

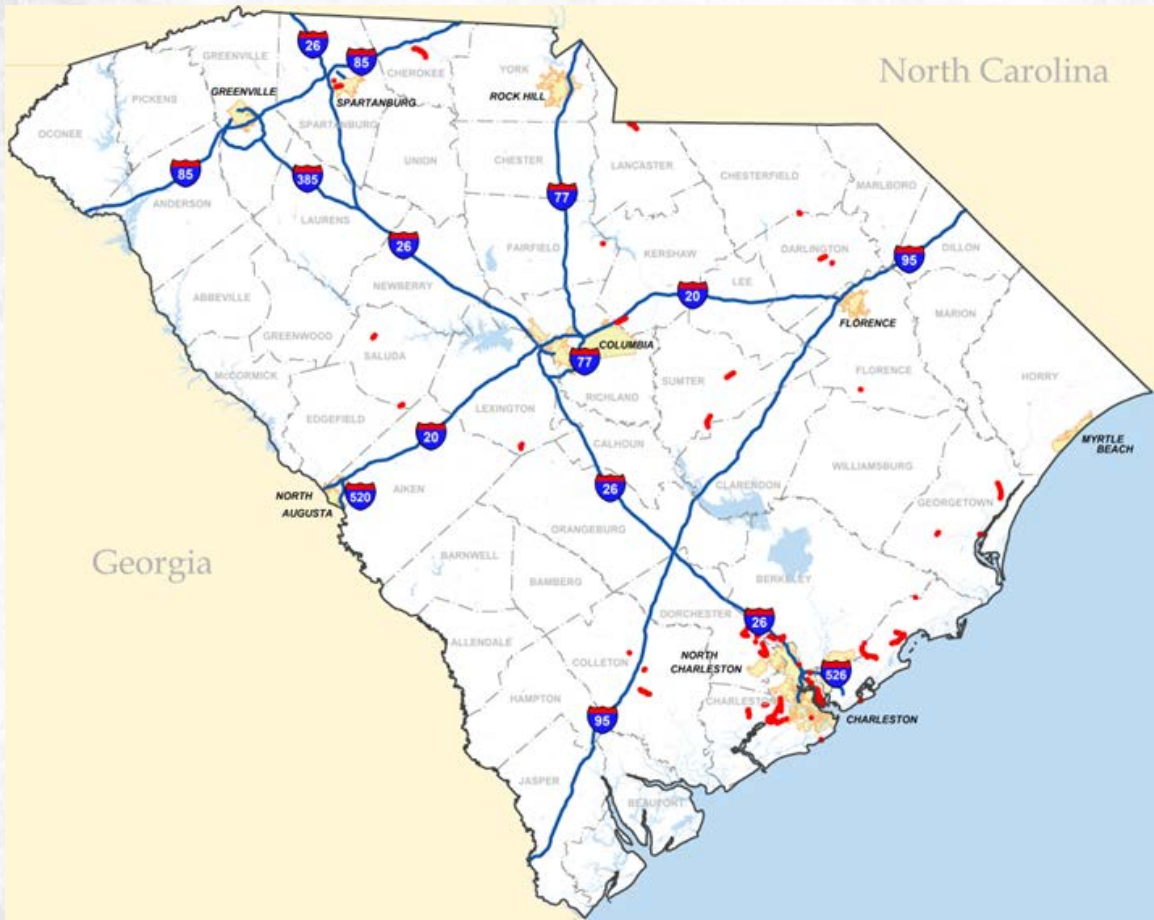


Climate Impacts on the Built Environment

Extreme Impacts to Transportation Infrastructure



Andrew T. Leaphart, PE
Chief Engineer for Operations



North Carolina

Georgia

October 3

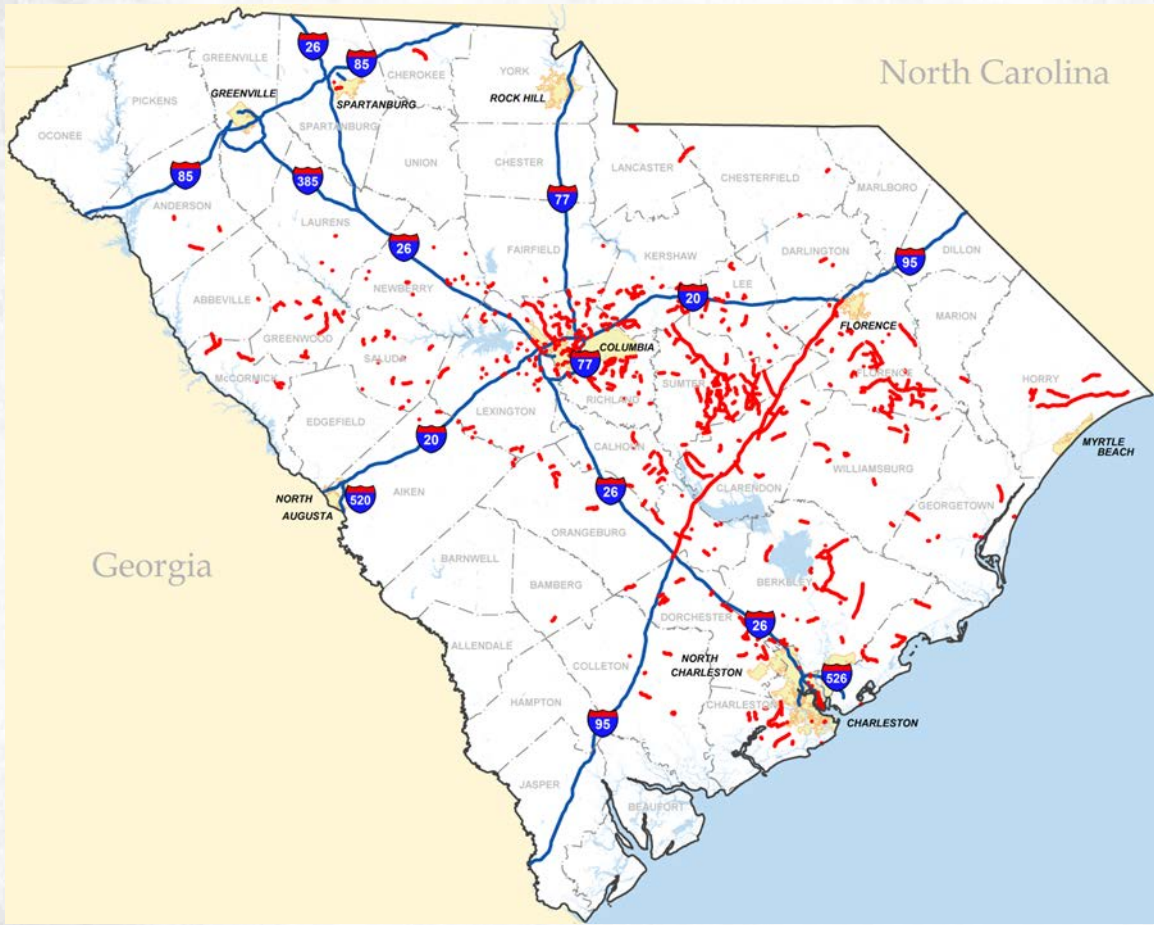
86 Closures

73 Roads

13 Bridges

October 2015 Storm Event





October 5

541 Closures

391 Roads

150 Bridges

October 2015 Storm Event



Storm Impacts

- **541 peak closures on the state system occurred on October 5**
- **Over 900 sites needed repairs on the state system**
- **221 bridges were impacted within the floodways**
- **All bridges have been thoroughly inspected before and after repairs**
- **105 bridge sites have been repaired**
- **Prior to the storm, SCDOT was planning to replace 3 of the 221 bridges as part of its normal program**

