

THE ECONOMIC IMPACT OF SOUTH CAROLINA'S ASPHALT PAVEMENT INDUSTRY

Prepared for the
**South Carolina
Asphalt Pavement Association**

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Columbia, SC
May 2013





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THE ECONOMIC IMPACT OF SOUTH CAROLINA'S ASPHALT PAVEMENT INDUSTRY

1. Introduction

South Carolina's billion dollar asphalt pavement industry is a major source of economic activity for the state's economy.

This report provides an overview of the asphalt pavement industry and concludes with estimates of the total economic impact on South Carolina's economy from the asphalt pavement industry.





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2. Overview of South Carolina's Asphalt Pavement Industry

With roots as deep as South Carolina itself and a storied history that rivals just about any industry in South Carolina, asphalt pavement companies have created thousands of jobs, produced billions in capital investment and built vital infrastructure in South Carolina for generations.

This report provides estimates of the economic impacts of the asphalt pavement industry in South Carolina, exemplifying the importance of the industry. The impacts outlined here should be interpreted as permanent, annual impacts.

More specifically, it is an insider's look into the significant role asphalt pavement companies play in generating substantial economic activity in the Palmetto State.

The industry is led by members of the South Carolina Asphalt Pavement Association (SCAPA), a non-profit trade association. The membership is comprised of hot-mix asphalt producers and affiliated companies in South Carolina.

Committed to research and educational programs to develop more advanced products, new

paving techniques and higher quality workmanship, SCAPA member companies primarily work with S.C. Department of Transportation, Corps of Engineers, Naval Facilities Engineering Command, the Federal Aviation Administration and private practice engineers and architects.

Born during Robert McNair's tenure as Governor in 1966 and while the interstate highway program was still in its infancy, SCAPA members comprised of asphalt pavement companies that came together with the motto, "Together we know more."





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2. Overview of South Carolina's Asphalt Pavement Industry *(continued)*



After 40 years of working together for the advancement of the industry and for the betterment of all South Carolinians, SCAPA members together have brought forth an advanced sophistication to the industry and to its products.

But, more importantly, by working together, SCAPA members are responsible for the infrastructure that all South Carolinians use today. This infrastructure is vitally important to the state's economic development efforts and the nation's security, and responsible for countless jobs and billions of dollars of capital investment.

Asphalt pavement is known for its durability and resilience. Asphalt is typically a combination of

approximately 95 percent stone, sand or gravel bound together by asphalt binder, a crude oil product. Asphalt is also the most commonly recycled material in the United States. Approximately 80 percent of all asphalt pavement is recycled when it is removed.

The asphalt pavement industry operates in every county of the state. Firms in the asphalt pavement industry produce paving materials used in paving and other liquid asphalt paving mixtures. The industry's activities include asphalt paving block, paving mixtures, and road compounds.

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3. Economic Impact of South Carolina's Asphalt Pavement Industry

The economic impacts from the asphalt pavement industry in South Carolina are outlined in this section of the report. This analysis utilizes impact models generated by the IMPLAN modeling system. IMPLAN is a nationally recognized system of local economic models that are specifically designed to represent a state economy such as the South Carolina economy.¹ The IMPLAN models are modifications of the national input-output models developed by the Bureau of Economic Analysis, US Depart-

ment of Commerce. The IMPLAN models incorporate the most recent data available and are 2011 unless otherwise noted.

The IMPLAN input-output model mathematically derives the indirect and induced effects. The resulting multipliers describe the change in output for every regional industry caused by a one-dollar change in final demand for any given industry. The notion of a multiplier rests upon the difference between the initial effect of a change in final demand and

the total effects of that change. Total effects are the direct effects plus indirect effects, plus induced effects. Direct effects are the production changes associated with initial final demand changes. Indirect effects are production changes in backward-linked industries caused by the changing input needs of directly affected industries. Induced effects result from the household expenditures from the directly or indirectly generated labor income.

The multipliers used in this analysis estimate three components of total change within the local area:

- *Direct effects* represent the initial change in the output of the asphalt pavement industry.
- *Indirect effects* are changes in inter-industry transactions as supplying industries respond to increased demands from the asphalt pavement industry.
- *Induced effects* reflect changes in local spending that result from income changes in the directly and indirectly affected industry sectors.





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3. Economic Impact of South Carolina's Asphalt Pavement Industry (continued)

This cycle of spending continues until leakages from the state (spending on goods and services outside the state) stop the cycle. Due to these multiplier effects, the initial, direct investment results in indirect and induced impacts of many more dollars.

In essence, the multipliers estimated by this methodology represent the consecutive rounds of buying and selling that ripple through an economy. To produce one dollar of new asphalt pavement product, employees must be hired and paid. The wages

paid to these workers will then be spent on goods and services, such as food, gasoline, clothes, housing, etc. within the state and outside the state. As these dollars are spent, they become income to the recipient, and the spending continues over and over again. The induced effect is the cumulative amount of spending.

The economic activity of asphalt pavement production also requires intermediate inputs to be purchased such as electricity, raw materials, transportation services, labor etc. These expenditures become income to the recipient and pay for the purchases of raw materials, labor, etc. They, in turn, are then spent over and over again in the economy. Purchases made from outside the region are considered "leakages" from the economy. The consecutive rounds of selling goods and services continue until these leakages from the region end the cycle.



The indirect effect is the cumulative amount of such spending.

Economic Impacts of the Asphalt Pavement Industry in South Carolina

The asphalt pavement industry in South Carolina is a major economic engine to the state's economy. As seen in Table 1, the industry generated direct output of more than \$765.4 million in 2012.

