SCDOT Bridge Program Update
July 2025

Presented to the Carolinas AGC Summer Conference

July 25, 2025

Josh Quattlebaum, PE

State Bridge Construction Engineer

Today's Topics

Presentation Overview

- Bridge Team Organization
- Construction Program Overview
- Existing Inventory Conditions
- Bridge Funding
- Current Projects
- Future Projects
- Research Projects
- Specifications Update

HQ Bridge Team

Rob Perry, P.E.
Deputy for Secretary for Engineering

Robbie Isgett, P.E.
Chief Engineer For Alternative Delivery & Construction

Chris Lacy, P.E.
Director of Bridge Management

Clay Richter, P.E.
Director of Construction

Chris Gaskins, P.E., P.G.
Director of Alt. Delivery

Patrick McKenzie, P.E.
State Construction Engineer

Josh Quattlebaum, P.E.
State Bridge Construction Engineer

Carolyn Fisher, P.E.
Construction Alt.
Delivery Engineer

Emily Woods, P.E.
Asst. State Bridge
Management Engineer

Emily Bickley, P.E.
Asst. Dir. of Bridge
Management

Stephen Mothena, P.E.
Bridge Construction
Engineer

Michael Humphries, P.E.
Bridge Construction
Engineer

Doug McClure, P.E.
Bridge Construction
Engineer

Michael Buck, P.E.
OAD Construction Mgr

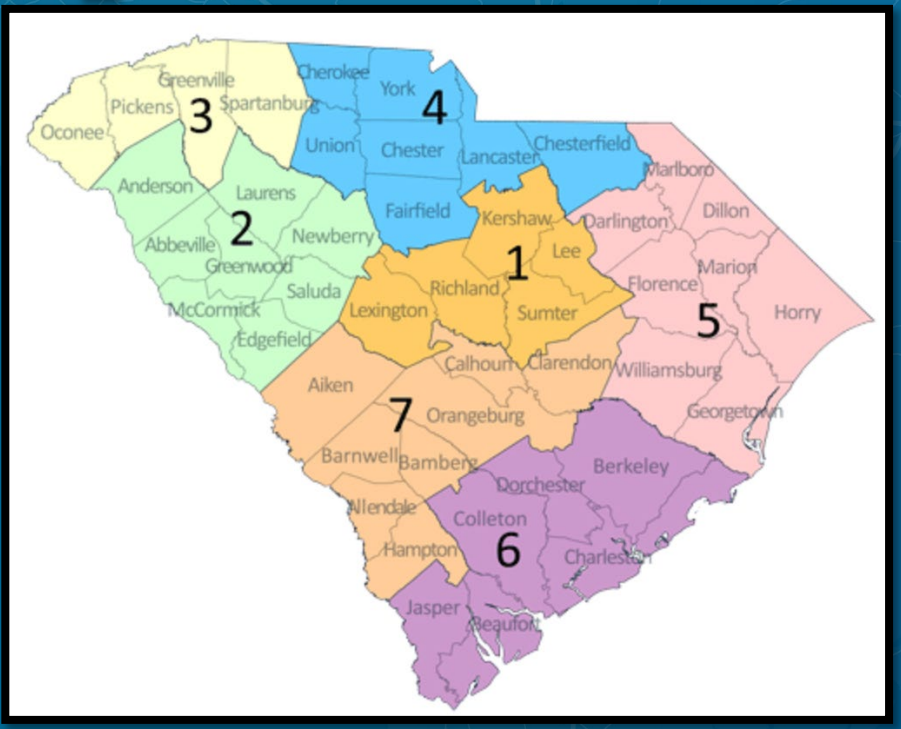
David Rogers, P.E.
CCR
Construction Mgr

John Burns, P.E.
OAD Construction Mgr

Emily Smith
Data Management
Program Manager

Mechelle Mabry
OSOW Program
Manager

District Construction Staff



District 1
DEA – Robert Dickinson
DCE – Jason Fulmer
District Bridge – VACANT

District 2
DEA – Kevin McLaughlin
DCE – Mike Hannah
District Bridge – Will Munnerlyn

District 3
DEA – Brandon Wilson
DCE – Josh Makison
District Bridge – Tony Thompson

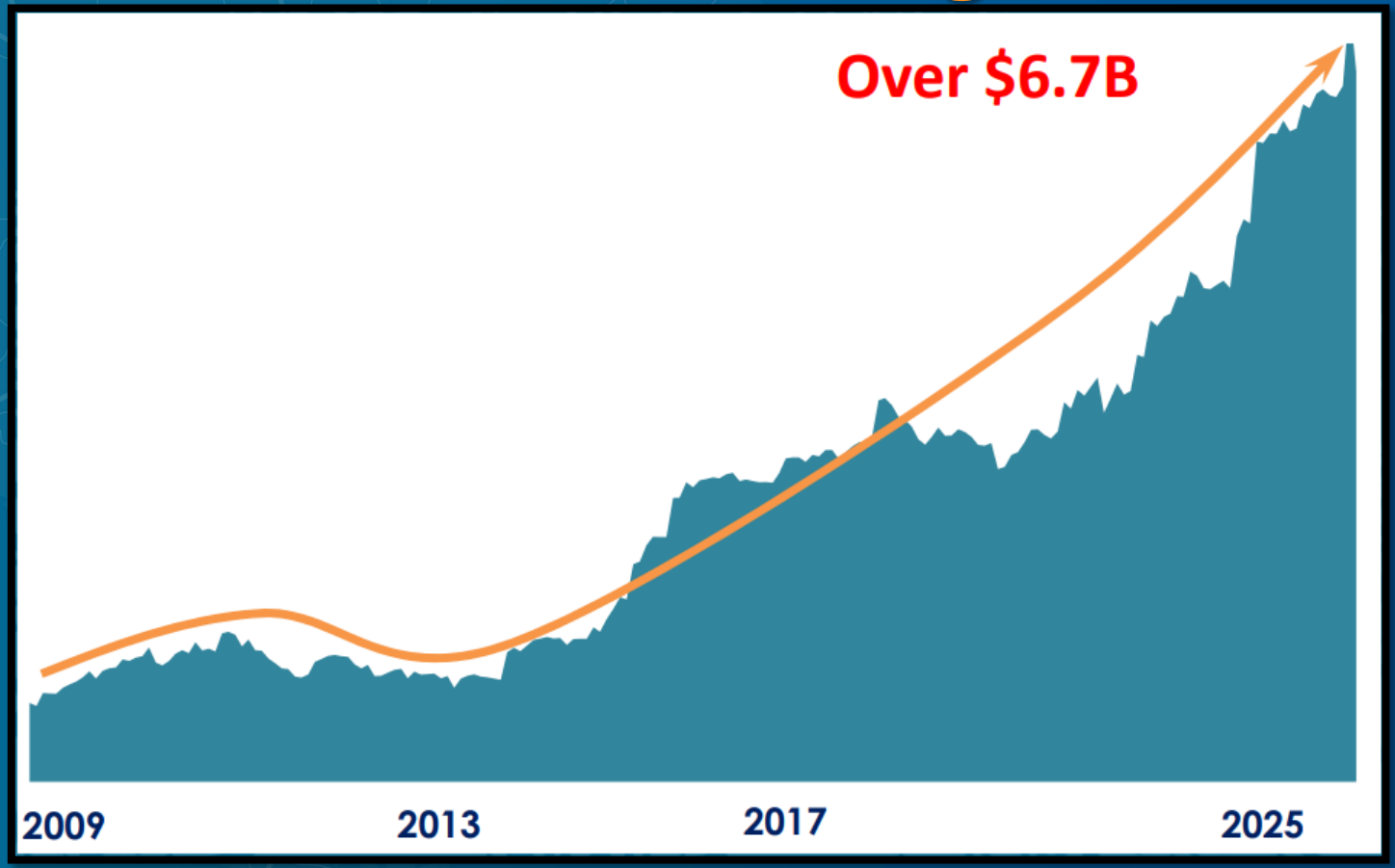
District 4
DEA – Jason Johnston
DCE – Melanie Mobley
District Bridge – Tom Gaines

