



2017 Economic Impact Study of the



(formerly Center for Business and Entrepreneurial Development)

June 30, 2017

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Executive Summary

Spartanburg Community College, as stated in its mission and vision, “is a key partner in advancing the Upstate’s economy” and is “a catalyst for economic development through innovation, collaboration and excellence in educational programs and services.” In 2005, the College purchased a vacant distribution facility in the western part of the County to expand its course and program offerings, as well as develop a state-of-the-art center to attract new and expanding businesses to the area. SCC’s Spark Center SC (The Spark), formerly named the Center for Business and Entrepreneurial Development, has become an active player in workforce development and economic growth in partnership with Spartanburg County Council, Spartanburg Area Chamber of Commerce, the Economic Futures Group, SC Works Upstate, readySC, Upstate SC Alliance, Small Business Development Center (SBDC), Service Corps of Retired Executives (SCORE), Spartanburg Entrepreneurial Resource Network (SERN) and other organizations and agencies. The Spark serves **four major project types** including soft landings, small business incubation, workforce employment services and special projects. The **Soft Landings Service** supports foreign and domestic companies looking to relocate or begin new operations in Spartanburg County. The **Small Business Incubator** assists new businesses in the early start-up phase or existing businesses that are re-tooling or reorganizing for greater success. Our partner SBDC, over the past 10 years, has counseled a total of 762 clients with 72 new businesses started resulting in 325 jobs created and 110 jobs retained. During that same period, SCORE, another valued partner of The Spark, served 804 clients in the Upstate with 344 jobs created in 262 new companies. **Workforce Employment Services** provide temporary office, intake and training space to assist qualifying companies with employment tasks including job fairs, on-site application and interview processes, pre-employment training and post-employment training of job-specific skills. The Spark is also available to assist established business and industry partners with **Special Projects** that may include, but are not limited to, beta testing a new product line or manufacturing process, training existing employees on new processes, or providing warehouse space for incoming or over-run inventory and equipment. Over the last 10 years, the Spark has served more than 79 domestic and international companies through one or more of the project types above.

Advanced manufacturing and assembly is a basic industry in the upstate area and providing a facility that supports this industry offers a greater economic impact by generating new income and tax revenue for the County as well as increasing employee earnings. The Spark provides assistance to companies and entrepreneurs to connect, ignite and launch successful businesses by providing assistance in the form of flexible space for administrative and operational activities to include offices, conference rooms, reference library, training facilities, and space for assembly and light manufacturing operations, along with access to a wide range of support services. At the present time, 15 companies are clients of The Spark.

Economic Impact of The Spark

The Economic Impact Study is developed using the Input-Output Model, developed by Economic Modeling Specialists, Inc. (EMSI) to show the economic impact of The Spark beginning in November 2007. The present study covers the period from July 1, 2016 to June 30, 2017. This study reveals a net positive creation of 8,327 jobs generating total wage earnings of \$577.2 million. In total, over the last 10 years, The Spark has supported the development of 28,316 jobs generating total wage earnings of nearly \$1.9 billion dollars. These results have had a significant positive effect on income tax and sales tax revenue generation for the state of South Carolina.

The following is an in-depth look at the impact of SCC's Spark Center SC on the economy of Spartanburg County. When assessing economic impact, it is crucial not only to look at the initial impact of capital investment and jobs created by the companies served by The Spark but also the direct, indirect and induced impact these businesses have on the economy of Spartanburg County. Review of this impact is assessed in this study through use of EMSI's Input-Output model. This study looks at the current economic impact of The Spark and includes estimates of state revenues through sales and income tax based on change in earnings. An explanation of the methodology is included on page 9.

During the period of the most recent study, 2016-2017, several companies either utilized workforce services at The Spark or used the facility as a soft landing or incubator to launch, expand or reorganize their business or to support special projects. Table 1 depicts the number of jobs lost in Spartanburg County due to closing, downsizing or relocation of operations during the study period. However, Table 2 shows the number of jobs created by companies supported by The Spark, which alone, in the last year, totaled 4,500 jobs in Spartanburg County, significantly more than the number of jobs lost during the same period. Note: each table provides the North American Industry Classification System (NAICS) code identifying the industry in which the job activity occurred.

