

STATE PROGRAM



Fiscal Year 2013

2013 Maintenance Program

Funding Source – State Highway Fund and Act 176 Funds

The goal of the Maintenance Division is to preserve or improve the condition of the State Highway System through the effective and efficient use of the resources provided. The performance measures used to determine the level of service are defined in the Department’s Maintenance Assessment Program (MAP). This program evaluates a statistical sample of 0.20 mile segments and determines the level of service for the maintenance of seven major system elements. Those elements and levels of service are:

<u>Maintenance Element</u>	<u>2011 LOS</u>	<u>Present LOS</u>	<u>Min. Acceptable LOS</u>
• Pavements	F	F	C
• Shoulders and ditches	C	C	C
• Drainage structures	F	F	C
• Roadsides	D	F	C
• Signs	D	C	C
• Pavement markings	F	F	C
• Guardrails	C	C	C
• Bridges*	C	C	C

*Bridges are not inspected as part of the Maintenance Assessment Program but are inspected on a routine cycle depending on the condition of the structure and the functional classification of the facility being carried.

Note: This past year has seen an increase in the level of service for signs and a decrease in the level of service for our roadsides. The level of service is expected to decline as more maintenance is deferred due to the unavailable funds for the Maintenance Budget. The condition of our non-federal aid secondary roads will continue to deteriorate with the suspension of the state funded Pavement Improvement and Preservation program for this system.

Levels of service (LOS) are defined as:

- **Level of Service A (best)** - This is a very high level of service in which the associated features are in excellent condition. Very few deficiencies are present, all systems are operational, and the overall appearance is pleasing. Preventive maintenance is a high priority in all maintenance activities.
- **Level of Service B (good)** - This is a high level of service in which the associated features are in good condition. Very few deficiencies are present in safety and investment protection, but moderate deficiencies may exist in other areas. All systems are operational. Preventive maintenance is a high priority for safety-related activities, but is deferred for other areas, resulting in additional corrective maintenance activities.
- **Level of Service C (fair)** - This is a fair maintenance service level in which the

associated features are in fair condition. Very few deficiencies are present in safety related activities, but moderate deficiencies exist for investment protection and significant aesthetic related deficiencies. Preventive maintenance is deferred for many activities except safety-related work. Corrective maintenance is routinely practiced for all activities. A backlog of deficiencies begins to build up that will have to be dealt with eventually, at a higher cost. Some roadway structural problems begin to appear due to long-term deterioration of the system.

- **Level of Service D (poor)** - This is a low maintenance service level in which the associated features are in generally poor condition. Moderate deficiencies are present in safety-related activities and significant deficiencies for all other activities. Very little preventive maintenance is accomplished; maintenance becomes very reactionary and places emphasis on correcting problems as they occur. A backlog of deficiencies exists. Safety problems begin to appear that increase risk and liability, and significant structural deficiencies exist that accelerate the long-term deterioration of the system. The overall appearance of the system is poor.
- **Level of Service F (worst)** - This is a very low service level in which the associated features are in poor and failing condition. Significant deficiencies are present in all maintenance activities. The overall appearance is not aesthetically pleasing. Preventive maintenance is not practiced for any maintenance activities. Maintenance is totally reactive and places emphasis on correcting problems as they occur. Significant backlogs of maintenance deficiencies exist. Excessive safety problems occur.

The maintenance budget for fiscal year 2013 is \$269,866,981 and is comprised of the following three (3) basic categories:

- Routine maintenance activities
- Pavement improvement and preservation (PIP)*
- Statewide support
 - Extraordinary Maintenance
 - Maintenance Support
 - Big bridge maintenance
 - Maintenance equipment replacement
 - Rest area and welcome center maintenance
 - Beaver management program
 - State Sign Shop
 - Overtime

*Based on May 2012 cash flow projections, a 2013 state-funded only pavement improvement and preservation program is unidentified at this time. Anticipated savings of state funds through the Indirect Cost-Recovery, Match Programs and the Bridge Soft Match Program may result in opportunities to fund a program later in the State Fiscal Year. While this will assist with maintenance of nonfederal aid eligible routes, it will still fall well below the funding level that is needed in order to get the system to “good”.

Due to continued shortfalls in revenue, this budget represents a decrease of approximately 20.78 percent (\$60.1 million) over the 2012 budget. This level of funding falls significantly short in providing the maintenance needs necessary to provide a “C” level of service. The Maintenance Assessment Program indicates that to achieve a level of service “C” would require a level of funding equal to \$949 million. This would eliminate some of the backlog of maintenance items that presently exists. Once achieved, it would cost approximately \$765 million per year to maintain a “C” level of service. These numbers do not include the Department’s bridge replacement program that is presently approximately \$120 million. The categories are defined below.

Routine maintenance activities – consists of the everyday activities to maintain the state’s roads, bridges, and associated appurtenances at a given level of service. These activities are usually proactive planned activities but also include reactive activities that are in response to accidents, natural disasters and normal infrastructure deterioration. These activities are performed with Department and contract forces. Routine maintenance activities include, but are not limited to, signage of routes, pavement markings, replacement and installation of guardrail, repair and installation of traffic signals, chip seal and other pavement preventive maintenance activities, repair of existing sidewalks, mowing, repair of drainage structures, and shoulder and ditch maintenance.

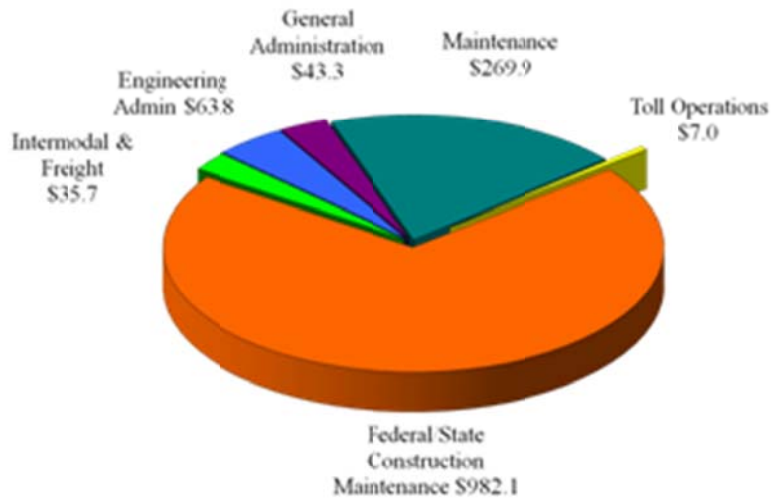
Pavement improvement and preservation – the reconstruction, rehabilitation, and preservation of roads on the state highway system. Roads are selected for inclusion in the reconstruction and rehabilitation programs using data from the Department’s Pavement Management System and other objective and quantifiable factors approved by the SCDOT Commission. Reconstruction usually includes the replacement of the entire pavement structure, while rehabilitation involves adding structural capacity to the pavement. Preservation includes the application of lower cost preventive maintenance treatments on pavements in good condition to preserve and extend the life of the pavement. Roads are selected for preventive maintenance by the resident maintenance engineer and approved by the district.

Statewide support

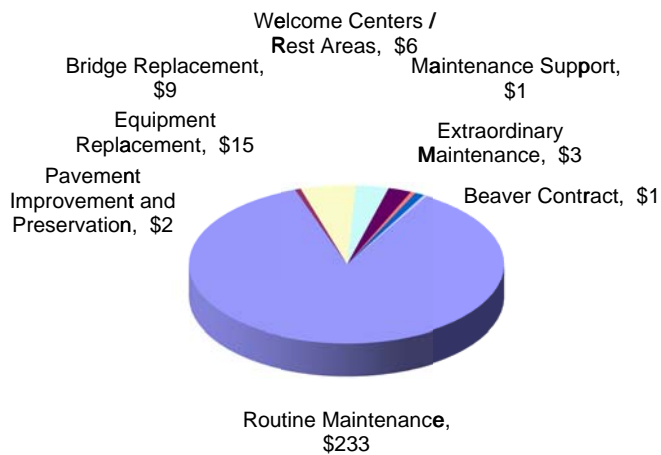
- Extraordinary maintenance – unforeseen major repairs to roads and bridges that are beyond the capabilities of the Department’s maintenance forces to accomplish within their existing operating budget. This may also include participation in County or Municipal drainage projects or other infrastructure improvement projects that are within the Department’s right-of-way. This year \$2.5 million will be budgeted to handle unexpected emergency maintenance needs as compared to \$3.5 million last fiscal year.
- Maintenance support – includes environmental, and training contracts for things such as underground storage tank replacement, third party environmental audits, drainage studies, and employee training. This year there is \$1.05 million budgeted for these areas as compared to \$2.13 million last fiscal year.

- Bridge maintenance – includes the state portion for the asset management contract for the Arthur Ravenell and other significant bridges in the Charleston area, as well as funding for some maintenance bridge replacements. This year \$300,000 has been budgeted as compared to \$751,930 last year.
- Maintenance equipment replacement – includes the replacement of existing maintenance equipment such as dump trucks, motor graders, backhoes etc. The present replacement value of the vehicle and equipment fleet is \$275 million with an annual replacement need of \$27.6 million. There is presently a replacement backlog of \$150 million. To eliminate this back log over the next five years and meet the annual replacement needs would require an annual investment of \$44.5 million. This year the equipment budget is approximately \$15.4 million.
- Rest area and welcome center maintenance – includes utilities, cleaning services, landscape services, and building maintenance cost for the rest areas and welcome centers across the state. This year the rest area and welcome center budget is \$6.3 million.
- Beaver management program – includes the trapping and removal of beavers and beaver dams in eleven counties throughout the state. This program has proven very cost effective in preventing damage to roads and bridge structures due to flooding that occurs as a result of beaver activity. This program encompasses all activities associated with beaver management including: removal of beavers, removal of dams, private property agreements, monthly reports of activities, media communication, trapping permits, explosives permits, and environmental impact studies in accordance with the National Environmental Policy Act (NEPA). The cost of this contract is \$1.02 million. Traditionally this contract has had a return on investment of approximately 1.36.
- State Sign Shop – The three sign shops in the state have been consolidated into one operation with an estimated annual savings of \$600,000. The budget for the State Sign Shop is \$2.2 million.
- Overtime – This year \$3 million has been budgeted for overtime necessary to address emergency maintenance operations. Overtime is only granted when necessary to address emergencies or when it results in a cost savings to the Department.

**Breakdown of FY12-13 Budget
Total \$1,401.8 M**



**2013
270 Million Revised State Maintenance Program**
(Dollars rounded to the nearest million)



Engineering Districts

There are seven Engineering Districts in South Carolina. Each district is comprised of four to eight counties and may cover several congressional districts. Funding is distributed to the districts based on lane miles, and vehicle miles traveled in each district.

The following is a summary of the projected District Programs.

Funding for Engineering Districts and Statewide Support	
District	Funding
One	\$37,180,010
Two	\$31,798,391
Three	\$28,329,942
Four	\$31,541,171
Five	\$40,669,888
Six	\$35,786,473
Seven	\$32,247,068
PIP Program	\$1,600,000
Statewide	\$30,714,038
	\$269,866,981

State Maintenance Accomplishment Plan

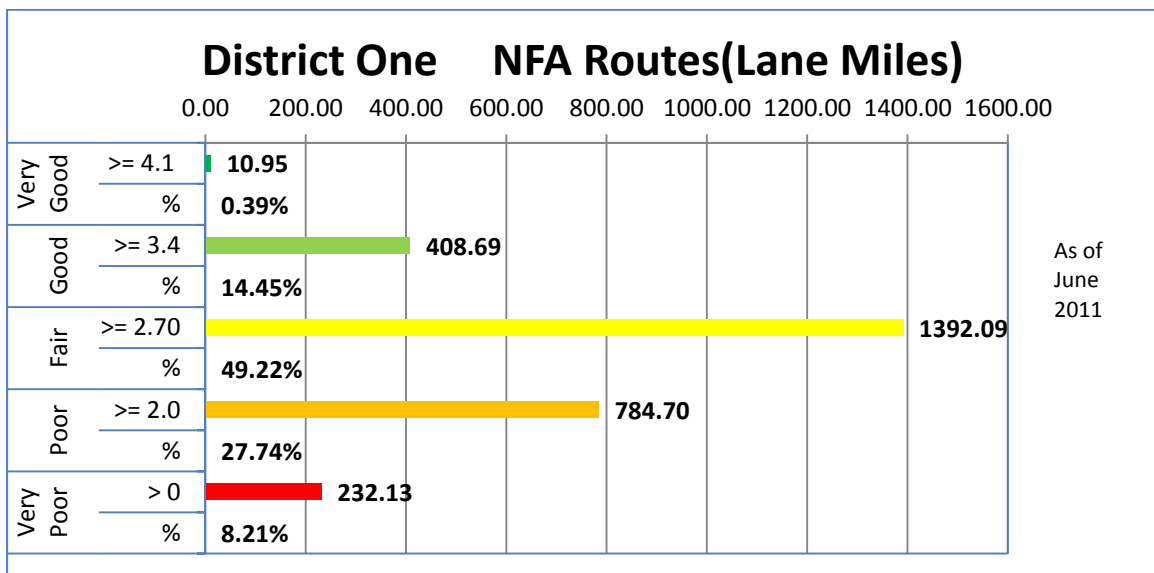
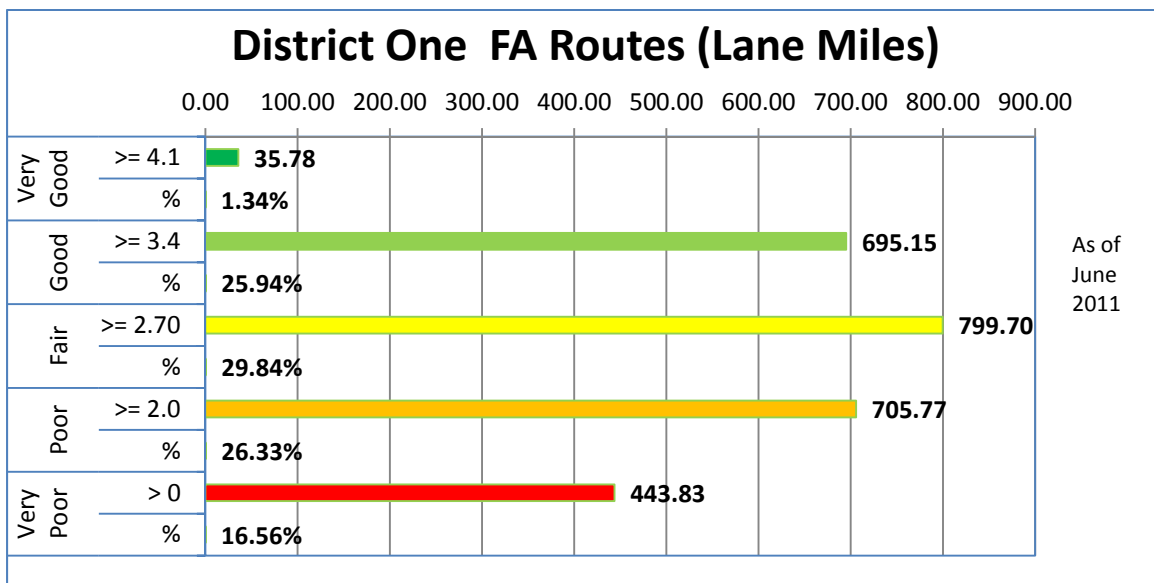
Work Element	In-House	Contract	Total
Pavement	\$63,249,825	\$6,023,208	\$69,273,033
Shoulders & Ditches	\$23,759,342	\$178,000	\$23,937,342
Drainage Structures	\$9,202,419	\$1,907,110	\$11,109,529
Roadside	\$28,664,840	\$20,063,520	\$48,728,361
Driveway/Structures	\$9,650,664	\$2,550,835	\$12,201,499
Signs	\$14,891,250	\$163,800	\$15,055,050
Signals	\$6,648,917	\$1,965,915	\$8,614,832
Pavement Markings	\$7,663,039	\$2,691,540	\$10,354,579
Guardrail	\$1,555,588	\$344,300	\$1,899,888
Hazardous Condition	\$8,905,978	\$0	\$8,905,978
Bridge Maintenance	\$10,679,173	\$910,416	\$11,589,589
Bridge Replacement	\$9,093,524	\$0	\$9,093,524
Buildings & Grounds	\$6,714,126	\$75,612	\$6,789,738
Total	\$200,678,687	\$36,874,256	\$237,552,943

