p>
<p>Rail transit too, throughout the state.</p>
<p>encourage alternative forms of transportation and "reducing congestion" will follow. Don't let Baby Boomers scare you away from making actual improvements.</p>
<p>Honestly, all of these need to be massively improved upon in the next 20 years. Especially in the larger SC population areas like Rock Hill and Columbia. Also, what about mass transit? Could SC utilize rail or put in fast transit to get from one major city center to another?</p>
<p>There needs to be greater emphasis at the state level on transit, including passenger rail. The way to make roads safer and less congested is to provide alternatives to personal vehicles. It works elsewhere; it can work here. Also: Climate change is already happening and S Carolina is and will be affected by it. It will be getting worse unless we all work at reducing carbon emissions. Passenger rail can be a key factor in helping reduce carbon emissions.</p>
<p>Rail lines between Columbia and Charlotte, Spartanburg should be utilized for passenger trains.</p>
<p>Get a train down 77 from Charlotte to Columbia! Quit making us DEPENDENT on cars! Buses are too slow with too many stops. Trains!!!</p>

I would love to see transit and bike paths expanded to Greer! Thanks!
The most important thing for the next 20 years is to get people out of cars and moving via alternative modes.
I think that S.C. needs a mass transit system similar to the D.C. metro or Baltimore Light Rail. This would reduce congestion on the roads, thus reducing collisions and improving safety. Diverting a majority of freight traffic to the rail system would create local jobs, legislation restricting tractor trailer traffic on S.C. highways would go a long way to reduce wear and tear on our aging roadways and would improve citizen experience.
SC needs to consider light rail in Columbia and perhaps commuter rail between major cities.
Prefab Monorails systems down each interstate connecting each major city. Better transportation for an aging population. You can do this and become a leader in the country. 🤖
Need to monitor growth and design transportation modes to make travel better. Can't just keep adding population without taking into consideration how they are going to get around. And it's not just adding lanes and stop lights. Promote multimodal
If individual cities want transit. Let them pay for it to improve commerce and citizen satisfaction.
Non bus based mass transit (ie light rail) is needed in Charleston and across the state.
Larger cities like Charleston and Columbia need a metro train system along I26 corridor
Winnsboro doesn't have any taxi service nor shuttle service for those who don't have access to a vehicle. There are many residents here who would benefit greatly from such a service.
Citizens in areas 5 miles and further outside of city limits definitely need help to come to town on a daily basis for work and other needs.
Please remember the citizens whom are living 5 or more miles outside the city limit in any town. They are in need of transportation to get to work as well as other important things that need to be done on a daily basis.
Add commuter rail between Charlotte and Columbia
Add commuter rail between Charlotte and Columbia. Charleston need light rail.
Connect Charlotte and Columbia with commuter rail. Charleston needs light rail.
Public transit (buses) will soon become irrelevant as autonomous vehicles can pick people up at their homes and take them to any desired location.
Public Transportation
Have transit routes on major roads like 17 business local stops, 17 bypass stops along major corridors, hwy 707 local stops, 544, 501
Have transit routes on major roads like 17 business local stops, 17 bypass stops along major corridors, hwy 707 local stops, 544, 501. Bike paths and golf cart paths will allow local residents to move around locally without adding to the automobile congestion.
need transport service from Florence Amtrak into at least Myrtle Beach
regional transportation like monorails connecting interstates to tourist areas and to downtowns eliminating cars
We need air port transportation
Transit should be #1. It will enable people to get around and hopefully reduce some of the congestion on the roads. Also, good for elderly mobility.
Hwy 26 is a complete death trap, we need other options of transportation for traveling into & from Charleston. Hwy 78 & Dorchester Road are over packed & traffic is horrible.
Transit is more than just a bus.
Transit is more than just a bus. Signals on all roads need to be adjusted and should be an easy way to reduce congestion. Signals are not in sequence and don't give a smooth flow of traffic. This should be a cost effective thing to do as well. Remote control can be set up rather than work on the side of the road.
We need a rail system like they have in the northern States to help with transportation especially from rural areas to cities and hospitals
There are so many train tracks here, can't you use them for commuters, shoppers!

Transit should include a light rail or rail car system.
I would add not just fixed route bus transit services but other services that could help low-income residents work and access medical, public benefits, voting and otherwise live whole lives.
Provide and market ride share, bike lanes, and "cool" mass transit options in and near urban centers.
Would be nice to see future considerations to create high speed train system to connect regional areas (i.e. Atlanta to myrtle beach)
We need high speed trains to connect rural SC with services and job opportunities
Consider innovative shared mobility solutions that can reduce # of individual vehicles & congestion. Automated transit networks can provide shared, personal, rapid, direct, shared, safe, convenient, comfortable, reliable, cost-effective mobility for a high % of all citizens. At total costs that are lower than current roads & maintenance.
Commuter train option
Building a rapid transit system is the future. We currently cannot repair the roads we have nor build new roads. When you build a road now, all that happens is more construction follows wiping out the road improvement just done. Bees ferry is a prime example
I think if there is a bus every 15 minutes with a monthly pass more people would be willing to take it.
Where is the option for increased light rail service?
HOV lanes to and from the coast. A new permanent patching solution to put in the potholes. Have repairs done when traffic is at lowest congested times.(for employees safety) Competitive pay. We may need more training for Caring about our employees. EX: When accidents happen, we're more attentive to our employee need as well as our publics. EX: Informing employees that CDL come with responsibility both hands on the wheel and hands free phones while driving CDL vehicles.
Inner city streetcar rail system similar to that of New Orleans allowing pedestrians to travel greater distances throughout our cities (Columbia, Greenville, Lexington, etc.)
Would like to see alternative transportation continue to be discussed such as light rail.
I'd love To be able to take public transit to work, and bike safely near my house. Neither are an option.
Transit is not just buses.
We need grade separated mass transit (elevated monorail)
I think we need to create a light rail instead of adding to the bus system. This would solve my too 2 issues.
Light rail system would be ideal to truly reduce traffic and make traveling easier
More public transportation needed in all cities of SC.
COMMUTER RAIL
While I would like to see improved bus transit, I think that's to far in the past. You must figure out a way to build a public transportation system that's reliable and that people will actually use. It would drastically reduce cars on the road and make a lot of the others concerns a moot point.
Mass Transit in large metros and between them.
We must have mass transit
I live in Spartanburg County, but I'm nowhere near the bus route. I wish the Transit System would extend ou5 to the entire county. I live out in the rural area of Duncan. I'm NOT the only one that feels this way about wishing% we had bus transportation because we don't have vehicles. I kno2 the couple of people that help me out charge me \$50.00 a trip and being on disability i just can't afford that and I love (use too) getting out and just being able to socialize. Now I'm a recluse that gets out mayb3 2times a month, depending on if I can afford it.
High speed rail options between large cities
No! I'm from Dallas. Be very careful with this! The homeless get on busses, ride the whole day, in winter! It scares off families, workers, etc. in NY people don't have cars, so everyone rides the bus. Not so in other cities. Plus it's a huge expense/pollution.

No! I'm from Dallas. Be very careful with this (busses)The homeless get on busses, ride the whole day, in winter! It scares off families, workers, etc. in NY people don't have cars, so everyone rides the bus. Not so in other cities. Plus it's a huge expense/pollution.
Look at the feasibility of affordable rail service between major metropolitan areas. Minimize the number of stops between the major areas. Set up a system similar to the airlines. Establish hubs.
Use funds held by the Summerville to downtown bus line to get the buses off the roads by building school and public bus pick-up areas, away from the flow of traffic. Require ALL new and expanding subdivisions to have at least one bus pick-up point.
Provide alternate transportation. IE a rail system
Consider light rail and high speed rail options.
Light rail
Light rail. Make mobile phones hands free or 911 only
Mass transportation is #1 need for long term
I believe mass transit over the whole state would solve a lot of problems. As well as a lot of traveled roads being repaved.
The are hardly any bike paths in Charleston county. Nearly impossible to commute by bike. Very dangerous.
High speed rail along major highway corridors.

Survey Question 2 Part 1: Comments “Infrastructure”

I can't find anywhere to place this and wanted to mention 2 specific projects we need-widening I-95 from GA to NC, and widening Reidsville Rd/Bennett's Bridge Rd from Highway 290 to Woodruff Rd-this corridor is exploding and no one is looking at it!
Raise speed limits on commuter routes such as Knox Abbot Drive
Improve Elmwood Ave to interstate standard with overpasses and ramps
i don't understand how to answer
Limit road widening and instead facilitate transit.
Do not widen roads. Many are too wide already, such as Church or Pleasantburg. Wide roads mean faster traffic, which is extremely dangerous for pedestrians
Wider, faster roads do nothing to create a safe infrastructure for pedestrians and cyclists. All users must be considered.
You have a biased view of what infrastructure is here.
As we grow it will be critical to improve capacity in key corridors. however if we don't maintain and upgrade existing systems so they last longer under increased traffic volumes we will have a huge issue on our hands that will really hurt us long term.
While improving the existing infrastructure is important, adding capacity by widening will have a greater impact on traffic flows for congested and high traffic areas.
It is essential we widen 26 and 95 and have it paid for by Toll.
Widening roads just creates traffic. Just stop that nonsense
This isn't an either/or case. How about improving the QUANTITY of infrastructure. It doesn't need to be wider or better quality. But there need to be more options on getting from point A to point B. Granted the waterways are an impediment to accomplishing that, but for example, going west out of Charleston, there are really only three long viable routes: Rivers Ave, Dorchester Rd, and I-26... Rather than expand those, there needs to be more arterial road ways. Load balancing. Spread things out a bit more rather than trying to funnel it all into one roadway. This is why when roads get flooded, or evacuations happen, it all goes to hell.
I-20 (378-hwy 1) widening is necessary but taking way too many years to complete. May areas need widening but takes so long. More accidents occur due to long construction times.
I-526 and I-26 in the low country need to be widened. Both are inadequate for the daily commuters. The interchange between both need to be redesigned, it has never worked. Also, why isn't I-95 6 lanes from the north to south border, if Georgia can get it done, why can't sc and nc do the same, that road is always congested when I drive it.
Improve what we have BEFORE putting in place I-73
I don't think we necessarily need to widen roads just ensure they do not flood.
I don't think we necessarily need to widen roads just ensure they do not flood. Not sure I am answering this correctly. Improve infrastructure is more important than adding capacity.
For major areas (CCR, I-85/I-385), adding capacity is important. But I'd like to see more funds going into rehabbing what we've got and putting more emphasis on local transportation needs and opportunities so not as many people need single-driver vehicles for their commutes.
Congestion is unavoidable and not always a bad thing. It's just a reality that we don't have unlimited resources. Widening roads creates induced demand, which you can never out-build. I'd rather have a high-quality network of congested roads that we can maintain indefinitely, versus a network of overly wide roads that we can't afford to maintain. Consider congestion pricing or other means to reduce demand, as opposed to never-ending widening projects.
Upgrade/improve the quality of existing infrastructure, in case my arrow doesn't indicate this appropriately
Whatever needs to be done the road is poor I'm sorry.
It is absolutely crucial for the success of South Carolina in this modern era that the road to be widened or additional roads be added to accommodate the increase in traffic
Extremely important to scale the existing infrastructure and expand and add more roads to the overall infrastructure in the Charleston area.
I'm not sure I understand what the arrows mean in relation to the question....
You have deliberately impeded traffic going to James Island by closing one lane to an optional right turn going from the Wappoo Creek Bridge to Maybank Highway, and did this five years ago when it had been safe and working for fifty years.