October 2015 Storm Event



Recovery Plan

- **Secure, Assess, Prioritize, Remove Debris, and Restore**
- **Develop a work plan and resource it**
- **Effectively manage and understand FHWA Emergency Relief and FEMA programs**
 - Repair and return to service
 - Replace only if beyond repair
 - Generally, is not a betterment program
 - Strict procurement and documentation requirements

October 2015 Storm Event



Contain Costs & Maximize Reimbursements

- **Maximize utilization of internal workforce**
 - Erased traditional boundaries
 - Expedited pace of recovery
 - Overtime, extra materials, extra fuel, travel/food
 - Engage contractors only where required due to scope or schedule
- **Pre-positioned contracts = fast response & higher reimbursements**
- **Repair. Replace only if beyond repair**
 - Replacements can be to current standards
 - Minimize disallowances

October 2015 Storm Event



Sideline Pipe Failure



October 2015 Storm Event

Crossline Pipe Failure



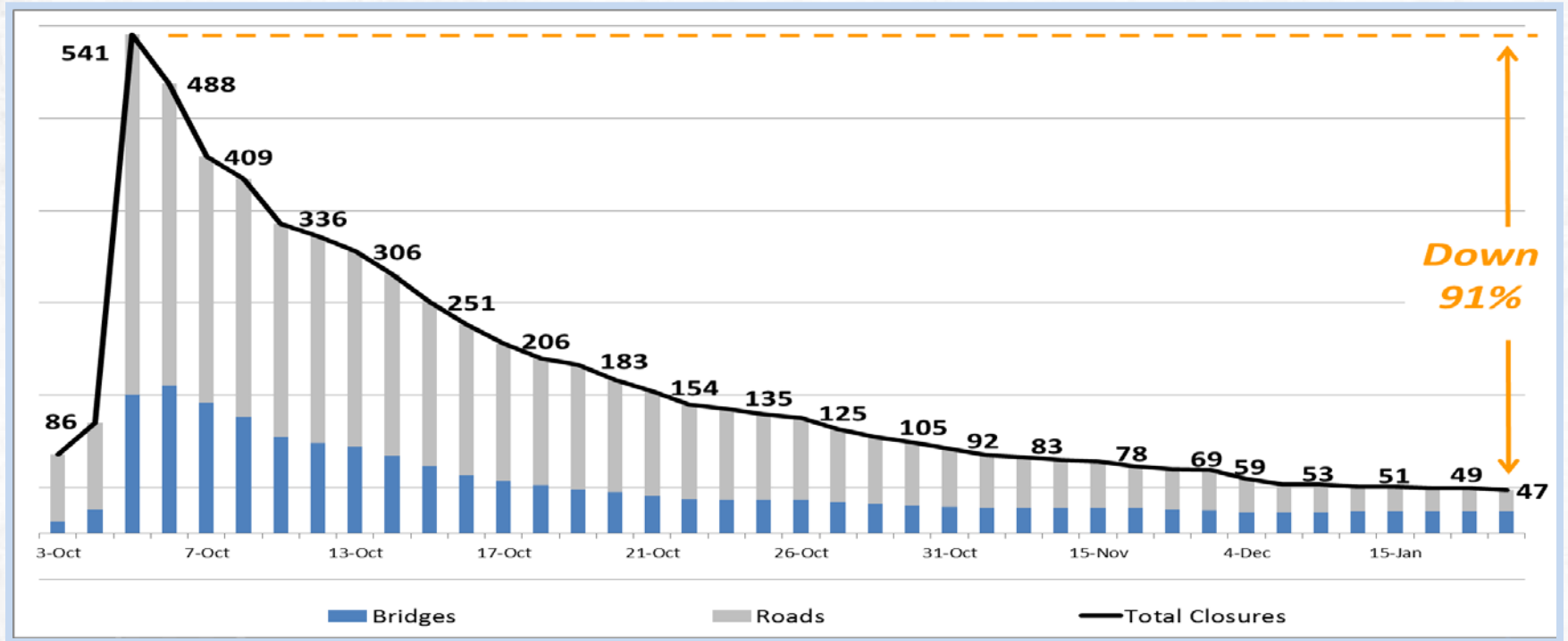
October 2015 Storm Event

Bridge End Washout



October 2015 Storm Event

Closures on the State Maintained System



October 2015 Storm Event

26 State Maintained Roads Impacted

- ***District 1***

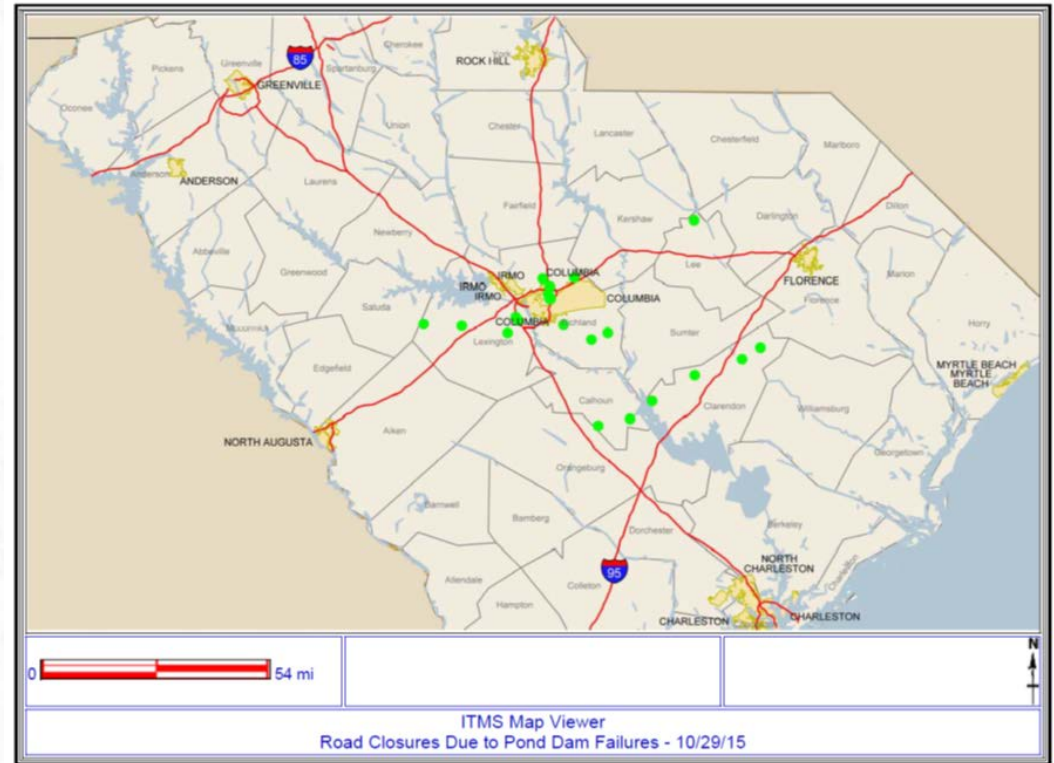
- Lee: 1
- Lexington: 5
- Richland: 13

- ***District 5***

- Williamsburg: 1

- ***District 7***

- Calhoun: 2
- Clarendon: 4



October 2015 Storm Event





Arcadia Lakes East – Richland County





Spears Creek Church Road – Richland County



Devils Backbone Road – Lexington County





Proposed Legislations

- **S.5 by Sen. Shealy**
 - Requires DHEC to inspect dams over which a state road passes
 - Received a favorable report from the Senate Agriculture and Natural Resources Committee
- **H.3340 by Rep. Ott**
 - Owners of a breached dam with a state road going across would have one year to notify SCDOT of intention to repair or not
 - Would require SCDOT to proceed with repairing the road if owner decides not to repair or fails to repair the dam
 - Has passed the House and resides in the Senate Agriculture and Natural Resources Committee