Engineering District One

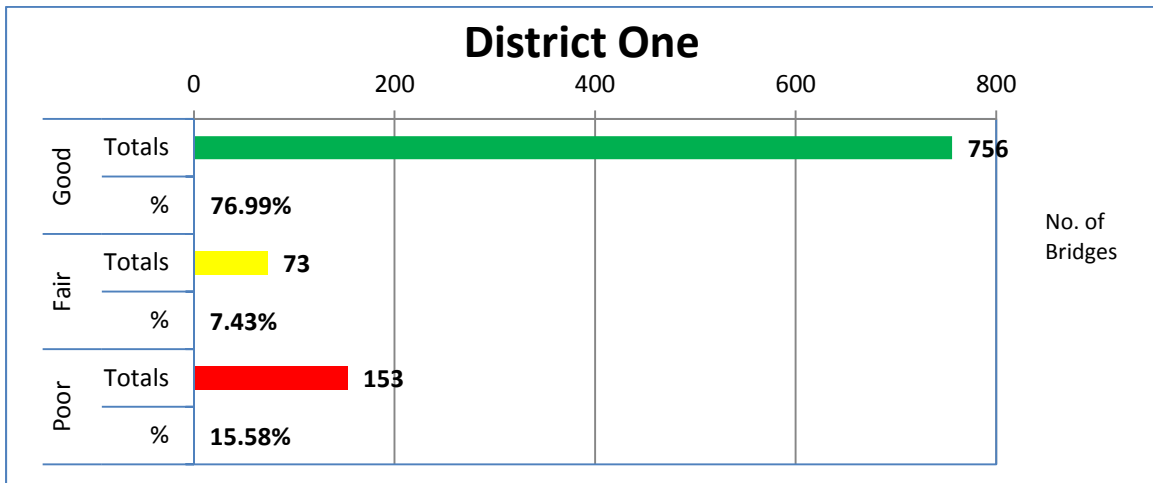
(Kershaw, Lee, Lexington, Richland and Sumter Counties)

Mr. Thad Brunson
 District Engineering Administrator
 1400 Shop Road
 Columbia, SC 29201-4844
 Phone: (803) 737-6660
 Fax: (803) 253-6401

Pavement Condition



Bridge Condition



D1 Maintenance Accomplishment Plan

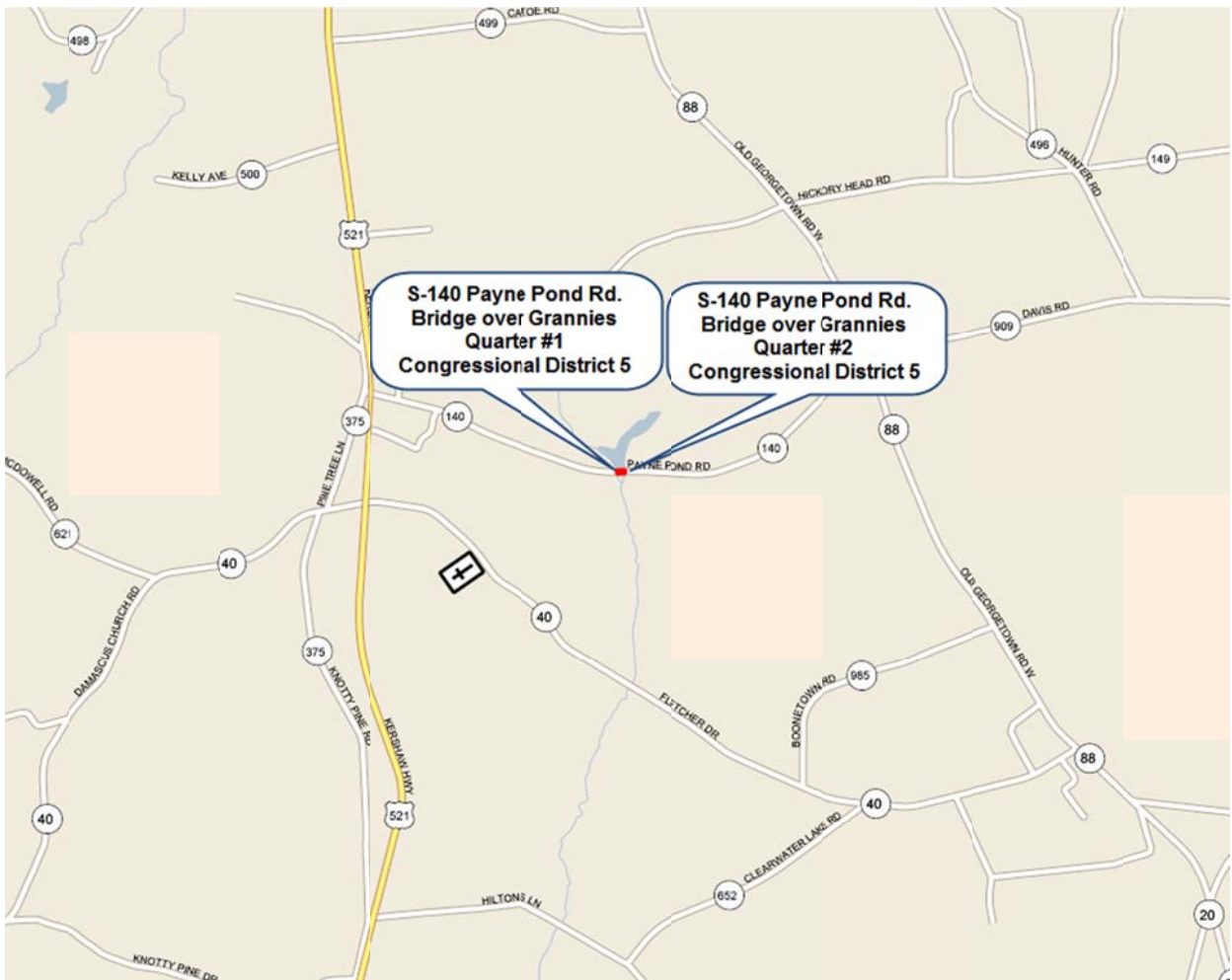
Work Element	In-House	Contract	Total
Pavement	7,987,881	2,764,363	10,752,244
Shoulders & Ditches	3,948,956	0	3,948,956
Drainage Structures	1,685,081	219,610	1,904,691
Roadside	5,221,719	2,010,538	7,232,257
Driveway/Structures	1,982,058	466,717	2,358,775
Signs	1,796,357	0	1,796,357
Signals	586,214	300,000	886,214
Pavement Markings	451,439	0	451,439
Guardrail	40,398	0	40,398
Hazardous Condition	1,495,791	0	1,495,791
Bridge Maintenance	3,627,662	499,826	4,127,488
Bridge Replacement	1,397,485	0	1,397,485
Buildings & Grounds	787,915	0	787,915
Total	30,918,956	6,261,054	37,180,010

Bridge Replacement Program

Kershaw County

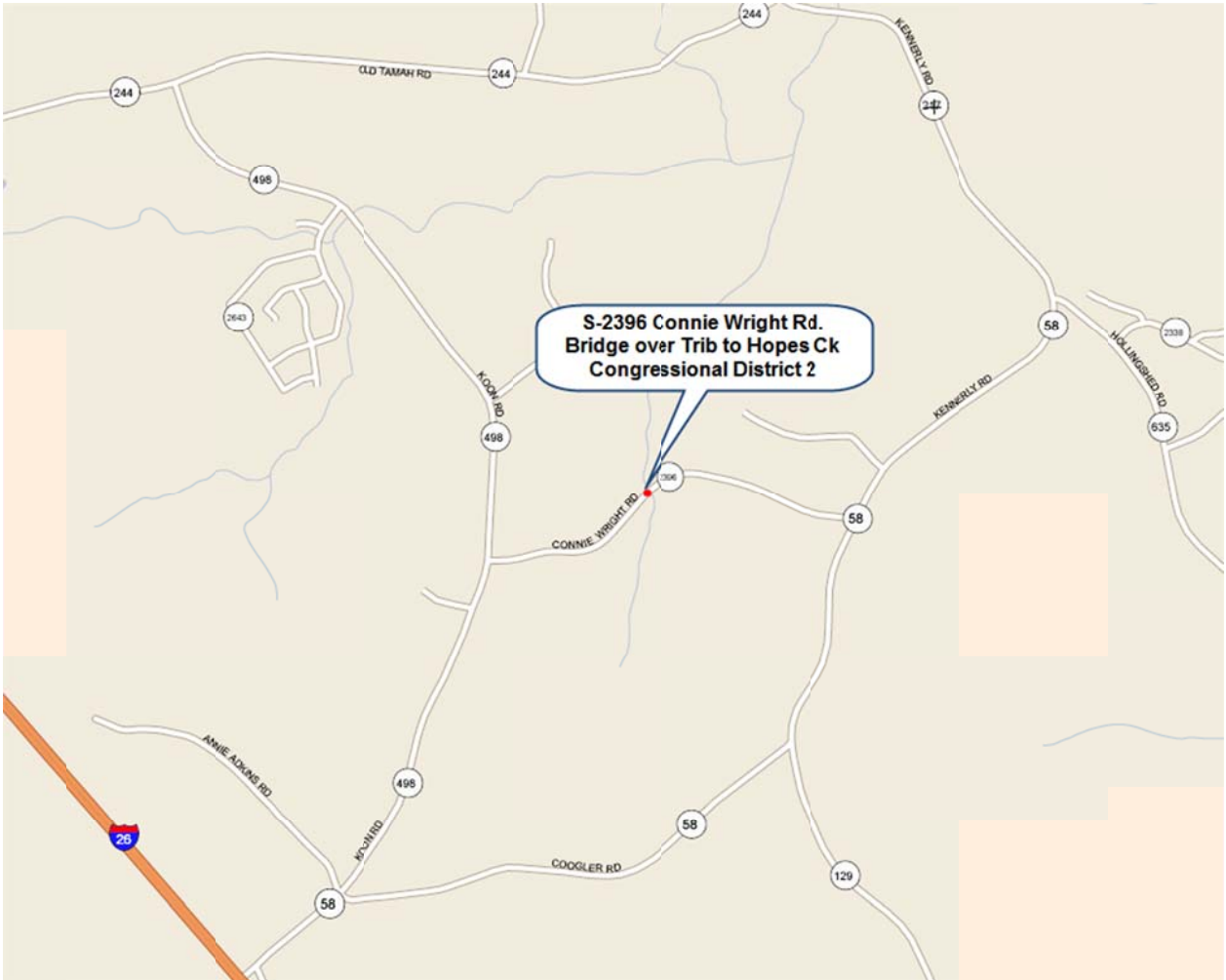
Estimated Cost - \$335,935

Bridge ID	Facility Carried	Feature Intersected	District Ranking
2870014000200	S-140	Grannies Quarter Cr #1	3
2870014000100	S-140	Grannies Quarter Cr #2	4



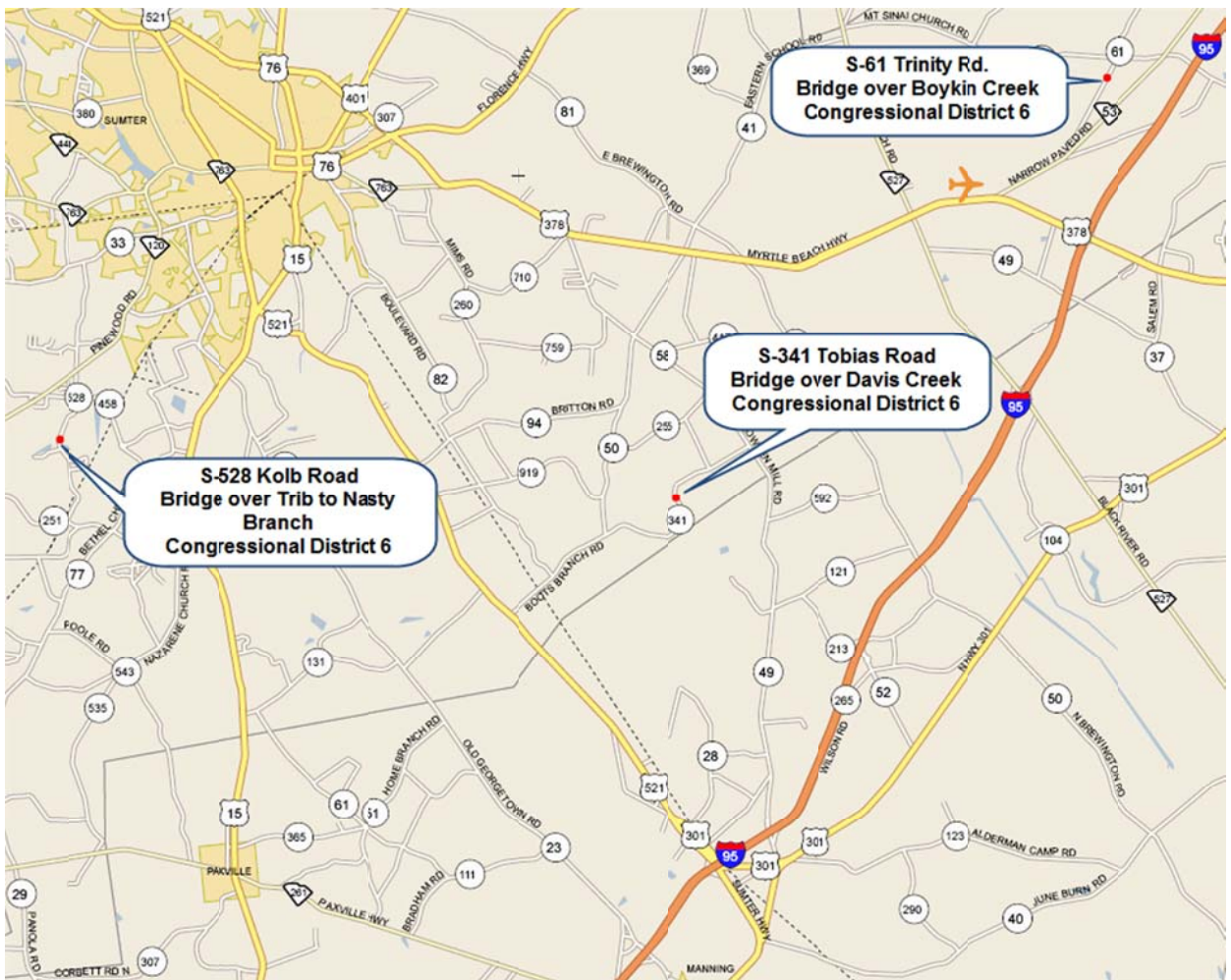
Richland County
Estimated Cost - \$268,750

Bridge ID	Facility Carried	Feature Intersected	District Ranking
4070239600100	S-2396	Tributary to Hopes Creek	6



Sumter County
Estimated Cost - \$792,800

Bridge ID	Facility Carried	Feature Intersected	District Ranking
4370052800200	S-528	Tributary to Nasty Branch	1
4370006100300	S-61	Boykin Creek	2
4370034100100	S-341	Davis Creek	5