Potholes
I don't suppose getting rid of some of the excess people is an option? Here's a thought - stop building more places for them to live. We're full already. So unfortunately, I don't see how simply improving quality of existing infrastructure does any good at all when you already have too many people for the roads that exist.
I think general widening is not always the best answer to adding capacity. This deserves more creative thinking
We have a busing system etc. 1-26 and ,5-26 going to chas. is critical, need another lane on both roadways, it's just jammed more than needed', some of off ramps' are tricky, I'm working back in chas. I see a lot drivers on phones, texting, that's a big issue
I-26 from Charleston to Spartanburg needs to be 3 lanes. It's terrifying to drive on with your family and we make the trip at least 12 x a year.
Wouldn't upgrading/improving the infrastructure also improve throughput?
There need to be serious improvements with our infrastructure. Charleston is growing daily and we do not have the proper infrastructure in place to accommodate the current growth let along future growth. I-95 is another horrible highway that needs serious improvements. As a resident that travel to other states on a regular it's ridiculous that I-95 is two lanes in SC but multiple lanes in other states. It's also a very dangerous highway in SC. The number of fatal accidents within the last 2 years have been horrible.
You have to take the entire life cycle of roads improvement initiative. Do you include current and future maintenance, congestion, added population on to the roads and bridges? How about added law Enforcement costs with increased traffic? What's the broader cost impact to the taxpayers? My beautiful and historic Charleston county will turn to NY or CA nightmare for residents?
This shouldn't be an either or question. The area is severely lacking in road upkeep as well as keeping up with the capacity needed for the drivers currently as well as drivers that will soon be moving in the area and using the freeways as well as roadways.
Adding lanes never solves congestion! It just adds more cars to the road. The only long-term solution is quality public transit.
SCDOT oversight of contractors (Rt. 31 extension/ 707 widening / Glenn's Bay Road) on highway projects is pathetic.
too complicated for me to figure out. You don't have to make it this complicated.
Widening encourages sprawl and poorly planned growth. Efficient, quality roads help communities grow in manageable ways that are more beneficial to the fabric of a specific community
All the roads needed Be repair. But Ladson Road! This road is a very traveled road and should be fixed and maintained! A very very busy road
Potholes
We now have taxes that have been increased to pay for our roads but there is no upgrading and no widening the roads for the rapid growth of this state. I 95 is still a two lane interstate while North Carolina and Georgia have MOVED forward and widened there portion of I 95. I26 is in the same position Charleston has a lot of commerce coming in and out of the lowcountry. I26 also needs to be widen.
Widen route 26 to 3 lanes. Enforce speed limits and left lane cruising while texting
With the rush of people moving into areas like cane bay and nexton the roads are not suitable to hold the traffic. The roads like state road and areas of the new nexton parkways need to be widened
We MUST widen our interstates in S.C., especially 26, for safety and functionality purposes!
By design; our future road, bridge, and resurface projects must integrate new building procedures that far exceed today's industry standard.
Are these two really mutually exclusive? Again, I assume that areas that need additional capacity that you're also able to upgrade and make needed improvements to existing infrastructure (i.e. bridges, shoulders, and so forth) during that process.
I-26 needs to be 3 lanes from Charleston to Columbia. Too many wrecks and congestion on that commute.
It appears you are asking if we want new roads built or resurfacing. Is that what you are asking?
It appears you are asking if we want new roads built or resurfacing. Is that what you are asking? If so, my answer is build/ widen roads.
Wider roads should include medians and bike lanes to improve ascetics and safety.
Coming from central Indiana you should seriously look into roundabouts here as they are a great way to reduce congestion. Look at Carmel, Indiana and the transformation it made in the last 15 years.
Again, the question needs to be context sensitive. Charleston is running out of areas to wide/add capacity due to geographical constraints.

There is definitely a balance needed for these items. We are going to have to add capacity, but the existing infrastructure needs to be improved as well.
Builders should be required to "make a donation" for every new house they build to an infrastructure fund to aid in the widening of roads to handle the added capacity of cars their new developments bring
More capacity just encourages more people to drive. It doesn't reduce congestion long-term and is not a sustainable solution.
Not sure what you are asking
Honestly, this depends on which road we are talking about. I would prioritize having key roads/corridors with good capacity while others simply maintained.
Does not matter how great the infrastructure is if dangerous driving is not controlled: speeding, aggressiveness, text/phone use etc.
Potholes
we need to build another bridge across the Columbia River all north of town connecting to I77 North
We need to stop expanding our cities with sprawl and do more smart growth. Go up, not out. Adding more lanes does not always help congestion since the arteries are still clogged.
Or...fund the DOT with a specific revenue channel and do BOTH instead of our lawmakers passing temporary funding bills that they then can reallocate. That's crazy and poorly run government.
Update main roads such as 378 from Kingsburg to Conway where we are dealing with Horry country's tourist without any say so.
The "studies" favoring I-73 are all flawed, and have been fraudulently promoted.
Again EV infrastructure should be an option.
The roads should be better kept. I'm not concerned with widening.
None stop allowing the growth
Why do we have to have tradeoff? We are all paying these extra taxes.
Widen and then add bicycle lanes.
Widen to add a light rail system
This is question is unclear. Does it mean what am I willing to sacrifice in order to meet my priorities?
To be clear, we should NOT be trading infrastructure- the roads are in poor condition now!
It has to be both. You have to add and need to fix the poor quality roads you have already built (pooling rain water on highways)
Preparing for future growth in much the same way as Florida does is critical. 10% population growth in 9 years is incredible. Additionally SC has incredible tourism. A Beautiful state in both coastal and inland areas with much to offer tourists. I believe it is very important to encourage bike paths and walkways all over our state and especially in the coastal communities where visitors tend to flock.
Potholes
I95 needs to catch up with the rest of the country!
You cannot widen your way out of congestion. It's a fact. Need to provide alternate transportation options.
Add capacity.
I do not clearly understand how this questioning works. I am not sure what I am rating. It appears you can either choose widen/add capacity or improve existing infrastructure. I'm not sure how to show which one I prefer. There's just one row with up arrows down arrows or neutral, yet there are two statements.
USE MY VEHICLE AND REGISTRATION TAX MONEY ON THE ROADS, AS IT SHOULD BE. EXAMPLE... S.C. HAS AN EDUCATION LOTTERY AND NONE OF THAT MONEY GOES TO EDUCATION. ALL ELECTED S.C. FOLKS NEED TO BE TRANSPARENT WITH OUR TAXES AND HOW THEY SPEND IT... AS WELL AS HAVE VOTES ON ALL CITY, COUNTY, STATE PROJECTS. WE HAVE A HUGE PROBLEM IN HORRY COUNTY WITH ALL THE WASTING OF TAX MONEY ON PRETTY LITTLE ROAD SIGNS, LIGHT GLOBES, ETC., BUT WE CAN'T EVEN DRIVE DOWN THE ROADS. THE ELECTED FOLKS ARE SOMEONE I REQUEST A FACE TO FACE SITDOWN WITH.
I find the sc interstate system unsafe for the amount of cars on it daily and especially on holidays and special events when its overcrowded.
upgrade existing infrastructure
This is a big deal in terms of upgrading our urban infrastructure. Care much less about highway expansion.

I26 needs more lanes headed east and west out of Cola!
prioritize adding capacity at intersections
Adding lanes has never reduced congestion.
Inefficient intersections and interchanges won't be helped by additional lanes. Options such as Divergent Diamond interchanges would speed transitions and offer less points of possible accidents.
What is a trade off???? you keep taking .5 sales taxes and taxes keep going up why not both
Why do we have to widen. Can we not go up? Look at San Diego. They have a significantly higher population but do not experience the congestion we do. Stack the levels of the interstate.
New roads and flyovers
I live in Kershaw county and our growth rate is booming. We need to make hwy 12 5 lanes from 77 to Lugoff. Also Hwy 1 needs to be 5 lanes from Pontiac to Lugoff. This needs to be done before any more work is done on I-20.
The idea is, we only reduce what is currently congested and we don't think long term. You guys are too short sided. For example, why are we stopping the lane expanding at exit 91 on 26? Chapin is booming now and before you know it, the growth will be in little mountain from there prosperity, so on and so forth. So why don't we go ahead and widen all the way to Newberry? While we're already in the process, why don't we keep going? This same crap happened on 1-20, we widened the lanes up to exit 80 and now that Elgin, Lugoff, and Camden are GROWING LIKE WILD FIRE, we only have two lanes to accommodate. BIG PICTURE AND LONG TERM. Please.
I do not understand the question.
Such as Central Ave
The quality should be consistent between counties. Repaving in Beaufort County far exceeds the quality of any repaving in Jasper County.
I think you have to continue to add capacity otherwise you will have a congestion issue in the future
There's no space by the HHI bridge so widening is a moot point. Keep bridge repairs at grade A standard - it's the only one we have. Take that bridge down and have a 4 Lane "Ravenel Bridge" accommodating vehicles and boats. Especially with the future port arriving.
Widening lanes, add more
These can easily be done at the same time, so I don't see why I have to pick one over the other. Upgrade existing lanes after the new lanes are added.
STOP THE CONSTRUCTION OF MORE HOMES UNTIL ALL INFRACTURE IS BROUGHT IN LINE WITH EXISTING HOMES ROADS FIRE POLICE SCHOOLS FIRST.. Invite more clean air industry to COME TO HORRY COUNTY in the out lying areas to create more employment like AMAZON AND COMPUTER JOBS.. We rely to much on travel / tourist industry.
Construction zones should be limited to smaller areas that can be completed in months instead of years. A many mile construction zone that is a restriction for years is a waste compared to working a shorter construction zone that can be completed in a few months before moving to the next section.
Encouraging alternative modes of transportation and making them more accessible is always better. If we HAVE to widen roads, then the vegetation removed should be required to be replanted nearby. We can't keep losing trees.
Upgrading and improving creates an environment that allows for a more sustainable, multi-modal transportation system rather than only providing more and larger facilities for automobiles.
I am reticent to support large scale adding of capacity as there are already too many vehicles on the road. However, there are some specialized locations where energy-use and time could be greatly reduced with some intelligent expansion. However, in general I am against accommodating more vehicles on the road. We need to be more efficient travelers!
Adding/widening lanes is ineffective at actually mitigating traffic. Explore increasing capacity through alternative modes of transit.
widening roads won't fix everything, it'll bring problems to home owners & businesses. it may even worsen driving conditions & cause more traffic around on & off ramps
By add capacity I would be most in favor of road widening in congested areas, not new routes or Spurs.
Upgrading existing infrastructure may involve adding capacity but I am most in favor of road widening in congested areas, not new routes or Spurs.
We need to fix what we have before we add more
Quality and best use of space including hov and shared ride services are better than wide roads

Would like to see more capacity on smaller secondary roads to the interstate. I.e.: woodruff rd. Greenville, SC
Improvement of traffic flow at intersections should be considered before adding additional lanes of traffic.
The growth in the upstate of SC has to be considered
In many areas, this is the primary need, while in others the other is. One problem is if there is a great need for capacity upgrading may wear out because of too much use, and widening/adding capacity isn't an issue in as many places.
You can never keep up with widening and because it takes so long and is so expensive, improvements are often out of date by the time they are finished
making the existing roads look better is like putting lipstick on a pig, capacity is what's needed
Repair the roads we have
Why do we have to choose between worse and bad
Too much growth not enough infrastructure to support it all.
Plenty of roads that we already can't/won't maintain.
Widening roads may add capacity, but it is widely documented that it does not improve travel nor reduce congestion. See "Relationships Between and Both Congestion and Number of Lanes on Urban Freeways" (Kononov, Bailey, Allery).
This depends on the area. For example, an area like Charleston Tri-County Area probably needs capacity improvements like a carpool lane. Anderson, SC area needs improvement on quality.
Adding capacity on main roads will only serve to congest destination areas. Ever been to woodruff road between Thanks giving and Christmas? It's horrible not because roads aren't wide enough but because there is too much in a small area.
Why add to a broken system? Either fix what you have or quit and let someone else do it.
What on earth is the DIFFERENCE between "widening/adding capacity" and upgrading? C'mon
Should be match with housing boom. Consideration by fed, state, and local on housing boom and traffic control
As noted earlier as you add capacity it fills itself quickly. Improving what we have with smart technology to move vehicles more efficiently is a better use of funds. Adding new roads and capacity to a system not optimized just makes the bad areas worse, and reduces the benefit of the investment. Once you have "eked" out the full potential of existing infrastructure, add more.
No more new lanes! It eventually leads to even more congestion. We need transportation alternatives. We don't want SC to look like Atlanta
Widening doesn't work. People just move further out and need even more road, then you widen again...and repeat
Traditional widening just makes people move farther out and then need more road...then repeat. Add bikes lanes and other transit instead.
I prefer to preserve as much nature as possible, but some problem areas may need additional lanes or roads.
Widening a road *never* creates a long-term improvement in traffic congestion.
Living in Greenville Co., I believe that both adding capacity to our growing area as well as improving the quality of older roads is important.
SC highways are some of worst I've ever driven - they destroy your vehicle and are unsafe. Add to that a lack of vehicle inspection, negligent attitude towards drunk driving, disregard for enforcement of unsafe driving practices: pulling out in front of traffic; driving too slowly; riding in left lanes instead of right lanes etc.
When this is completed, why are the lane reflectors not being placed back down afterwards. It's kind of difficult to see the road/lane your on when its raining hard
Use smart computer assisted solutions wherever possible to reduce the need for more/ wider roads.
Out interstates are the worst. All need 3 lanes or more in each direction, especially I-95
We should not build more houses until we have the roads to support all the cars in Northeast Columbia
I-95 is a dangerous embarrassment for our state. It needs to be repaired and widened ASAP.
Adding capacity needs to include entrance and exit ramps to the highways.
These are very confusing. I have no idea what you are asking.
Use transit options and more trains for freight to prevent making wider roads
Don't increase the capacity for cars. Do increase capacity for bicyclists and pedestrians. Do increase public transport capacity. Do increase the coverage and lane size of bicycle lanes.
wider shoulders and lanes, 90 degree intersections, smoother turn to stay on pavement

Need to widen both 26 and 95
Don't agree with giving the ROW to telecoms for their profit and to pollute the environment and us.
Lighting up the highway and interstate is EXTREMELY important fact to add in to all the new construction. Solar powered lights on the signs at the very least would help so much as a driver.
All roads need good care, especially rural roads. Where cities are growing, like Greenville, there needs to be additional roads added.
Add cycling lanes and safe pedestrian access
Widening I 26 and I 95 is a must!
Bring existing roads up to standards before building more and larger roads.
Added capacity doesn't reduce congestion.
It is not clear what the tradeoff is.
Wider roads
I-95 south of I-26 should be made 3 lanes each way as a priority. Then make it 3 lanes each way up to I-20.
I would rather expand with rail travel and buss travel than upgrade or car travel.
This is difficult because we need it all.
Upgrades to interstate exit/entrance ramps could greatly improve the capacity and flow of interstate traffic. Additional SMART traffic signals could improve traffic flow on main state roads at interstate interchanges.
Add rail and tram systems
Finish I-526 before Charleston becomes gridlocked and people leave!
Both are important.
Upgrade top priority
Additional lanes have NOT been shown to improve anything - I want to get cars off the road.
Upgrade/improve
Upgrade and improve existing infrastructure, no need to add more traffic
Both required
You can't just keep adding lanes. If you do, the traffic just spreads out and then you have bottlenecks when the lanes end or begin.
This is far and above the most pressing need in Charleston.
Upgrade/improve the quality of existing infrastructure
Malfunction junction! Need I say more?
Malfunction junction! Need I say more?
I know it's a little optimistic, but it seems to me that the cost effective way to pursue these two goals is to do them simultaneously.
It's shown that increasing capacity of highways only increases the amount of traffic. Build the roads, they will come. SC MUST invest in alternative ways to transport citizens and goods.
Increase evacuation routes particularly in the lowcountry
Need more roads with safe bike lanes. May need wider roads in some areas to achieve.
Induced demand means adding more lanes will only fill more lanes. Yes, we do need some more roads, but more that we need to revitalize what's already there and allow traffic to flow in multiple directions.
Where I live in South Carolina, it isn't the capacity, but the condition of the smaller roads.
Previous commentary about speed limit reform and lane courtesy laws would greatly reduce the need for widening and rather allow upgrades to existing. In its absence though widening is the best option to allow for brisk prudent passing.
Depends on the location - I used to live on Johns Island and adding capacity through widening Maybank Hwy drastically improved the flow of traffic. In other scenarios improving quality without expanding may prevent further destruction of the landscape.
Build an interstate from Clemson to Beaufort
Depends on the area. Some roads may not need widening in rural areas but definitely need regular maintenance.