Table 1: Initial Jobs Lost during period July 1, 2016 – June 30, 2017		
Source: South Carolina Appalachian Council of Governments		
Industry	NAICS Code	Jobs Lost
Hubble	423610	55
Total		55

Table 2: Initial Jobs Created via The Spark, July 1, 2016 – June 30, 2017		
Industry	NAICS Code	Jobs Created
AWL Automation	333992	71
BLG Logistics	493190	2
Constructis, LLC	237130	2
Fehrer Automotive	336360	30
Global Transplant Solutions	339112	1
	339113	1
International Mold Corporation	333511	60
InSpec Group	541330	5
Lear Seating	336360	340
Magna Seating	336360	520
MAU	336111	2755
McDonalds	722513	35
Minghua	336360	90
	336390	90
MPW Industrial Services	561210	258
Otto Bock	326150	30

Senator International	481112 493190	20 80
Spartanburg Schedl Automotive System	336390	102
TGES America	339999	6
VDL Steelweld SC	333992	2
Total		4500

Below, **Table 3** reflects the overall, aggregate effect for Spartanburg County from the initial job increases and loss activity on direct, indirect and induced jobs as defined below.

Table 3	INITIAL	DIRECT	INDIRECT	INDUCED	TOTAL
Aggregate Positive Effect on Jobs Created					
	4500	2063	530	1308	8401
Aggregate Negative Effect on Jobs Lost					
	-55	-6	-1	-12	-74
Aggregate Net Effect on Jobs					
	4445	2057	529	1296	8327

Table 4 reflects the impact on employee earnings given the aggregate job increases and losses in the previous table.

Table 4	INITIAL	DIRECT	INDIRECT	INDUCED	TOTAL
Aggregate Effect on Earnings due to Net Increase in Jobs					
	\$368,996,557	\$129,367,470	\$29,254,964	\$53,840,727	\$581,459,718
Aggregate Effect on Earnings due to Net Jobs Lost					
	-\$3,414,632	-\$268,174	-\$25,533	-\$568,835	-\$4,277,174
Aggregate Net Effect on Jobs					
	\$ 365,581,925	\$ 129,099,296	\$ 29,229,431	\$ 53,271,892	\$577,182,544

Initial – These numbers represent the initial change in jobs, and the associated average earnings, and does not include any ripple effect. In this report, the net initial effect is a gain of 4,445 jobs with \$ 365,581,925 in earnings.

Direct – These numbers represent the initial change in jobs of the supply chain of the given industry, along with the associated average earnings. In this report, the net direct effect is a gain of 2,057 jobs with \$129,099,296 in earnings.

Indirect – These numbers represent a subsequent ripple effect on suppliers of the direct supply chain. In this report, the net indirect effect is a gain of 529 jobs with \$29,229,431 in earnings.

Induced – These numbers are due to the impact of the change in earnings created by the initial, direct and indirect effects. The jobs and associated earnings enter the economy as employees spend their paychecks in the region on food, clothing and other goods and services. In this report, the net induced effect is a gain of 1296 jobs with \$53,271,892 in earnings.

Tax Impact of The Spark

Another important component to review when assessing economic impact is the increase in state sales and income tax on personal income. As noted in the previous table, it was projected that The Spark helped to create 4,445 initial jobs that, given the ripple effect, has resulted in a total aggregate jobs created of 8,327. Such job creation is estimated to result in an earnings change of \$577,182,544. This earnings change will create annual revenues for the State as long as the jobs continue to exist. According to the South Carolina Board of Economic Advisors, 33.8 percent of income from production, transportation, and manufacturing occupations is attributable to benefits. Therefore, the following table shows the tax revenue for the portion of earnings that would be estimated as taxable income \$382,094,844. The table shows the earnings change estimated to produce an additional \$22 million from South Carolina income tax and an additional \$8.7 million in sales tax; for a total of almost \$30.9 million combined.

Total Net Effect in Earnings	\$ 577,182,544
Adjustment for Benefits (33.8%)	\$ 195,087,700
Net Wages Subject to SC Income Tax	\$ 382,094,844
Net Wages Subject to Sales Tax (38%)	\$ 145,196,041
Income Tax Revenues (avg. rate 5.8%)	\$ 22,161,501
Sales Tax Revenues (rate of 6%)	\$ 8,711,762
Combined Income and Sales Tax Revenue Generated	\$ 30,873,263

Given the resulting increase in jobs and earnings, there will be a significant increase in state income and sales tax on personal income. Based on the fact that 33.8 percent of income is attributable to benefits, 38 percent of income after benefits is subject to sales tax as a result of personal spending. By combining the results of all studies since November 2007, the results are an impressive effect on sales and income tax revenue as described in the following table.