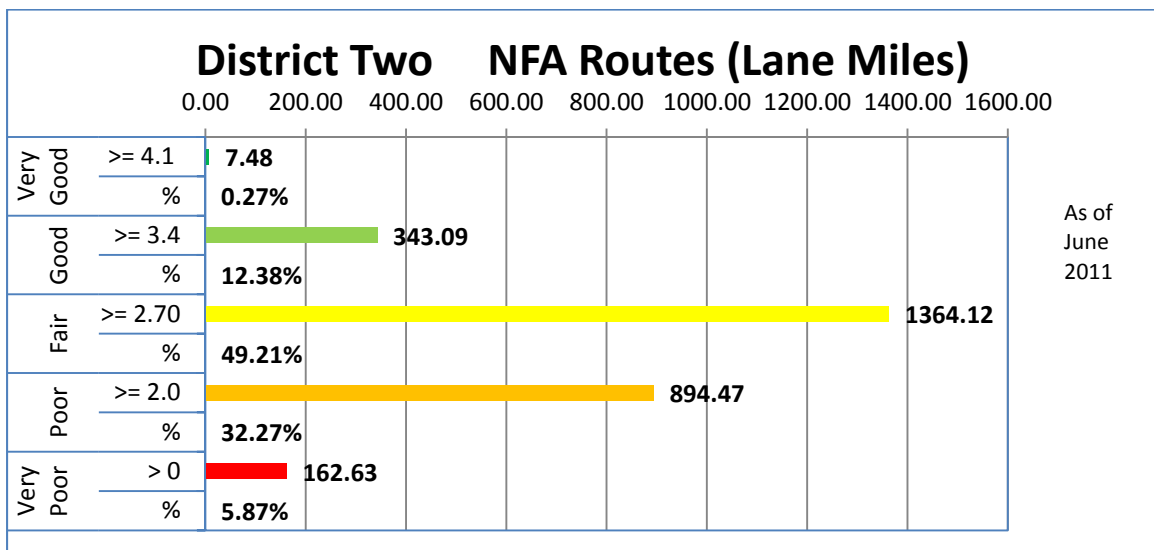
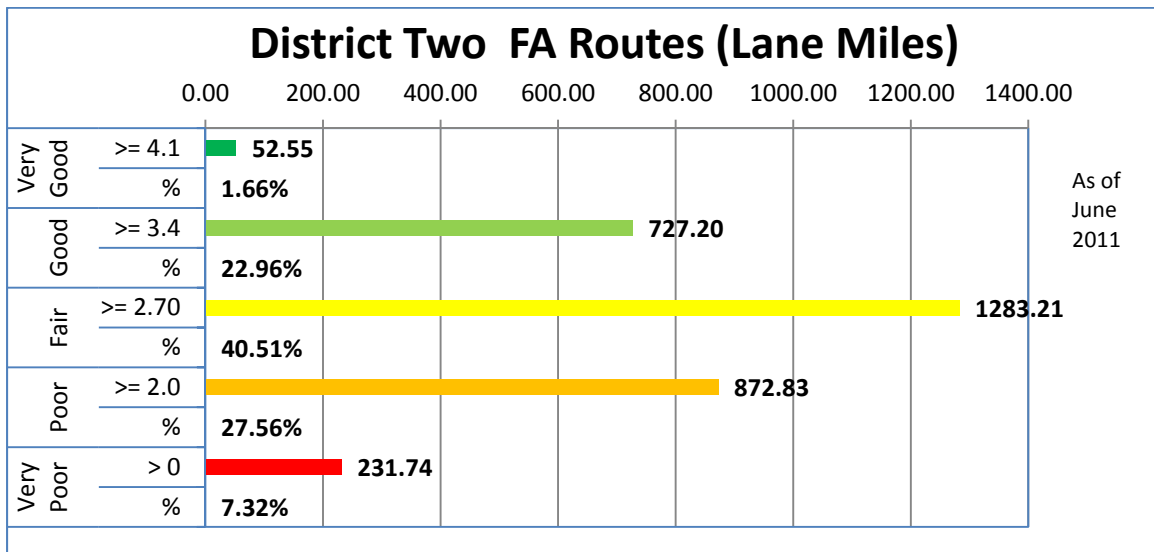


Engineering District Two

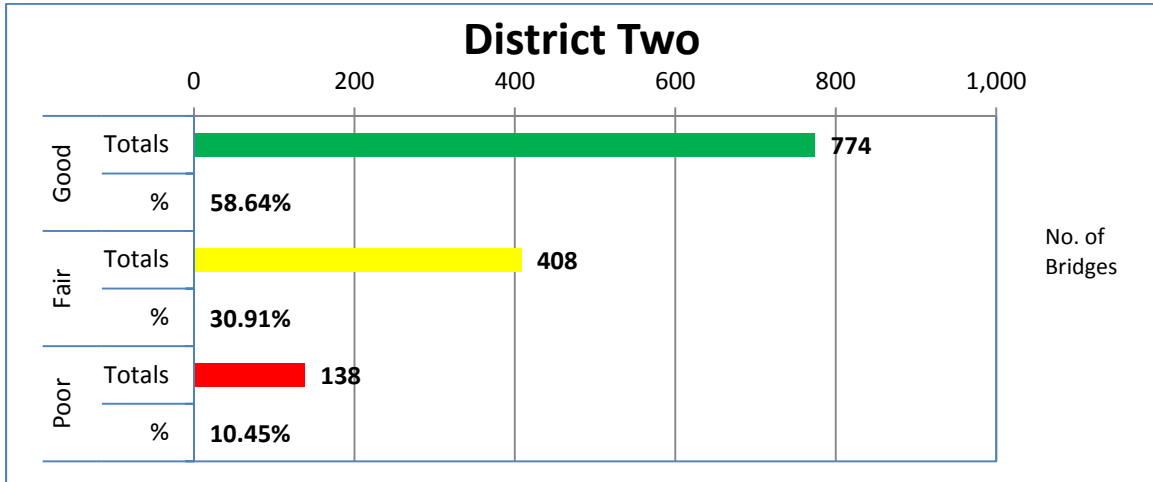
(Abbeville, Anderson, Edgefield, Greenwood, Laurens, McCormick, Newberry, and Saluda Counties)

Mr. Kevin McLaughlin
 Interim District Engineering Administrator
 510 W. Alexander Avenue
 Greenwood, SC 29646-4029
 Phone: (864) 227-6971
 Fax: (864) 227-6567

Pavement Condition



Bridge Condition



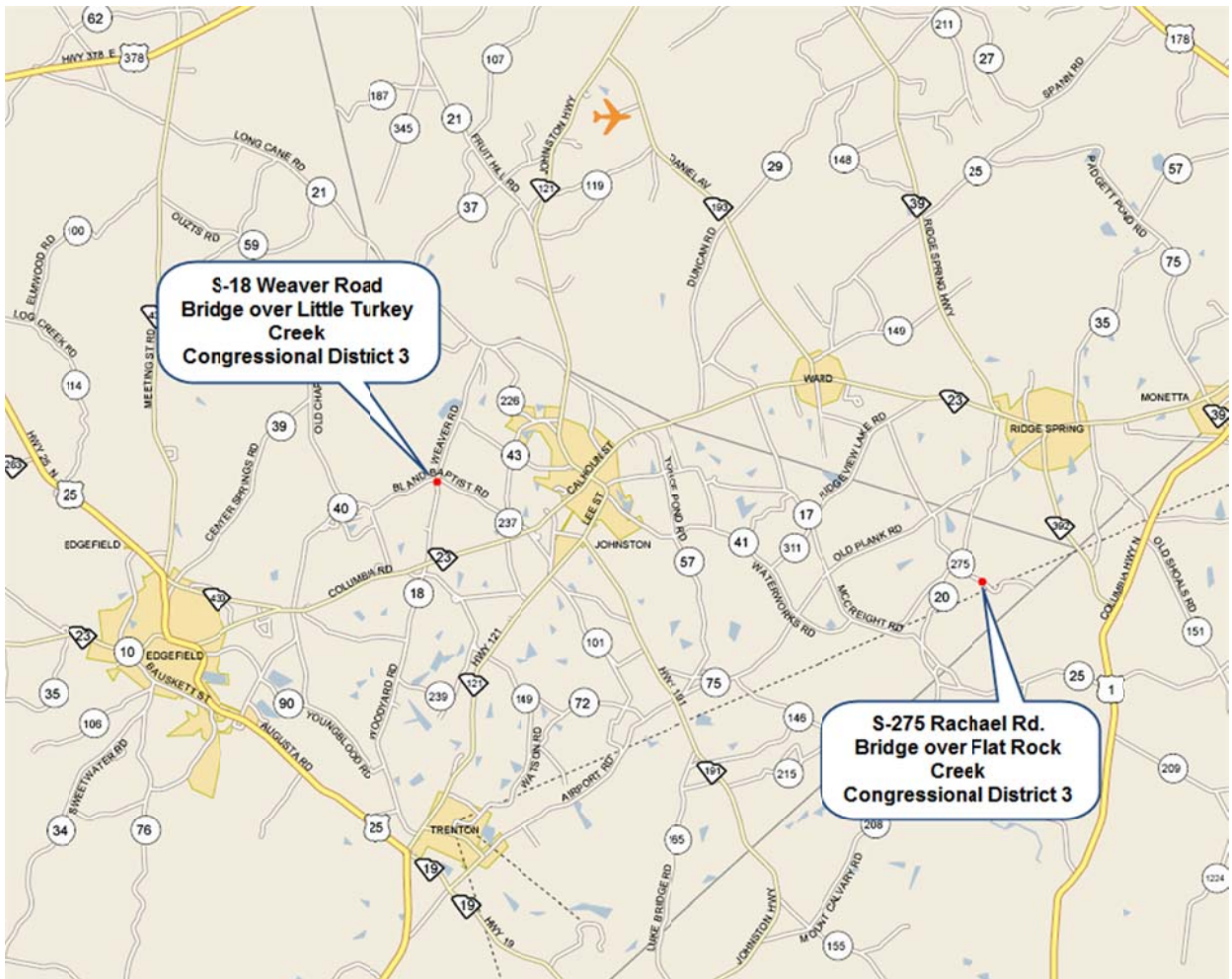
D2 Maintenance Accomplishment Plan

Work Element	In-House	Contract	Total
Pavement	\$7,703,535	\$2,500,000	\$10,203,535
Shoulders & Ditches	\$2,532,969	\$0	\$2,532,969
Drainage Structures	\$1,192,675	\$387,000	\$1,579,675
Roadside	\$4,920,918	\$1,609,500	\$6,530,418
Driveway/Structures	\$1,727,640	\$0	\$1,727,640
Signs	\$2,501,651	\$0	\$2,501,651
Signals	\$973,561	\$150,000	\$1,123,561
Pavement Markings	\$630,002	\$300,000	\$930,002
Guardrail	\$311,302	\$0	\$311,302
Hazardous Condition	\$1,720,287	\$0	\$1,720,287
Bridge Maintenance	\$205,743	\$160,590	\$366,333
Bridge Replacement	\$1,728,939	\$0	\$1,728,939
Buildings & Grounds	\$542,077	\$0	\$542,077
Total	\$26,691,301	\$5,107,090	\$31,798,391

Edgefield County
Estimated Cost - \$335,930

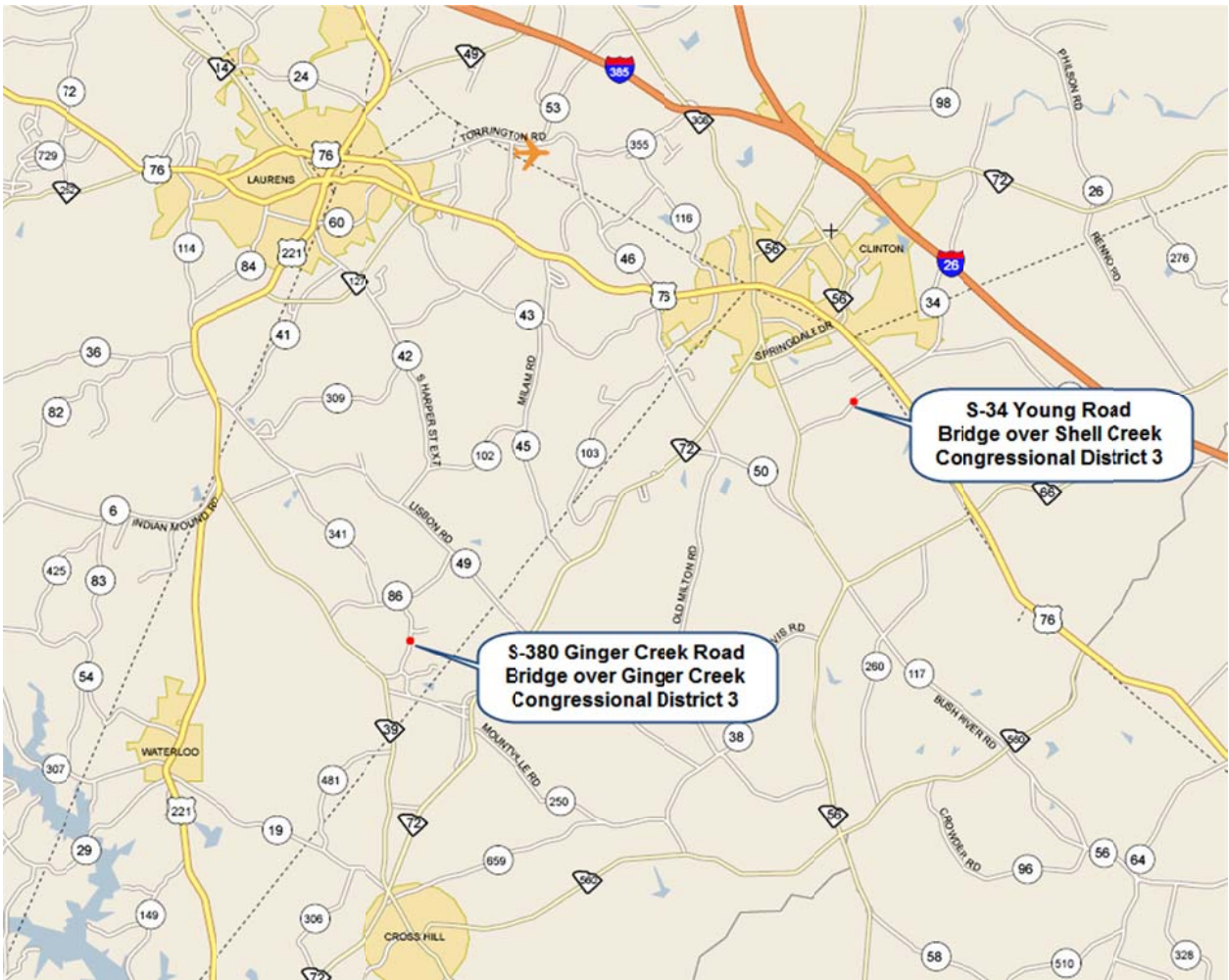
Bridge ID	Facility Carried	Feature Intersected	District Ranking
1970027500100	S-275	Flat Rock Creek	6
1970001800300*	S-18	Little Turkey Creek	7

*Materials purchased in FY 2012.