Improving capacity encourages people to drive more. We need to be encouraging people to travel less, and use more efficient transit when they must.
We have to maintain infrastructure. Early repairs are cheaper than delayed repairs when problems & costs increase dramatically.
Wider roads won't help without higher speed limits and actual obedience to the use of the passing lane
I don't think we should choose between these as they're both critical needs.
Reduce lane size and reduce speed limits
Need more public transportation to prevent the need for more roads and cars in the future.
Improve existing rather than add a bunch of lanes. That being said, Bypasses in Myrtle Beach seem to work well. If you add lanes make them make sense. Separate traffic-let thru traffic flow and let "shoppers" or short term traffic stay together.
I95 needs widening 8 lanes!
All Interstate Highways should have 3 lanes.
1-26 west of Columbia needs to be widen from 126 to exit 91 in Chapin. 20 mile commutes taken over one hour daily and there are accidents regularly. This is not safe and it affects locals and our tourism market making travel to our beaches a nightmare. Weekend travelers choose alternative beaches in other states for ease of access. Plus the Irmo/Peak exit/ Chapin area is growing fast and the exits dangerously back up onto the interstate daily. Another exit between Chapin and Peak is desperately needed. Thank you for your time.
Depends on the context of the road- interstates versus local highways.
Depends on the type of road as to how it should be answered
A bypass around Columbia would be great
Needs to be done with more efficient methods. I've moved here from WV and they can fix roads and blow up mountains to make roads faster than they are doing on I20 in Columbia.
If we can't afford or manage to upgrade or improve the quality of our existing infrastructure, how can we be expected to manage added capacity?
Why spend money on new and destroy more nature when you can upgrade and fix the existing?
I think we should improve what is existing and plan for alternative modes of transportation rather than just adding capacity which just pushes the problem further into the future.
Also consider mass transit options to reduce traffic by local users
Many of the roads are far too narrow. Many don't even have white lines at the edge of the road and drop straight off into the ditch
Depends on the road/street, some could use widening other could be narrower
Interstate 95 needs to be at least 3 lanes wide in each direction the entire length of the state! Also, I-26 and I-20 should be widened statewide as well. But I-95 should be the top priority.
Research new pavement that lasts longer.
Both need to be done depending on the area
Both are needed saving lives is very important narrowing of I85 at Greenville between two other cities causes accidents daily,
If the roads are falling apart, they are not safe to drive on. Potholes bust tires. People have to swerve to miss them or risk damaging their vehicles.
I-26 is a scary congested mess. More lanes please
Widening roadways is always going to lead to more traffic, as it has in study after study over the last 20+ years. Road widening is a net negative on transportation infrastructure.
More lanes, truck only lanes, better off on ramps. (poor ramp example are the ones from 16 west to I 75 , that is so dangerous to have the exit from 75's acceleration lane to be the same as the de acceleration lane from 16 west onto I 75. Frightens me every blankety blank time we have this type)
Roads need shoulders!
We lag behind other southeastern states in expanding our US and Federal Highways to support the movement of goods. Our collective challenge is trying to balance improvements safely while simultaneously thinking to our future.
How many roads and lanes can we realistically build, especially in places like Columbia's Malfunction Junction or downtown Charleston or I-85 in Greenville? Is it time to shunt some traffic around Columbia with an outer loop?

80 needs more lanes, there also needs to be a second road that just goes from Spartanburg to Greenville without a million lights
Fix what we have before adding more i.e.: fix main road @hwy 17 before wasting billions on more 526. Interstates are ridiculous.
This is very important?
put a toll on 18 wheelers
Unable to identify pic on left with smart phone
This is unclear
Widening does not work and makes traffic worse in the long run
Slow down on the businesses coming until everything catches up.
Increase rail service for freight and commuters
Add bike paths on all roads to allow for cycling to work
Especially Hwy 501
I understand this to be that I'm willing to forgo width in order to have a higher quality?
Maximize what we have before building new greenfield projects
Both needs to happen as well as adding multi model plans. More trains, buses etc.
Both need targeting. For large scale, we need widening, for within urban areas, repaving, re-lining roads to allow double left turns, etc.
Do you want more visitors, therefore tax dollars?
You can only widen and add so much before it harms communities along the roadways.
Its time to start going up or down with modes of traffic. The longer you wait the more expensive it will get. Super highways with less exits for longer distance travel above existing interstates to reduce the amount of transport trucks on local interstates. The trucks need to get to where they are going, the locals get out of the way and home sooner.
Create super highways above existing interstates with longer distances and less entrances and exits
Potholes
Widen capacity. But not like Boston. If you currently need 1 more lane make 3. You'll take so long you need two by the time you finish. Where's the \$. Taxes on gross vehicle weight and cost based on price of the vehicle. And then there's always tolls
It seems like all roads lead to the same place. There aren't many cut thrus or connections so if traffic backs up, you are stuck.
Neighbors don't connect so if there is an accident, people can't work around it. All neighborhoods lead to the same place.
Develop passenger rail. Increasing roadway is a diminishing return
Should NOT have to choose!!
Do NOT impose a \$25 road improvement tax to each vehicle at registration.
I95 is a HAZARD. I would ideally like to see limited access toll highway from border to border. Allow for greater speed. Leaves existing hwy for locals, lets NY to Miami visitors "fly" through like they do anyway, and they pay for road! Locals could use too.
This tradeoff scenario is unfair. Both of these items are needed. Tradeoff bus transit and sidewalks.
We cannot continue to widen roads without widening shoulders.
Improving existing infrastructure by adding additional turn lanes is what I intend. Also providing more space on shoulders and room for walkers.
Would prefer building moratoriums in areas already congested, then we wouldn't need more road infrastructure.
There's plenty of researched evidence to suggest widening roads doesn't actually decrease congestion. We need better planning and more public transit
Need capacity. Indian Land! Also 95 south needs at least 3 lanes each way
SCDOT should not widen anymore roads in S.C. Improve the quality of existing roads, then focus on sound transit options.
Widening and adding capacity doesn't solve the issue. Atlanta is a perfect cautionary example of this.
Bring light rail with park & ride parking garages to Rock Hill/Charlotte. Grow up, stop encouraging more single passenger by adding lanes.
Widening does not decrease. Only doing things to remove vehicles will actually eliminate. Widening roads causes more traffic. Buses, light rail, alternate routes can alleviate congestion

Three lanes on 26 from Columbia all the way to Orangeburg and three lanes on 26 from Harbison all the way to Newberry or at least all the way to Chapin I feel like y 'all helped cause the road rage post signs that say slower traffic keep right
Pave before widening
Are they not "one in the same"? Improving roads to increase capacity??
Not sure doing this right, explanation of what you are actually indicating by the arrows is unclear
Need both
We do not need to build more houses in Northeast Columbia until we have the roadways to support them
Carolina forest in Horry County is a mess. Need more roads, multi-lane roads, and connect existing dead-end roads to main arteries as a bypass
Three lanes from Charleston to Columbia needs to happen.
Need to repave a lot of these roads. Turkey creek in York is one of them
There should be an emphasis on limiting migration to SC
I95 needs to be 3 lanes or more state line to state line
The arrows are confusing. I believe adding capacity is one of the most important things DOT should be doing.
Adding capacity creates a known phenomenon of "induced demand," where car usage will increase. We would be well served by adding rail and other transit options to diversify our options, reduce congestion, provide affordable public transportation, and decarbonize our state.
Improve the quality of what we have first for safety.
Waste of time. 26 was widened and it is now a parking lot. The widened bees ferry and it turned glen McConnell into a parking lot because everyone is using it as a cut to 525.
Do not add more to maintain until the existing infrastructure is improved.
Seems like the DOT is always 5 years behind when the upgrades should have been made. Point in case; I-95 is STILL 2 lanes and finally you are starting the Malfunction Junction problem.
A stronger emphasis needs to be placed on intersection improvements to increase the safety and flow of traffic through intersections. This would help alleviate congestion issues for a lot of the traveling public.
The more infrastructure is built, the more costly it becomes. Focus should be on maintaining the quality of existing facilities and encouraging optimization of that network.
It depends on the volume of traffic on the road. If the volume is high, widen/add capacity. If the volume is low, upgrade/improve the quality..
This response depends on the location because certain areas truly need to add capacity
Adding capacity creates issues downstream of the problem areas.
SCDOT needs to strike a balance based on severity of congestion/pavement condition vs. available funding. Address the most critical in both categories. While my mentality is skewed toward maintaining assets before upgrading, I understand that some fast growing areas of the state (Charleston, Greenville, Columbia, Fort Mill) are in critical need of added capacity. widen shoulders while upgrading and improving existing infrastructure.
Of the two options the real answer is derived after knowing the monetary costs associated with each solution. Ideally capacity should be added to the major thoroughfares, all while improving the quality of the infrastructure.
It seems as you widen and add capacity you will also improve the quality of the existing infrastructure
1 leads to the other
This should be analyzed on a case by case basis. For example, I-85/I-26 need to be widened. Roads like Savannah Hwy and SC-7 in Charleston needs to be upgraded with turn lanes/curb and gutters/sidewalks.
I am only concerned about safety and radiation given off by cell towers along roadways and the coming 5G enabled autonomous vehicles.
Invest in expanding lanes on I—95
It just needs to be done in a timely manner, not take forever and a day like it does now.
You simply must maintain and improve existing infrastructure prior to adding anything.
Will not allow me to select—I prefer upgrade existing infrastructure

Need to make highways At least 3 lanes...such as all of 26 and 95.
Adding capacity simply induces demand, creating the same amount of congestion as before at a much higher expense. It is not an appropriate long-term solution.
Use widening to add CUMMUTER RAIL!
The near doubling of the population in the last 20 years with no increase in Interstate capacity is obvious to anyone who travels on the interstates. All interstates need to be increased to 3 lanes immediately. Since the governor and legislature won't do it, ask the Feds to make our interstates toll roads like New Hampshire, Pennsylvania and New Jersey. With long term money essentially free (~1%) right now, a bond issue would cost almost nothing to do it.
The near doubling of the population in the last 20 years with no increase in Interstate capacity is obvious to anyone who travels on the interstates. All interstates need to be increased to 3 lanes immediately. Since the governor and legislature won't do it, ask the Feds to allow our interstates to be toll roads like New Hampshire, Pennsylvania and New Jersey. With long term money essentially free (~1%) right now, a bond issue would cost almost nothing to do it.
With the increase in population in recent years and no increase in interstate lanes, the roads are not functioning for SC citizens.
No new roads until current ones are in good repair
Not quite sure what I am being asked to do with the arrows...not too user friendly....
Not quite sure what I am being asked to do with the arrows...not too user friendly.... and why a tradeoff??
I 76 in Inman the road at the bridges will beat you to death, and Hwy 292 going towards Lake Bowen
Our local roads and bridges are horrible due to truck traffic from local distribution plants. These roads were not meant for this type of traffic. These trucks use the local/rural 2 lane roads through small communities because it's shorter, rather than using the main 4 lane roads better suited for their use.
How is this necessarily a trade-off?
South Carolina road are horrible! The potholes and bridges causes unnecessary damage to our vehicles
Y'all need to look ahead of widening to roads now. Don't be behind like always
if capacity is added, developers will just build more housing and office complexes to fill it
Upgrade to shift to mass transit lanes and bike lanes
The rural roads need work. My vehicle has had multiple issues in the front end alignment and we've replaced the tires multiple times. My road to work is like driving a rocky path. When I reported it, I was eventually hung up on.
The roads in SC are too narrow and need shoulders! Especially with so many distracted drivers looking at their phones. It is unsafe.
The roads in SC are too narrow and need shoulders! Especially with so many distracted drivers looking at their phones. It is unsafe. SC should demand that developers help with road widening and infrastructure before being approved to build.
It seems as though while adding capacity, updates can be made simultaneously..
More roads need to connect. Most roads only one to exit.
SC must improve existing roads before anything else
This is confusing, how do I show which tradeoff I am for?
This is confusing, how do I show which tradeoff I am for? I am for widening AND upgrading.
Existing infrastructure is simply awful! And you are redesigning the Greenville I-85/385 interchange for the 3rd time at outrageous cost! Existing roads haven't been paved for 25+ years! SC #357 in Spartanburg County for one
To much emphasis on interstate and not enough on the farm to market roads. These roads are in so much need of repair that some need to be plowed and completely rebuilt. No attention in many years
I-26 Charleston to Columbia must be 3 lanes. So too, lower I-95
Fix what we've got first. Everything is falling apart at the seams. Not this patch & protect deal you're doing now. Resurface & Repave the roads. Followed up shortly thereafter with the preservation of the new roads so we don't end up back here again...
Interstate 526 to John's Island should be completed.
Pothole patching
Widening and increasing the capacity will only encourage more underdevelopment and we will be right back to where we are now. We need to learn to maintain and improve our existing infrastructure and learn to say no to all of the developers.
This section is confusing. It could create bias in this survey.

