

LAC

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A Review of Competition for the Department of Transportation's Road Paving Contracts

Members of the General Assembly requested that we conduct an audit of the South Carolina Department of Transportation's (SCDOT) procedures for awarding road paving contracts. We reviewed the level of competition among contractors for SCDOT's road paving contracts and the department's internal controls for detecting anti-competitive behavior. We found evidence to indicate that the level of competition for some road paving contracts is less than optimal. Also, the department does not conduct a formal analysis of bidding patterns as recommended by the Federal Highway Administration.

BACKGROUND

FEDERAL AND STATE LAW

The South Carolina Department of Transportation's mission is to provide a safe and efficient transportation system. A major part of that mission is building and maintaining the state's system of roads and bridges. South Carolina has the fourth largest state-maintained highway system in the nation. It consists of over 41,000 miles.

About once a month, SCDOT issues an "invitation for bids" on road paving and road construction contracts. In FY 00-01, SCDOT awarded over 197 road construction contracts with contract amounts totaling \$638 million. In that period, road paving contracts totaled over \$68 million.

The federal Sherman Act states "[e]very contract, combination . . . or conspiracy, in restraint of trade or commerce among the several States, or with foreign nations, is declared to be illegal." This law and South Carolina law generally prohibit agreement among competitors to fix prices, rig bids, or engage in other forms of anti-competitive behavior.

In the 1980s, violations of bid-rigging laws by road paving and road construction contractors were uncovered in Florida, Georgia, and North Carolina. In 2001, a federal grand jury began investigating anti-competitive behavior in the road paving industry in Kentucky.

ANALYSIS OF SOUTH CAROLINA BID DATA

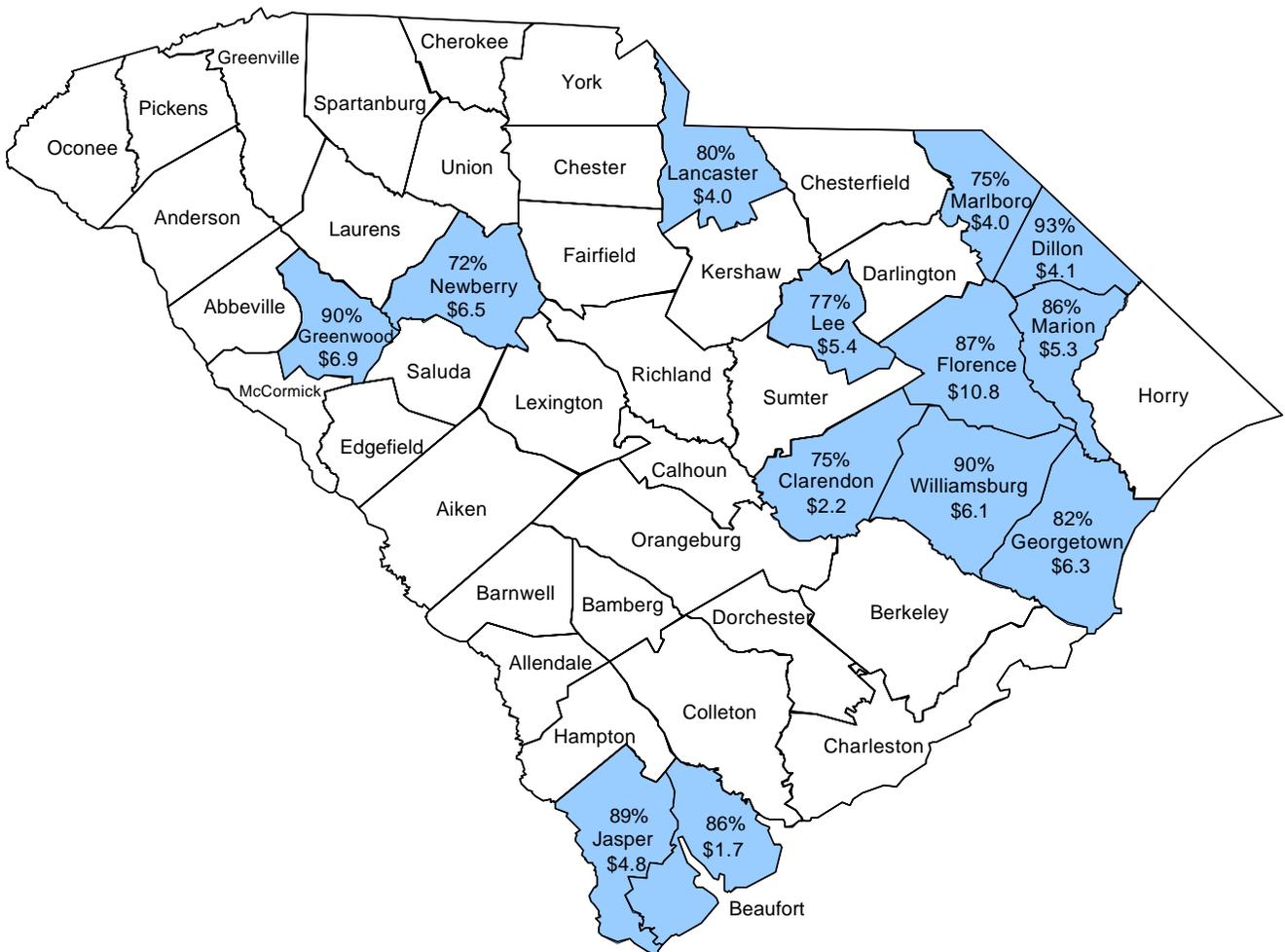
We analyzed the number of bids per project for all 496 road paving projects put out for bid between FY 95-96 and FY 00-01. We found that nearly one-half, (49%) of the projects, had two or fewer bidders, and 12% of the projects had only one bidder.