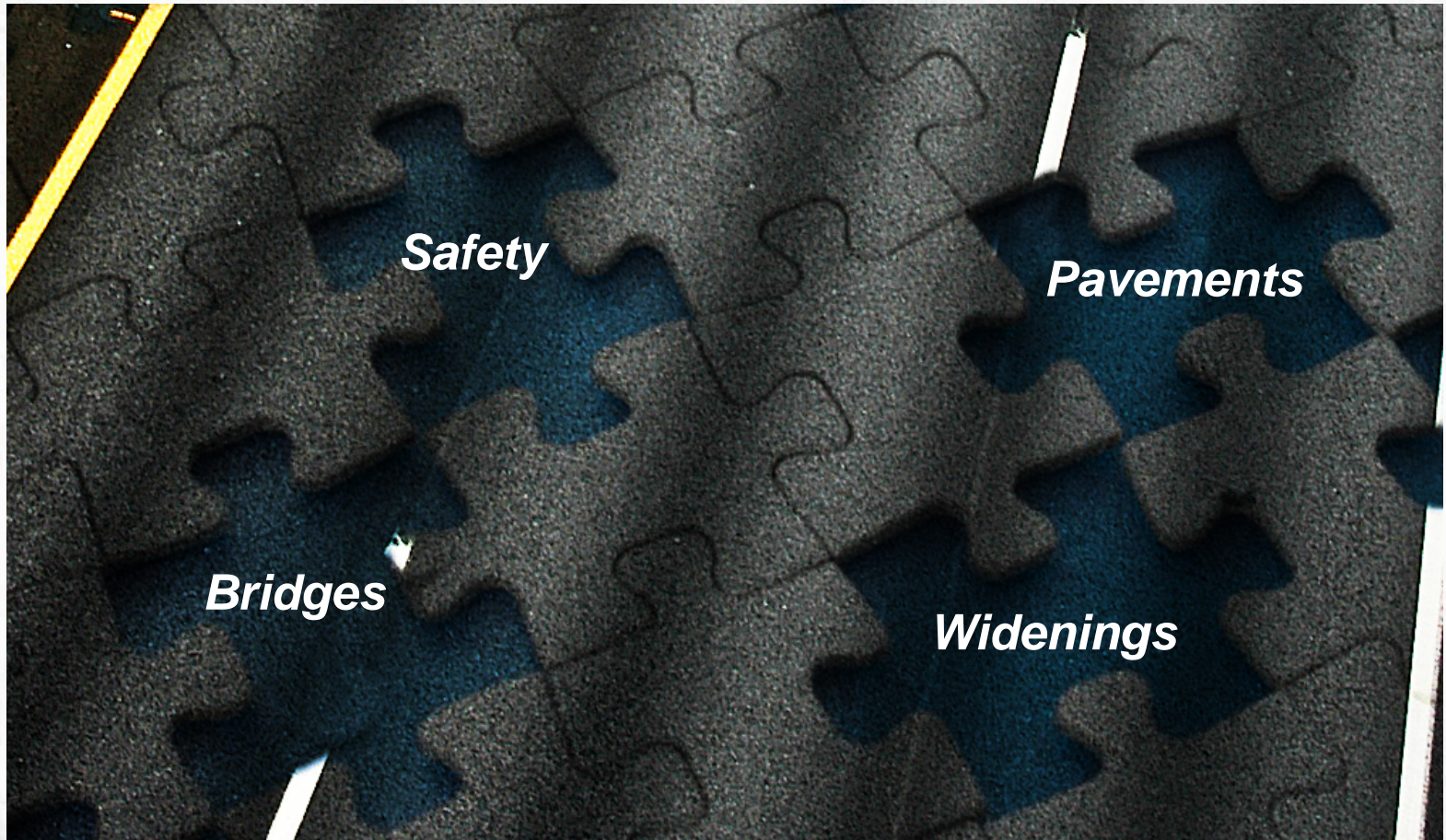
October 2015 Storm Event





Rebuilding our Roads





The Gaps

#1

**Fatality Rate
in the
Nation**

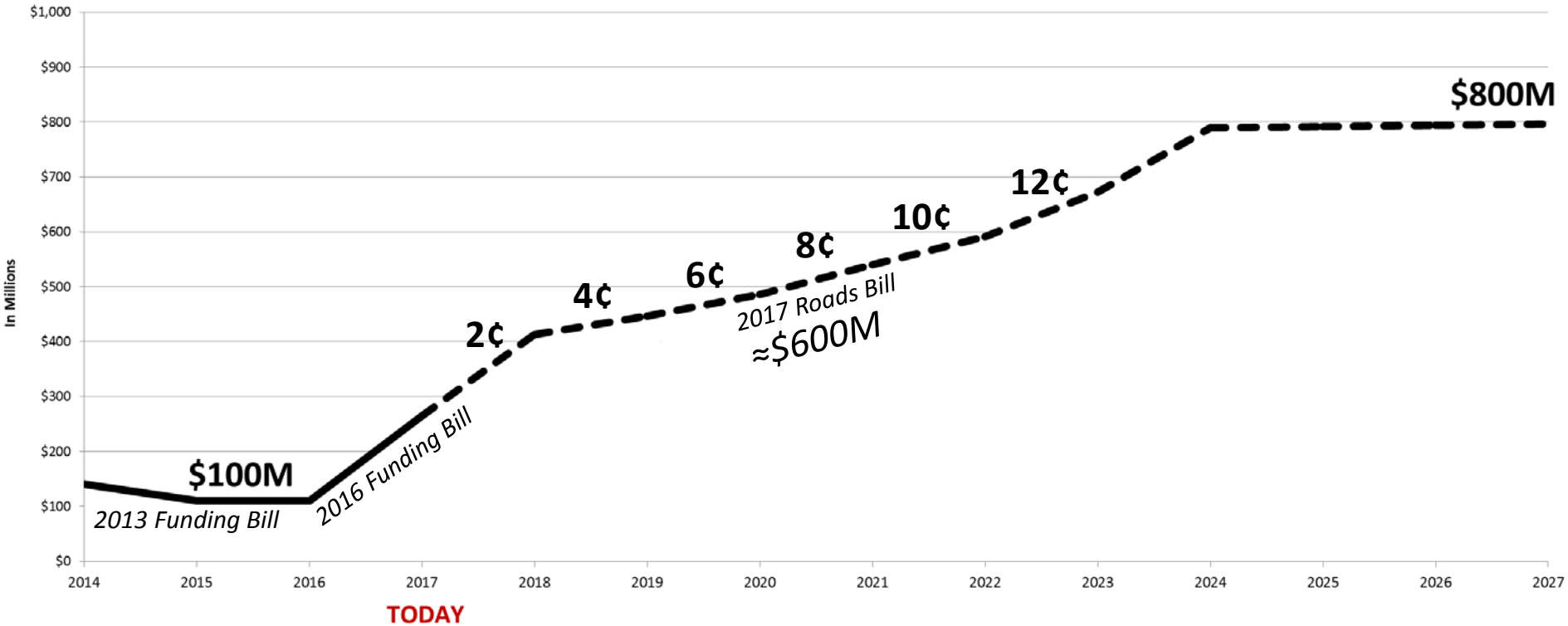