Hwy 25 need to find a way to cut down on speeder. Traffic cam could be installed
State roads that are in neighborhoods - need to be redone & turned over to the county
our roads are torn all up and all dot does is patch them and 3 days later the patches are busted again. we have 18 wheelers all day everyday busting up this road. Duncan Rd. off hwy 39.
A lot of our current roads need widening as there's not even pavement to cover the white line. My only caveat would be that I 26 Corridor heading to Charleston. That absolutely needs to be widened the entire way
This is not a clear question.
Our roads are so congested that even with improvement that seriously inadequate

Survey Question 2 Part 2: Comments “Safe and Secure Travel”

We need a mix of both depending on the area-what will serve it best. Case by case basis.
Anything to improve road conditions would be great. Came back on I-95 from Florida this year. Could not believe the condition of the road. I have friends that live in an area where the potholes are so bad that they take neon pink spray paint and circles the potholes so that you won't damage your car. Have thought about starting the neon pink pothole movement in the Myrtle Beach area.
Focus on grade crossing safety to include grade separations and quiet zones. The priorities for roads that cross rail should include everything from improved shoulders/sidewalks/signage to medians and a plan for extra gates at some crossings.
Realistically, I don't see a reason to have a mix of the 2 options. Improve the safety of the most dangerous intersections in the state (i. e. Rivers Ave and Ashley Phosphate Rd in Charleston) and improve the safety of the most commonly traveled roads.
Safe ---- and the word SECURE are exactly the same thing. You must really think people who bother to do this are stupid. FIX THE ROADS
Why a tradeoff. Do both! These are false equivalencies.
Our roads cause a lot of wear on my vehicle and are unsafe with all the patches and potholes making it so uneven. It's a disgrace to know our roads are this bad.
The ability to see markings on the pavement is critical to safe and secure travel. The current markings are HORRIBLE. So bad that on freshly redone or new roads, in the DAYTIME, in the rain, the markings on the pavement cannot be seen. This needs to be fixed.
increase enforcement of traffic laws with more patrolmen. red light running, constant lane changes, speeding, etc.
the two options are not opposing alternatives. safer intersections and safer roads are one in the same
These topics seem to be the same - fix the existing errors and additional needs.
Even in intersection and roadway improvement there are hazards exposed or trees limbs blocking views and rain that washes out roads because the construction removed the sidewalk like on Hardscrabble construction in some areas. The construction must be done but not all the preventive safety hazards are in place as the construction is ongoing. This needs to be reviewed.
Back roads are in much need of repair. No attention in years
Intersection safety for pedestrians and bicyclists should be improved with bike lanes and pedestrian crossings.
We need traffic circles to improve congestion at intersections
Can't we have both?
find a way to stop people from running red lights
Potholes
It's all the same fix it all now.
Slow the vehicles down and the need for guard rails and other safety measures is reduced.
The roads are unsafe because of their terrible conditions
Intersections are horrible. The red lights are not synced so the lanes back up. Need more turn arrows. Stop putting traffic circles in areas that do not need them, i.e. Glendale.
Unsafe drivers are a bigger problem than the roads. Increase police/patrol presence
Using pitcher handle configuration for busy roads could remove left turns that are not only dangerous but slow traffic considerably. Other states use new configurations for safety not employed in SC.
Left turns on many busy roads add substantially to congestion, e.g. 278 at Hilton Head. Why doesn't SCDOT learn from solutions that work? In the northeast they use a pitcher handle configuration so there are no left turns on the main road. Highway 15 through northern New Jersey and highway 1 in Massachusetts are examples. They have way more cars and function better than 278 in Hilton Head.
Intersections are where I personally witness accidents and near-accidents due to poor design, especially regarding vehicle speeding in urban areas, and heavy pedestrian use of sidewalks and crosswalks.
I feel this preference actually should follow the statistics of accidents with injuries.
Don't give idiots driver's licenses.

Now that I have teen drivers, safety is at the top of the list.
This should also be done on a case by case basis.
There is a huge shortage of street signs and hwy signs. They need to be MUCH LARGER so they can be seen from a longer distance
Need a lot of work in both categories.
MAKE DEVELOPERS PAY FOR ROAD IMPACTS
As you pave shoulders and create clear zones, intersection safety will automatically improve.
I believe Rumble Strips are probably more cost effective than say guardrail. Motorists need to take some responsibility for staying within the roadway.
More partnering between SCDOT and DPS to publish the rate of death and serious injury per serious accident whether seat belt worn or not worn. Many more lives could probably be saved if people wore seatbelts. Targeted enforcement campaign.
Every single road should have at least 1foot paved shoulder with rumble strips for higher speed roads. It is crazy to me that we have primary routes that have no paved shoulder past the white line. If you really cared about saving life's, then paved shoulders should be mandatory
Not at the tradeoff of destroying people's neighborhood. Infrastructure should be built first looking at maximum capacity
The roads are safe. SC needs to enforce a hands-free cellphone law and a very strict no texting while driving. Get caught twice lose your license.
I wish DOT would not clear medians on the interstates of trees. They serve a great purpose of shielding oncoming headlights and preventing crossovers. Guard rails should be installed to prevent drivers from leaving the roadway and hitting trees, which would likely save money.
Both
Shoulders with bike lanes are a must
Add bike lanes with extra space on the shoulder for both uses!
More people will cycle if they have a safe shoulder
Make getting a driver's license harder. Driving is a privilege not a right. Far too many people are simply operating vehicles and not actually driving.
use traffic circles as much as possible
Focus on known high accident areas
No more roundabouts replacing already established 4 way stops. if you have to build them do it on new construction please.
Get cops in Columbia area to actually bust people for running red lights it's getting ridiculous.
SCDOT should adopt Safe Streets model.
Please re-configure the intersection in front of Miller's Produce on Pineville-Rock Hill Rd (Andrew L Tucker Rd, State Rd S-46-48, Flint Hill Rd, and Pineville-Rock Hill Rd intersect here)
Neutral as I don't know what specifically is suggested for "intersection safety".
These are not optional!!!
Primarily concerned with paved shoulders on secondary roads
Many SC backroads are a danger causing many accidents. The roads need to be wider with a stable shoulder
these should not be traded but equally maintained.
Widen all interstates and create one from Hilton Head to Augusta to Clemson
Doesn't matter how safe the construction of a road is if the people on it don't know how to drive. Does anyone here know how to merge??
Invest in high risk areas, first; prioritizing dangerous intersections with statistical history of 1)multi car collisions with fatalities, 2)multi car collisions without fatalities, 3) single car collisions with buildings/property 4) rural single car collisions with environment (trees, cliffs, etc.)
Get rid of roundabouts and put in a traffic light. Get rid of 4 way stops and put in a traffic light.
Do more to straighten some older roads that can take a lot of traffic off over-traveled primary roads

SC needs to get serious about public transportation: buses and light rail.
If the rural/ backroads are safe then they are a great alternative to interstates.
Maintenance of state and secondary roads is abysmal. We need to repair and improve conditions of our road network outside of US and Federal Highways.
Our state and secondary roads are in much need of work as we have failed to account for the growth we have experienced. Improvements here will save lives. Intersection safety improvements should be included as part of the capital investment.
Roundabouts are proven to be more effective and safer than stop lights
No rumble strips!
Paving shoulders would save hundreds of lives every year. Someone tried to save money and people are dying from that poor decision. Lives are priceless
Again, both are needed
Intersection safety improvements will be useless unless they are traffic cameras to catch all the drivers egregiously running red lights.
Why is this a trade-off? Do what you can, as you can. Spend wisely.
Add more European style roundabouts. They keep traffic flowing with less accidents at intersections.
These options seem to be for very different scenarios (urban/suburban v. rural) so it is hard to decide between the two.
Uh how about both. This is not a trade off as they both are extremely important.
If you insist on impact fees and central planning why don't developers have to put in right hand turn lanes for their neighborhood entrances. That plus correctly timed lights are easy and inexpensive wins.
Both are incredibly important
Just tie the lights correctly for a low cost fix with large rewards.
Just time the lights correctly!! Vast improvements would be seen.
If you put up SIGNS far enough in advance that a right lane is for RIGHT TURN only and put up a sign instead of writing in on the pavement 40 feet from the intersection. Same thing with street signs.... make the writing LARGE ENOUGH to be seen from a long distance so that people can move over a lane if necessary, before they get to the intersection. The little signs cannot be seen until it's too late.
Red light runners and speeders need to be curtailed.
I think these are the same, there is no trade-off. Do both! One option, instead of a turn only right lane, make it a yield. Increase productivity, reduce congestion.
Circles are great! College park and I-26 and alt-78 need them. 17 and nothcutt blvd to decrease traffic on bridge, on whipple by new Lucy Beckham school and Job Edward's.
So many opportunities for roundabouts in the upstate to relieve congestion
Circles work. A couple of places circles would help: college Ave off 26 exit, alt-78 and college ave intersection, northcutt blvd and 17 intersection to stop traffic backing up off bridge, long point and whipple, whipple and Mathis ferry. England has large traffic circles that handle flow much better than stop lights. The small circles on Mathis ferry work great.
I don't understand how these questions work
Both are needed. Prioritize areas where more accidents have happened in the past.
Wide paved shoulders also make excellent unmarked bike lanes. The number of South Carolina drivers that try to run bicycles off the road is disturbing.
Buses should have designated well marked stops.
Several intersections off of I85 in Greenville would greatly benefit from diverging diamonds.
One of the biggest issues is just that you can't see the lines at all. If you can't maintain what is in place now, adding more things won't help.
Spend more money taking out idiots on the roads. No amount of road improvements will save lives if they are still allowed to use them.
Needed to state what is an intersection safety improvement, i.e. right turn lanes, left turn lanes or left turn traffic lights.

Neither will make a difference if you don't enforce a hands off phones rule.
Unsure which would have bigger impact on safety
It's obvious you have to deal with the sins of your fathers where they never had any forethought, but you REALLY should look into dedicated turning lanes in future growth.
Guardrails are over rated! Better shoulders and better line of sight much more important
Invest more in intersection safety improvements
Both
With so many intersection accidents happening and more & more seniors trying to live independently because they have no other choice, I recommend every traffic light use dedicated green arrow turn lights. These blinking yellow arrows are a recipe for accidents.
Both of these options are equally important
Intersection safety
Intersection
Please add decent shoulders for safer cycling!
Again, you are crazy. How can you base this decision on opinions. Where are the people dying? Don't you have data? Fix that. How can anyone say with certainty which is more important without the data.
Learn how to make 90 degree intersections wide enough to stay on the pavement
I am marking this 'neutral' because the issue to me is the poor signage on SC roads, especially in markings on lanes prior to arrival at intersections or ramps.
Arrows should be painted on the road at all cross overs. People tend to not to stay in their lane at cross-overs. Very dangerous
Why does there have to be a trade off? Both of these need to be done. Raise taxes, get it done.
Added lights (solar powered) to signs and over all streets. Would be he first step in helping with understanding new patterns of roadways.
These options are not tradeoffs. Both are SCDOT's responsibilities. Apples and oranges.
I never thought I would feel this way, but I believe cameras need to be installed at busy intersections. The amount of people that run through red lights is staggering and very dangerous.
Again need law enforcement to be a active part
Replacing many complex intersections with roundabouts would increase traffic flow and decrease the number of accidents in many locations.
Neither of these are likely to improve safety, since the "feeling" of safety tends to make roads more dangerous.
Ridiculous waste of money to clear- cut medians & then landscape! Use those wire barriers if people stray from the roadway.
Replace existing bulbs in streetlights and add more lighting
This is the only state I drive in where trees basically hug the side of a highway. Also, how are you supposed to pull over in a two foot emergency lane?
A majority of serious collisions take place at congested intersections. Improving overall flow and better sensing and signaling technology (plus intelligent elimination of some left hand turns) will improve traffic flow, reduce congestion and therefore improve safety. Serious consideration of red light and speed violation technology would also add greatly to intersection safety improvement. I recently became aware of a system in use in Maryland that seemed to have a "profound" effect on highway speeds in construction areas. Once of the first times in my US driving travels (30,000-35,000 miles a year) where I have seen adherence to the construction zone speed limits! Replication of this technology would enhance roadway safety.
Is one exclusive of the other?
Need turn lanes
Add sufficient shoulder for bikes, or bike lanes
Stop dumbing down roads and intersections. i.e. Reducing speed for a section of road after a bad/fatal accident when it was really just their own fault, slowing down the rest of us. Adding electronic no turn on red signs when people should be paying attention enough to know which cycle the lights are on and when they can go. Improving driver training in general.