Laurens County
Estimated Cost - \$586,765

Bridge ID	Facility Carried	Feature Intersected	District Ranking
3070003400300	S-34	Shell Creek	4
3070038000100	S-380	Ginger Creek	5



Saluda County
Estimated Cost - \$268,744

Bridge ID	Facility Carried	Feature Intersected	District Ranking
4170012200100*	S-122	Big Creek	1
4170012900100	S-129	Indian Creek	3

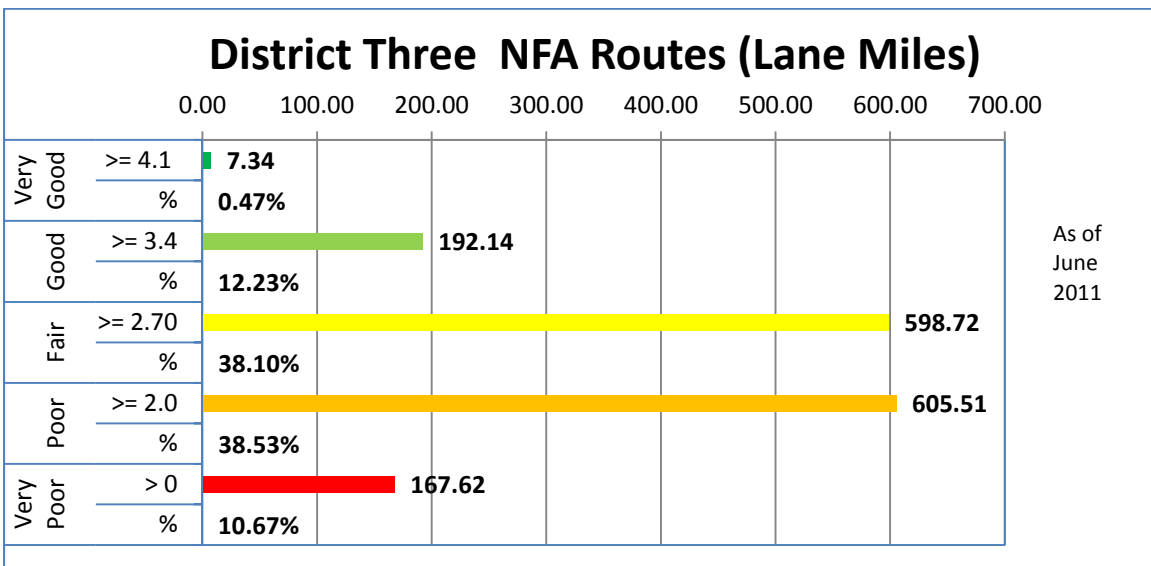
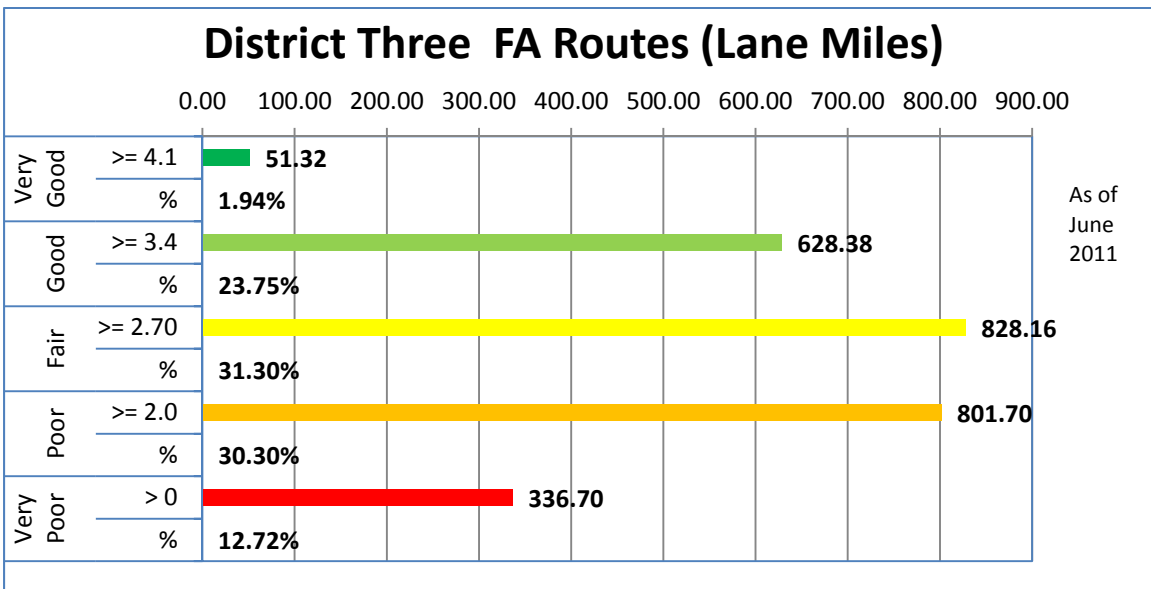
*Materials purchased in FY 2012.



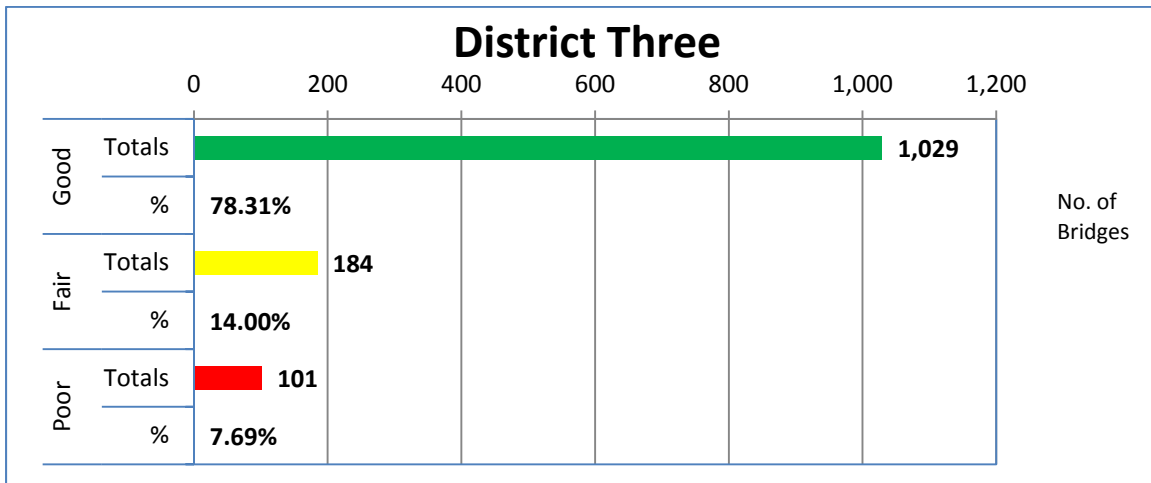
Engineering District Three (Greenville, Oconee, Pickens, and Spartanburg Counties)

Mr. Steve Gwinn
 District Engineering Administrator
 252 S. Pleasantburg Drive
 Greenville, SC 29607
 Phone: (864) 241-1010
 Fax: (864) 241-1115

Pavement Condition



Bridge Condition

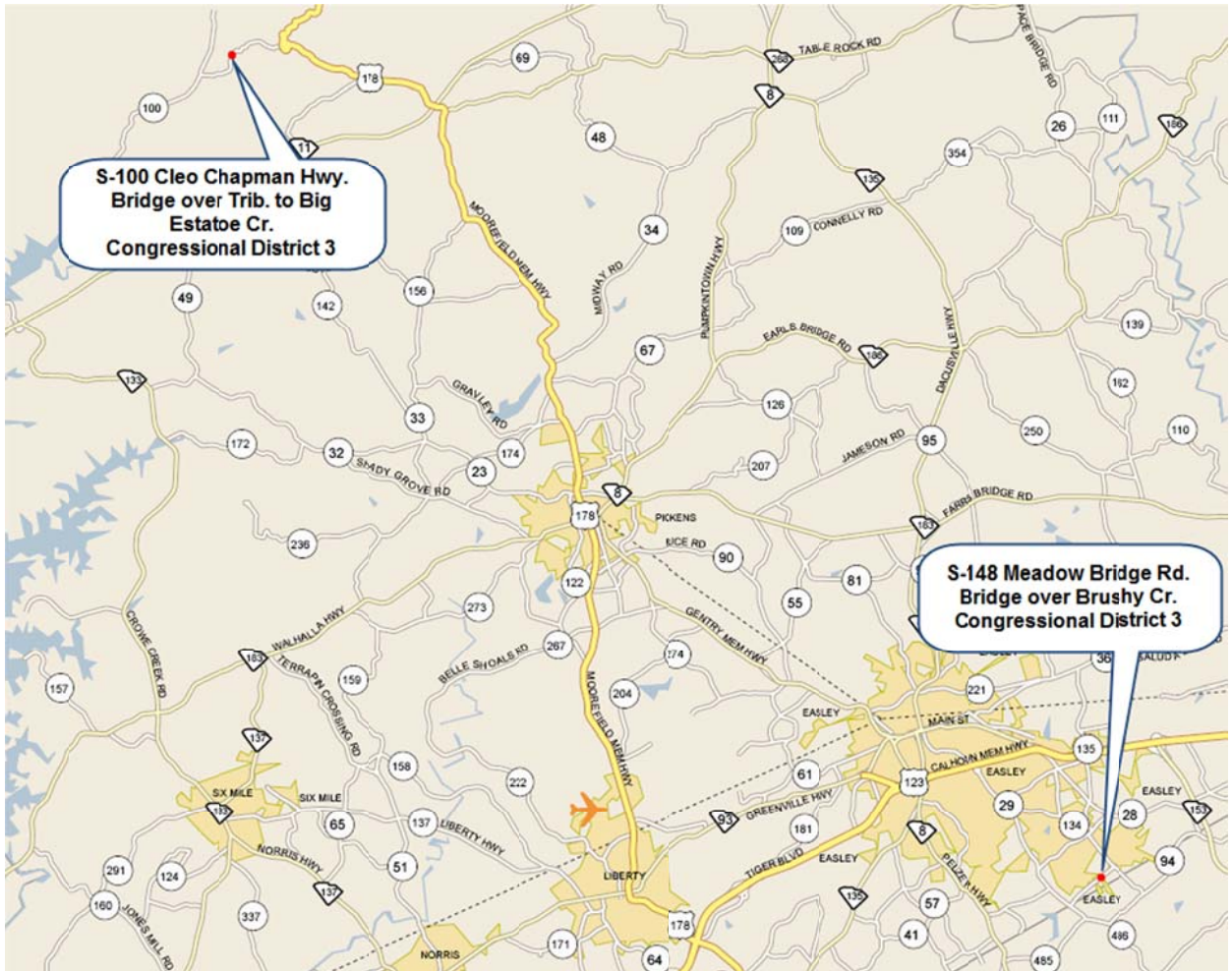


D3 Maintenance Accomplishment Plan

Work Element	In-House	Contract	Total
Pavement	\$6,774,596	\$313,845	\$7,088,441
Shoulders & Ditches	\$2,028,895	\$0	\$2,028,895
Drainage Structures	\$1,246,266	\$337,000	\$1,583,266
Roadside	\$2,920,262	\$4,102,021	\$7,022,283
Driveway/Structures	\$556,021	\$386,563	\$942,584
Signs	\$1,456,306	\$163,800	\$1,620,106
Signals	\$1,142,481	\$412,875	\$1,555,356
Pavement Markings	\$701,512	\$138,200	\$839,712
Guardrail	\$115,875	\$213,800	\$329,675
Hazardous Condition	\$2,399,940	\$0	\$2,399,940
Bridge Maintenance	\$402,791	\$200,000	\$602,791
Bridge Replacement	\$1,630,400	\$0	\$1,630,400
Buildings & Grounds	\$684,081	\$2,412	\$686,493
Total	\$22,059,426	\$6,270,516	\$28,329,942

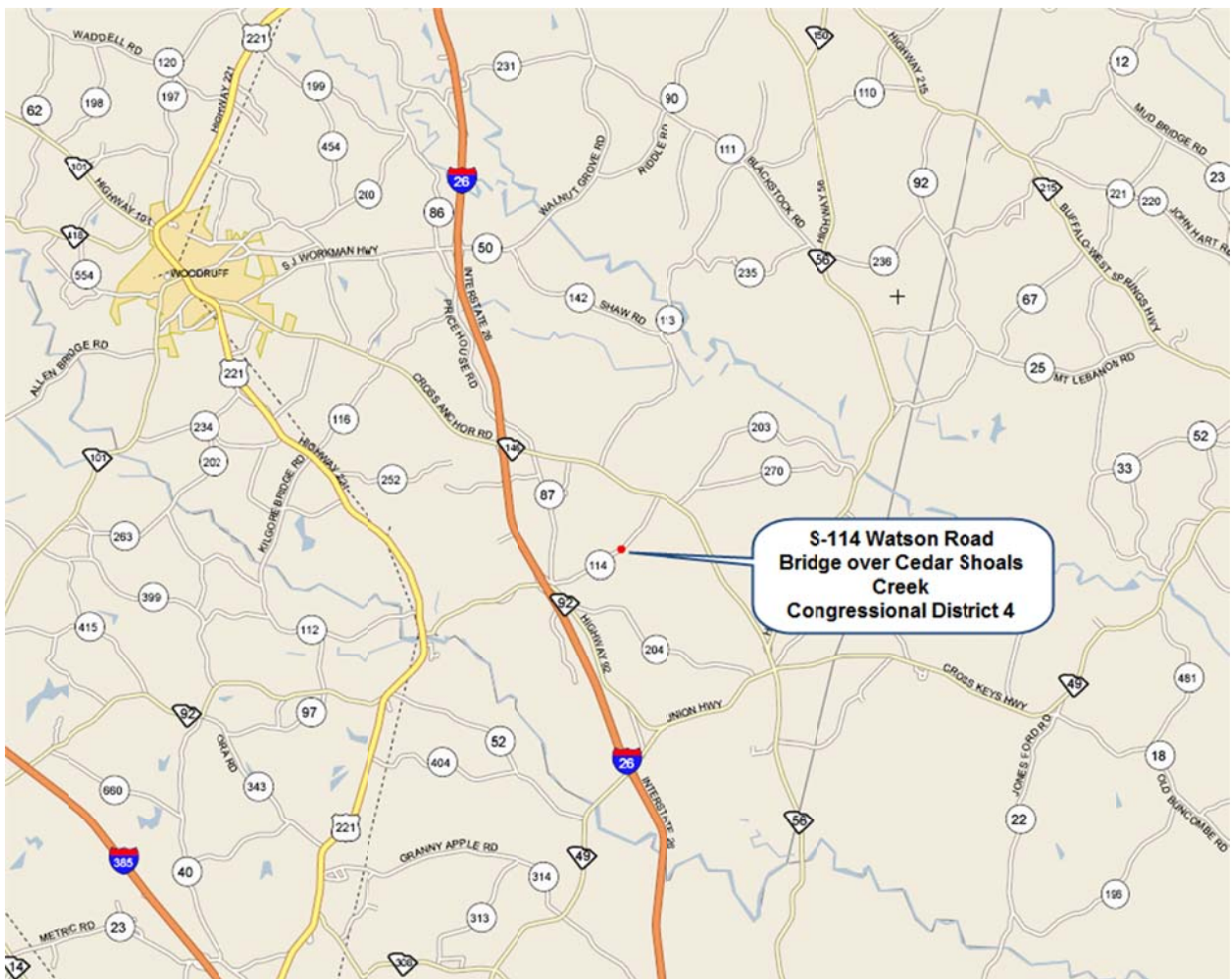
Pickens County
Estimated Cost - \$524,000