**Structurally Deficient
Bridges in our inventory**



Current Dashboard of our Transportation System

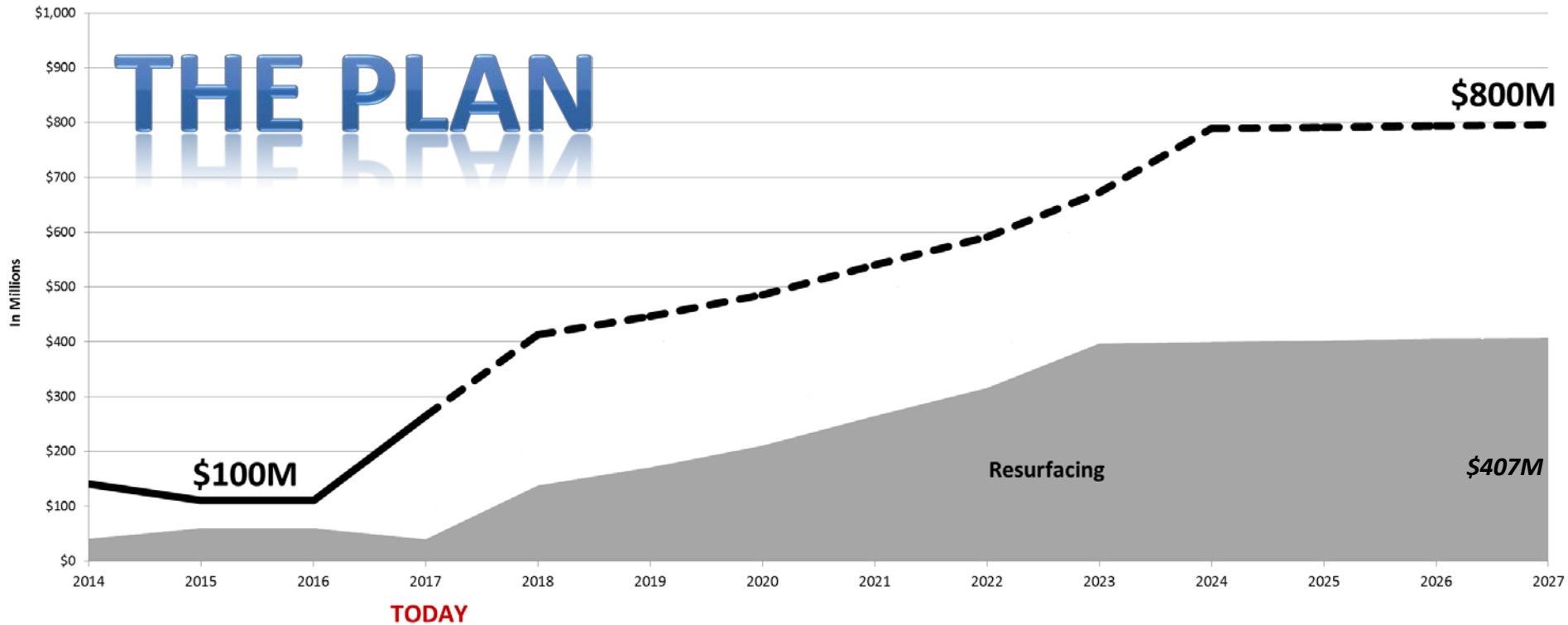
3 Infusions of Funding to the DOT



TODAY

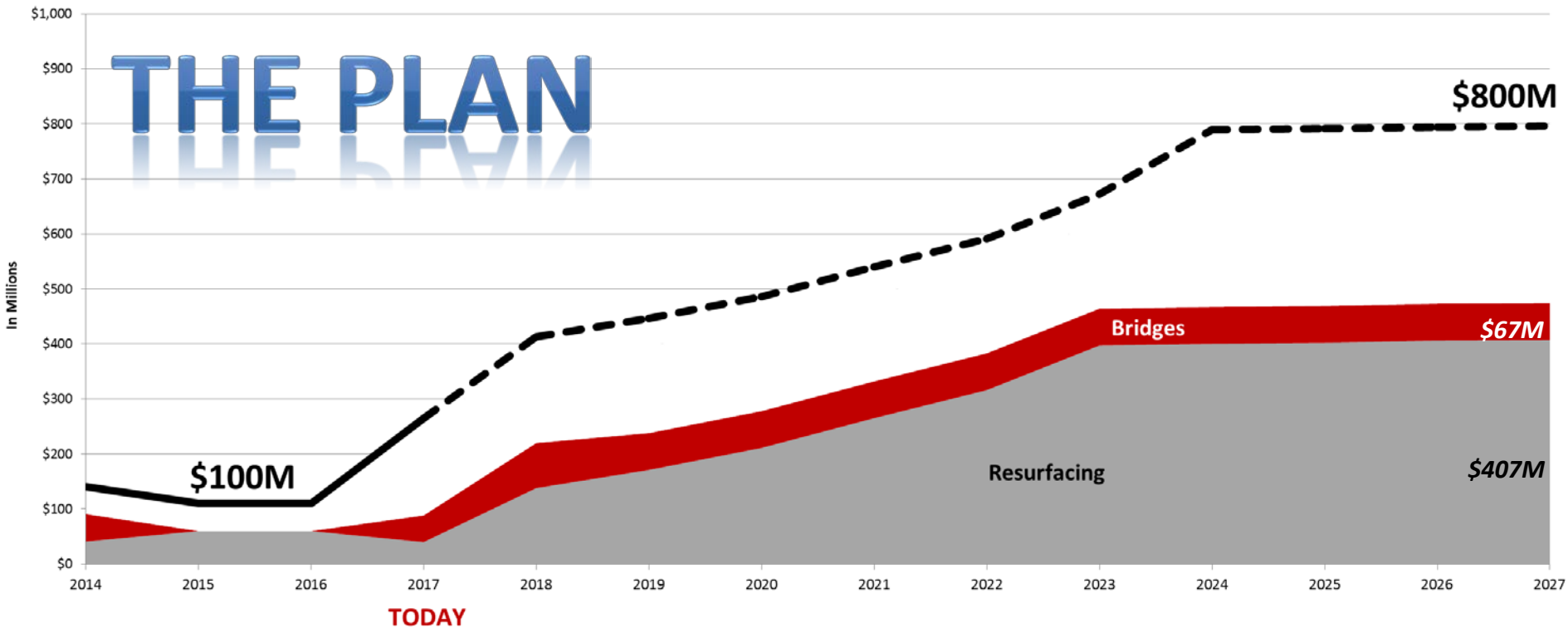