Saver roads
These are equally needed and which specific location are addressed should be based on need such as accident reports
improved intersections and roundabouts will improve efficiencies in the roads, the less time people spend on the roads the lower the risk of accidents. Ounce of prevention is worth a pound of cure. Efficient intersections, and wider roads with more lanes will go hand in hand to improve traffic and safety
PLEASE PLEASE ADDRESS THE TERRABLE INTERSECTION AT PALMETTO POINT BLVD AND RT 17. IT IS A DEATH TRAP.
this is a technical question - what does the data show causes the most injury- that's the priority.
Need more traffic circles
In Tucson, AZ they have to add a bike lane each time they upgrade a road. Would it really be so terrible to put in some paved shoulders any where. I miss riding my bike, but I'm scared to death to ride my bike here.
Intersection improvements improve both safety and traffic flow so I lean in that direction while recognizing the importance of wide, paved shoulders, which we desperately need.
Both!!
You must widen the roads and get impact objects farther from moving cars but you also need to improve intersections, sight lines of intersections, timing of lights to avoid red light runners
Most fatalities happen at intersections. Focus on intersections and improved pedestrian infrastructure.
The lack of traffic enforcement at intersections has led to a populace that largely ignores traffic laws, endangering our citizens, residents and visitors. SCDOT should advocate for better intersection safety, including through better design, but also through law enforcement.
The lack of traffic enforcement at intersections has led to a populace that largely ignores traffic laws, endangering our citizens, residents and visitors. SCDOT should advocate for better intersection safety, including through better design, but also through law enforcement. Also, the design of certain intersections (e.g., Harden/Calhoun in Cola) are inefficient, dangerous and/or bizarre. No right-hand turn rules around USC are absurd except during the busiest parts of the day/year. Better traffic studies must be conducted to improve efficiency and safety.
PALMETTO POINT BLVD AND RT17 IS TERRABLE. NEEDS UPGRADE RIGHT NOW.
Potholes
Hard to judge without knowing what is being paid now - contracts with outside companies that do not mesh with local citizen desires, but place efforts where 'Columbia' dictates does not always meet local needs or build safer roads. Meet with local citizens and elected officials for actual needs. Ruining canopy roads so the electric company can repair lines causes more unsafe highways than helping anyone.
More clear zones. No curbs or guard rails for entrapment
What is the % of accidents at intersections. Whether walkers, bikers or cars. Probably pretty high at some places.
Add crosswalks and street lighting. Red light cameras and more police presence so less pedestrians get hit and less run red lights.
Start enforcing safe driving laws. Way to much inattentive and unsafe driving practices in this state. Including by law enforcement officers.
Using turn signals should be heavily enforced and fined. The widespread lack of signaling is an extreme hazard. Also, there should be a hands-free law in regard to cellphone use.
I've noticed a trend where new paved interstates like I-385 no longer have reflectors in the middle. Which is terrible when it rains because you can't see the lines so staying in your lane is difficult.
Too often "intersection improvements" are just multimillion dollar projects rather than common sense changes. We need better light timing and better enforcement.
SC is top 10 most dangerous state for pedestrians. Narrow traffic lanes, add pedestrian islands and curb bump outs. Work with cities to fix signal timing on DOT roads.
I believe drivers competence plays a role in all this. Are you considering working with DMV to improve the driver?
I am all for both of these safety measures. This state needs to institute cameras at intersections and start ticketing people for running red lights. I see multiple cars running red lights constantly, especially left turn lights at Major intersections. The Green arrow will be gone then 2, 3 or 4 cars will continue to turn.

BOTH ARE EQUALLY IMPORTANT. THIS IS WHERE OUR VEHICLE TAX, TAG, ETC., MONEY SHOULD HAVE BEEN BEING USED. NOT ON PRETTY TOURIST CRAP.
Start enforcing directional signal use on Lane Change AND Right and Left Turns. State with the worst roads and poorest drivers. Enforce the Traffic Laws. I see City (MB) official vehicles doing barely slowing and California stops at signs and usually traveling over the speed limit. Disrespect.
Safer for who? Methods to improve safety for cars (i.e. wider roads, bigger turning radii) are less safe for pedestrians.
Not the tradeoff I want but I think improved infrastructure will make roads safer as well
Roads need to be safer by enforcing speed limits and distracted driving laws. Adding rumble strips does not necessarily make a road safer, especially not for cyclists. Guardrails are over used in SC.
I'm sorry, I don't understand how this works on my phone.
Both of these are sorely needed in Lexington County, and should include pedestrian features!
I would support whichever would save more lives and make roads safer for pedestrians, bicyclists, and mass transit.
A shoulder should be wide/safe enough for someone to walk/pull their car over if there is an issue. This includes next to a guardrail.
Traffic circles are a safe, simple improvement for congested or dangerous intersections.
We need a light back at Bentley Dr. and Broad River please!! So unsafe and people speed down that hill and over the bridge AND don't safely manage left turns. Daily.
Anything to help reduce the number of people who run red lights. Especially at major intersections, people run lights a good 5-10 seconds after they have turned red on their end.
I would like the state to invest in road improvements that can lead to railroad quiet zones. This could involve everything from improved shoulders/sidewalks/signage to medians and a plan for extra gates at some crossings. Some states have a statewide plan for making this happen with funding other than Section 130 funds set aside for it.
This section make no sense
Not sure what you are asking
Both of these should be done at the same time. These aren't mutually exclusive.
Even though the rural roads are not as highly traveled these roads need the most attention. Accidents on these roads generally severe because folks are traveling a high speed with no protection if the run off the road.
Johns island roads need guardrails along river road. Too many car vs tree.
I would base prioritization of these two very similar objectives based on traffic incident records. If safety is an issue, the top priority should always be to invest in fixing it.
Roads are poorly marked and maintained, horrible trying to see during rain storms or at night. repaint lines, road signs visible BEFORE you're driving past them, overhead lane marker signs for turns,
Yes safety first
Too complicated for me to figure out. You don't have to make it this complicated!
Install high performance reflectors on roadways and use highly reflective paint to define lanes, shoulders and raised islands on roadways.
Reduce traffic and rapid population growth closer to Charleston. Public safety should improve significantly. Think of other cause and effects.
These need to be done, I think people are frustrated about driving and traffic, so easy zones, etc.
You can't fix stupid and most accidents are because people aren't paying attention to driving.
There's only so many things that you can do to make the road safe you are unable to control what other drivers do. I believe some safety measures are necessary however I don't believe that it is completely necessary to make this a top priority the priority should lie within law enforcement and other agencies to ensure that the public is driving Safeway
As someone who gets around by bicycle most of the time, I'm wondering if "Invest more in safer roads" includes things that would actually benefit me. For example, reduced lane widths to allow wider shoulders; buffer zones and ideally physical barriers (like jersey barriers) between motor vehicles and bikes; signage to indicate that bikes have full rights to the road just like any other vehicle per state law ("Bike May Use Full Lane" signs), etc. If so, I prefer this option.
have studies been done? it depends on whether more people are killed in intersections or on the side of the road

Invest more in intersection safety improvements. Too many accidents.
We had over 260 impassable roads in Horry County last Fall. Every Fall our roads flood. This increases the risk to our public safety and public health. The more impassable roads we have the more likely we will have loss of life due to flood events. Safe roads that do not flood is my priority.
Honestly BOTH of these need to be a priority
Paved shoulders and PLEASE keep the grass cut!!
Where do most accidents occur. Put money where it makes the greatest impact on safety.
Provide dedicated or more space for bikes for better safety.
Paved shoulders, at least 5-6 feet wide, so they can also serve bike and pedestrian use.
Safer intersections. Also for pedestrians!
i dont understand how to answer
So glad to see traffic circles making appearances. They seem to increase both the amount of traffic an intersection can handle and increase safety there.

Survey Question 2 Part 3: Comments "Mobility"

Buses should be available to passengers every 15- 20 minutes. This would stimulate usage.

We live on Duncan road and we have a plant that has 18-wheelers on the road 24/7. It is a secondary road and it was torn up before the plant opened and with these big trucks it is nothing but potholes and big chunks of torn up gravel everywhere. SCDOT will patch it and 3 days later it's busted back up. The whole road needs to be ripped up and re-paved to stop this issue. It is very dangerous and hazardous to drivers. PLEASE FIX THIS ROAD!!!!!! When the big trucks come by it sounds like thunder all night with them hitting all the bumps and potholes and it keeps us up at night. Thank you and please do something. This road should be one of your first priorities before someone has a bad wreck and gets killed!!!!!!!!!!!!!!!!!!!!!!

Research all of the other cities that have tried to solve their issues with increased capacity and added lanes.....their roads are still overcrowded and it has not solved anything.

Just needs repacking

BOTH you're cheap with your fellows. Why have to choose? NO FIX BOTH the money we spend you tend to squander on cheap cheap and now you get the results garbage 3rd world roads.

If this means adding a fast passenger train/ subway system between larger cities across the state, then definitely yes!!!

reduced number of students driving or being driven to school by improving bus safety and comfort.

Again, busses and light rail are not necessarily the great thing it's said to be. Go to Dallas, Atlanta, and see who is riding light rail. Except for specific routes, it's people w/o cars and the homeless ride. Families, yuppies do not ride b/c they are scared! The homeless (about 250 of them) stand at the downtown stops begging for money and robbing people and urinating everywhere, so businesses left. The homeless can ride all day to the suburbs in a warm light rail or bus for \$2.00! So can gangs. Last year, in Charlotte after the Belk Bowl a homeless guy went to the last car on the light rail I was on, and was urinating on people. It was disgusting!!!!

Adding capacity must be considered before anything else

Although expensive, technology and other travel mode alternatives could be an important option, especially in local transport situations.

Need more buses

There is a increased need for mass transit to help people who don't have private transportation but also to reduce congestion and save energy.

Before people will use mass transit it has to be the better option. Make the trip by car take longer than with bike or transit. This is why people will fly rather than drive. Same applies to the other options.

How about a commuter train from Newberry, Prosperity, Little Mountain, Chapin and Irmo. Support it with real bus infrastructure.

Add lanes

I think a route on public transportation from Simpsonville to Downtown Greenville with stops in between could Prove beneficial

Get buses to more rural areas

Only when there is absolutely no other alternative

Light rail

I-95 through SC is the only place it is not 3 lanes. All the SC interstates need to be widened to 3 lanes as quickly as possible.

SC does not have enough population density to support mass transit like a large city. The only use of travel alternatives is to transport people without a car to work. Studying the current users and their employers would make the most sense since no one answering this survey has likely ever been on mass transit in SC. Funds for this should be different from usual SCDOT funding because it is a more form of disability funding.

I-95 in SC is the only place it is not 3 lanes. Looking a Google Maps traffic says it all - many interstates are RED very frequently and even when they are not, drivers in the left lane going 55 and trucks passing trucks make SC interstates often unusable.

BUILD COMMUTER RAIL! Bus routes can be used to move the people to/from the station(s).

Increased capacity simply induces more demand, ending up with the same congestion issues with more cars, at a higher expense.

Increased transits to all areas of the city increases crime, pandering, and loitering. All we've seen it do is disperse the crime and loitering all throughout the midlands, rather than having a localized area to avoid. It discourages shoppers from spending money in select areas because of the increased crime rates that arrive via the transit from the low income areas.
Driverless cars could be here within 20 years. Using smart intersection signals will help congestion.
Rather than adding lanes improve roads so drivers can travel them safely!! SC roads are horrible
I don't understand how to work this survey. Infrastructure is #1, safe & secure traffic #2
Potholes
This again depends on location but also which is more cost or labor effective
Busses and rail systems would be awesome if they are thoughtfully designed and "marketed" to consumers.
Buses and rail systems would be awesome if they are thoughtfully designed and "marketed" to consumers.
Adding more lanes does not reduce congestion. Look at Houston and Atlanta. We should not become those places. We are better.
I'd like to see SCDOT develop expertise that can be shared with municipalities where those municipalities may cost-share a piece of the program.
Mass and rapid transit is the only solution. Wasting money on roads is stupid
Fix the traffic at the Ashley Phosphate Rd exit at 26/78 come together. Need to reroute 78 traffic or put in a couple more lanes.
Charleston to Spartanburg (or Asheville) bullet train!
Utilizing a Commuter train will drastically decrease road traffic on a daily basis and would reduce the urgency to widen all main roads in the low country. However, I would take widening the existing roads.
Deforestation is already a massive issue that we're facing, but as long as we're working on making existing roads better rather than making all together new roads then it all good.
Use new shared, connected & electric technologies now (& autonomous technologies when improved/ validated) to deliver Shared Mobility as a Service. Carolinas Alliance 4 Innovation is developing options that are working in the Upstate.
Within a small geographic area, buses serve the purpose. However, we need better options for transit for longer distance travel.
There are more people in Atlanta Metro than our entire state. You have to have a car because or bus system will not be feasible to go where everyone wants to go
WE need 3 lanes on I-26 all the way to the I-26 and I-385 split.
This is the first city I have lived in with almost no CNG or electric city, county, express, busses. Also why no car pool lane or toll express lane like in Atlanta and North Carolina or California? This would produce extra income
only if it includes a light rail or rail car system, if not, then my preference is to increase capacity
I support transit alternatives (like public transit), not expanding roads. This tradeoff is phrased in a very confusing way for me.
So many places could have right lanes only and the traffic to get to McDowell short cut is backed up sometime in the middle of bypass 17 can't remember the mane of the road but it goes over to 707
Blend of both, depending on location
Again, both need to be done. Metro should have had light rail ten years ago
Lanes encourage single passenger vehicles. Stop it. Encourage mass transit with more light rail with parking garages.
A train station would be helpful.
Higher speed light rail
Perhaps SCDOT could add lanes ONLY if the lane is an HOV or Bus Rapid Transit Lane.
I don't understand what either picture is trying to convey. Would I rather have plain buses or closed roads? If so the answers obvious and this just seems petty
Add interstate/divided highway from Greenville I85 to Jasper/Beaufort county
Why did you make the road look bad and the bus all clean? I think this survey is biased.
Passenger rail!!!!