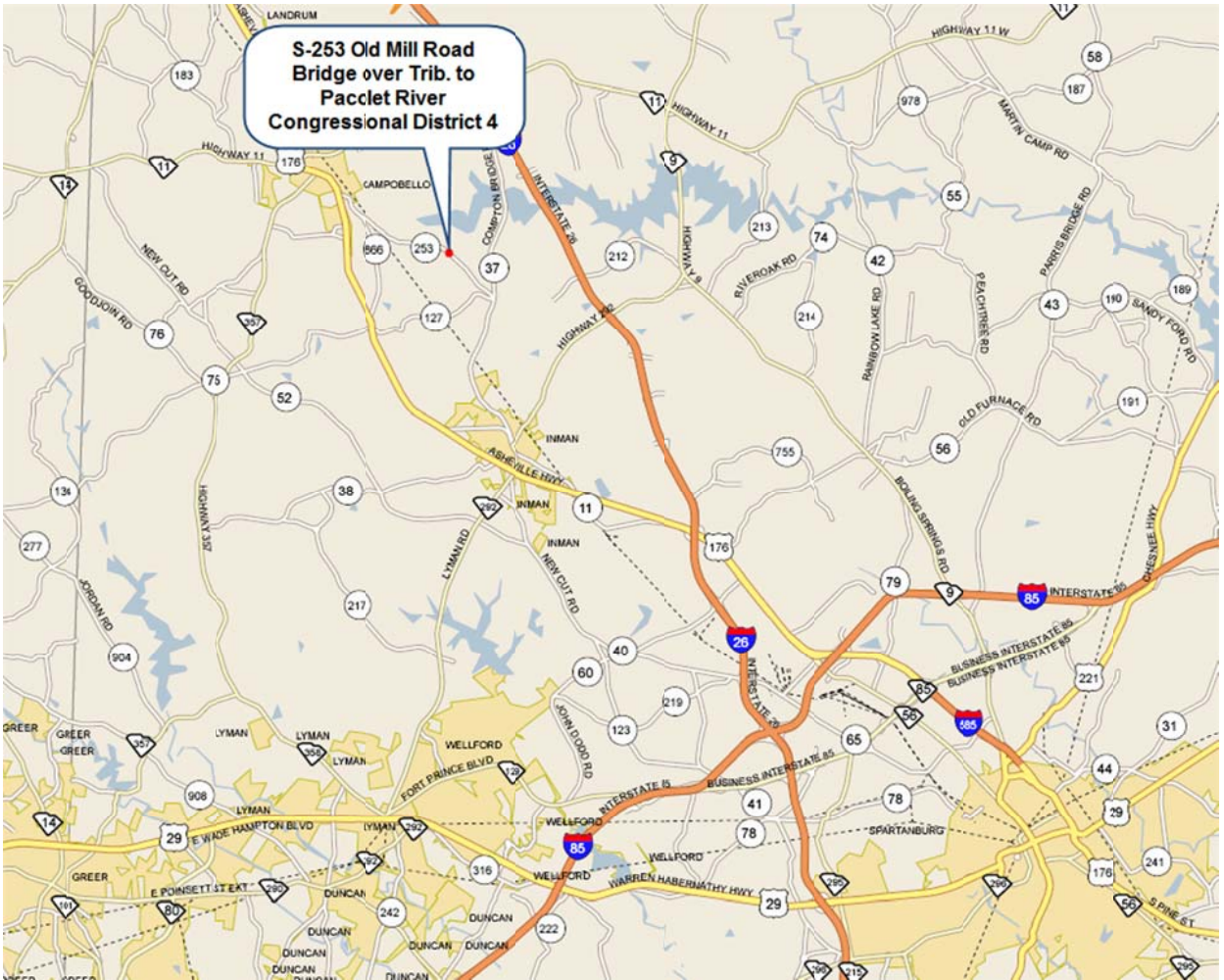
Bridge ID	Facility Carried	Feature Intersected	District Ranking
3970010000100	S-100	Tributary to Big Estatoe Cr.	3
3970014800100	S-148	Brushy Creek	1



Spartanburg County
Estimated Cost - \$456,900

Bridge ID	Facility Carried	Feature Intersected	District Ranking
4270011400100	S-114	Cedar Shoals Creek	2
4270025300100	S-253	Tributary to Pacolet River	6



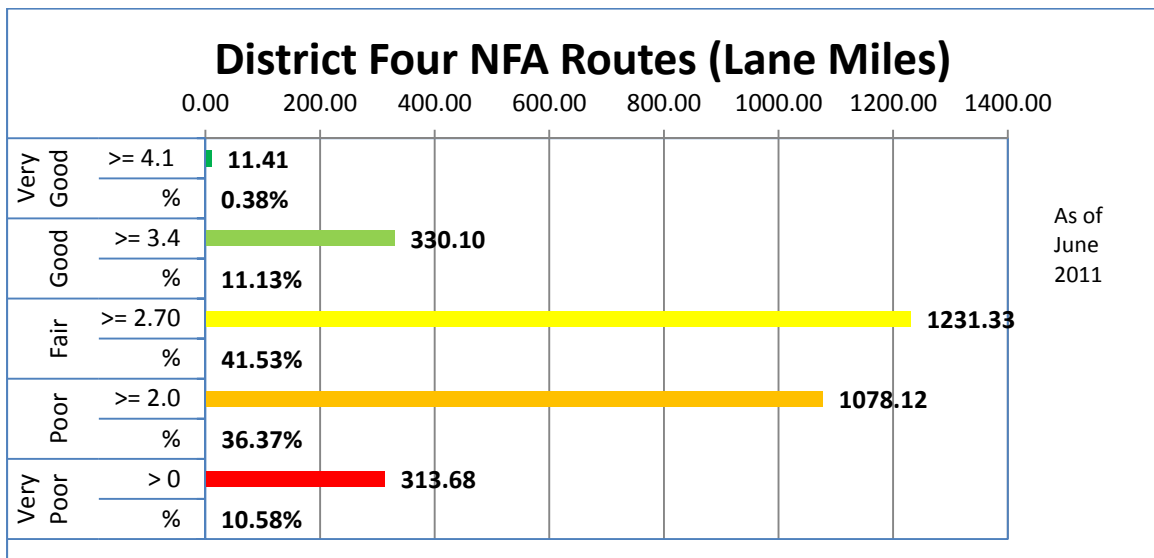
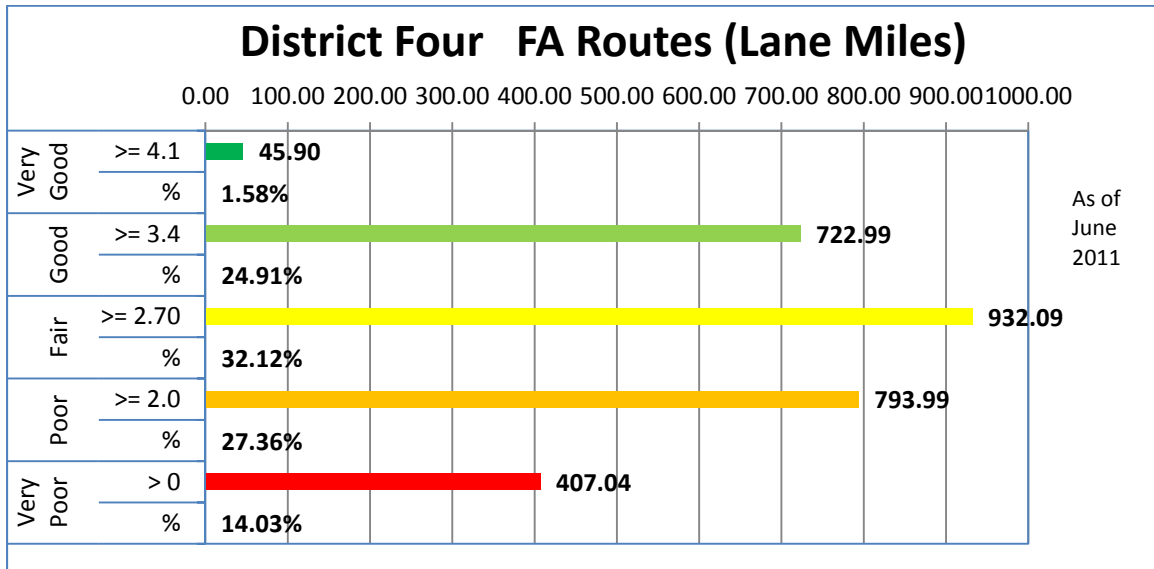


Engineering District Four

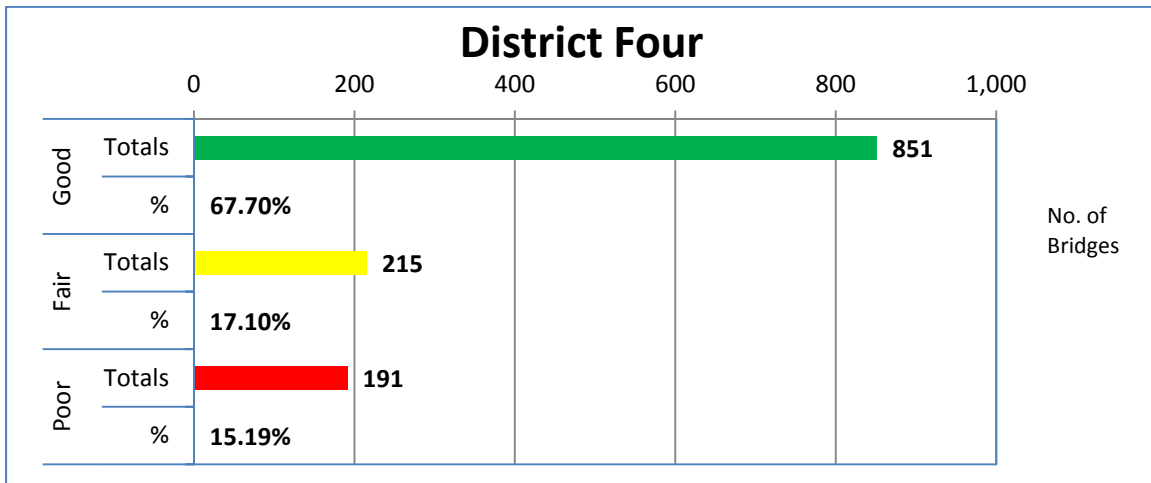
(Cherokee, Chester, Chesterfield, Fairfield, Lancaster, Union, and York Counties)

Mr. John McCarter
 District Engineering Administrator
 PO Box 130
 1232 J. A. Cochran Bypass
 Chester, SC 29706
 Phone: (803) 377-4155
 Fax: (803) 581-2088

Pavement Condition



Bridge Condition



D4 Maintenance Accomplishment Plan

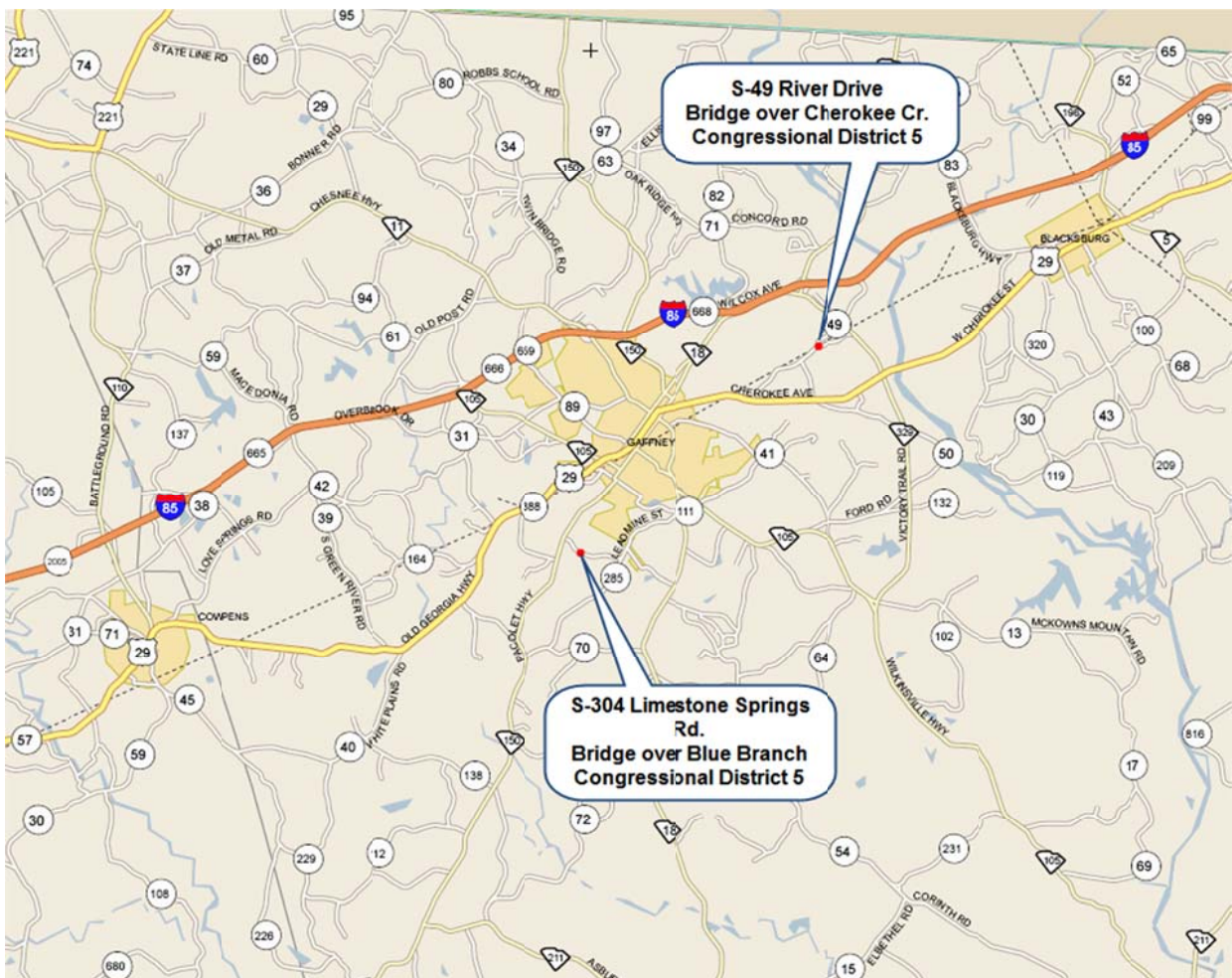
Work Element	In-House	Contract	Total
Pavement	\$14,552,832	\$0	\$14,552,832
Shoulders & Ditches	\$1,758,000	\$0	\$1,758,000
Drainage Structures	\$815,919	\$0	\$815,919
Roadside	\$3,655,729	\$2,194,243	\$5,849,972
Driveway/Structures	\$523,224	\$0	\$523,224
Signs	\$1,097,112	\$0	\$1,097,112
Signals	\$751,101	\$260,000	\$1,011,101
Pavement Markings	\$1,099,624	\$0	\$1,099,624
Guardrail	\$64,341	\$0	\$64,341
Hazardous Condition	\$1,092,983	\$0	\$1,092,983
Bridge Maintenance	\$1,024,521	\$0	\$1,024,521
Bridge Replacement	\$1,631,000	\$0	\$1,631,000
Buildings & Grounds	\$1,020,542	\$0	\$1,020,542
Total	\$29,086,928	\$2,454,243	\$31,541,171

Bridge Replacement Program

Cherokee County

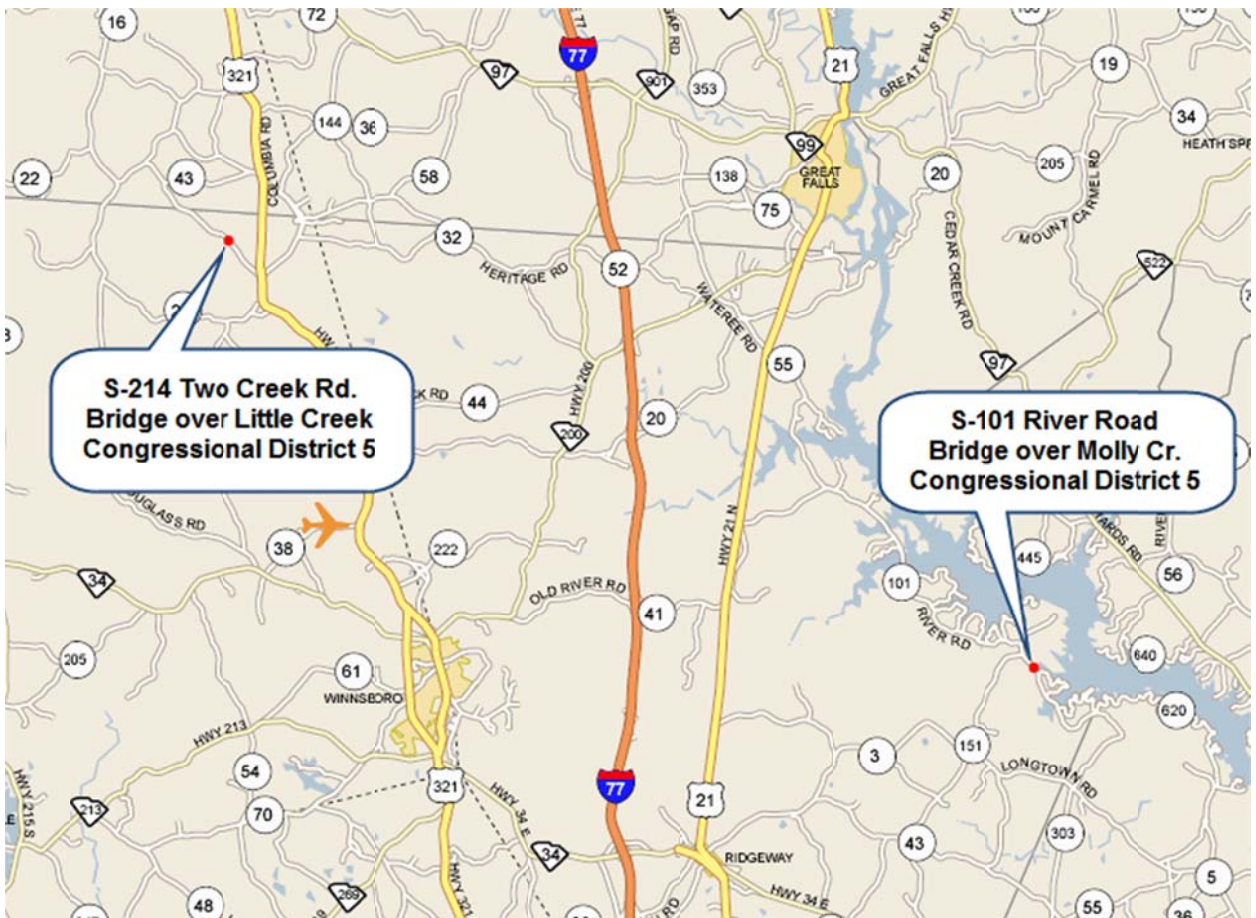
Estimated Cost - \$574,000

Bridge ID	Facility Carried	Feature Intersected	District Ranking
1170030400100	S-304	Blue Branch	6/19/2008 Commission Approved
1170004900200	S-49	Cherokee Creek	6/19/2008 Commission Approved