NUMBER OF BIDS PER PROJECT FY 95-96 TO FY 00-01		
NUMBER OF BIDS	NUMBER OF PROJECTS	PERCENTAGE OF TOTAL PROJECTS *
1	58	12%
2	185	37%
3	147	30%
4	87	18%
5	15	3%
6	3	1%
7	1	0%
TOTAL	496	100%

* Figures may not add due to rounding.

WE EXAMINED THE GEOGRAPHIC DISTRIBUTION OF ROAD PAVING PROJECTS BY COUNTY. WE IDENTIFIED 13 COUNTIES WHERE THE TOP COMPANY HAD OVER 70% OF THE MARKET.

**COUNTIES IN WHICH THE TOP COMPANY HAD OVER 70% OF THE TOTAL MARKET SHARE
FY 95-96 – FY 00-01**



% = Percentage of Market Share to One Company
\$ = Total Road Paving Contracts Awarded FY 95-96 – FY 00-01 in Millions

We also examined the 12 counties where there was more than \$10 million in road paving contracts awarded between FY 95-96 and FY 00-01. We found that, in four of these counties, the top two companies accounted for over 95% of the market.

PERCENTAGE OF MARKET FOR TOP TWO COMPANIES IN COUNTIES WITH MORE THAN \$10 MILLION IN PAVING CONTRACTS		
COUNTY	AMOUNT OF ROAD PAVING WORK	PERCENTAGE OF MARKET FOR TOP TWO COMPANIES
Florence	\$10.8 million	100%
Charleston	15.9 million	100%
Horry	15.3 million	97%
Kershaw	11.9 million	96%
York	12.0 million	82%
Richland	14.5 million	82%
Sumter	10.9 million	81%
Aiken	19.5 million	77%
Spartanburg	12.7 million	71%
Lexington	12.0 million	70%
Greenville	20.1 million	66%
Anderson	13.7 million	59%

When one company dominates a certain area, it can result in potentially higher prices. We compared the estimates and the low bids for the 53 road paving projects where there was a single bidder to the 384 projects with multiple bidders. The average of the low bids on single bid projects was 5% *above* SCDOT's cost estimate while the average of the low bids for projects which had multiple bidders was 4% *below* the cost estimate.