Where is the Money being Spent?



Where is the Money being Spent?

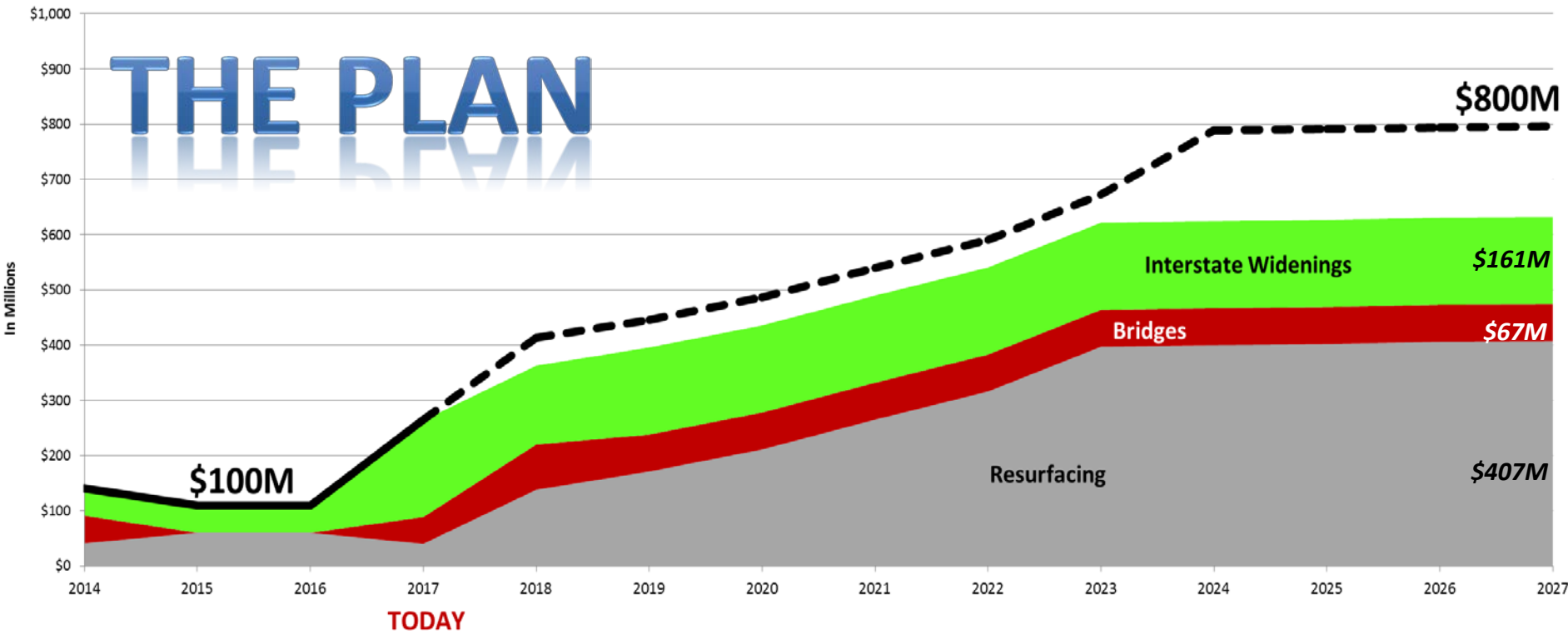
THE PLAN



TODAY

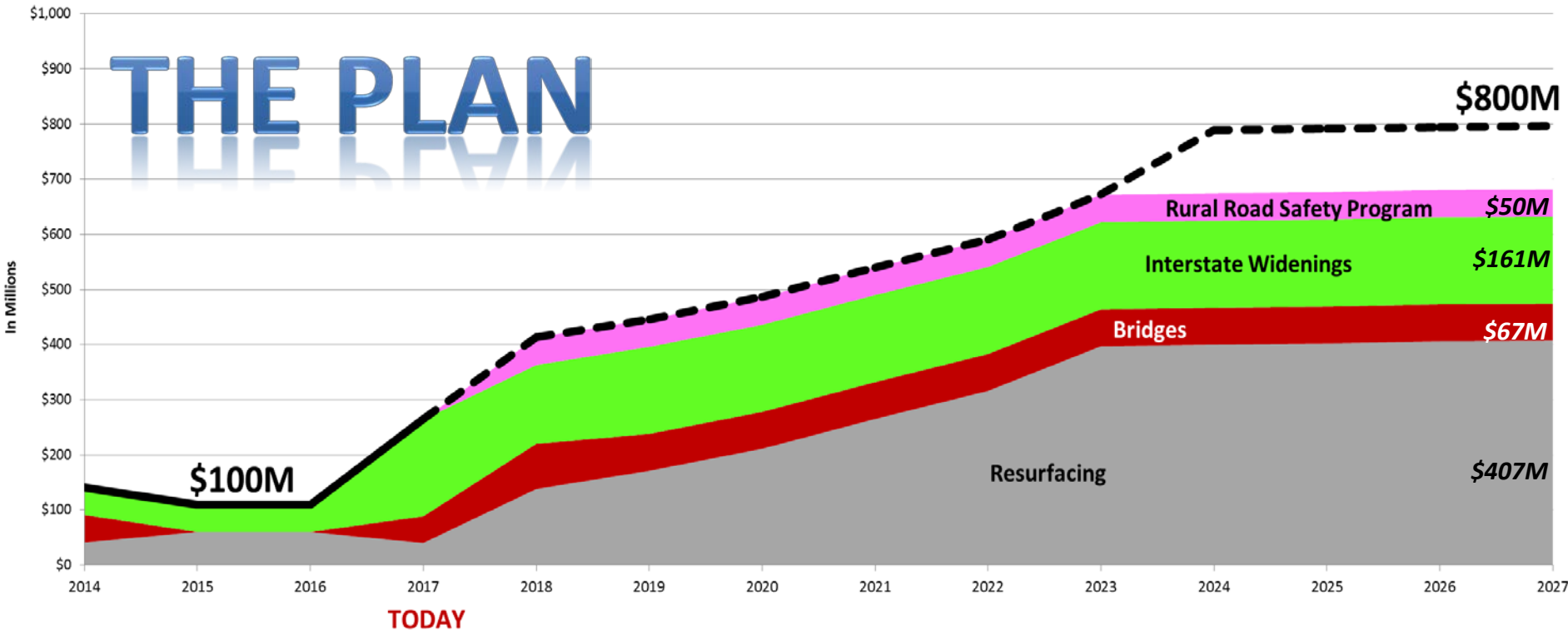
Where is the Money being Spent?