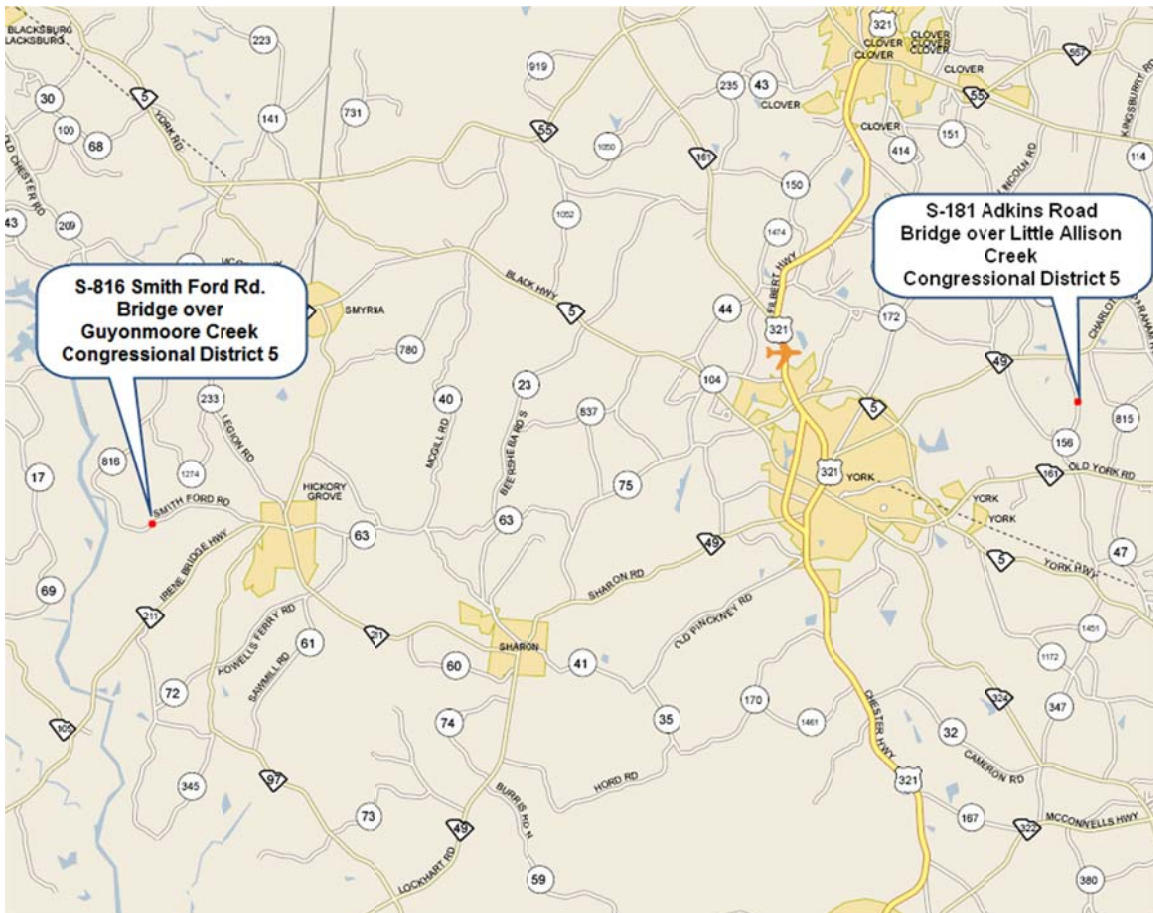
Fairfield County
Estimated Cost - \$520,500

Bridge ID	Facility Carried	Feature Intersected	District Ranking
2070021400100	S-214	Little Creek	6/19/2008 Commission Approved
2070010100200	S-101	Molly Creek	2



York County
Estimated Cost - \$636,500

Bridge ID	Facility Carried	Feature Intersected	District Ranking
4670018100100	S-181	Little Allison Creek	6/19/2008 Commission Approved
4670081600100	S-816	Guyonmoore Creek	1

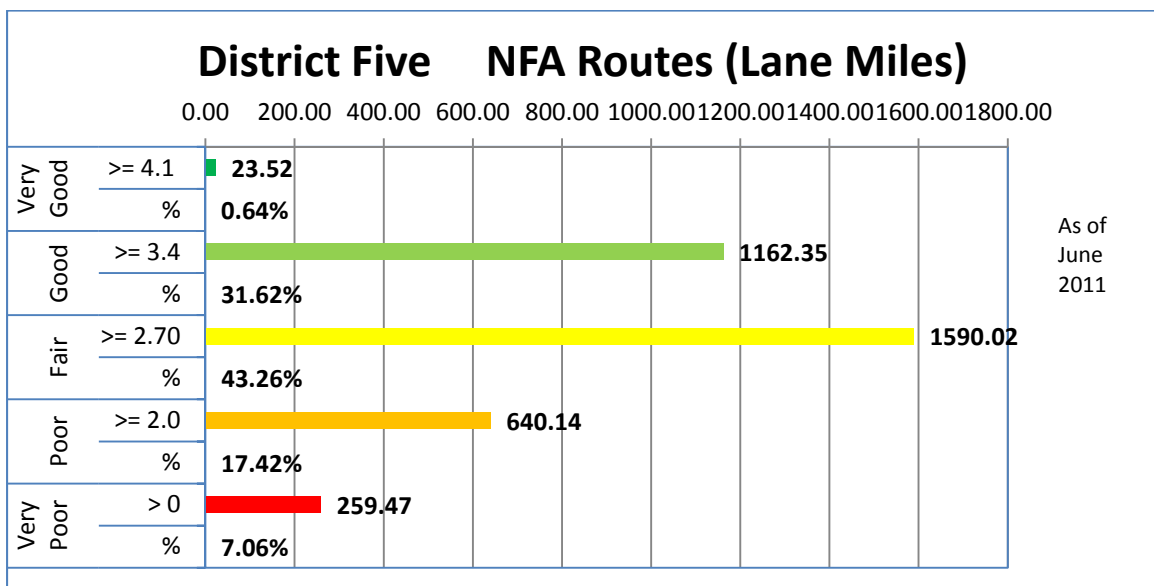
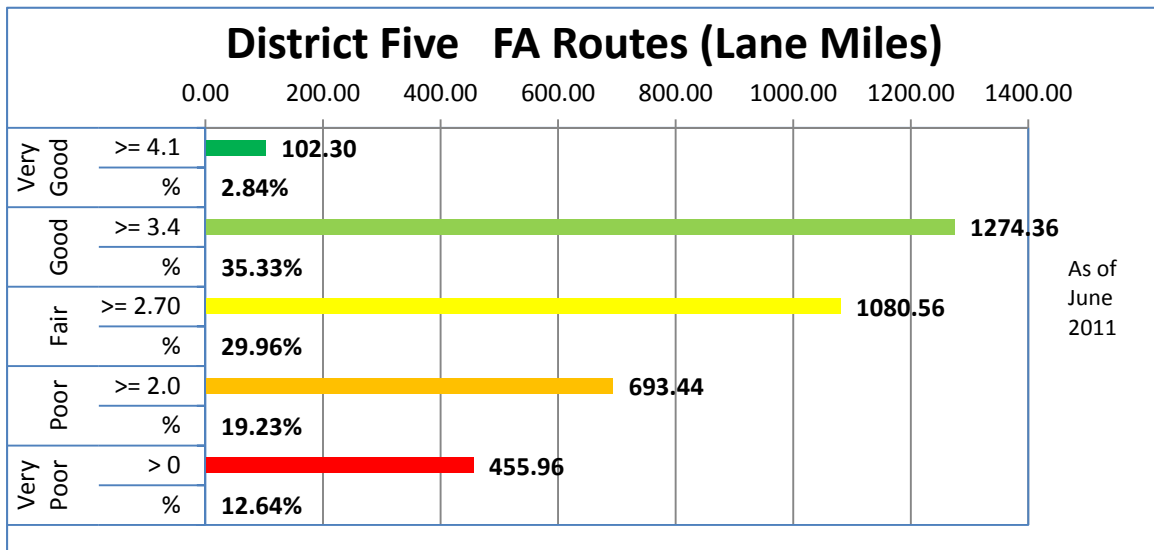


Engineering District Five

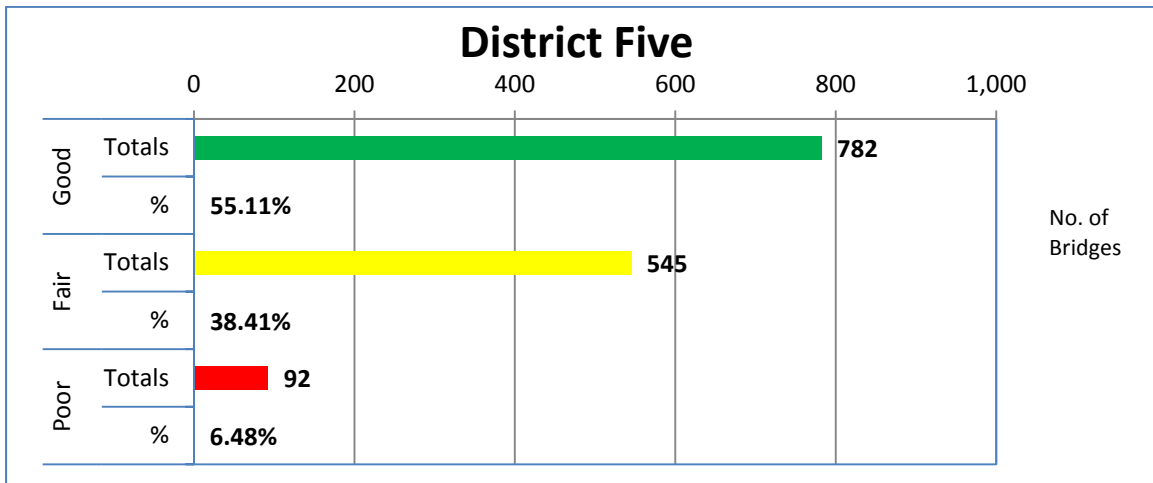
(Darlington, Dillon, Florence, Georgetown, Horry, Marion, Marlboro, and Williamsburg Counties)

Mr. Dennis Townsend
 District Engineering Administrator
 PO Box 1911
 Florence, SC 29503-1911
 Phone: (843) 661-4710
 Fax: (843) 661-4704

Pavement Condition



Bridge Condition



D5 Maintenance Accomplishment Plan

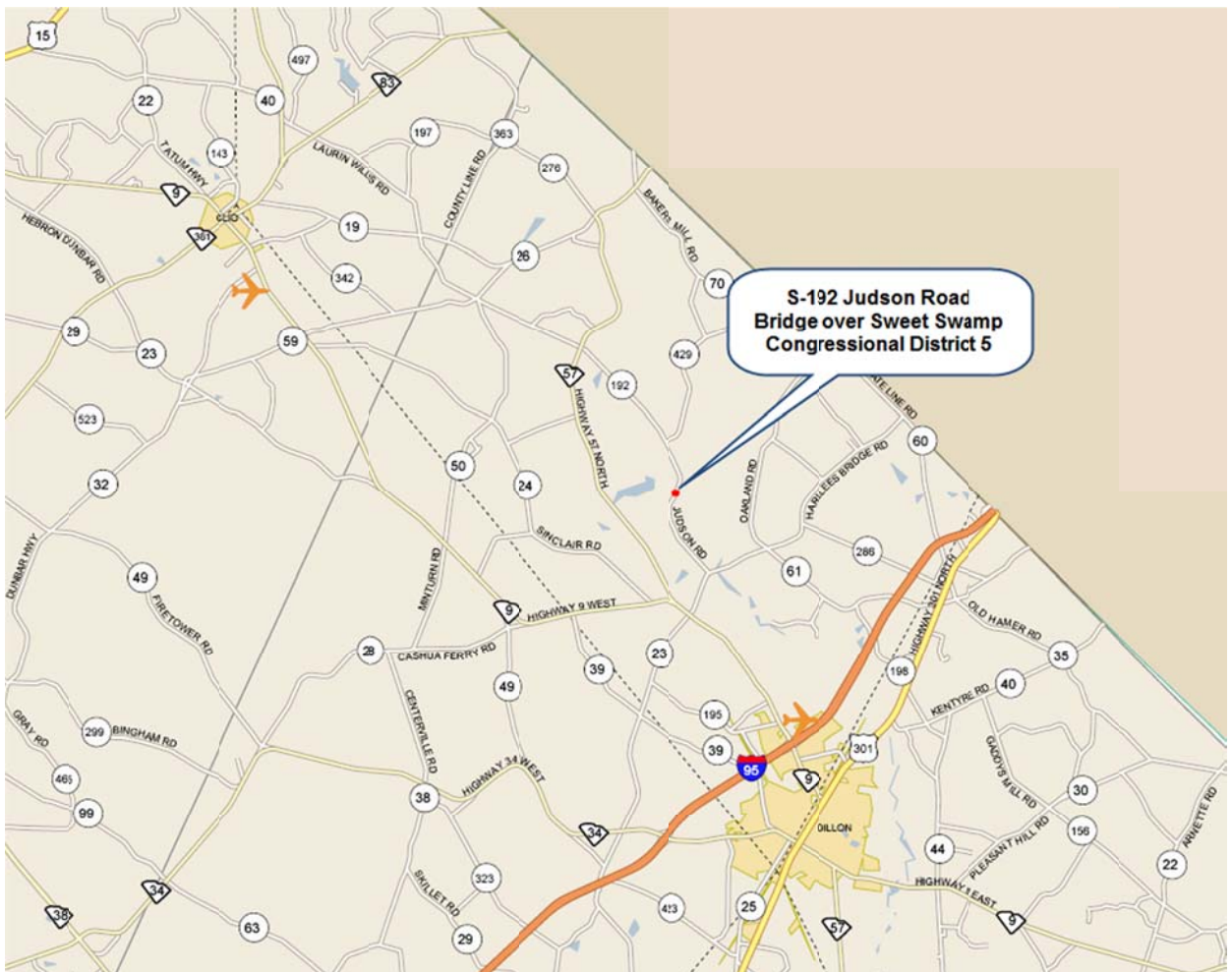
Work Element	In-House	Contract	Total
Pavement	\$10,450,712	\$0	\$10,450,712
Shoulders & Ditches	\$6,957,228	\$0	\$6,957,228
Drainage Structures	\$1,745,579	\$0	\$1,745,579
Roadside	\$3,211,569	\$3,495,810	\$6,707,379
Driveway/Structures	\$1,626,094	\$499,970	\$2,126,064
Signs	\$2,809,356	\$0	\$2,809,356
Signals	\$1,262,203	\$493,040	\$1,755,243
Pavement Markings	\$797,652	\$1,000,040	\$1,797,692
Guardrail	\$684,801	\$0	\$684,801
Hazardous Condition	\$1,166,317	\$0	\$1,166,317
Bridge Maintenance	\$1,627,659	\$0	\$1,627,659
Bridge Replacement	\$1,527,700	\$0	\$1,527,700
Buildings & Grounds	\$1,314,158	\$0	\$1,314,158
Total	\$35,181,028	\$5,488,860	\$40,669,888