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TABLE 1 Economic Impacts of the Asphalt Pavement Industry In South Carolina

Impact Type	Employment	Labor Income	Output
Direct Effect	2,164	\$96,606,772	\$765,428,812
Indirect Effect	1,385	\$66,626,538	\$187,170,131
Induced Effect	1,034	\$36,351,787	\$113,420,846
Total Effect	4,583	\$199,585,097	\$1,066,019,789



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3. Economic Impact of South Carolina's Asphalt Pavement Industry *(continued)*

As with any economic activity, the direct activity of the asphalt pavement industry has indirect and induced impacts. Together, as seen in Table 1, the direct and indirect impacts of the asphalt pavement industry added another \$200 million in economic activity in the state. These indirect and direct effects result in the asphalt paving industry generating more than a billion dollars in economic activity a year in South Carolina.

The industry generates substantial labor income while producing this total output. The direct labor income of the asphalt pavement industry is estimated to be \$96.6 million a year. Adding the indirect and induced effects of this direct activity, the asphalt pavement industry generates another \$103 million in labor income a year for a total labor income impact of \$199.6 million a year.

And finally, the asphalt pavement industry is a substantial job generator in South Carolina, creating and supporting over 2,164 jobs a year. The industry supports another 2,400 jobs indirectly for a total employment impact on the state of almost 4,600 jobs. These jobs are relatively high wage jobs,



averaging well over \$43,000 a year per employee.

While it is expected that the industry impacts the construction sector, the indirect impacts reach across many industries across the state. As seen in Table 2, these indirect and induced

impacts will be felt across a wide spectrum of industries in the state's economy. There are additional industries impacted by the operations of the asphalt pavement industry, as Table 2 highlights those that will be impacted the largest in terms of new job.

Top 10 Industries Impacted	Total Jobs Supported
Architectural, engineering, and related	211
Food services and drinking places	152
Employment services	104
Real estate establishments	92
Transport by truck	89
Wholesale trade businesses	77
Ready-mix concrete manufacturing	56
Retail Stores - General merchandise	55
Retail Stores - Food and beverage	54
Services to buildings and dwellings	53



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4. Summary

South Carolina's asphalt paving industry has been an important component of the state's economy for many years. The billion dollar industry touches every corner of the state and every county. Asphalt pavement is known for its durability and resilience. Asphalt is typically a combination of approximately 95 percent stone, sand or gravel bound together by asphalt binder, a crude oil product. Asphalt is also the most commonly recycled material in the United States. Approximately 80 percent of all asphalt pavement is recycled when it is removed.

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¹ IMPLAN is regional modeling system developed by MIG, Inc., Stillwater, MN.

South Carolina's billion dollar asphalt pavement industry is a major source of economic activity for the state's economy.





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Miley & Associates

Miley & Associates is one of the Southeast's leading economic and financial consulting firms. The firm specializes in economic impact analyses, fiscal impact analyses, feasibility reports, impact fee studies and benefit/cost modeling. Our clients include national and prominent local real estate developers, school districts, local governments, regional development agencies, and other private sector development firms. Miley & Associates partners appear regularly before decision-makers at all levels of government and understand the values, needs and desires of the clients they represent. With offices located in Columbia, South Carolina, the firm is well positioned to provide clients with hands-on service for projects throughout the entire Southeast region.

Miley & Associates appreciates that every research project is unique and deserves a custom solution. Public policy decisions are not made overnight, and we excel at providing advice and counsel along the way. We represent our clients. Our

business plan is simple: we focus on exceeding our client's expectations and building long-term relationships.

Miley & Associates, Inc. was founded in 1993 by Harry W. Miley, Jr. Ph. D. The Company is an economic and financial consulting firm providing a range of analytical services to public and private sector clients. Miley & Associates conducts fiscal and economic impact analyses of proposed new developments and has extensive experience in assisting clients with their economic development and community revitalization projects.

Dr. Miley served as Chairman of the South Carolina Board of Economic Advisors (BEA) under two Governors. The BEA is responsible for estimating the State's revenues for the Governor and the General Assembly to use in formulating the State's annual budget. Dr. Miley was originally appointed as Chairman by Governor Carroll Campbell and continued to serve as Chairman for Governor David Beasley.

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Dr. Miley was the Senior Executive Assistant for Economic Development to Governor Campbell from 1987 to 1989. Dr. Miley served as principal advisor to Governor Carroll Campbell on the state's policies for economic development, employment and training, work force and adult illiteracy, technical education and transportation issues.

Prior to joining the Governor's Office, Dr. Miley was on the faculty of the Moore School of Business at the University of South Carolina and Associate Director of the Division of Research at the School.



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General Limiting Conditions

This economic impact analysis is not a budget or forecasting document and is not intended to depict a definitive course of action. Moreover, economic impact analysis is not designed as a space or facility-planning document. Many assumptions underlying economic impact analyses are based on policy decisions which, if modified, would affect the overall results.

This study is based on estimates, assumptions and other information developed by Miley & Associates, Inc. from its independent research effort, consultations with the client and its representatives, and primary and secondary sources. We have utilized sources that are deemed to be reliable but cannot guarantee their accuracy. Moreover, estimates and analysis are based on trends and assumptions and, therefore,

there will usually be differences between projected and actual results because events and circumstances frequently do not occur as expected, and those differences may be material. No responsibility is assumed for inaccuracies in reporting by the client, the client's agent and representatives or any other data source used in preparing this study.

This report is based on information that was current as of April 2013 and Miley & Associates, Inc. has not undertaken any update of its research effort since that date. We have no obligation, unless subsequently engaged, to update this report or revise this analysis as presented due to events or conditions occurring after the date of this report.

Possession of this study does not carry with it the right of publication thereof or to use the name of "Miley & Associates, Inc." in any

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This study is qualified in its entirety by, and should be considered in light of, these limitations, conditions and considerations.