4 Bridges

4.1 Existing Conditions

The Upstate has variable terrain that is typical of the piedmont region. Rivers and streams flowing down from the mountains create obstacles for human traffic. Many bridges exist as a result of this need. In the past, fording or ferrying was the primary method of crossing these waters. Over time technology advanced to the point that bridges were an effective and economical solution to crossing rivers and streams. Because the terrain ridges tend to run from the northwest to the southeast, the roads running perpendicular to the ridges tend to require bridges. This generally translates to an east-west traffic flow. The major cities and I-85 each line up in this way, making the need to the presence and maintenance of adequate bridges that much more important to the future of the Upstate.

The ACOG area has 2,385 SCDOT-maintained bridges; of which 509 bridges are considered substandard by SCDOT. There are two main categories of bridges which are considered substandard and eligible for rehabilitation or replacement. *Structurally deficient* bridges are either restricted to light vehicles only, closed, or require immediate rehabilitation to remain open. *Functionally obsolete* bridges, however, are not necessarily structurally deficient. A functionally obsolete bridge has deck geometry, load carrying capacity, clearance, or approach roadway alignment that no longer meets the criterion for the system in which it is part. There are 224 structurally deficient bridges and 285 functionally obsolete bridges in the Upstate as of May 2015.

Maintaining all of the regions bridges in good, functional condition is a major task. Currently, bridge repair and replacement projects are prioritized by SCDOT. Similar to the pavement management used to prioritize road maintenance projects, SCDOT uses a Bridge Management System (BMS) to prioritize bridges. The development, implementation, and data collection of the BMS began in the early 1990's, with full scale operations starting in 1998. The system provides detailed analyses of South Carolina's bridge needs and prioritizes recommendations. Although replacement projects have been the primary focus, improvements such as widening and raisings, maintenance repairs, and rehabilitations are now being considered.

Statewide bridge inspection continues to be a critical component for federal Bridge Program Funds. SCDOT inspects approximately 6,500 bridges per year and contracts underwater inspections for another 60 each year. The data collected is an integral part of the BMS.

Statewide the number of substandard bridges continues to rise. Current bridge funding levels are far below what is required to make significant improvements to the system. The primary factors that affect this trend are the overall construction history and age of the bridge infrastructure, a historical lack of emphasis on bridge maintenance, and inadequate funding levels. Inadequate funding and the growing transportation needs of our state will prevent a major reduction in the percentage of substandard bridges.

4.2 Identified Needs

The SCDOT has designated 24 bridge projects for funding in the ACOG region (per the 2014-2019 STIP). **Table 12** lists those projects.

Table 12. ACOG Region Bridge Projects, 2014-2019 STIP

COUNTY	PROJECT
Anderson	I-85 @ SENECA RIVER
Anderson	I-85 @ THREE AND TWENTY CREEK
Anderson	US 29 @ US 29
Cherokee	S-223 @ GARNER BRANCH
Cherokee	I-85 NBL & SBL @ SOUTHERN RR
Cherokee	S-41 @ PEOPLES CREEK
Cherokee	S-83 @ BUFFALO CREEK
Cherokee	US 29 @ I-85
Cherokee	SC 18 @ I-85
Cherokee	S-301 @ LIMESTONE CREEK
Cherokee	US 29 @ SOUTHERN RR
Greenville	S-164 @ ENOREE RIVER
Greenville	S-318 @ DAM @ LAKE LANIER
Greenville	US 29 @ S-75
Oconee	I-85 NB @ HARTWELL RESERVOIR
Oconee	I-85 NB @ FAIRPLAY CREEK
Oconee	I-85 SB @ FAIRPLAY CREEK
Oconee	S-34 @ NORFOLK SOUTHERN RR
Pickens	US 123 NB @ S-64
Pickens	US 123 SB @ S-64
Pickens	S-267 @ TWELVE MILE CREEK
Spartanburg	I-85 @ S-2
Spartanburg	S-893 @ ENOREE RIVER
Spartanburg	S-45 @ NORFOLK SOUTHERN RR