<p>If you are saying fix roads vs busses. Fix roads. If you are saying fix roads vs light rail and park and rides. We need light rail park and ride in populated areas and we need fixed roads. Then over in places where nobody lives. We don't need to worry about those so much. If they want to live 1 family per 2 miles instead of 5 families per mile. They should pay 10 times as much. Rural life is a luxury to be afforded.</p>
<p>Light rail to corridors beats a fourth county road to nowhere. The rock hill free bus loop is a good city fix.</p>
<p>As much as I would like a train to FM, I don't think enough people will use it to make it worth the money. People like driving their cars.</p>
<p>As much as I would like the train to run from Fort Mill to Charlotte, I don't think many people would use it.</p>
<p>Introduce Transit X into SC and keep SC government out of it.</p>
<p>keep roads we have in decent shape ,not the sad falling apart shape he have now that the rain can wash out and turn it into rubble</p>
<p>Plan and manage growth to slow things down until we can get infrastructure in place.</p>
<p>I95 and I26 need another lane. Both need to be repaved. Some of the repairs to I95 are just as bad as prior to the repair. Ex south bound below Walterboro.</p>
<p>Not sure what is being asked here. If it's about public transportation, then unless it's in an urban environment it serves little use.</p>
<p>Unless its in an urban environment public transportation has little use</p>
<p>I think adding a light rail system that goes from downtown through N. Charleston and to Summerville would be the ideal solution. It helps reduce traffic congestion and makes the roads safer overall.</p>
<p>Light rail is necessary. From Charleston to Greenville right down the middle of 26. Going into and out of Charleston from Berkeley / Dorchester.</p>
<p>Traffic calming projects. Long term solutions that take in long term growth models.</p>
<p>Bus transport systems help lessen traffic jams. Make it accessible in rural areas.</p>
<p>making more logical use of existing lanes. Too many merges, especially those crossing multiple lanes in busy areas</p>
<p>This is kind of confusing. There are two options as trade off, but only one up and down arrow. So how do you know which one you're using the up-and-down arrows for? For instance, to improve mobility I have to choose the tradeoff of increasing capacity by adding lanes... or managing demand with technology or alternative modes. How do I know which of the two trade-offs I'm using the up-and-down arrows for?</p>
<p>SC needs to get serious about public transportation: buses and light rail.</p>
<p>Light rail</p>
<p>in other cities mass transportation is underutilized and would be expensive to maintain</p>
<p>Add buses, regional rail, commuter options. Don't add interstates.</p>
<p>Trains! Like metro north near NY, or LIRR</p>
<p>We have mortgaged significant time in improving our transportation infrastructure. We must account for growth now. We have lost 25 years of planning to account for the 25% + growth we have seen and continue to see around urban industrial hubs.</p>
<p>Better planning for transportation infrastructure must occur now. We have lost many opportunities to fix this over the past 30yrs.</p>
<p>Once again, I have to object to you presenting "adding lanes" as an option for "improvement"</p>
<p>ADDING LANES DOES NOT HELP CONGESTION</p>
<p>This is bad planning to even suggest that adding lanes will help improve mobility. We need to move away from fossil fuels, not add more lanes.</p>
<p>I think both will be necessary!</p>
<p>Both are needed</p>
<p>Bus and bike Lanes yes. More car Lanes, no.</p>
<p>More bicycle paths separate from the roads.</p>
<p>Improve public transit through the bus system or look into light rail. The investment into driverless vehicles I've heard about is a waste of money. It won't do anything to reduce congestion, probably will make it worse.</p>
<p>Need an interstate to Myrtle Beach. Too much congestion and roads are not safe.</p>

There is no public transportation in Lexington to connect to Columbia's public transportation. The growing population in Lexington that commutes daily to Columbia has no choice but to drive personal vehicle.
More safe bike/walking paths!! One big path downtown isn't enough.
Rapid transit via monorail and commuter/shopper parking
Yes! More functional bike routes and bus routes would be wonderful!
I would prefer to add more options but I do not think that enough people would use them.
This is the main part where this country lags (a century) behind.
There should be more busses, trains, trams etc. To take cars off the road.
Unfortunately additional transit options are not viable for the cost in South Carolina. Population density does not support high cost transit options.
Do not spend tax driver and personal property owner and thus tax payer funds on subsidies public mass transit.
Are you kidding. You can't maintain what you have.
Rail transit in Greenville area
Let's go for a greener traffic system in cities. Bus lanes and lanes for people who use bicycles and/or walk or run.
This is no trade off. It is win win.
Advanced mobility solutions can provide more people with complete rides at lower costs. Shared, electric, & connected technologies can attract more riders to mobility solutions and be automated when that option is feasible.
Need to look at also adding additional roads that would help with congestion on other roads.
In Florence, traffic would move better if lanes were better designated. Is. Make many lanes right turn only, where there is currently a left turn and two straights. Some of our lanes are painted impractical, like Pine Needles and Ebenezer. That one is just wrong.
Don't add more lights! I would try to manage demand maybe by even altering the start and stop times (of minutes not hours) of businesses, schools, etc. of heavy traffic areas. Encourage businesses to offer work from home days.
Electric buses and increased quick commuter areas
Nobody will take MT in Columbia
Manage demand with technology and other travel mode alternatives
Again you're idiots if you aren't doing both
Not just buses, preferably water taxis and/or some kind of light rail system
If feasible manage transit demand with technology
Increase capacity
Increase capacity
Yes more rail and greater bus. I would be in favor of designated bus lanes and increased bus routes with decreased time waiting for the bus.
I don't care about increasing capacity on buses. Most of them are almost empty anyway but we do desperately need more lanes/roads.
This is ridiculous. South Carolina has the worst roads in America. We make Alabama look good. Charleston and Columbia are the two most important cities in the state and we have a decrepit two lane road connecting them. Widen 26 AND fix the potholes. Please don't waste my tax dollars cutting down trees in the median. Insane.
Manage demand with technology and other travel mode alternatives
I was interested in an electric car but the quality of the roads and availability of charging and service centers made it too risky.
NOT BUSSES. TRAINS/light rails please!!
There should not be any trade off. All of these items are important. SC is the bottom of everything. That is what happens in a RED state. Everyone votes against progress. Lowest paying jobs, worst education just keep making the rich richer.

<p>While I feel that technology has been useful in alleviating some congestion on areas such as Woodruff Road (syncing traffic lights to stay on for longer periods of time, then allowing it to change for cross-traffic), I think that adding more lanes is crucial to that and other road systems in the area that are supporting a population way beyond what it was intended for.</p>
<p>The necessity for higher capacity could be reduced by adding more public transit options, but those options must be made available within a wide-enough network and at a high-enough frequency to actually make them more convenient than driving.</p>
<p>We need more public transit from the north suburbs into Charleston!!!</p>
<p>I would widen and/or add lanes in major problem areas, but think some issues could be solved in other ways. If public transportation is good, it can be helpful in reducing congestion.</p>
<p>Don't lump adding lanes in with other infrastructure! Unless you mean adding bikes lanes, then yes, by all means!!</p>
<p>There is a ton of opportunity to improve the existing with technology. This approach is much faster, cheaper, and will provide results sooner. I include in this assessment the modeling of roadways to identify methods to move traffic faster through smart signals AND the elimination of left / right turns. Elimination of 15-10% of left turns will increase roadway capacity tremendously on main arteries. Another option is "parking lot" connectivity - eliminate 25% of artery curb cuts by forcing adjacent properties to connect parking and limit artery access - keeps overall flow moving and improves the total system flow. Modeling of congested arteries will quickly show choke points / flow restrictions that can be easily fixed at a fraction of the cost of wider roads.</p>
<p>Government and technology don't mix. Try entering a highway in Los Angeles one car at a time.</p>
<p>We don't need more capacity we need less people or alternative transportation from other parking areas. In order to encourage more cyclists we need more public bike racks. Biking to a destination is pointless if your bike is stolen. While you shop.</p>
<p>Why is public input required when published quantifiable studies have proven the method by which the profession has a quantifiable answer?</p>
<p>Alternatives should still be evaluated and planned for long term however congestion is an immediate problem</p>
<p>By the second visual, my assumption is that capacity will be increased by adding more public transportation. Thus, I support this issue only for that reason.</p>
<p>Need alternate routes, wider roads with turn lanes.</p>
<p>Add a lane for busses</p>
<p>I don't know if this page isn't formatted for mobile devices or the design is just bad, but i have no idea how the arrows are supposed to relate to the question. Does an vote for one automatically mean a down vote for the other? Why not just make a slide bar or a number scale?</p>
<p>need to improve roads to reduce the need for slower speeds. reduce lights. improve crossovers.</p>
<p>Build more bicycle infrastructure and connected modes.</p>
<p>without added capacity, all other options will only delay the inevitable need for more capacity. There is a maximum theoretical throughput, with so many variable just in drivers ability, capacity is the simplest and will prove least expensive solution.</p>
<p>without added capacity, all other options will only delay the inevitable need for more capacity. There is a maximum theoretical throughput, with so many variable just in drivers ability, capacity is the simplest and will prove least expensive solution. I believe its been proven time over busses trains etc., do not reduce congestion, and only siphon money from road construction. see example of Charlotte's CATS. or Atlanta's MARTA, or anything in California, waste of money.</p>
<p>Again, some increased capacity by adding lanes or roads is necessary, but land is a limited resource and often the "improvements" are already not enough by the time they are finished</p>
<p>There is no way that budgets or available land will ever keep up with increasing capacity. The length of time it takes to do this is so long it is always out dated by the time it is completed.</p>
<p>More bus options as well as light commuter rail and high speed rail connecting Charlotte Columbia Augusta/ Greenville Columbia Charleston / Charlotte Spartanburg Greenville Anderson and on to Atlanta</p>
<p>Research suggests that adding Lanes doesn't work. See Atlanta, Houston, Los Angeles</p>
<p>Rapid transit and lite rail along with good train service to neighboring cities</p>

The best short-term bang for our buck is adding more lanes to existing roads. Long-term, we should explore light rail particularly here in the Upstate between Greenville, Greer, GSP, Spartanburg with spurs to Simpsonville, Travelers Rest, and Boiling Springs with eventual extensions to Easley, Clemson, and Anderson.
i've used the soda cap a few times but there seems to be a stigma around busses. using other forms of mass transit to connect more communities could fix that
Add other infrastructure and transportation modes
High speed train to Atlanta and to Savannah
Need to add stops on Daniel island
The travel alternatives are too vague. Suggestions for Greenville have included multiple horrible ideas and I don't trust the vague use of the term "technology" to actually be beneficial.
Establish bus routes on main roads so seniors have an option to go locally to eat out, the movies, etc.
High speed transportation would be ideal - Bart/Metro like
High speed transportation would be ideal - Bart/Metro like... especially to Daniel Island from Downtown/James Island
Technology: use systems to improve traffic light signals for volume and improve traffic flow; Saturday's and workday rush hours. Look at Houston, Texas MOT best practices. Start HHI schools earlier.
Add carpool lanes. Encourage people to ride together.
Add transit to extra lane
Again widen hwy 12 and Hwy 1 All the way to Lugoff. Before we do anything else to I 20.
Whatever works for that part of the region
mass transit carries more people in less space. The real increase in capacity.
GET RID OF PUBLIC TRANSPORTATION. PEOPLE WILL NOT USE IT IN THIS AREA. THIS IS A WASTE OF MY TAX MONEY. EVERYTIME YOU SEE A BUS, THERE'S 3 PEOPLE ON IT. NOT WORTH THE WASTE OF OUR TAXES.
Again, I do not understand how this questioning of the survey works.
I would choose the other if I knew it was a train.
Widen 95 and catch up with the rest of the country
Something like a light rail system would be great!
Train. Not bus. Not driverless cars.
More people riding bicycles, means less car drivers on the road.
We need a major highway out of myrtle beach to highway 95!!
I would like safe options for alternative modes! Adding more lanes for distracted and hurried drivers to dart about won't help. But we have a community that isn't sufficiently provided for now.
Some of our roads are quite wide enough, it's just that too much unplanned development has been allowed that makes traffic a mess, increases congestion, causes suburban blight, etc. I give you Wade Hampton (especially through Greer), Woodruff, and Pelham as what NOT to do!
adding lanes does nothing to improve congestion and only costs us more in the long run!
Especially in downtown corridors, better bike lines and walkability connecting to bus routes for longer distances to "places we want to go" (parks, shopping centers, etc.) could help remove vehicles from streets.
Not sure what you are asking
More capacity just encourages more people to drive. It doesn't reduce congestion long-term and is not a sustainable solution.
This is a double edge sword, I do not mean to build more unnecessary roads, I would like to see roads built with mire logical thought processes.
A perfect example would be Hwy 176 merge onto Hwy 52, who thought this up?
We need more investment in bike/ped and mass transit infrastructure
Leaning a little more towards adding capacity. It takes a lot of education to get folks to give up the freedom of personnel vehicles. It would be a good thing but it takes a lot of convincing.
Something other than bus system.