Bridge Replacement Program

Dillon County

Estimated Cost - \$251,000

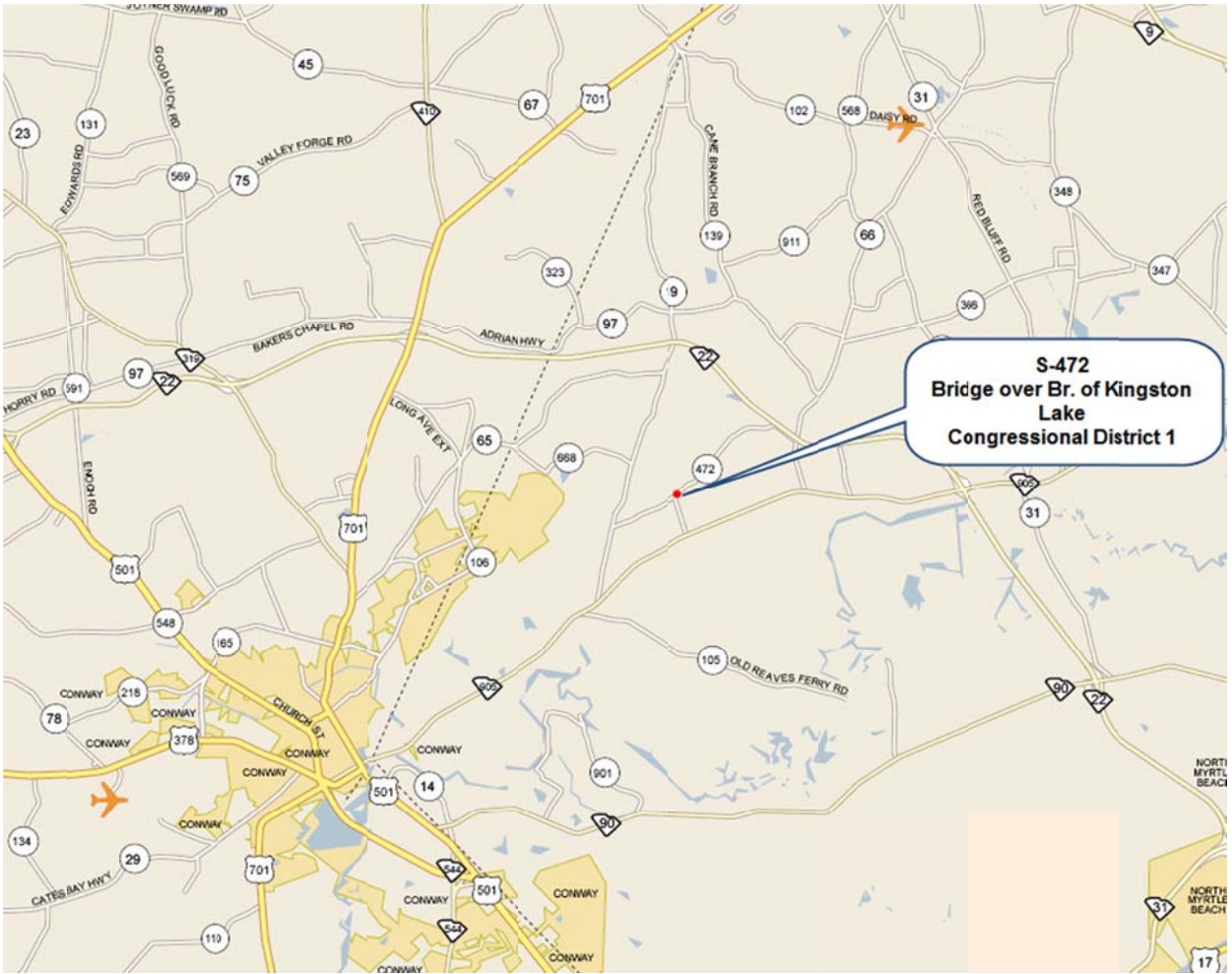
Bridge ID	Facility Carried	Feature Intersected	District Ranking
1770019200200	S-192	Sweet Swamp	6



Horry County
Estimated Cost - \$671,700

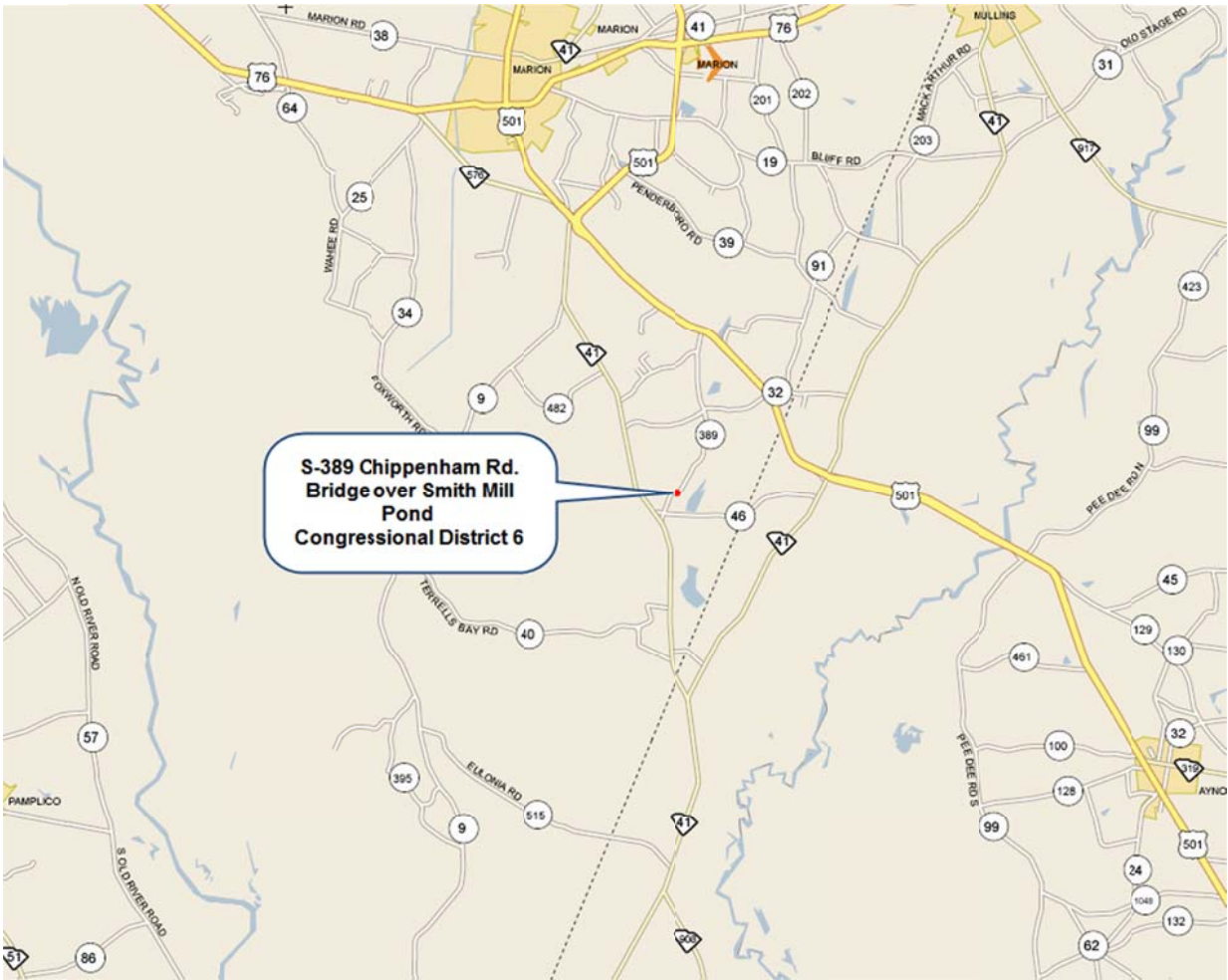
Bridge ID	Facility Carried	Feature Intersected	District Ranking
2670104600100	S-1046	Williams Creek	1
2670047200100	S-472	Br. Of Kingston Lake	2





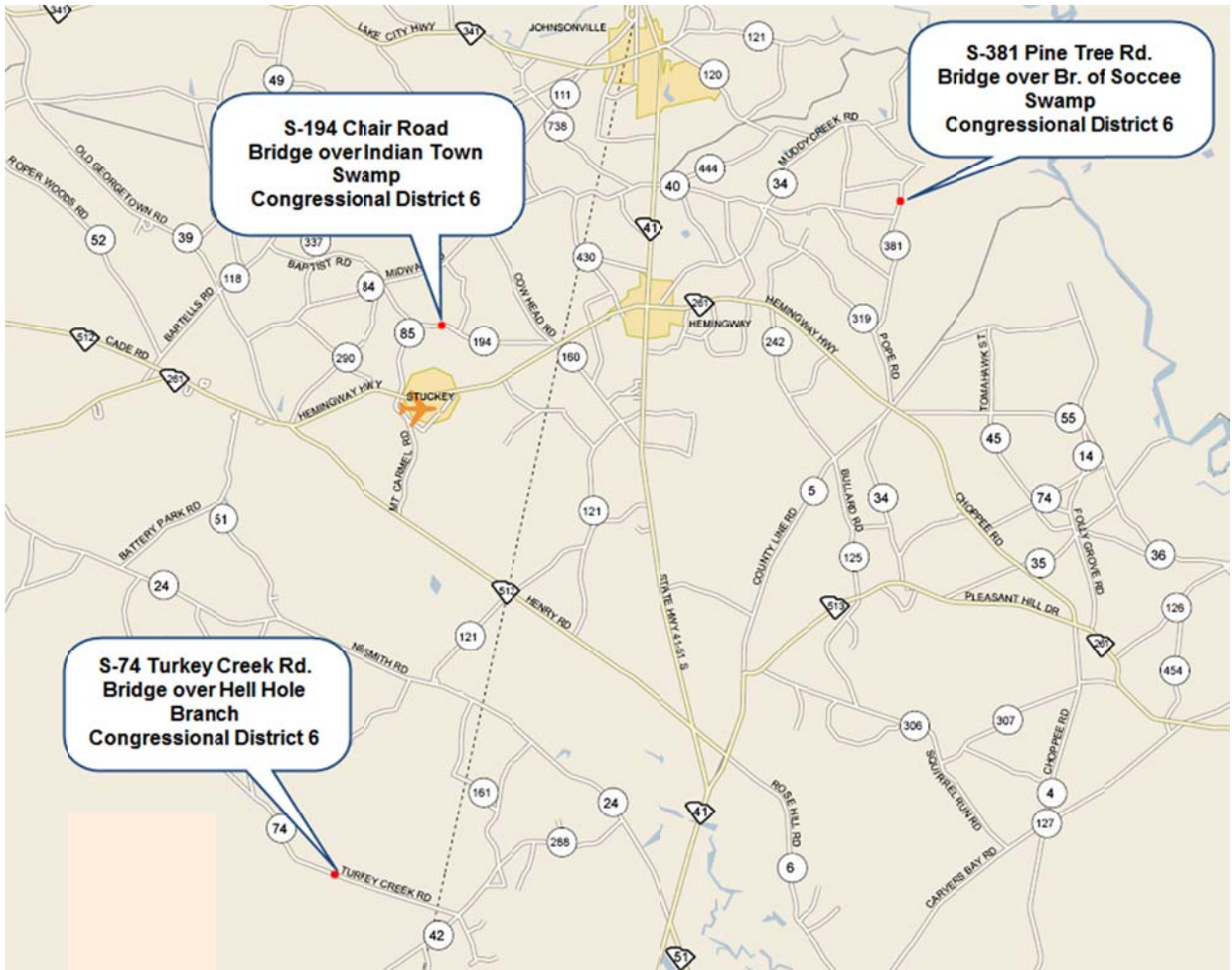
Marion County
Estimated Cost - \$134,500

Bridge ID	Facility Carried	Feature Intersected	District Ranking
3470038900100	S-389	Smith Mill Pond	3



Williamsburg County
Estimated Cost – \$470,500

Bridge ID	Facility Carried	Feature Intersected	District Ranking
4570007400200	S-74	Hell Hole Branch	4
4570038100100	S-381	Br. of Soccee Swamp	5
4570019400100	S-194	Indian Town Swamp	7

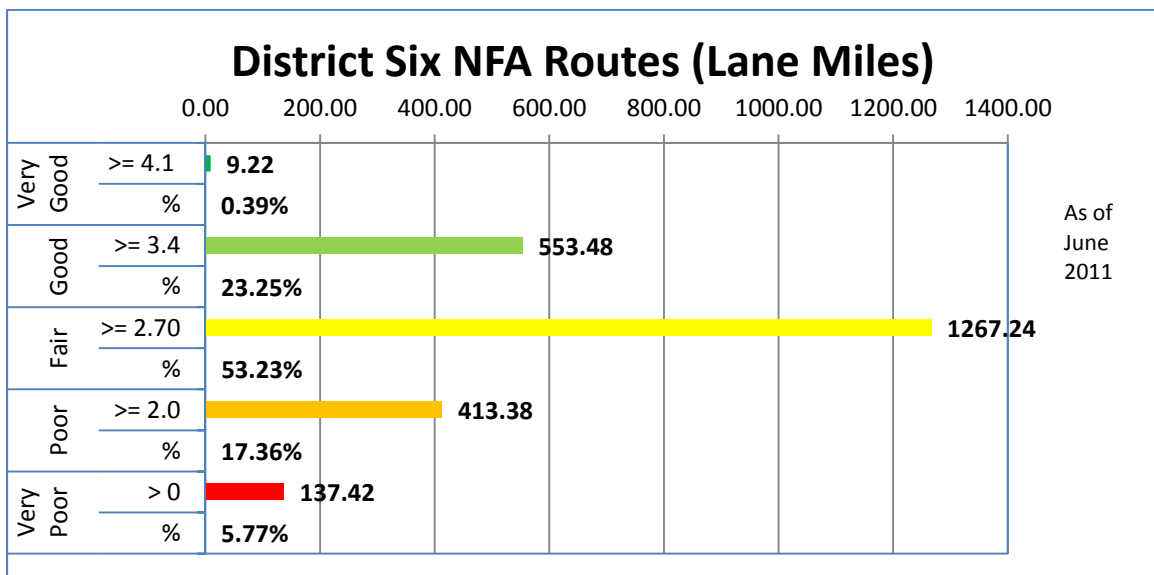
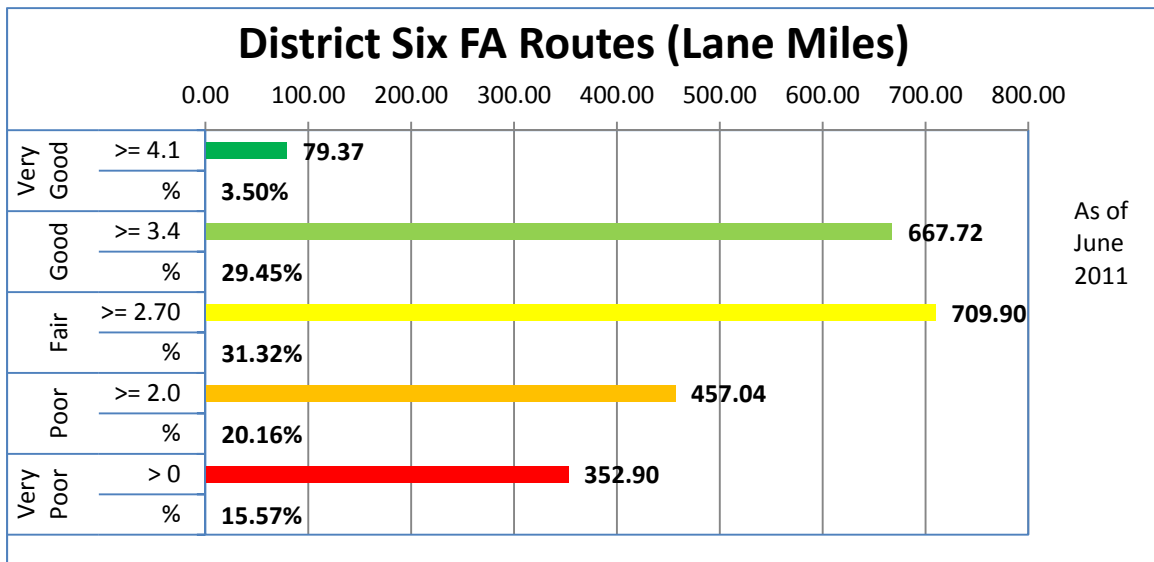