District 5
DEA – Kyle Berry
DCE – David Johnson
District Bridge – Will Fulton

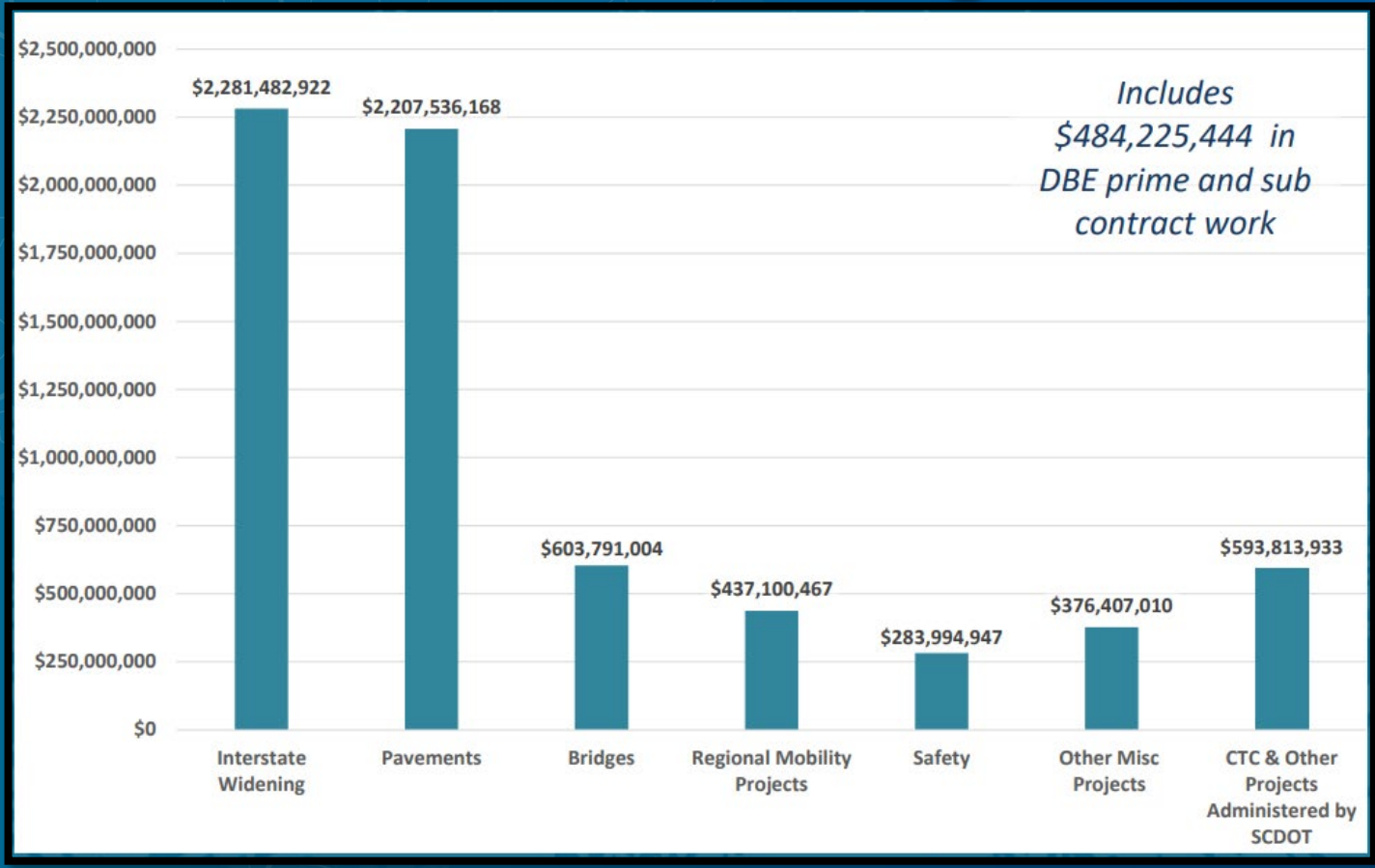
District 6
DEA – Tim Henderson
DCE – Daniel Burton
District Bridge – Kevin Turner