Add public transportation to the entire Lowcountry/tricounty.
HOV lanes during peak travel hours, particularly to/from "city"/suburbs
No transit or light rail. Expand all interstate roads to 6-8 lanes and all secondary roads to 4 lanes with turning lanes
Add more alternative routes
Need an updated ITS plan for the region to link NC and SC and squeeze all capacity out of existing roads. No room to widen and costs too much to add lanes. Use technology investment.
Too complicated for me to figure out. You don't have to make it this complicated!
Adding lanes never solves congestion! It just adds more cars to the road. The only long-term solution is quality public transit.
The public transit system works on a city that has the infrastructure built up already. This city's infrastructure doesn't support city transportation of any sort. Try driving up Hwy 61 one lane roads behind a bus at rush hour. It's not possible and it doesn't work as far as lessening the congestion on the roadways, which I think is the greater picture.
Please study the effects of adding busses or into some already congested towns. Please improve railroad systems from I95 to Charleston ports and back. Also building containers loading and offloading near I95. I'll be happy to pay taxes to build such a system to eliminate trucks and containers in and out of Charleston county and inner roads.
Bus transit is not ideal; it is slow, cumbersome, and you still have to travel to get to a bus stop. If I were to take public transit it would over triple my commute time which is unsustainable and unattractive. When we say improve mobility, we mean create more efficient, faster, cheaper, more environmentally friendly options that make it possible to use transit vs. driving
How in the world will you manage the overload on the roads with technology?
I don't want 8 lanes but certainly work on bottlenecks where traffic can flow smoothly.
Bus service will only add to the congestion. Although the cost may seem high, a rail system is a far superior choice.
Electric trolleys or an ideal solution for Beach transit
Please Manage demand with technology and other travel mode alternatives. Wider lanes are not safer lanes.
TIME THE TRAFFIC SIGNALS
We need to invest in sustainable transit systems. Reduce the number of cars and invest in other methods of transportation that reduce emissions.
Let the bigger cities figure out the best technologies for transportation, and in 20 years when they figured it out and it's cost effective, that's when try to adapt it in sc.
Public transit is key areas like the peninsula and closing the area to permit only traffic may be a good idea.
On time buses with convenient routes. Carpool systems
With the current and future climate concerns, we should shift our focus to creating a less car dependent society with alternative modes of transportation. This would also reduce the amount of traffic on roads that otherwise would need to be widened to accommodate high volume traffic.
Mass transit is important
No more ones for cars! More transit and sidewalks!
Expand and improve bike infrastructure in the city. More transit routes and extend times for busses, like running Sundays and evenings.
Road widening does not improve mobility. Transit moves the most people on existing roads.
My preference for improved mobility includes: being environmentally more sustainable, provides more people access to transportation and opens up their mobility, and connects the state's overall communities rather than just individual commuters.
Travel mode alternatives? Does that mean public transit? I want public transit
i don't understand go to answer
This question is not worded with bicycles in mind -- so it is not clear how to best answer for promoting bicycling as a priority! -- "other travel mode alternatives" or "adding lanes and/or other infrastructure".
If the "other infrastructure" means transit as the photo indicates, I favor that.

Survey Question 2 Part 4: Comments "Passenger Transportation"

Figure out a way to do both of these things
Providing more people with the access to new areas will help the overall economy of the state. Again strengthening communities and allowing people to live in a place they can afford while working in a city that has a job opportunity that suits them. In an impoverished and/or gentrified community, a strong transportation system can be a gateway to a better life.
Our highly-populated urban areas need more frequent transit service.
Need to create easy transfer points for bus lines to improve travel times. Longer hrs. of operation. Run until 12 am 7 days a week
Communist Transportation
I would be nice if SCDOT could invest in a State funding Intercity Rail like in North Carolina that connects Charleston, Columbia, Charlotte Greenville and Spartanburg
I don't understand how to answer
Mass transit serves too few people and needs to be increased.
Increase transit everywhere
Add more bike lanes and sidewalks. This will reduce traffic
I would like to see highways widened to four lanes: Hwy 178, Hwy 21, Hwy 4. Having additional hurricane evacuation roads and a backup to the interstate can help congestion tremendously. I 26 also needs to be 3 lanes throughout the state. Toll booths entering and leaving the state are a great way to pay for the additions.
Help low density areas create shared uber/lyft services.
I'm neutral. This isn't going to work in SC right now. Too much suburban area, with people who live too far from their jobs.
remove all buses and use money to fix the roads and bridges
I'm not a huge fan of urban sprawl, and more people having access to multi-modal transit opportunities will (hopefully) decrease the need for vehicles. additionally, it will provide more employment opportunities for underserved communities that need travel options and an expanded range of job/employment opportunities
Open new areas to transit, please
I'm against public transit if it's not implemented right. The capacity, the comfort, the schedule. It is still might not be for everyone- people with disabilities, or a need to carry the equipment (construction, maintenance, musicians). Mass transit can bring a crime to the neighborhoods. It might be a crime (see school buses) or harassment or similar issues. Infrastructure should include the technology that can make traffic manageable (reversed lines). Implement HOA lines. Well lit streets. Safe pedestrian crossing (bridges, underground?). Safely protected bicycle paths (protected but not lines on road) where kids will be safe to ride.
Tough trade off. I think improving current transit system and investing in future transit services are both very valuable. I think it depends on the projects.
Our current transit network does not make it feasible to use for regular transportation unless you are out of other options. I get to work faster by bike (20 minutes) than I would by bus (over 1 hour). First the network should be expanded, then headways and other performance metrics should be improved across the board.
A rail line between Summerville/Newton to CHS would improve traffic. So would transit to Boeing and Volvo and industrial parks.
What is the your definition of the word "transit"? Your question doesn't make any sense
Being a sprawling area I don't know that trams, trains, and buses to move people will ever catch on here. Like it does in the bigger cities, Chicago, New York.
Unfortunately, these needs have been so poorly addressed in this state that I feel it will years before we can catch up.
North Charleston to Daniel Island, please!
Make it frequent and attractive to increase users base. How about adding WIFI, power for laptops and cellphones! How about dedicated lanes to speed up travel to and from work. Free parking for costumers only!

Vital for low income residents and others who either don't own a vehicle or cannot operate a vehicle due to health issues or other restrictions.
Public transportation doesn't work outside metro areas. Invest in aligning funding with new technologies for autonomous driving.
Don't think too small. We need to plan for multiple transit options; bus rapid transit, express bus service, light rail, and commuter rail.
Waste of money and time
Rail only
Again, just busee is not going to fix anything here in Charleston
One stop on Daniel Island for both residents and those that work on the island
Light rail is a must option
No increase in Passenger Transportation. Focus on Road Upkeep.
I would definitely like to see passenger transportation routes expanded on. It baffles me that we don't have service that extend throughout Lexington County to all areas to get folks into downtown.
Bus service may help, however it at present creates more issues than it helps. Very few people use the present service, large busses with 0 or very few people are a waste of monies.
Force mass transit to have a pull off area instead of stopping in the road and causing traffic accidents and backups.
Elements of light rail transportation on main spurs in larger metro areas and attractive rail between cities should be enhanced to make these more attractive.
We need to increase services in both existing AND new routes!
This section make no sense
Not sure what you are asking
let's make what we have work better before we expand to other areas!
Supporting existing transit services to have more efficient routes, longer hours, and more frequent stops first is key to making a system that works well. Working towards expansion would be the next step.
BOTH
More areas as well as more information on the public transit options with pickups in neighborhood. Can't use public transit if it isn't even close to me house. I didn't know we had the option locally until someone told me and I have lived here a few years.
I think if existing routes are improved to garner greater profits, then why can you expand new lines with that added profit margin?
We generally just need better public transportation, whether in new areas or existing. Determine where they are needed most and expand there.
I don't use enough mass transit to have an opinion either way. I hope you'll listen to the people who actually use mass transit. Thanks.
The Passenger Transportation section is a false dichotomy - you don't have to do either one at all. And, this Tradeoffs section should not be considered as a mandate to increase taxes. The states and localities need to learn to live within their means. If they want to spend money on this stuff, then they need to CUT that money from somewhere else in the budget. Increasing taxes for ANY of this is wholly unacceptable.
I would prefer whichever would replace more cars.
Please build a monorail connecting ATL-GSP—CLT airports! It will take commuter traffic off I-85, improve safety and generate revenue!
Train. Lite rail. Not bus.
Having lived in Europe for a time, unless I can go most anywhere in the metro area, is in less than twice the time of driving, busses will struggle.
rural communities need more access! South Carolina is comprised mostly of these smaller more rural communities. By increasing the connection to these communities I feel that it strengthens our productivity and success as a state.

Rail Road
Rail system
GET RID OF ALL THESE LOCAL TRANSIT SERVICES. USE MY TAX MONEY ON THE ROADS, NOT A SHUTTLE SERVICE. THIS SERVICE IS UNCALLED FOR!!!
It seems shortsighted not to be investing in newer technologies like high speed rail. Why limit to buses on existing roadways. Let's think out of the box and become a leader in the U.S.
Need assigned stops so buses can pull over to load not block the street. Make public transportation green.
Let's face it there is no Transit in SC. This is really just blowing smoke.
New innovation need to be explored. Wider roads isn't the answer always. Public transportation needs to be severely overhauled, what little there is, which is busses basically that only travel main roads.
Both would be great, but I don't think transportation in Columbia where I live is used anywhere near capacity because the routes aren't optimized. Spend some money on rerouting lines to go where people need them to go.
Use the train system rather than the bus. Look up Sunrail in Central Florida and see what they have done.
I don't understand how to respond correctly here ??
Nothing goes to Daniel Island - and there are no bike paths/alt transportation methods. Even if I take the boat taxi - there is no transportation getting to major companies on the island.
Not just for events! Look at Orlando, FL MOD. It stops at every mile. You could remove H.S. buses with this transportation method.
Greenville's bus system takes too long to get to locations around town, and the trolley is not reliable for getting to or from work. Transit and passenger services need to have a higher quantity of shorter routes.
Something other than other vehicles. Monorail or train system
Local bus transportation that do not have set stops or schedules but stop at homes to pick up a few folks to take them to work is obviously aimed at affordable transportation (like affordable housing) carries a stigma. I would take a local bus from NOB to SOB and back if there was a set stop and schedule. There isn't - and if there is the marketing sucks.
Need to add a stop on Daniel island
Add to accessibility for disabled who don't drive
Focus on providing quality services to high-demand areas - those with significant residential density
Both of these are very important. Our less fortunate citizen depend on public transportation, which is locally abysmal. However, cutting down on congestion and energy-waste is critical for a growing state. Building larger roads for more vehicles is not a lasting solution to this problem.
Frankly all of the above must be done. There is no tradeoff in this realm when the resources needed are properly allocated to favor the only method of actually reducing congestion and capacity is selected.
I guess wherever the need is greatest. But, pave roads first.
Both!
Light rail in York county connecting to Charlotte.
Most people drive. Focus on improving driving experience not bussing or light rail
In both cases there need to be partnerships with local government as well as public and private contributions where perceived need is most. From a fair housing standpoint, there needs to be services in new areas
If there are more options it will be more widely used
both really need improvement
Work in this area should be based on input from local communities and with public and private funding. From a Fair Housing standpoint, new areas need to be served.
Transit should be financially self-sufficient, EXCEPT for handicap services.
I'm not a fan of public transportation. Let's not get distracted by something that has been proven not to reduce congestion option.
Expand both when possible
Add more areas for transportation