Engineering District Six

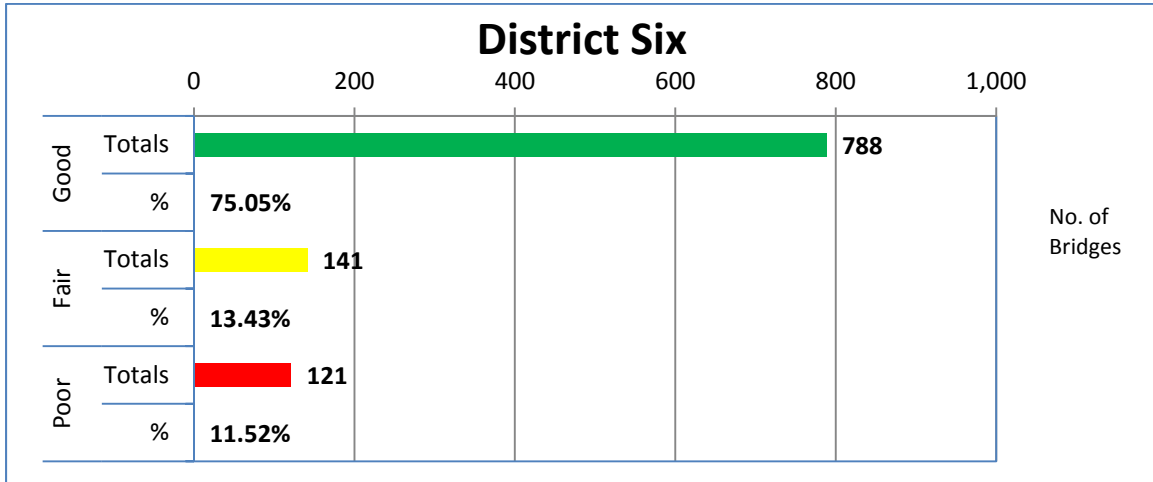
(Beaufort, Berkeley, Charleston, Colleton, Dorchester, and Jasper Counties)

Mr. Robert Clark
 District Engineering Administrator
 6355 Fain Blvd.
 North Charleston, SC 29406-4989
 Phone: (843) 740-1667
 Fax: (843) 740-1663

Pavement Condition



Bridge Condition



D6 Maintenance Accomplishment Plan

Work Element	In-House	Contract	Total
Pavement	\$9,388,550	\$295,000	\$9,683,550
Shoulders & Ditches	\$3,645,798	\$178,000	\$3,823,798
Drainage Structures	\$974,695	\$843,500	\$1,818,195
Roadside	\$4,119,023	\$4,855,071	\$8,974,094
Driveway/Structures	\$1,532,332	\$640,485	\$2,172,817
Signs	\$1,666,487	\$0	\$1,666,487
Signals	\$1,513,223	\$0	\$1,513,223
Pavement Markings	\$449,154	\$1,025,300	\$1,474,454
Guardrail	\$153,382	\$130,500	\$283,882
Hazardous Condition	\$242,890	\$0	\$242,890
Bridge Maintenance	\$2,840,813	\$50,000	\$2,890,813
Bridge Replacement	\$403,000	\$0	\$403,000
Buildings & Grounds	\$766,070	\$73,200	\$839,270
Total	\$27,695,417	\$8,091,056	\$35,786,473

Bridge Replacement Program

Charleston County

Estimated Cost - \$188,000

Bridge ID	Facility Carried	Feature Intersected	District Ranking
1070006800100	S-68	Tidal Stream	1

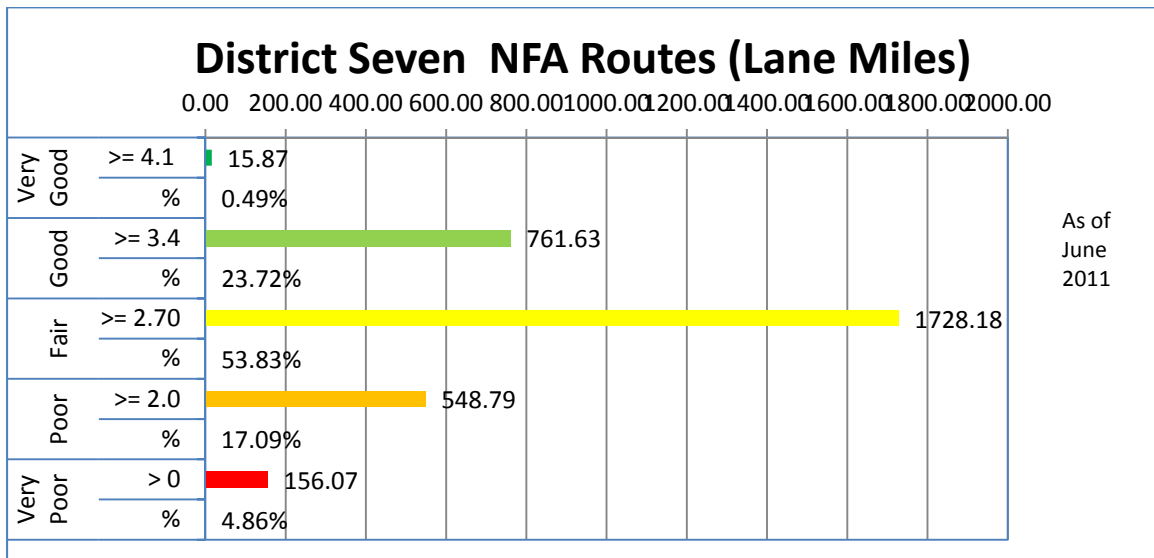
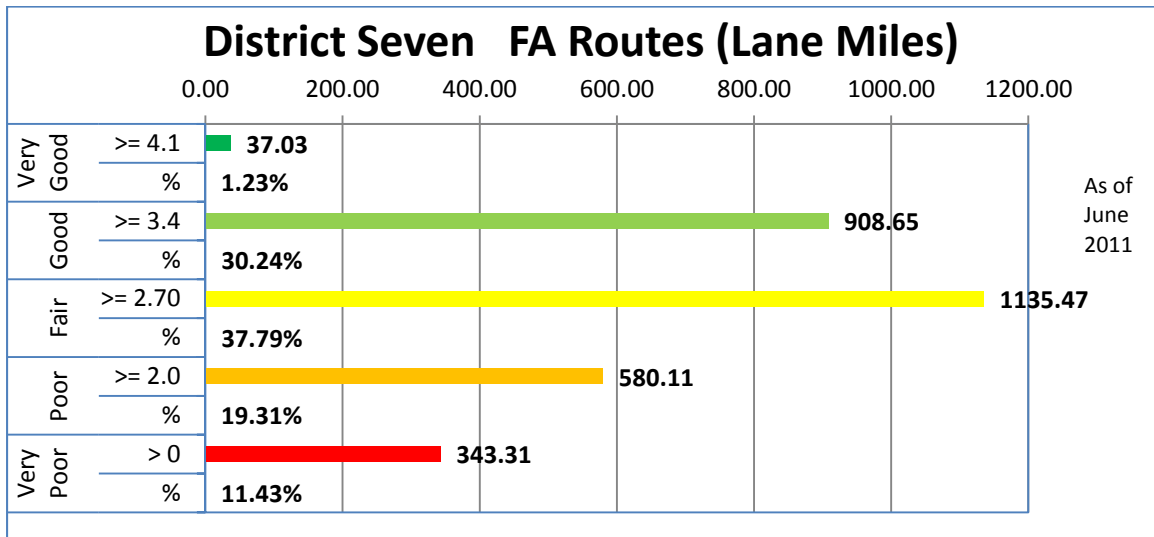


Engineering District Seven

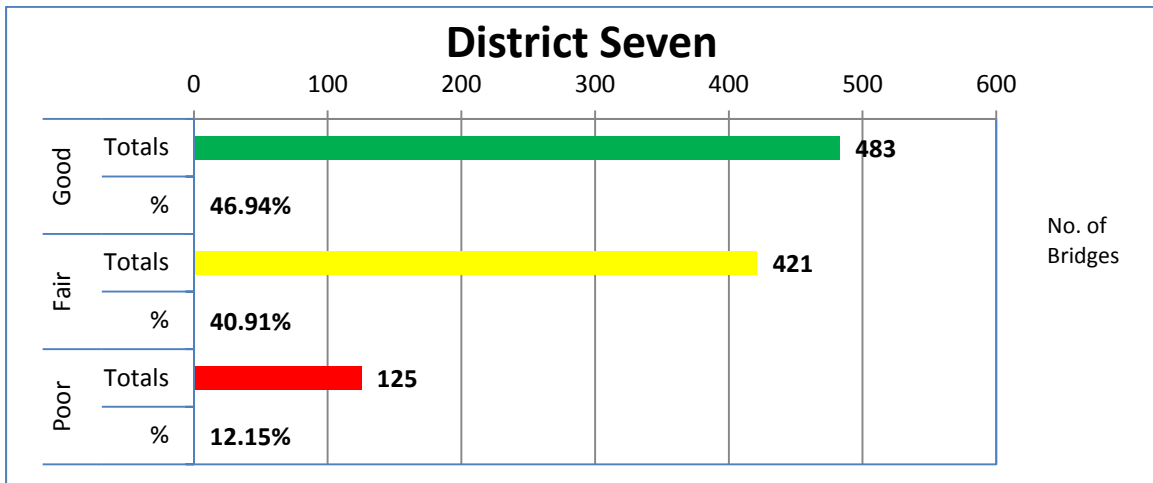
(Aiken, Allendale, Bamberg, Barnwell, Calhoun, Clarendon, Hampton, and Orangeburg Counties)

Ms. Joann Woodrum
 District Engineering Administrator
 US Route 178 East
 PO Drawer 1086
 Orangeburg, SC 29116-1086
 Phone: (803) 531-6850
 Fax: (803) 531-6854

Pavement Condition



Bridge Condition



D7 Maintenance Accomplishment Plan

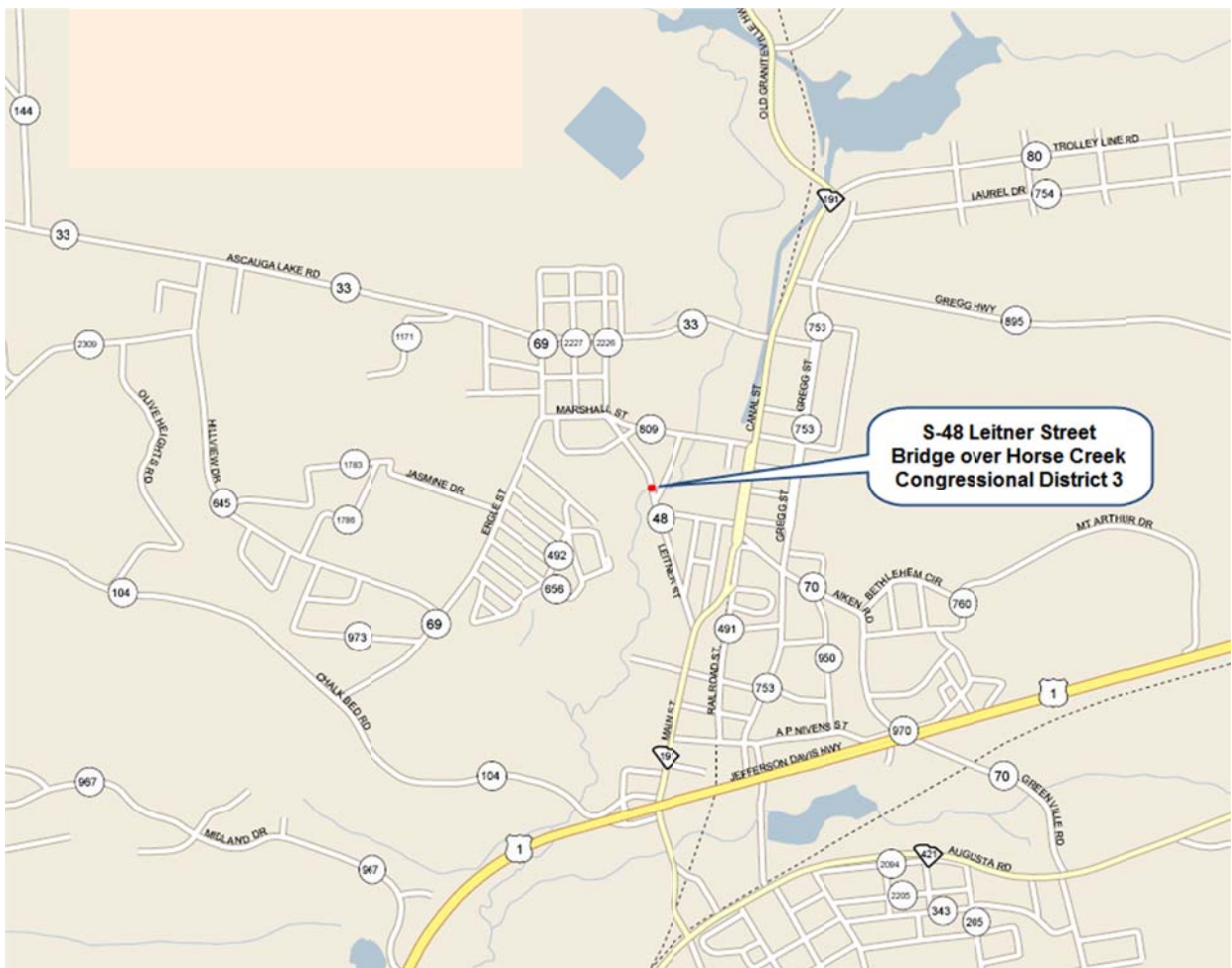
Work Element	In-House	Contract	Total
Pavement	\$5,516,544	\$150,000	\$5,666,544
Shoulders & Ditches	\$3,168,727	\$0	\$3,168,727
Drainage Structures	\$1,572,312	\$120,000	\$1,692,312
Roadside	\$4,683,419	\$1,796,337	\$6,479,756
Driveway/Structures	\$2,370,860	\$557,100	\$2,927,960
Signs	\$1,985,096	\$0	\$1,985,096
Signals	\$374,570	\$350,000	\$724,570
Pavement Markings	\$4,544,592	\$228,000	\$4,772,592
Guardrail	\$195,067	\$0	\$195,067
Hazardous Condition	\$826,754	\$0	\$826,754
Bridge Maintenance	\$1,531,519	\$0	\$1,309,499
Bridge Replacement	\$775,000	\$0	\$775,000
Buildings & Grounds	\$1,501,171	\$0	\$1,501,171
Total	\$29,045,631	\$3,201,437	\$32,247,068

Bridge Replacement Program

Aiken County

Estimated Cost - \$336,000

Bridge ID	Facility Carried	Feature Intersected	District Ranking
0270004800100	S-48	Horse Creek	6/19/2008 Commission Approved



Clarendon County
Estimated Cost - \$439,000

Bridge ID	Facility Carried	Feature Intersected	District Ranking
1470021100100	S-211	Deep Creek	2
1470003500100	S-35	Trib. to Douglas Swamp	5