District 7
DEA – Brian Heape
DCE – Lyle Davis
District Bridge – Adam Bishop

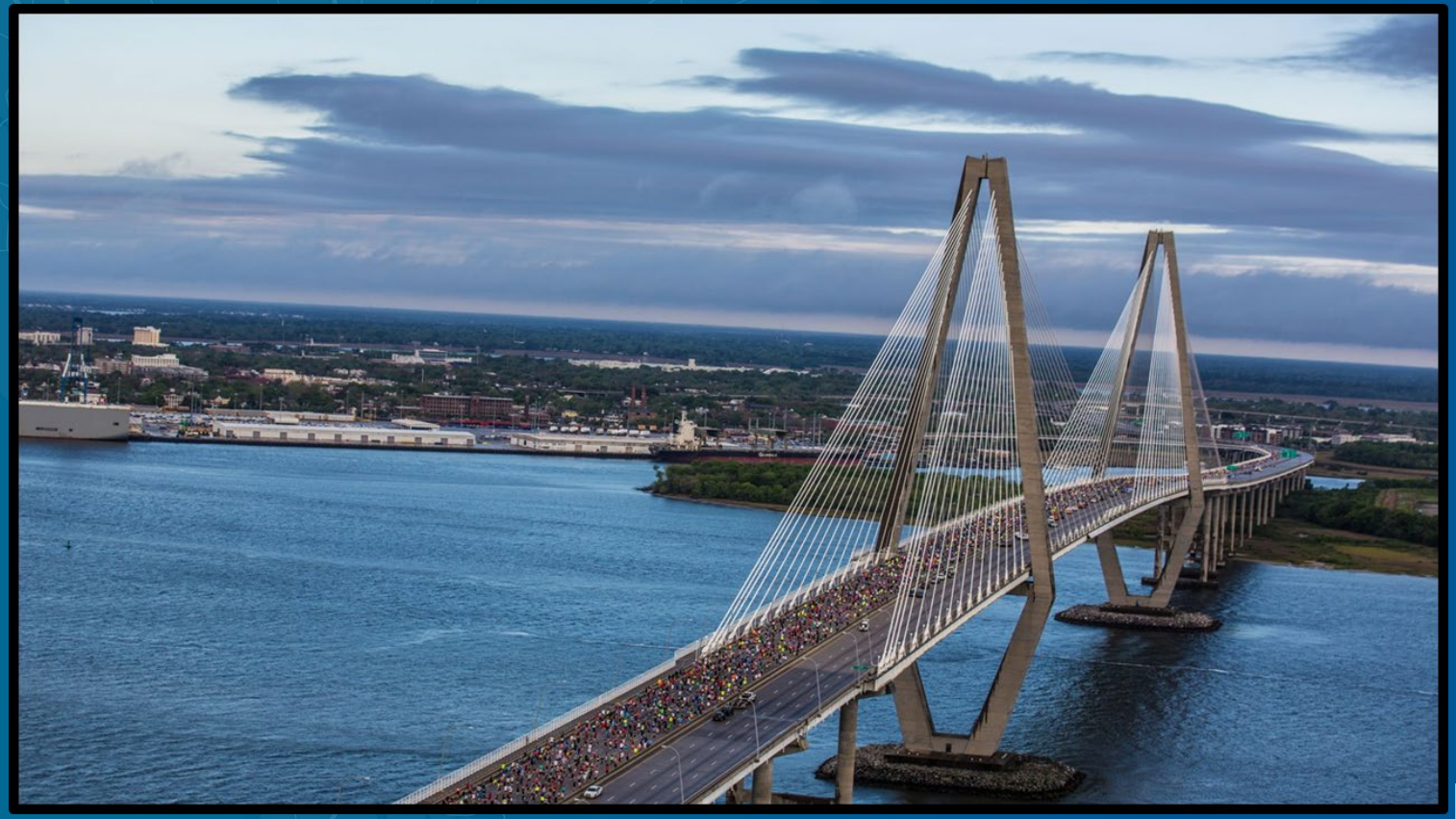
SCDOT Construction Program



SCDOT Construction Program



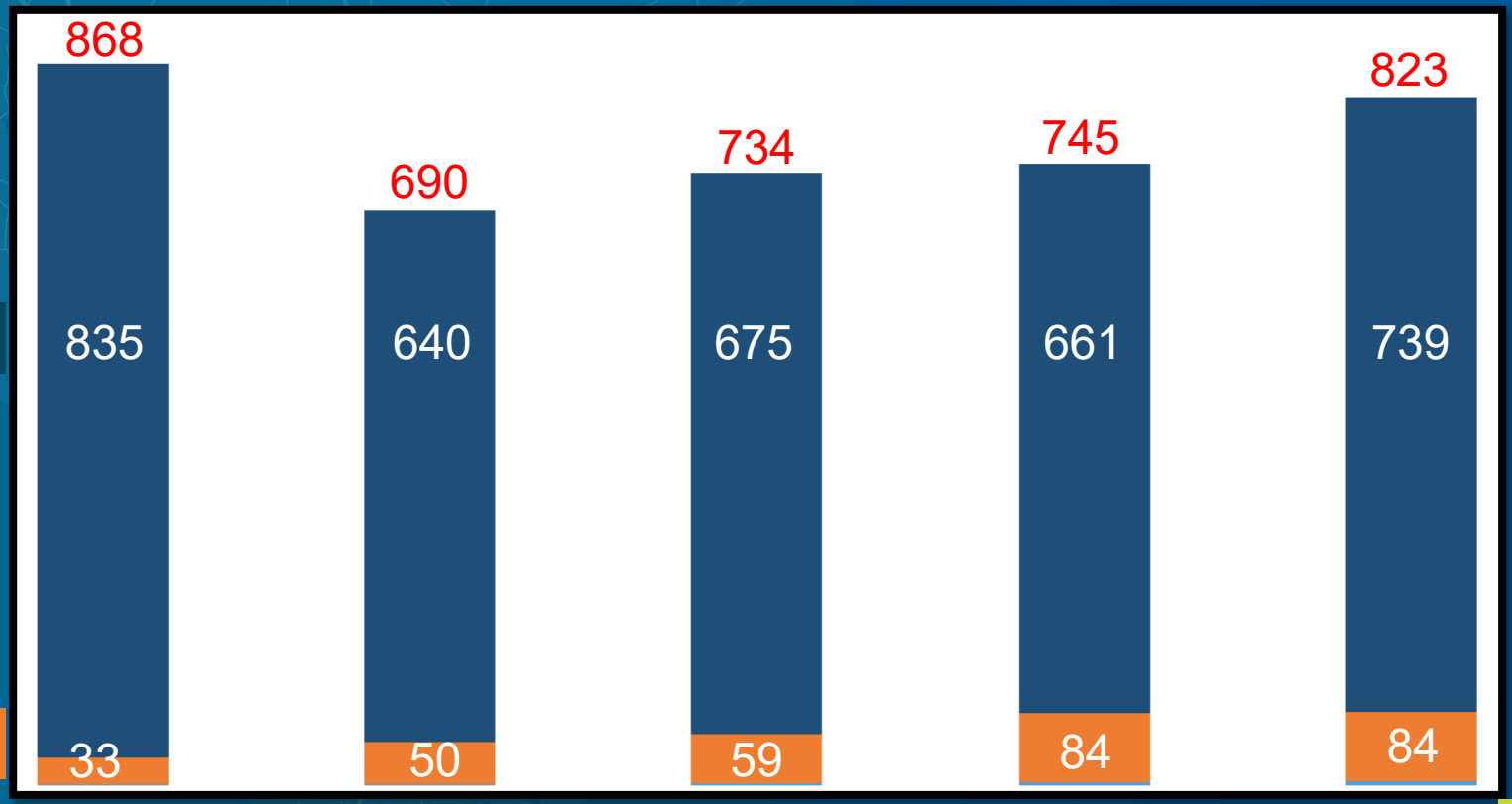
Bridges…

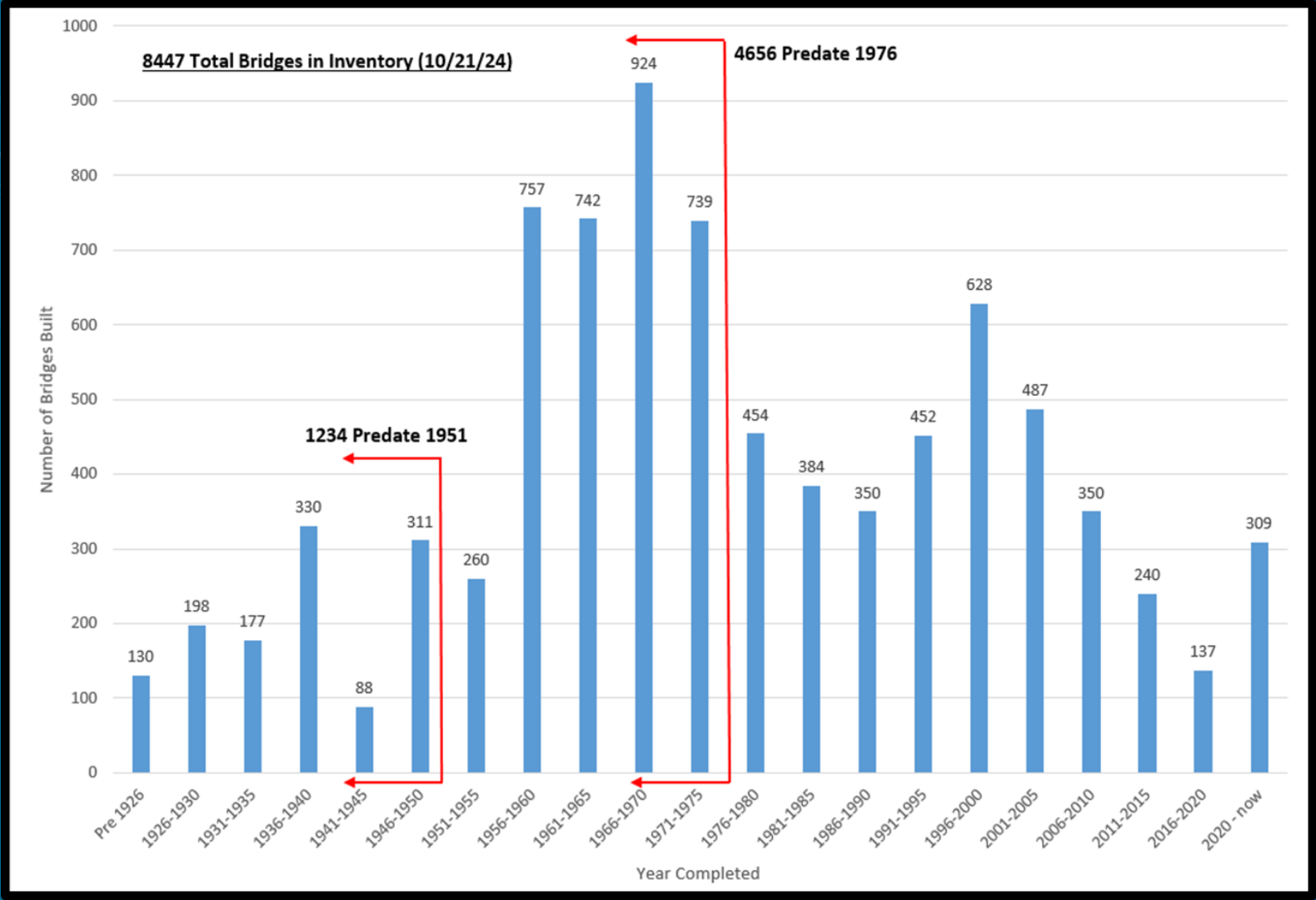


2025 Bridge Improvement Program

~ 60% of our inventory consists of slab bridges or bridge length culverts

Existing Conditions



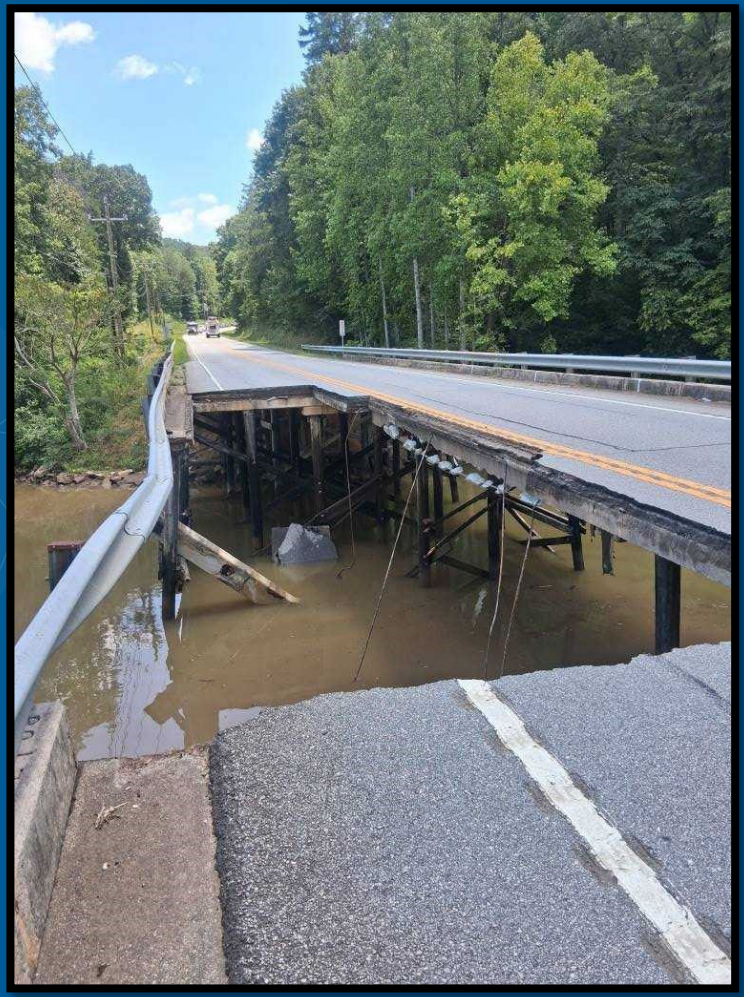


~2700 on timber piles