Is this a real question?
Most of these services are operated by private companies. Unless the services are going to be free, they need to stay private.
Frankly, one cannot choose between these - BOTH are requirements that only government can fulfill
Light rail. Buses just don't do it.
Again, why increase your responsibility when you cannot handle what you have?
This choice requires "logic and realism". Very few US citizens will use mass transit for trips to the airport, beach, or popular vacation / shopping destinations. Making fast efficient passenger transit available between suburban and urban work areas can get many more cars off the road. Charlotte High Speed Rail is an "OK" example, but where Charlotte missed the mark was stretching the rail to the existing huge residential centers where daily commutes to the "city" live. If Charlotte would have considered Ballantyne, Fort Mill, Rock Hill, Pineville, and Indian Land in their planning the rail utilization would be much higher, and 1000's of daily commuters would be off the road. High speed rail and bus systems often overlook huge suburban pockets of commuters. I believe an express bus service from designated areas to the heart of any business district would be successful financially and remove cars from the system. These services need to be well thought out, dependable, have minimal stops, include amenities like Wi-Fi to get business commuters off the road.
I haven't used the busses here, but I would probably still have to drive to get to a bus stop. I have used public transportation in other places, both trains and busses.
Trains in Charleston
The infrastructure has degraded greatly in the 20 years I have been here in Greenville
Government should not have any direct participation in mass transit. Build/maintain roads; regulate mass transit.
transit to reduce cars into heavy congested areas give a carrot so people will use it
If existing bus routes in our area ran more frequently, the service would be more viable for busy people.
Light rail from the Naval Weapons Station to the Airport, Downtown Charleston, Mount Pleasant, and Foley Beach would be welcome.
Including rural areas
High Speed rail or well-maintained subway system would be the best improvement. Buses should be a think of the past. They do not travel to areas where most people live, they are poorly maintained, and bad for the environment.
Why not consider trams on dedicated track.
No helmet law for motorcycle drivers is outrageous when the majority of motorcycle deaths are from blunt head injury. A helmet law will also lower SC vehicle insurance for all. Someone is asleep at the wheel in the Columbia State House.
We need a rail system not buses!
VISION...High-speed rail service from Charleston, SC to Charlotte, NC, with stop in Columbia. If cost could be minimal and frequency conducive, travelers would use this mode of transportation.
We definitely need more bus lines and frequent stops we live in a household that has 4 working adults and only 2 cars it's hard arranging Transportation when you all have to be at work at the same time
Would like to do both.
Both of these options are important, for some public transportation is the only option, for others public transportation is a way to save money
Lease or share current rail lines with private railroads to provide passenger service from outlying smaller towns in the bigger city centers.
Trains and teams
Unfortunately the public will not use it!!
Light rail is needed to connect the Upstate of SC.
NO Roundabouts!!!!
neither
I'd like to see buses from Upcountry to Atlanta, although NOT electric buses. I'd like to see the very underused (except by Clemson students) CAT buses changed from full-size to maxi-taxis and CHARGE riders a fair price for fares!
Include Westminster and Walhalla un thriller bus routes

Identify top factors for viable, sustainable transit: 1) dense nodes of people, 2) major activity attractors, & 3) connect the 'dots' with high capacity transit using ultra-light vehicles & infrastructure that can be elevated above ground level to avoid congestion & accidents.
We need mass transit to include rail systems that are modern and safe to ride.
Encourage in sector housing – reduce the sprawl out of city and cross sector traffic
Yessss! This is the way to go.
People do not use the public transportation you have now! The buses I see never have riders on them.
Rail with bus from stations would be great
Look into options for light rail services. Park and Ride locations for ride share.
Transit is not the answer. It is a losing money proposition even in densely populated areas - and SC is not densely populated. Spend the money on the roads.
As the state becomes more densely populated in many areas and the population ages mass transit becomes more important. But how do you get us out of our cars? Maybe figure out ways to expose us to it? A free or low cost tour to a popular place with maybe some hand holding?. I've thought of taking the bus from Taylors to downtown Greenville for example. But where do I catch the bus? When does it run? Is it reliable? I don't know so I default to driving myself.
Trains between cities. Such as Greenville to Columbia or Charlotte. Bus routes are so limited that they are unusable. From my house to work is a 15 minute drive but an hour and 15 bus ride necessitating a transfer and half mile walk. I'm disabled and cannot make the walk.
Lexington has a lack of public transportation.
Move regular commuters out of single person vehicles into alternatives.
No substantial % of the population uses this. Let's figure out how to safely bike first
Neither
Disagree with both.
Again- if the underserved population would benefit and USE more public transportation then that would be important but not at the expense of expanding an existing service if warranted
It should be done on both
Both are necessary for a functional transit system. I would be willing to pay higher taxes to get this done.
I think a study needs to be done to see how the transit system is currently functioning compared to how it should function in an ideal world to convert people to use it more frequently. This study should then help determine the tradeoff.
There is a lack of public transportation in the town of Lexington and surrounding areas.
Neither actually. Do you no longer want your precious and unconstitutional vehicle property tax. Take care of the property owning tax payers and commercial vehicle transportation needs first.
Please redefine "transit" to include options other than highway vehicles. It's the "Department of Transportation," not "Department of Asphalt & Concrete."
Only improvement would be to expand Regional Transportation to rural areas.
Please fix our roads and capacity issue. RTA will not reduce the number of motorists on our infrastructure network. Expansion of RTA in select rural areas will benefit growing industry in the Pee Dee and CSRA.
mass transportation only benefits high density urban areas and SC is largely rural. Transportation plans need to benefit the whole state not just Greenville, Columbia and Charleston.
SC needs to get serious about public transportation: add light rail and trains.
Yes! If a good system exists then people will use it.
Stay/get out of passenger transportation business altogether.
This only works if the schedules are consistent and frequent enough
Need more direct roots from where people leave to where they work
stop allowing public transit to block traffic lanes. Either make cut-outs for them or make them drop off/pick up on streets other than main roads

Use of Railroad from Waccamaw Pottery area to CCU - park cars and ride for the most congested area.
not interested in mass transit at all
Not only popular routes but think of how to assist getting more transit systems throughout the state. Work with individual areas
This is only feasible in urban areas
Which citizens does this benefit? And in what locations. I am not sure this should be a statewide priority, but perhaps a more regional one if demanded by citizens.
As with every choice given in this section, there is no magic bullet. It must be a combination of everything, very strategically allocated, then prioritized with a clear timetable for the next round and goals. Allow flexibility for unforeseen change. We have been too slow to respond for years then our own bureaucracy gets in the way. We also have very little creativity in how we plan. Rules and regulations exist for a reason but there are times to allow a little more flex and a cafeteria type of plan for best results at minimum cost.
Don't waste taxpayer money on systems no one will use
we have lots of water - what about water transit
These never pay--waste of money
neither helps anybody in my area
Include bike lanes, reversible lanes, more transit options.
Somehow inform and educate drivers on the importance of obeying traffic laws and enforce laws!
Privatize public transit and allow companies like Transit X to do their job.
Just fix the roads.
Bring Charlotte light rail through Fort Mill to Rock Hill.
We need a light rail stop in Fort Mill near 77
Buses and traditional transportation will be replaced by on-demand autonomous vehicles summoned by apps. People won't wait for sporadic buses to show up.
Not concerned with alternative transportation
Passenger rail please
Potholes
transport service from Florence Amtrak to Myrtle Beach
Some people need it, but I do not.
Transit should be left to local entities, such as that in Greenville and Anderson.
The regional transit authorities should be entrusted to make these decisions. SCDOT should support RTAs with funding and other assistance.
The popular routes locally to me don't seem to even be popular due to inconvenient routes, unnecessary stops/route navigation, and lack of timely options consistently.
New areas and frequent and free. As we see public transportation as a poor man's way we need to do free and frequent trips on short high capacity routes. (like a fleet of buses on woodruff Rd to help shoppers; free and a bus arriving every 5-10 min)
Move population density out from centers, innovate business centers on the outskirts
A mass transit system needs to be implemented linking Lexington and Columbia, Chapin and Columbia, Blythewood and Columbia, Elgin and Columbia. You need to have park and ride stops. Promote HOV lanes. Everyone driving their own car has got to stop and the bus system has a stigma to it. Light rail solves both problems. Perfect place for a trial light rail is in Lexington using the train tracks that parallel highway #1. Making park and ride stops along the way.
I think public transportation only becomes feasible when it goes to all the places people need to go.
Transit needs 3 critical factors to be successful: 1) density of pop., 2) attractor centers (high numbers of jobs, shopping, learning, health care, worship, entertainment, etc.) 3) connectivity (routes & vehicles) that is convenient, reliable, safe, comfortable, fast, accessible, etc.). Such a high capacity transit system will attract high ridership to pay for CapEx & OpEx and can be built by private investors with public STIF or MCIP guarantees as back-up.

<p>Transit needs 3 critical factors to be successful: 1) density of pop., 2) attractor centers (high numbers of jobs, shopping, learning, health care, worship, entertainment, etc.) 3) connectivity (routes & vehicles that connect population & activity dots) that is convenient, reliable, safe, comfortable, fast, accessible, etc.). An automated transit network system could work in the Laurens Road Corridor in Greenville. Such a high capacity transit system will attract high ridership to pay for CapEx & OpEx and can be built by private investors with public STIF or MCIP guarantees as back-up.</p>
<p>Popular and new areas can be the same</p>
<p>No one takes the bus except in highly populated cities like Chicago and new work. In an area like Charleston Columbia or Spartanburg the bus routes are primarily utilized by low income families as a means of transportation. Adding more will not reduce drivers on the road until it because too costly to drive.</p>
<p>Vital to have efficient Dependable low cost public transportation To get cars off the road</p>
<p>More programs to assist the disable</p>
<p>Not a fan of bus or rail transportation.</p>
<p>Money designated to SCDOT should not be used on transit or allocated towards transit authorities. That money should be used to improve the road system not help transit authorities buy vehicles.</p>
<p>Priority should be given to existing routes and enhancing those services. As additional growth occurs, transit options should be increased to serve/optimize the overall network.</p>
<p>Buses and rail systems would be awesome if they are thoughtfully designed and "marketed" to consumers.</p>
<p>In urban areas like Charleston the need for reliable public transit is a clear need. In other areas of the state, especially in rural areas, increasing/ improving public transit in these areas could help people get better access to preventative health care, and better paying jobs which could help reduce the burden on the state for people in poverty.</p>
<p>Do not increase service area's until the current areas are sufficiently serviced.</p>
<p>Many transit systems in other states are subsidized by grants and fees. Actual benefits of mass transit needs to be marketed and put into place.</p>
<p>Frequently run bus routes to places that people go</p>
<p>Not interested in this at the expense of repairing roads</p>
<p>Need to start thinking about adding rail services whether it be raised or subterranean. Also need rail service between Greenville Columbia and Charleston.</p>
<p>most buses are empty.... why waste money on more empty buses?</p>
<p>Again, some sort of rail system would be ideal.</p>
<p>If, or until transit can be self-sustaining, this should be the absolute lowest of priorities.</p>
<p>Please, no! It's only dispersing crime into new areas, which decreases small business revenue because the shoppers coming to spend money will then go somewhere else where there's not loitering and pandering arriving via the bus stop!</p>
<p>increasing transit/services on popular routes will have a more positive effect of traffic than providing transit/services to new areas.</p>
<p>I'm unaware of any transit services in my area.</p>
<p>Commuter rail could achieve both of these "tradeoffs"</p>
<p>My first priority with public transport is timeliness and reliability. Once those are established, there will be additional support for increasing service areas to include more people.</p>
<p>The only function for public transport is getting people without cars to work. There simply are not enough people living in SC to make mass transit ever work. Studying the current users and employers would be the way to address this need. None of the people completing this survey would have ever used public transportation. In contrast, everyone in large cities uses it. Maybe working with driving services like Uber or even Charlotte-Columbia Shuttle would be helpful.</p>
<p>This should not just be buses. Rail and longer distance ride sharing options should be considered.</p>
<p>SC does not have enough population density to support mass transit like a large city. The only use of travel alternatives is to transport people without a car to work. Studying the current users and their employers would make the most sense since no one answering this survey has likely ever been on mass transit in SC. Funds for this should be allocated differently from</p>

usual SCDOT funding because it is a more form of disability funding. Perhaps this function should be determined with consultation with private companies like Uber or Charlotte-Columbia Shuttle who are serving these special markets.
Need to invest in statewide transit systems. Study Europeans.
Because I wasn't sure what you wanted with these arrows, I put neutral for all 4.
First you must determine who/how many are riding from where! Covered seating at all bus stops!
Quit the grass clippings on the roads! Repacked and repainted roads will make them safer.
The density of population in SC is not high enough for mass transit to make any sense financially. It's only value is transporting people who cannot afford a car to work.
That stuff doesn't matter.
Upgrades are good I like the rumble strips they are a great. Would like to see more guard rails. Clearing safe zones should be done if needed example blind spots. Trees at intersection or crossroads. Not down the sides and center of the interstate.
Add frequency to popular routes and look for new areas of opportunity.
both are important
No public transportation to new areas! It brings those areas down, and you lose tax dollars when the workers/homeowners move. In Dallas the best suburbs REFUSED DART. (Dallas Area Rapid Transit).
We need trains like NC
Place cameras at intersection and at stoplight to stop speeding and on roads to stop speeding. Send tickets in the mail. Send to insurance companies after 3rd infraction
don't waste money on transit
Transit is not a priority
BOTH - You're the experts - you have collectively ruined our transport over the decades and now put this lame questionnaire out to dupe people while you form our roads into a 3rd world garbage pit.
Don't waste money on empty busses! Use that money on infrastructure that actually helps.
With aging population there is a great need for no drivers transportation to all areas possible
Publishing PR in social media, news media might increase interest in improving transportation use in the midlands. Light rail offers connectivity and does not disrupt the infrastructure as much as a subway system.
I-73 is a total waste of our money. Horry County has exceptionally poor planning for the county and roads. They never seem to include the quality of life issues for the people who have lived here for a long time. Also, we do not need to always get the cheapest vendors to build out roads. The mess with Hwy 31 is a good example of choosing a poor quality company and getting a poor result. We need to constantly check our bridges for safety issues. I have a lot of taxes over the years and see a very poor result here in South Carolina. When I see the good planning done in states like Florida ....It makes me know that we could have done much better and should be ashamed.