THE PLAN



Where is the Money being Spent?

THE PLAN



\$100M

TODAY

\$800M

\$50M

\$161M

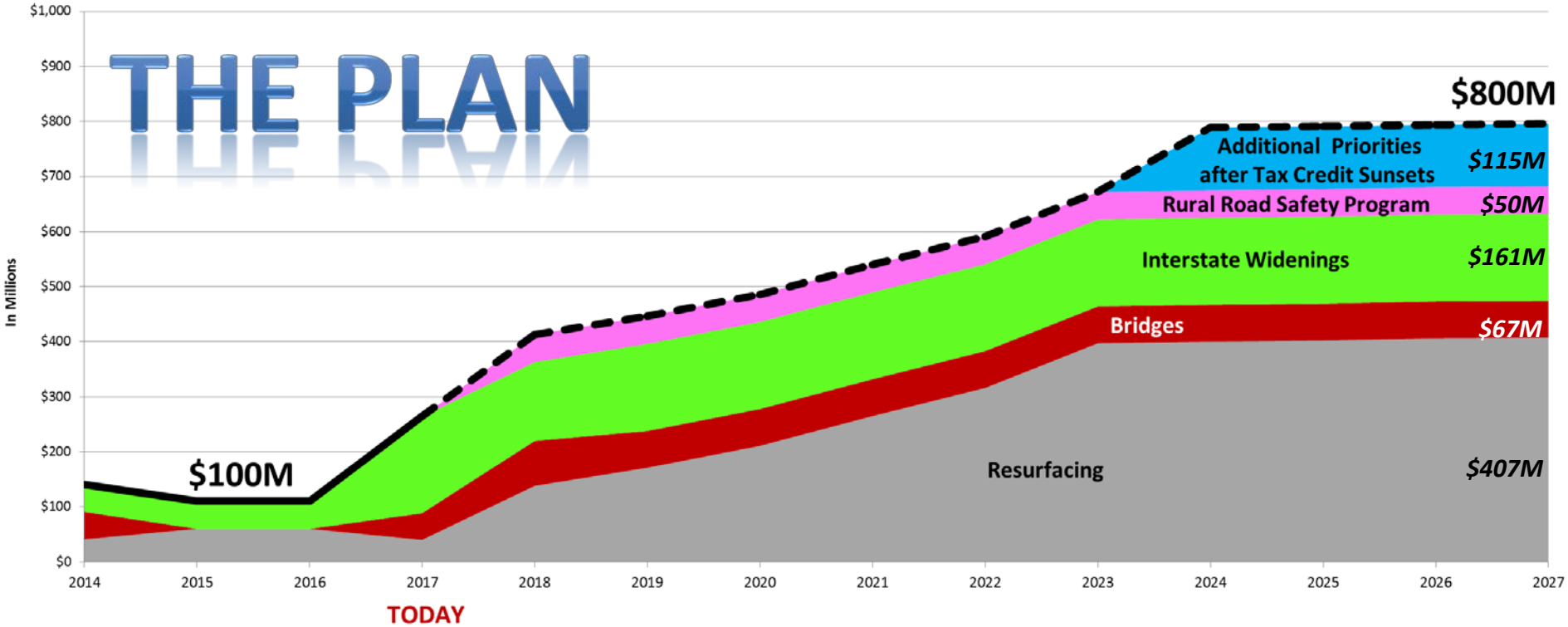
\$67M

\$407M



Where is the Money being Spent?

THE PLAN





What are we getting for the investment?