While the factors discussed above may be an indication of anti-competitive behavior, they are not proof. Indicators of anti-competitive behavior should not be considered definitive evidence, but should lead to further investigation to determine whether or not the behavior actually exists.

We contacted the Antitrust Division of the United States Department of Justice during the initial phase of our review and provided them with background information and bid data. At that time, the department did not see a need to open a preliminary investigation, but the department did state that it would continue to review any and all information. We intend to provide the department with a copy of our final report.

INTERNAL CONTROLS

SCDOT has implemented some controls recommended by the Federal Highway Administration to deter and detect bid-rigging and other forms of anti-competitive behavior. However, SCDOT has not implemented a key internal control recommended by the FHWA since 1982. Specifically, SCDOT has not conducted statistical analysis of bidding patterns that could indicate potential anti-competitive bidding patterns, such as market concentration, bid rotation, and geographic allocation of markets.

SCDOT has been leasing computer software to analyze bidding patterns since 1991, but has not used it. From FY 97-98 through FY 01-02, the department spent \$246,000 to lease this software. Department officials report that their efforts to use the software have not been successful because the department's database will not be sufficiently automated until 2002. In 2003, the department expects to begin regular statistical analysis of bidding patterns.

SCDOT'S ENGINEERS' COST ESTIMATES

SCDOT does not monitor how closely it has met guidelines recommended by the federal government for the accuracy of engineers' cost estimates for road construction projects. In addition, SCDOT does not have a written policy addressing when a bid is to be reviewed or rejected.

Prior to putting a project out for bid, SCDOT's engineers develop an estimate of what a project will cost. This estimate is based on historical cost data. The FHWA recommends that, for at least 50% of all projects, the low bid should be within plus or minus 10% of the engineer's estimate. For road paving projects SCDOT's engineers' estimates have met the guideline. However, when road paving projects are combined with all road construction projects, the department's estimates have been within 10% of the bid less than 50% of the time. According to SCDOT data, in FY 99-00

the low bid was within 10% of the engineers' estimates 45% of the time. In FY 00-01, the percentage was 43%.