Existing

Existing Conditions

SC-133 over Crow Creek - Pickens

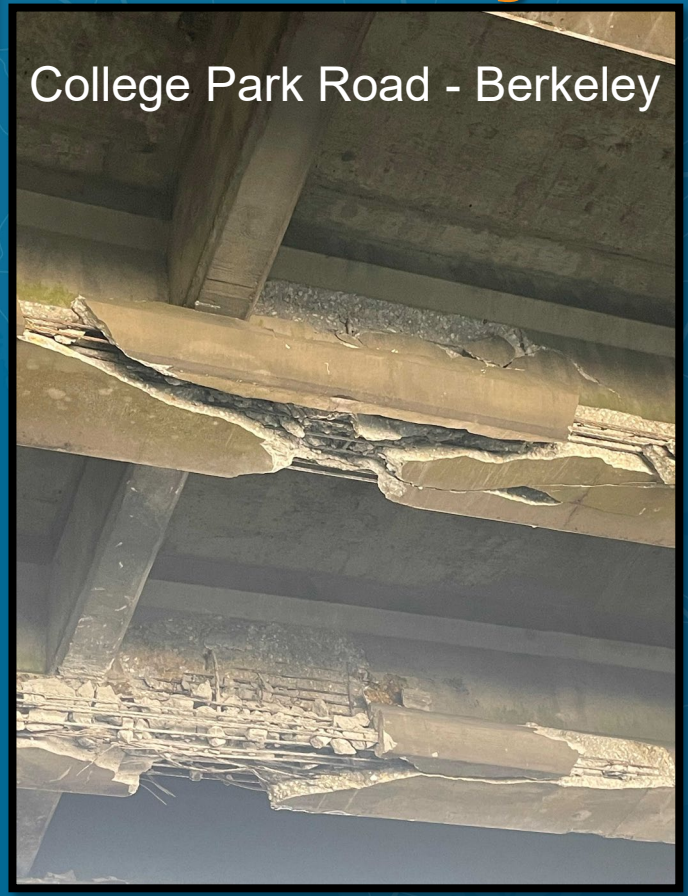


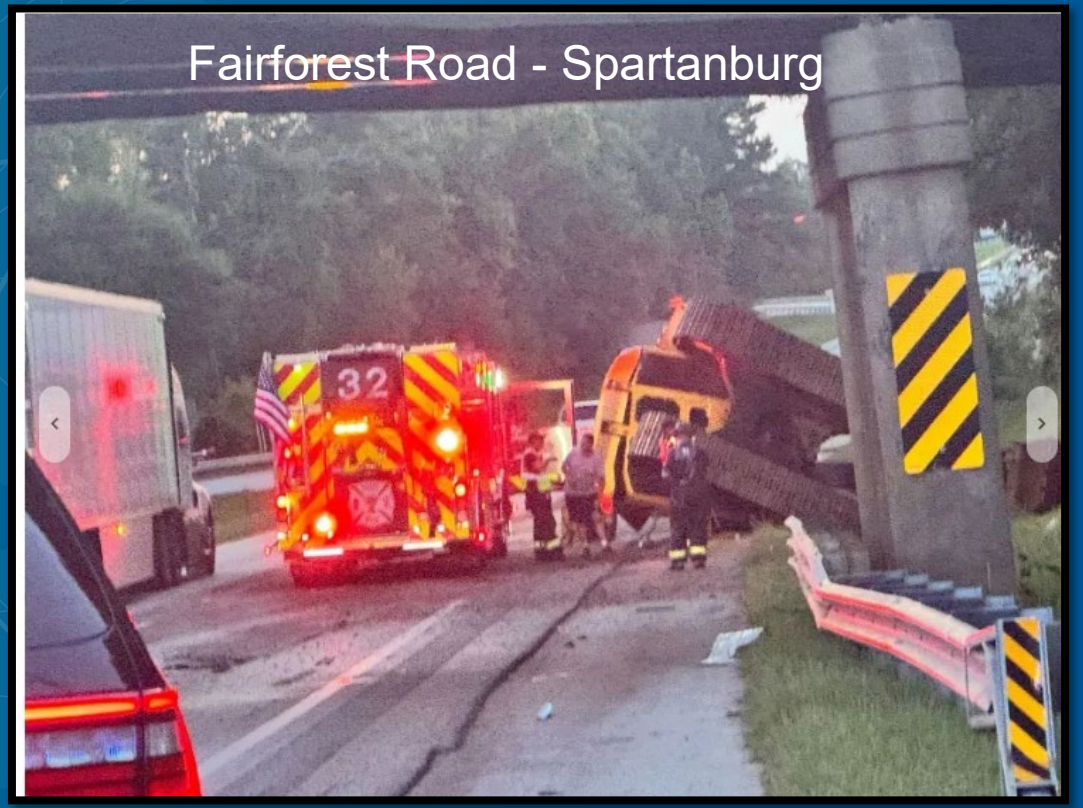
FY 2026 Bridge Program Funding

Program	Funding Source	FY 2025 Budget
Bridge Reactionary Maintenance	State	$30M
Bridge Preservation	Federal	$23M
Inspection & Compliance	Federal	$25M
Bridge Repair and Preventative Maintenance	Federal	$45M
Individual Project Specific STIP Replacements	Federal	$116M
		Total = $439M