Rural Roads

1000 MILES

Safety Features Upgraded

Progress
made to
reverse the
30 years of
neglect



465

New
Bridges

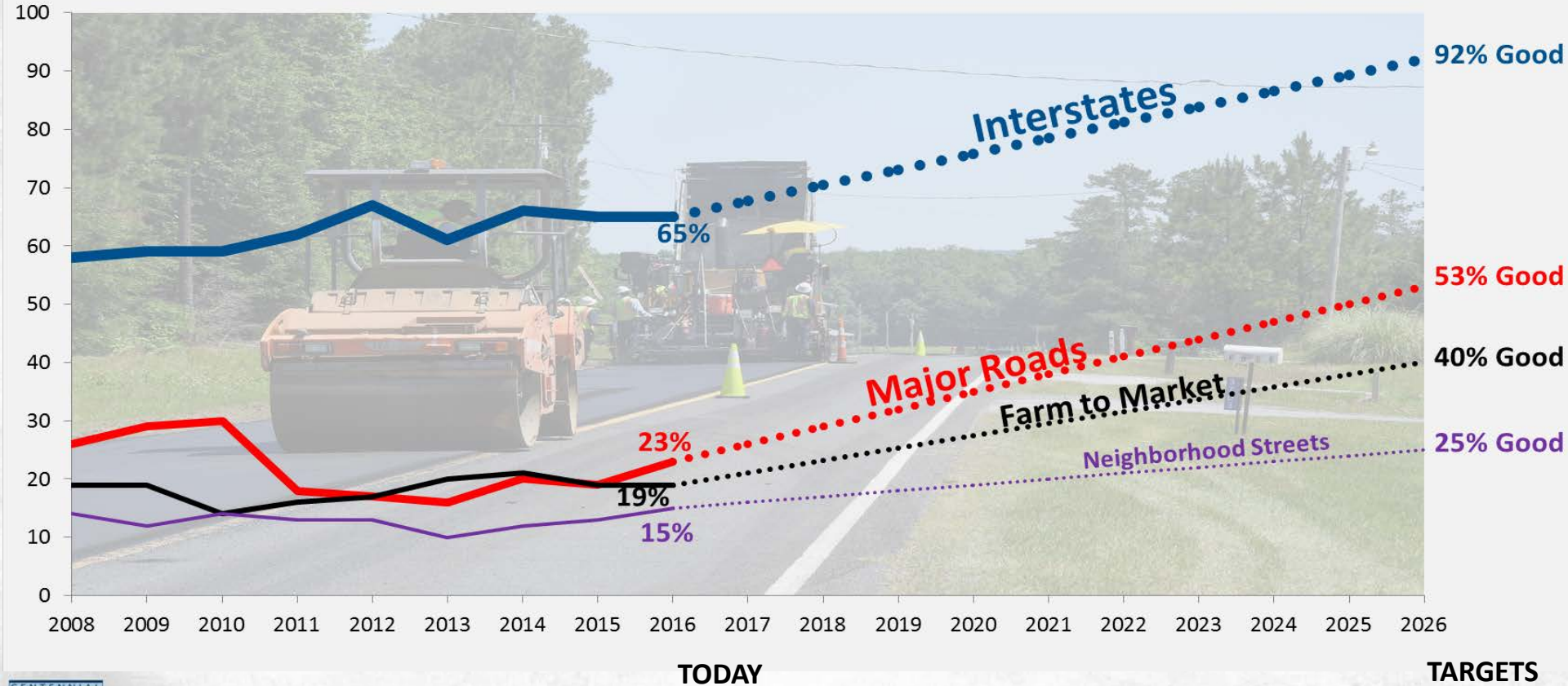


140

Miles of our
Interstates
Improved

10-year Outlook: What to Expect

Resurfacing Investment: Pavement conditions will improve



TODAY

TARGETS

10-year Outlook: What to Expect



Statewide

Doubled Resurfacing

● **465**

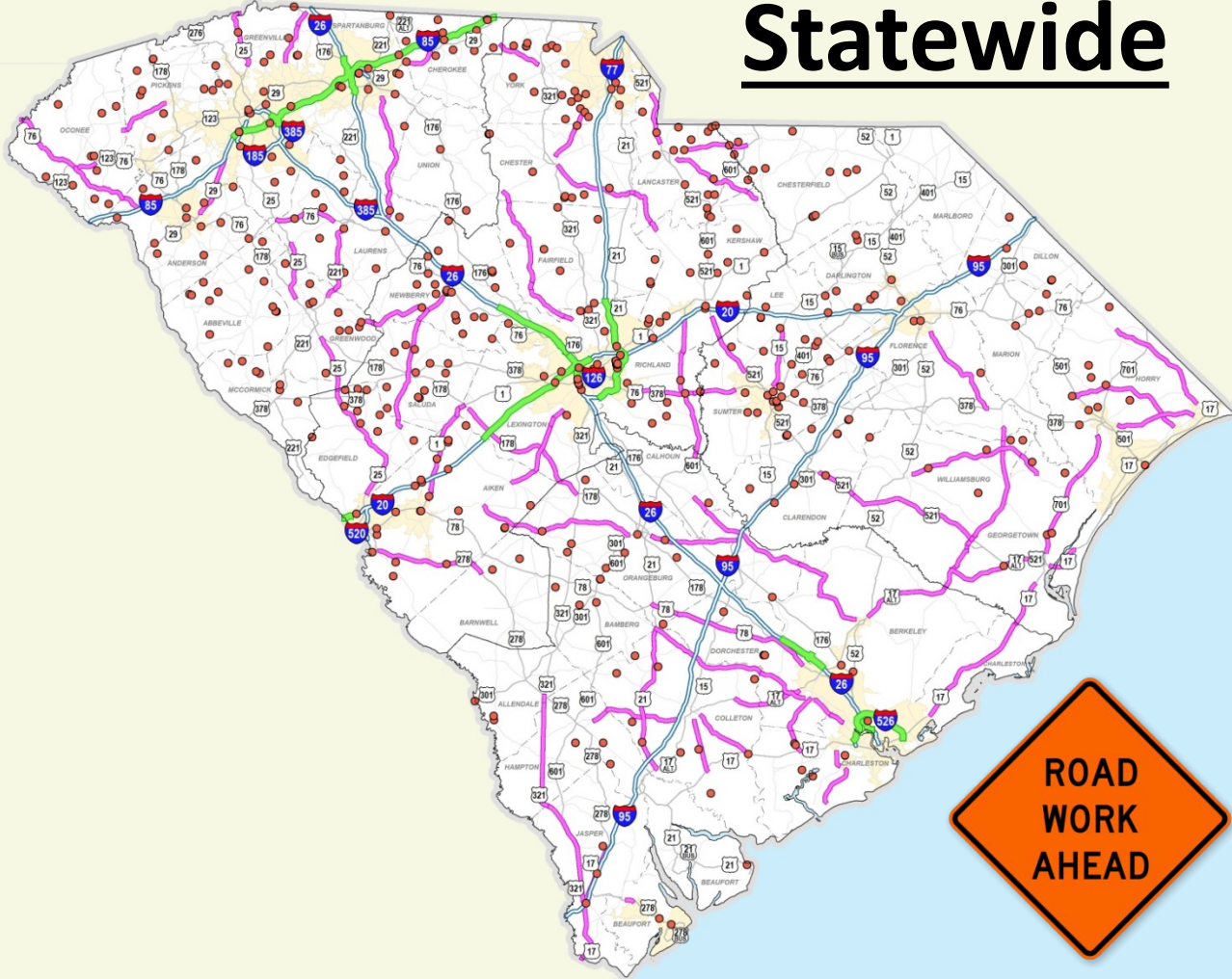
Bridges Replaced

— **140** Miles

of Interstates Improved

— **1000** Miles

of Safety Features Added
to Rural Roads



www.scdot.org



SCDOT Public Involvement Portal



Office of
Planning
Public
Involvement

Make Public Comments on



Current
Projects

Find information about
projects that are currently
under development.



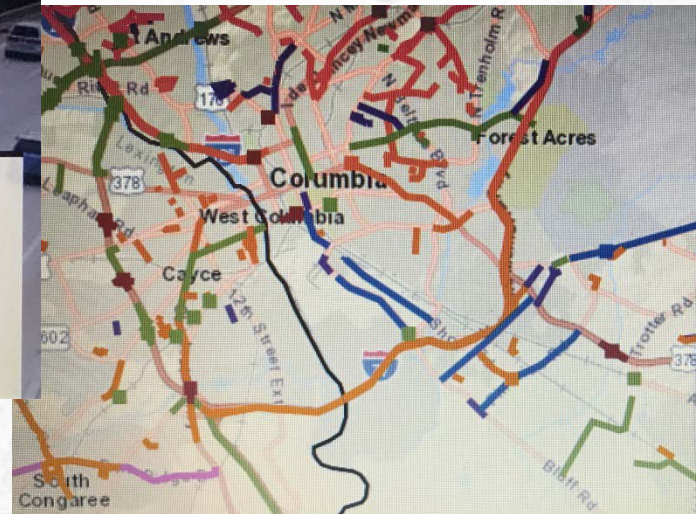
Project
Viewer

Interactive mapping
application that contains
information about projects
that are in various stages of



Public Meeting
Calendar

Find information about
upcoming public meetings
in your region.