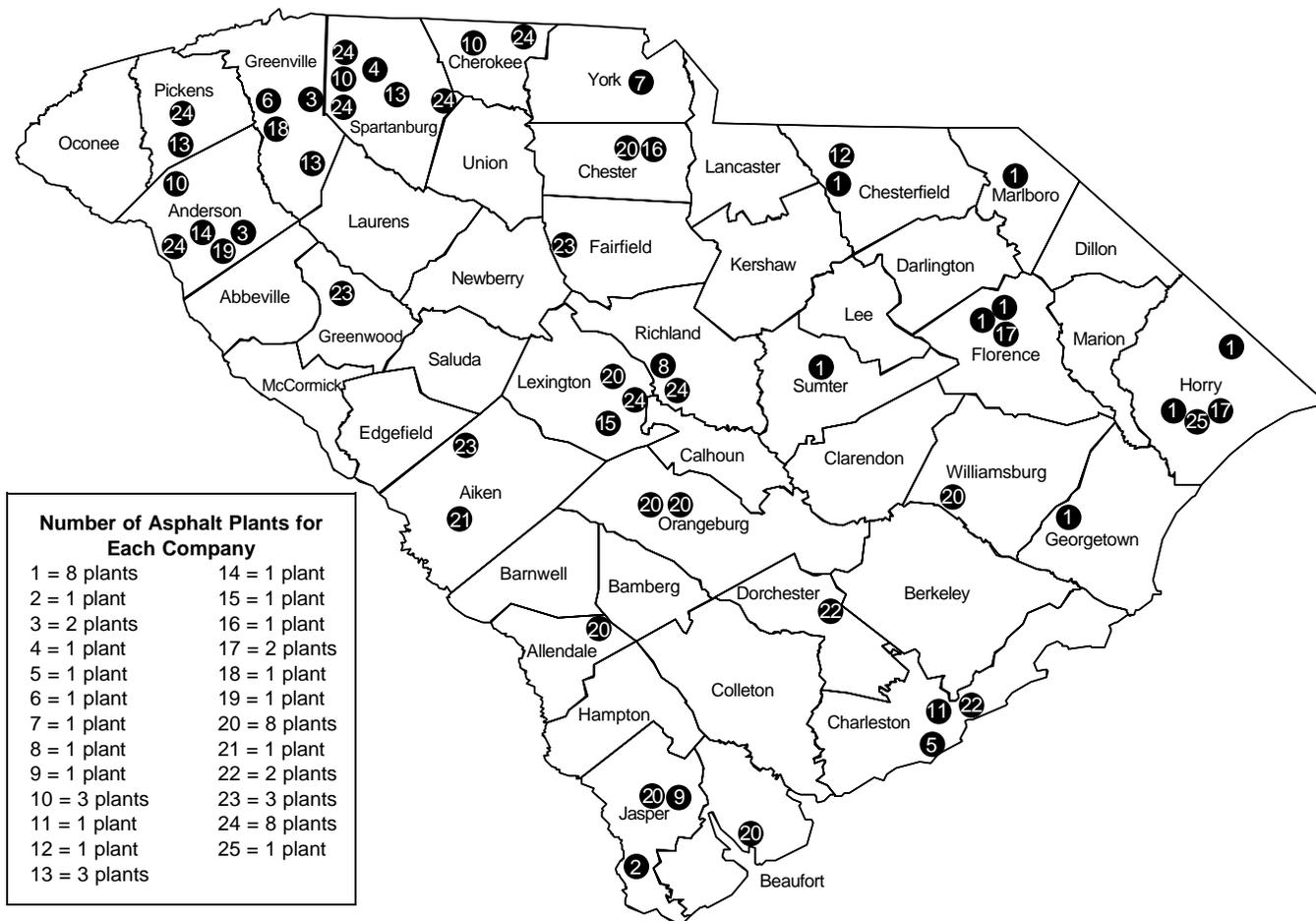
SCDOT'S BID OPENING PROCEDURES

SCDOT's bid opening procedures make bid-rigging more likely. Once a month, the department opens contractors' bids for road paving and road construction contracts at a hotel in Columbia. The deadline for submitting bids expires at the same time bids are opened. The night before bids are due, however, many contractors stay in the hotel at discount rates obtained for them by SCDOT. By opening bids in a hotel and arranging for hotel room discounts for contractors, the department is increasing the likelihood of collusion that results in bid-rigging and other forms of anti-competitive behavior.

ROAD PAVING

Asphalt is made by mixing rock and sand (over 90%), liquid asphalt (6%), and lime (1%) at a high temperature. This procedure takes place at various asphalt plants located around the state. Once the asphalt is produced, it must immediately be trucked to the road site and laid. Since asphalt must be applied hot, plants normally must be within a one-hour drive time of the road site, or the temperature of the asphalt will be too low. Thus, the proximity of the asphalt plant to the road paving project is an important factor in determining whether a company will bid on a project and the total bid amount. We identified 25 companies and 55 asphalt plants certified by SCDOT to perform state work in South Carolina.

LOCATION OF ASPHALT PLANTS IN SOUTH CAROLINA CERTIFIED TO PERFORM STATE WORK* JUNE 2001



* In addition to the asphalt plants in South Carolina, SCDOT officials report that there are nine plants in Georgia and North Carolina that are certified to perform work in South Carolina. There are also eight asphalt plants in South Carolina that are NOT certified to perform state work.

Source: DHEC's Bureau of Air Quality.



This document summarizes our full report, *A Review of Competition for the Department of Transportation's Road Paving Contracts*. A response from SCDOT is included in the full report. All LAC audits are free of charge. Audit reports and information about the LAC are also published on the Internet at www.state.sc.us/sclac. If you have questions, contact George L. Schroeder, Director.