$200 million in one time state funds received in FY 25 and again in FY 26

Reactionary Maintenance - $30 M





Preservation - $23 M

Inspection and Compliance - $25 M

Inspection and Compliance - $25 M

Bridge Packages

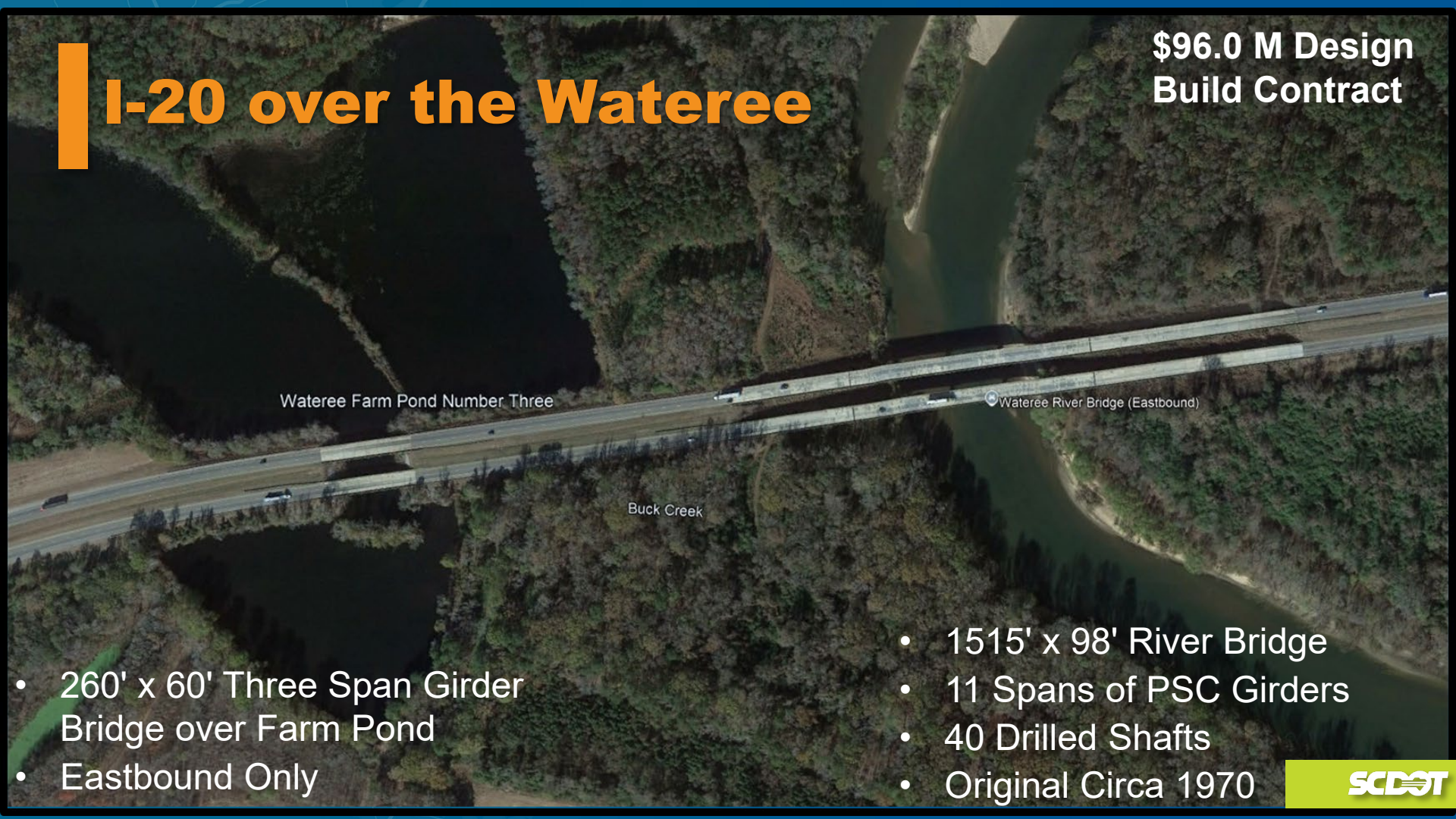
Package	Bid	District	Bridges
14	$9.0 M	4	6 Sec.
15	$13.4 M	2 & 4	4 Sec.
16	$31.9 M	3	3 SC & 2 US
17	$57.9 M	4	5 SC & 1 US
18	$6.0 M	5	2 Sec.
19	$23.9 M	3	8 Sec.
20	$17.8 M	4	7 Sec.
27	$10.8 M	5	1 Sec. & 1 SC
29	$15.5 M	3 & 6	2 US
30	$12.4 M	2,3,4	4 Sec.
31	$12.9 M	3	4 Sec.
32	$15.2 M	7	6 Sec.

US-76 over the Wateree

- $40.9 M Bid
- Bridge Length – 2310'
- 22 Spans of PSC Girders
- 42 Drilled Shafts
- Original Circa 1970

I-20 over the Wateree

$96.0 M Design Build Contract



- 260' x 60' Three Span Girder Bridge over Farm Pond
- Eastbound Only

- 1515' x 98' River Bridge
- 11 Spans of PSC Girders
- 40 Drilled Shafts
- Original Circa 1970

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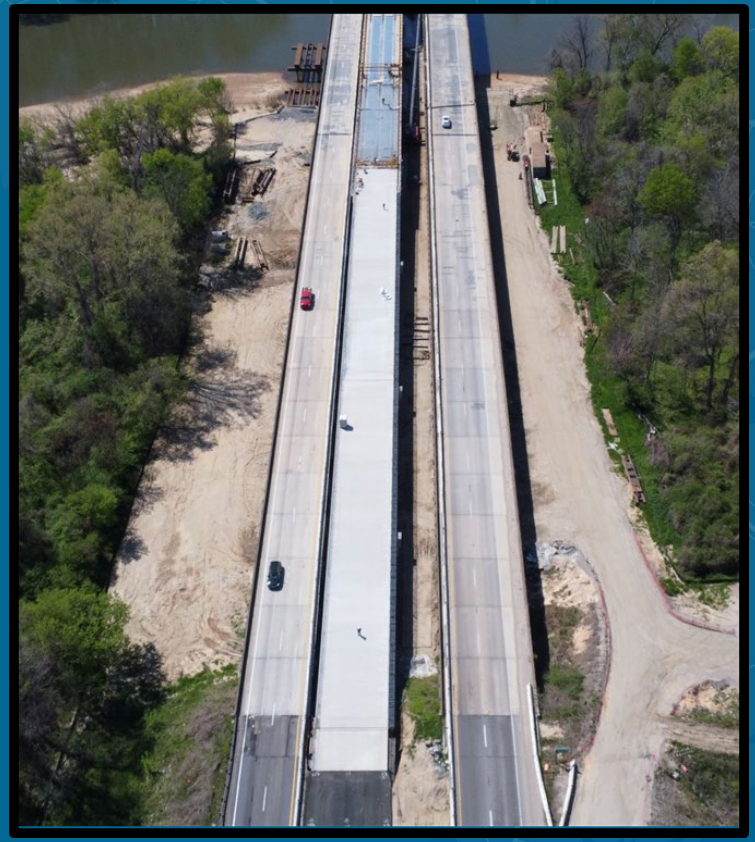
I-20 over the Wateree



Old Vaucluse Road

US-17 Waccamaw

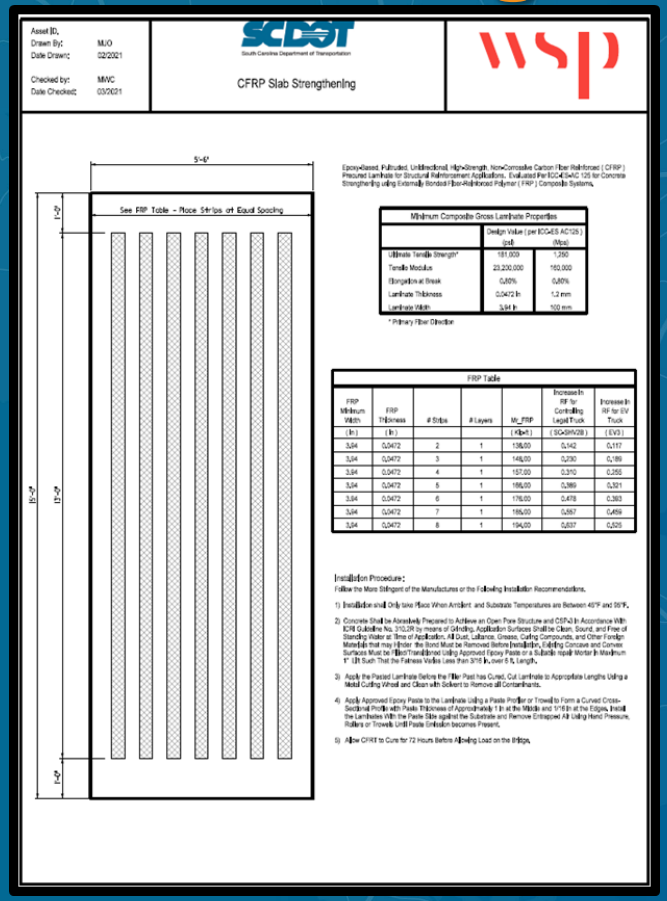
- Circa 1966
- >25,000 ADT
- Bridge Length = 2762'
- $49.6 Emergency Procurement
- 24 New Drilled Shafts
- 6 Steel Plate Girders x 95'

US-21 SCL RR in Chester County

Ultra High Performance Concrete (UHPC)

UHPC Deck Overlay

CFRP Strengthening



Asset ID:
Drawn By: MJO
Date Drawn: 02/2021
Checked by: MWC
Date Checked: 03/2021

SCDOT South Carolina Department of Transportation

wsp

CFRP Slab Strengthening

Epoxy-Based, Pultruded, Unidirectional, High-Strength, Non-Corrosive Carbon Fiber Reinforced (CFRP) Precured Laminate for Structural Reinforcement Applications. Evaluated Per ICC-ES AC125 for Concrete Strengthening using Externally Bonded Fiber-Reinforced Polymer (FRP) Composite Systems.

Minimum Composite Gross Laminate Properties		
	Design Value (per ICC-ES AC125)	
	(psi)	(Mpa)
Ultimate Tensile Strength*	181,000	1,290
Tensile Modulus	23,200,000	160,000
Elongation at Break	0,80%	0,80%
Laminate Thickness	0,0472 in	1,2 mm
Laminate Width	3,94 in	100 mm

* Primary Fiber Direction

FRP Table						
FRP Minimum Width	FRP Thickness	# Strips	# Layers	Mr_FRP	Increase In RF for Controlling Legal Truck	Increase In RF for SV Truck
(in)	(in)			(Kip-ft)	(SHV28)	(EV3)
3,94	0,0472	2	1	136,00	0,142	0,117
3,94	0,0472	3	1	148,00	0,230	0,189
3,94	0,0472	4	1	157,00	0,310	0,255
3,94	0,0472	5	1	166,00	0,389	0,321
3,94	0,0472	6	1	176,00	0,478	0,393
3,94	0,0472	7	1	186,00	0,567	0,459
3,94	0,0472	8	1	194,00	0,637	0,525

Installation Procedure:
Follow the More Stringent of the Manufacturers or the Following Installation Recommendations.