Stay up-to-date





Organizational Performance Dashboard

June 2017

HOME MANPOWER PROCUREMENT PROJECT DELIVERY MAINTENANCE RESPONSE

Management Initiative: Procurement of Professional Services

Outside professional services are utilized by SCDOT in order to assist in the delivery of our annual road and bridge program. Consultants are engaged to provide specialized services, such as underwater bridge inspection, and to help fill in any gaps in internal staffing capabilities or availability. In accordance with federal requirements, consultants are selected utilizing a qualification-based selection process.

Actual Invoice Amounts

Year to Date Invoiced Amounts

Contract Type/Task	SFY 12-13	SFY 13-14	SFY 14-15	SFY 15-16
Construction Engineering & Inspection				
>>>Project Specific C&I	\$9,475,605	\$4,859,850	\$2,181,462	\$2,807,8
>>>On Call C&I	\$7,314,830	\$8,107,078	\$8,951,097	\$10,594,9
Project Design/General Engineering	\$14,168,481	\$12,288,490	\$8,790,292	\$14,401,2
Archaeology*	\$0	\$0	\$0	\$0
Bridge Design**	\$0	\$0	\$252,830	\$998,8
Concrete & Steel	\$25,586	\$66,406	\$0	\$0
Design Build Preparation**	\$0	\$0	\$418,691	\$421,7
Environmental Construction & Compliance**	\$0	\$0	\$182,865	\$965,9
Environmental Small Purchase**	\$0	\$0	\$86,166	\$178,9
Foundation PDA	\$106,793	\$186,171	\$79,252	\$167,6
General Engineering Services	\$3,416,387	\$2,886,832	\$1,844,536	\$1,149,0
Geotechnical	\$1,122,774	\$774,136	\$809,288	\$1,859,3
Hazardous Materials*	\$0	\$0	\$0	\$0
Hydrology*	\$0	\$16,944	\$0	\$0
Interstate Rehabilitation**	\$0	\$0	\$0	\$247,5
Lead Paint	\$552,357	\$46,672	\$167,975	\$24,9
NEPA	\$127,123	\$228,561	\$52,535	\$33,5
Noise Analysis	\$0	\$0	\$0	\$52,8
Permitting	\$399,628	\$499,108	\$284,294	\$213,6
Photogrammetries	\$0	\$0	\$0	\$503,8
Pipe Video*	\$1,103,846	\$439,382	\$0	\$0
Planning	\$0	\$0	\$0	\$612,4
Right of Way	\$164,529	\$64,430	\$21,156	\$19,0
Roadway Design/Intersection Improvements**	\$0	\$0	\$0	\$245,3
Signal Systems	\$298,026	\$369,809	\$546,117	\$702,6
Subsurface Utility Engineering**	\$0	\$59,052	\$666,032	\$448,1
Traffic Safety Engineering**	\$0	\$0	\$0	\$613,8
Transportation Alternatives Design**	\$0	\$0	\$118,034	\$624,9
TOTAL	\$38,275,964	\$30,892,923	\$25,452,724	\$37,888,3

* No longer Established On Call Contracts

** On Call Contracts executed in 2014



Organizational Performance Dashboard

June 2017

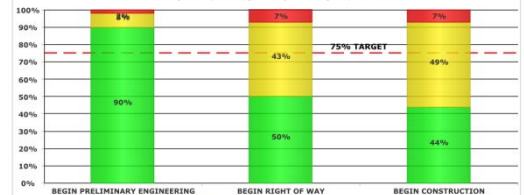
HOME MANPOWER PROCUREMENT PROJECT DELIVERY MAINTENANCE RESPONSE

Improve Project Delivery

Delivering projects on-time and on-budget are the expectations of our stakeholders. Delayed projects introduce additional costs in escalating material costs and higher user costs due to uncorrected deficiencies in the performance or condition of the state highway system. SCDOT is currently developing 615 projects in the pre-construction pipeline at an estimated value of \$2.40 Billion. SCDOT currently is managing the construction phase of 385 highway & bridge projects at a value approaching \$2.3 Billion which includes \$1.75 Billion in contracts for SCDOT plus \$504 Million in Local Sales Tax Program projects. These projects are a mix of resurfacing, widening, new location and other road & bridge activities.

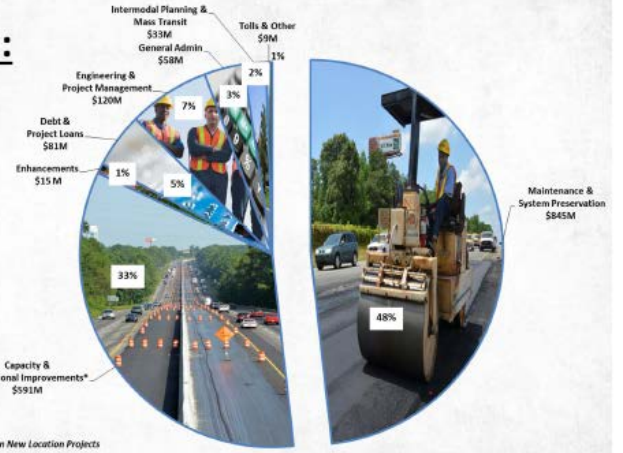
Federal Fiscal Year 2017 Project Delivery Analysis (#) Year-to-Date

Includes Statewide Transportation Improvement Program (STIP)
Interstate, Bridge and System Upgrade Projects Managed by Preconstruction



Month	Delivered	Pending Delivery	Not Delivered
Nov-16	1	6	7
Dec-16	5	36	67
Jan-17	36	42	60
Total	62	84	136

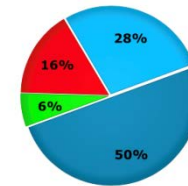
2016-17 Budget: \$1.752 B



*\$10M in New Location Projects

12 Month Construction On-time by Number of Contracts

Substantial Work Completed:
June 2016 to May 2017



- Original Completion -Contract value: \$169,694,715.23 - 141 Contracts
- Adjusted Completion -Contract Value: \$219,461,722.74 - 77 Contracts
- Charged Liquidated Damages -Contract Value: \$113,839,208.89 - 44 Contracts
- Remaining Closeout Action -Contract Value: \$101,973,472.83 - 17 Contracts

Target: Complete the construction of at least 50% of our projects on schedule

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



Questions ?

ROAD
CONSTRUCTION
TRAFFIC MAINTAINED