Period	Net Jobs	Earnings	Taxable Income	Sales Tax	SC Income Tax	Combined Tax Revenue
2007-2009	1,621	\$ 58,716,000	\$ 39,339,720	\$ 735,653	\$ 2,006,326	\$ 2,741,979
2009-2012	2,282	\$140,794,929	\$ 97,430,091	\$ 2,221,406	\$ 5,650,945	\$ 7,872,351
2012-2014	6,649	\$439,188,722	\$ 290,742,934	\$ 6,628,939	\$16,863,090	\$23,492,029
2014-2015	4,304	\$292,403,988	\$193,571,448	\$ 4,413,429	\$11,227,144	\$15,640,573
2015-2016	5,133	\$366,742,537	\$242,783,559	\$ 5,535,465	\$14,081,446	\$19,616,911
2016-2017	8,327	\$577,182,544	\$382,094,844	\$ 8,711,762	\$22,161,501	\$30,873,263
Totals	28,316	\$1,875,028,720	\$1,245,962,596	\$28,246,654	\$71,990,452	\$100,237,106

Future Projections

In 2006, when the first workforce service project was considered, no one could have imagined that SCC's Tyger River Campus would, in 10 years, host 79 companies. Included in the many companies that have launched or expanded at The Spark are medical supplies manufacturers, energy solutions companies, two plastic mold injection manufacturers, an armored vehicle manufacturer, a power generation turbine service company, an automotive air-filter manufacturer, a quality control company, an advanced manufacturing design company, automated integration companies, a packaging solutions company, Toray Carbon Fibers, a Rite Aid distribution company, Kobelco Construction Machinery, automotive suppliers Brose Spartanburg and Magna Seating, and adhesives manufacturer RitRama. Add to this the number of employment workforce projects supported by The Spark, and it is obvious that this once-envisioned idea has become a viable reality that has and will continue to have a huge financial impact on economic development in Spartanburg County.

Providing nearly 400,000 square feet of flex space, The Spark is designed to accommodate multiple start-ups and growing businesses. This space allows for 261,000 square feet for light manufacturing and warehousing and 44,000 square feet of class A office space which includes three conference rooms, shared workspace and classroom/training facilities. This space allows The Spark the capacity to support the continuing growth and development of our client base. Based on past performance, it is estimated that The Spark will directly impact the creation of 1,000 jobs annually through the four services it provides—soft landings, small business incubation, workforce employment services and special projects.

Study Methodology

This study used an Input-Output Model available through EMSI's online services. EMSI is the developer and distributor of an online market labor and economic analysis tool that uses federal, state, and regional data to provide analysis on labor markets, industries, occupations, demographics, workforce trends, economic impacts, skills, job compatibility, and educational attainment, at almost any level of geographic detail.

EMSI's tool for analyzing economic impact is the Input-Output Model, which uses the national Input-Output matrix provided by the Federal Bureau of Economic Analysis. EMSI combines this with the national total Gross Output, the regional Total Gross Output, the land area of Spartanburg County,

regional data and in/out commuter patterns in order to calculate regional requirements, imports, and exports. Matrix algebra was used to calculate the regional multiplier, which results in a matrix that is multiplied by the sales vector and converted back to jobs and earnings. The data used in the matrix comes from the U.S. Department of Commerce, Bureau of Economic Analysis, and Industry Economic Accounts: Benchmark and Annual Input-Output Accounts. Other data used for this model includes data from SC Works Upstate. Not only does EMSI look at federal data but it also looks at the regional connectivity of industries in the past to determine how changes in one industry will affect another in terms of job and earnings changes.

EMSI employment data was also used for this report. In addition, information for jobs lost from July 1, 2016-June 30, 2017 was obtained from the South Carolina Appalachian Council of Governments. Since job loss and job creation data spans several years, this data was shared with an EMSI technician to ensure it was not already captured in their employment data. It was verified that 2016-2017 job loss data was likely included in the county level employment data in EMSI. However, it was suspected that some of the 2016-2017 job loss data had not been included or was not filtered down from state to county level. By reviewing the number of jobs in the employment data, it was assessed that with some company closures and layoffs, such suppression was highly likely. Thus, job loss data from July 1, 2016 to June 30, 2017 was entered into the Input-Output model, assuming that most of this data was not included in the county level employment data in EMSI. Therefore, the impact of job loss compared to job creation may be slightly overstated but still provides a fair conservative estimation of the impact of job creation in Spartanburg County, while accounting for the impact of job loss throughout the county. To get a better picture of economic impact by incorporating local job loss data the number of jobs and earnings decrease was subtracted from the jobs and earnings increase.

State sales and income tax estimates were generated based on the estimated change in income. According to the South Carolina Revenue and Fiscal Affairs Office, for occupations in production, transportation, and material moving, 33.8 percent of earned income is attributed to benefits. Therefore, the calculation for tax revenue deducted 33.8 percent from earnings to get the taxable income. It was estimated based on the South Carolina Board of Economic Advisors' numbers that 38 percent of taxable wages are spent on personal purchases and that 6 percent of that figure would result in sales tax revenue. In addition, the average tax liability for income in South Carolina is 5.8 percent. This percent was used to estimate state taxes on projected labor income as a result of job creation.

Previous Economic Impact Studies

Previous Economic Impact Studies may be accessed online at SparkCenterSC.com.

For more information on this study and the SCC Spark Center SC, please contact:

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