1) Installation shall Only take Place When Ambient and Substrate Temperatures are Between 40°F and 95°F.

2) Concrete Shall be Adequately Prepared to Achieve an Open Pore Structure and CSP#3 in Accordance With ICRI Guideline No. 310.2R by means of Grinding. Application Surfaces Shall be Clean, Sound, and Free of Standing Water at Time of Application. All Dust, Laitance, Grease, Curing Compounds, and Other Foreign Materials that may Hinder the Bond Must be Removed Before Installation. Existing Concave and Convex Surfaces Must be Filled/Transitioned Using Approved Epoxy Paste or a Suitable repair Mortar to Maximum ¼" (.25 Such That the Fairness Varies Less than 3/16 in. over 6 ft. Length.

3) Apply the Passed Laminate Before the Filler Past has Cured, Cut Laminate to Appropriate Lengths Using a Metal Cutting Wheel and Clean with Solvent to Remove all Contaminants.

4) Apply Approved Epoxy Paste to the Laminate Using a Paste Profiler or Trowel to Form a Curved Cross-Sectional Profile with Paste Thickness of Approximately 1 in at the Middle and 1/16 in at the Edges. Install the Laminates With the Paste Side against the Substrate and Remove Entrapped Air Using Hand Pressure, Rollers or Trowels Until Paste Emission becomes Present.

5) Allow CFRP to Cure for 72 Hours Before Allowing Load on the Bridge.

Pil

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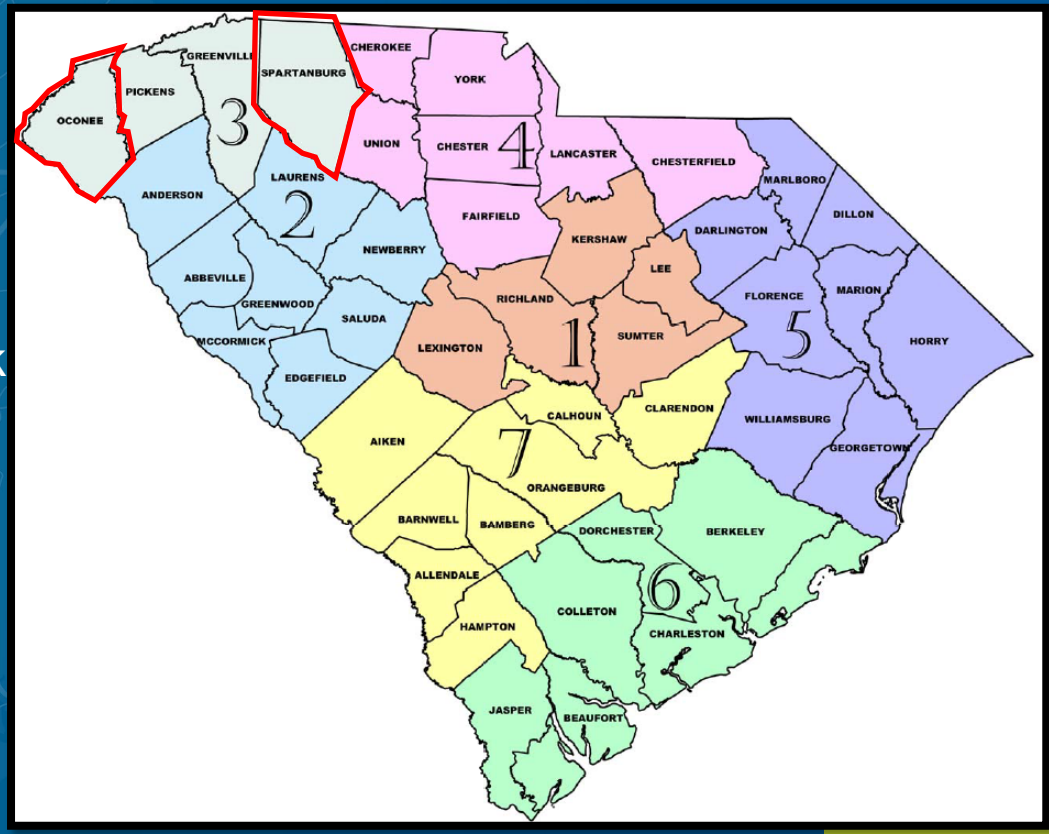
Upcoming Projects of Interest

Bridge Package 21

1. S-197 over South Tyger River
2. S-51 over Snow Creek
3. S-133 over Little Cane Creek
4. S-168 over Trib. to Choestoea Creek
5. S-168 over Little Choestoea Creek

RFQ 6/30/25

Public Announcement January '26



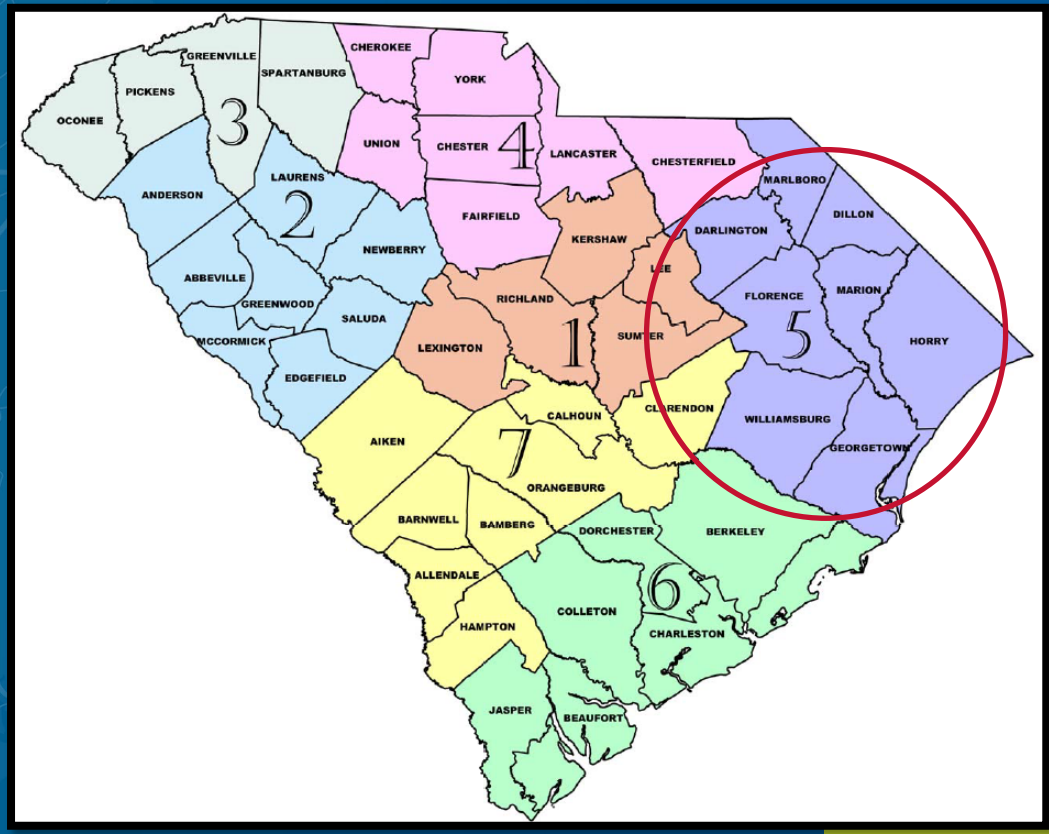
Bridge Package 22

13 Secondary Bridges in District 5

- Darlington (1)
- Florence (3)
- Georgetown (2)
- Horry (5)
- Marion (1)
- Williamsburg (1)

RFQ February ‘26

Public Announcement August ‘26



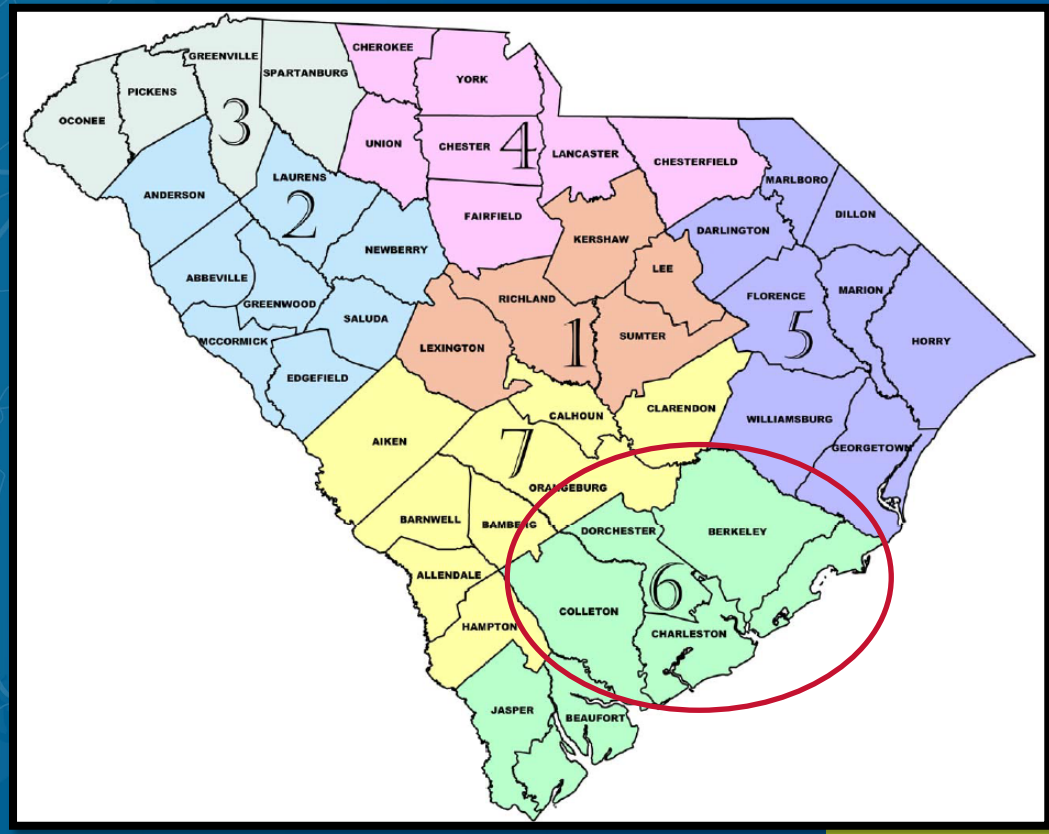
Bridge Package 23

11 Secondary Bridges in District 6

- Berkeley (3)
- Charleston (5)
- Colleton (1)
- Dorchester (1)

RFQ August ‘26

Public Announcement February ‘27



Long Point Road Interchange

2 New Flyovers (1263’ & 931’)
New 248’ Bridge for Reloc. Line 4
New 365’ Bridge for Reloc. Line 1

RFQ – June 13, 2025
Announce Short List – Aug. 21, 2025

RFP for Industry Review – Sept. 19, 2025
Public Announcement – May 2026

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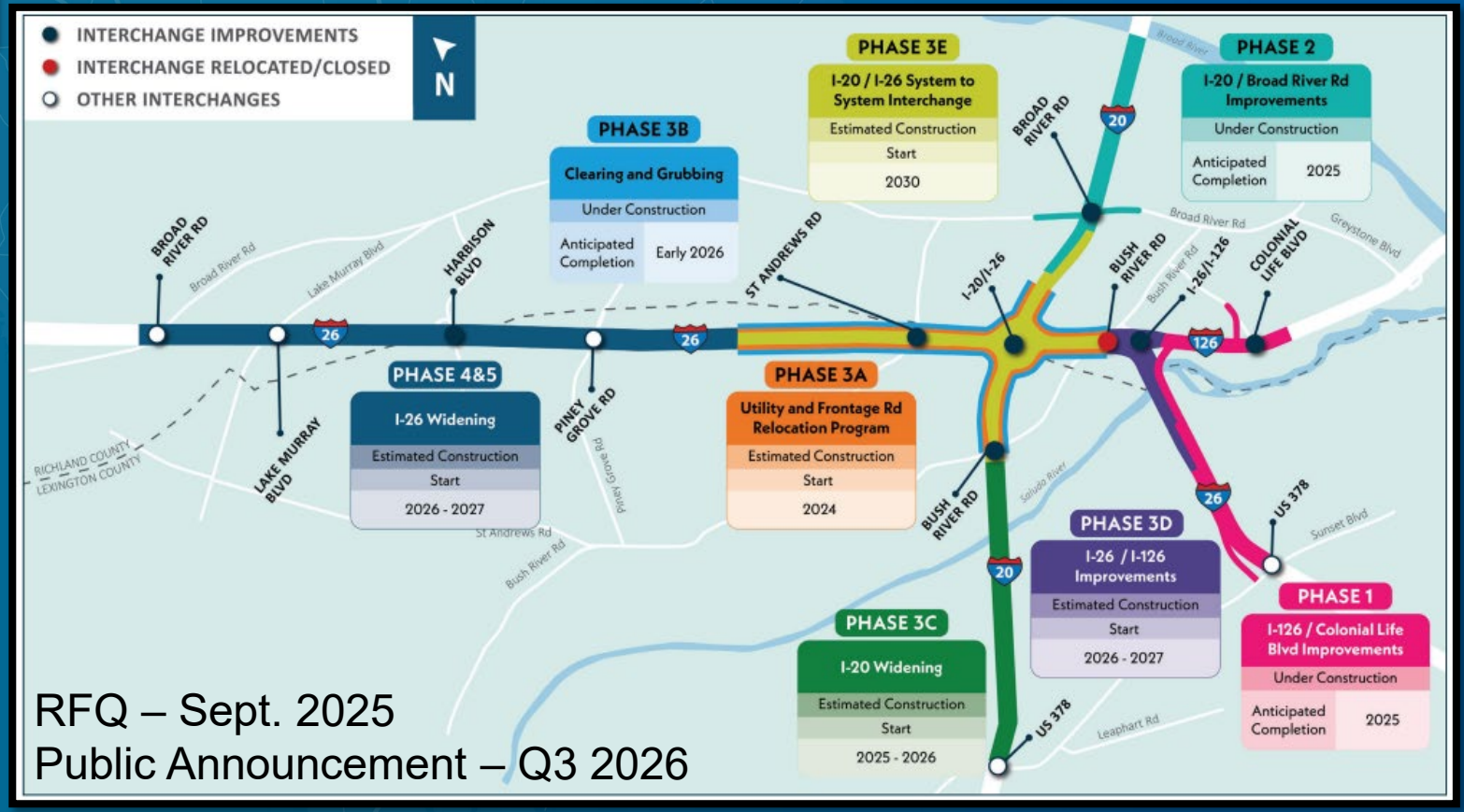
Carolina Crossroads Phase 3D

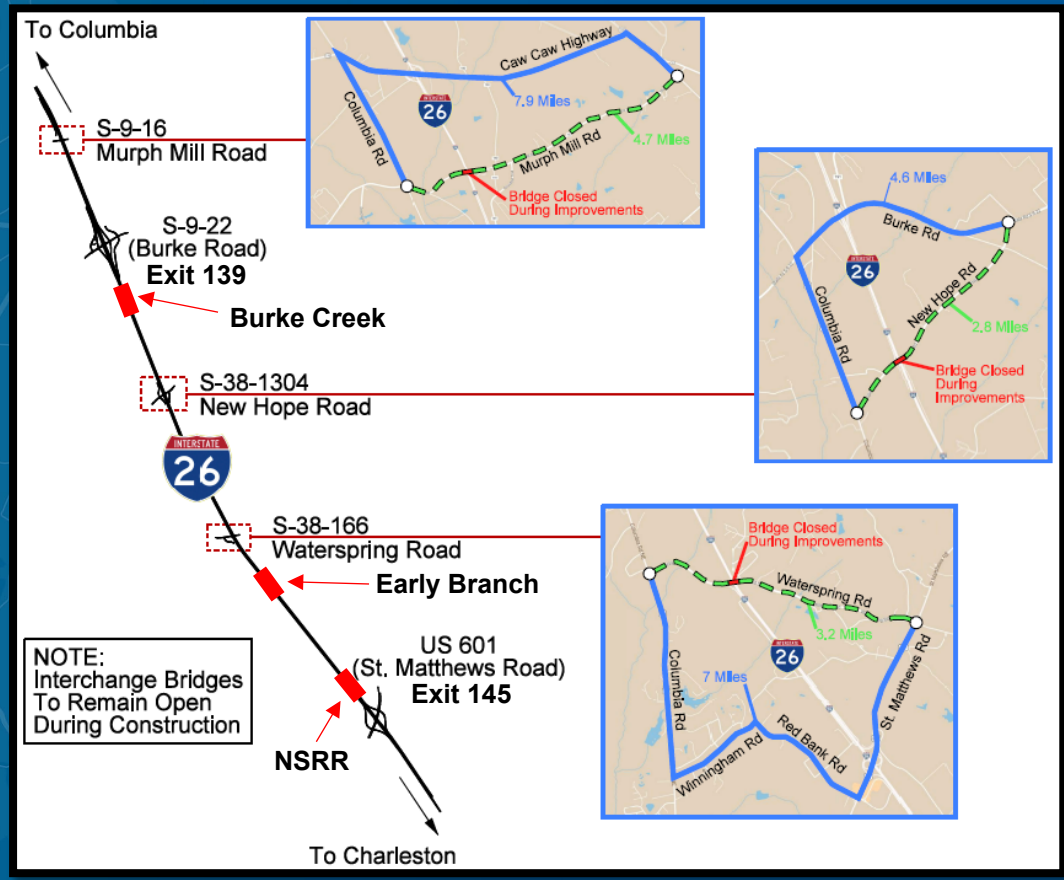


RFQ – Sept. 2025

Public Announcement – Q3 2026

I-26 MM 137-146

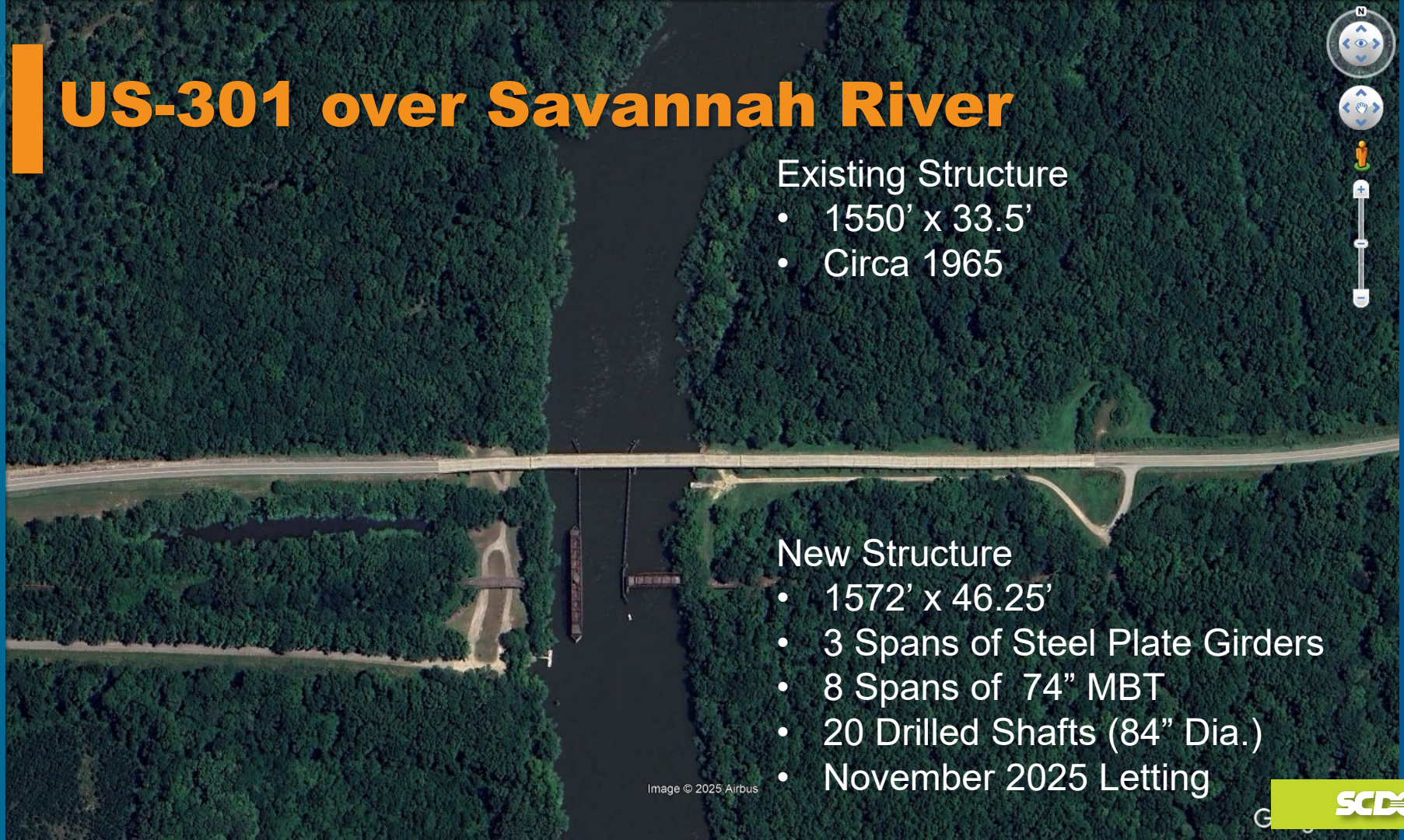
- Interchanges improvements at Exit 139 and 145 w/new bridges
- Replace 3 overpass bridges under close and detour:
  1. S-9-16 (Murph Mill Road)
  2. S-38-1304 (New Hope Road)
  3. S-38-166 (Waterspring Road)
- Replace mainline bridges over NSRR just before Exit 145
- New mainline bridges to replace culverts at Early Branch and Burke Creek
- Summer 2026 Tentative Letting



Bridge Replacement/Repair Program

Letting Month	Replacements		Repairs/Rehabs	
	Contracts	Bridges	Contracts	Bridges
August ’25	5	6	2	5
September ’25	4	4	1	1
October ’25	4	5	2	2
November ’25	6	6	3	3
December ’25	4	5	0	0
January ’26	1	1	0	0
February ’26	0	0	1	1
March ’26	2	2	0	0
April ’26	0	0	2	2
May ’26	1	2	0	0
June ’26	5	5	0	0
	32	36	11	14

US-301 over Savannah River



Existing Structure
- 1550’ x 33.5’
- Circa 1965

New Structure
- 1572’ x 46.25’
- 3 Spans of Steel Plate Girders
- 8 Spans of 74” MBT
- 20 Drilled Shafts (84” Dia.)
- November 2025 Letting

Research Projects

Field Trials for Cost-Effective Strengthening of SC Load Posted Bridges

Dr. Paul Ziehl, Univ. of South Carolina, 10/15/21 – 4/14/26

Proposed research focuses on field trials of strengthening precast flat slab and precast channel bridges.

Cost Effective Screening, Assessment, and Repair of Timber Piles

Dr. Brandon Ross, Clemson University, *5/15/24 – 11/15/27*

Research objectives are to 1: Identify the causes, factors, and types of timber pile degradation, 2: Evaluate existing and novel means of screening, assessing, and analyzing timber piles, and 3: Evaluate the cost and technical effectiveness of timber pile screening, assessment, and analysis methods.

Enhancing Structural Integrity of Aging Bridges in SC Using FRP

Approved, but not yet in progress

2025 Construction Specs

2025 Construction Specs

SUPPLEMENTAL SPECIFICATIONS

- Roadway Design Home
- Construction Manual
- Standard Drawings
- Supplemental Specifications
- Supplemental Technical Specifications
- Standard Specifications
- Preconstruction Memos
- Preconstruction Advisory Memos
- Subscribe to Preconstruction Updates

Note: All files are presented in a PDF Format.

2007 Supplemental Specifications | 2025 Supplemental Specifications

2025 Supplemental Specifications

Title	Letting Date
Fuel Adjustment	01/25 - Present
Late Discovery of Archaeological Remains on Federal Aid Projects	01/25 - Present
Requirements for Fed Aid Contracts	01/25 - Present
Asphalt Binder Adjustment Index	01/25 - Present
Disadvantaged Business Enterprise (DBE)	01/25 - Present
Conquina Shell Base	07/25 - Present
Adhesively Bonded Anchors and Dowels	07/25 - Present
Construction Schedules	07/25 - Present
Pavement Preservation	07/25 - Present
On the Job Trainee	07/25 - Present

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2025 Construction Specs

Questions