



# 2018 Economic Impact Study of the



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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), 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. Our partner SBDC, over the past 11 years, has counseled a total of 1,128 clients with 85 new businesses started resulting in 397 jobs created and 217 jobs retained. During that same period, SCORE, another valued partner of The Spark, served 1,095 clients in the Upstate with 388 jobs created in 289 new companies.

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. **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. An example of a recent special project, is ADO/Flair 21. This local company’s building was heavily damaged during a tornado in October, 2017. By utilizing office and warehouse space in the Spark for seven months, the company was able to keep its workforce employed and maintain its production schedule until a new facility was identified and up-fitted. Over the last 11 years, the Spark has served more than 93 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, 14 companies are clients of The Spark.

## **Economic Impact of The Spark**

The Economic Impact Study was originally created 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, 2017 to June 30, 2018. This study reveals a net positive creation of 6,284 jobs generating total wage earnings of \$403.9 million. In total, over the last 11 years, The Spark has supported the development of 34,600 jobs generating total wage earnings of nearly \$2.3 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, 2017-2018, 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 3,051 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.

<b>Table 1: Initial Jobs Lost during period July 1, 2017 – June 30, 2018</b>		
<b>Source: South Carolina Appalachian Council of Governments</b>		
<b>Industry</b>	<b>NAICS Code</b>	<b>Jobs Lost</b>
Dish	334220	60
<b>Total</b>		<b>60</b>

<b>Table 2: Initial Jobs Created via The Spark, July 1, 2017 – June 30, 2018</b>		
<b>Industry</b>	<b>NAICS Code</b>	<b>Jobs Created</b>
Borgers USA Corporation	336211	24
Brose Spartanburg	336360	14
Brunel Resources	561330	1
DHL	493110	280
Global Transplant Solutions	339112	2
	339113	2
Heiche	332813	30
Hemmelrath Coatings	332812	30
KV Final	336370	70
Magna Seating SC	336360	130
MAU	336111	2347
Rudolph Logistics	541614	120
The Growth Advocate	541611	1
<b>Total</b>		<b>3051</b>

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.

<b>Table 3</b>	<b>INITIAL</b>	<b>DIRECT</b>	<b>INDIRECT</b>	<b>INDUCED</b>	<b>TOTAL</b>
<b>Aggregate Positive Effect on Jobs Created</b>					
	<b>3051</b>	<b>1253</b>	<b>486</b>	<b>1580</b>	<b>6370</b>
<b>Aggregate Negative Effect on Jobs Lost</b>					
	<b>-60</b>	<b>-5</b>	<b>-1</b>	<b>-20</b>	<b>-86</b>
<b>Aggregate Net Effect on Jobs</b>					
	<b>2991</b>	<b>1248</b>	<b>485</b>	<b>1560</b>	<b>6284</b>

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

<b>Table 4</b>	<b>INITIAL</b>	<b>DIRECT</b>	<b>INDIRECT</b>	<b>INDUCED</b>	<b>TOTAL</b>
<b>Aggregate Effect on Earnings due to Net Increase in Jobs</b>					
	<b>\$241,051,538</b>	<b>\$77,569,084</b>	<b>\$23,667,906</b>	<b>\$65,046,601</b>	<b>\$407,335,129</b>
<b>Aggregate Effect on Earnings due to Net Jobs Lost</b>					
	<b>-\$2,349,015</b>	<b>-\$233,306</b>	<b>-\$45,289</b>	<b>-\$839,069</b>	<b>-\$3,466,679</b>
<b>Aggregate Net Effect on Jobs</b>					
	<b>\$ 238,702,523</b>	<b>\$ 77,335,778</b>	<b>\$ 23,622,617</b>	<b>\$ 64,207,532</b>	<b>\$403,868,450</b>

**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 2,991 jobs with \$ 238,702,523 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 1,248 jobs with \$77,335,778 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 485 jobs with \$23,622,617 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 1,560 jobs with \$64,207,532 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 2,991 initial jobs that, given the ripple effect, has resulted in a total aggregate jobs created of 6,284. Such job creation is estimated to result in an earnings change of \$403,868,450. 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 \$267,360,914. The table shows the earnings change estimated to produce an additional \$15.5 million from South Carolina income tax and an additional \$6.1 million in sales tax; for a total of almost \$21.6 million combined.

Total Net Effect in Earnings	\$	403,868,450
Adjustment for Benefits (33.8%)	\$	136,507,536
Net Wages Subject to SC Income Tax	\$	267,360,914
Net Wages Subject to Sales Tax (38%)	\$	101,597,147
Income Tax Revenues (avg. rate 5.8%)	\$	15,506,933
Sales Tax Revenues (rate of 6%)	\$	6,095,829
<b>Combined Income and Sales Tax Revenue Generated</b>	<b>\$</b>	<b>21,602,762</b>

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.

<b>Period</b>	<b>Net Jobs</b>	<b>Earnings</b>	<b>Taxable Income</b>	<b>Sales Tax</b>	<b>SC Income Tax</b>	<b>Combined Tax Revenue</b>
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
2017-2018	6,284	\$ 403,868,450	\$ 267,360,914	\$ 6,095,829	\$15,506,933	\$ 21,602,762
<b>Totals</b>	<b>34,600</b>	<b>\$2,278,897,170</b>	<b>\$1,513,323,510</b>	<b>\$34,342,483</b>	<b>\$87,497,385</b>	<b>\$121,839,868</b>

## 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 11 years, host 93 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, adhesives manufacturer RitRama and Global Transplant Solutions, provider of the world's highest quality human organ preservation fluid solutions for human organ transplant and transportation. 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 four conference rooms, shared workspace, a collaborative area 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, 2017-June 30, 2018 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 2017-2018 job loss data was likely included in the county level employment data in EMSI. However, it was suspected that some of the 2017-2018 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, 2017 to June 30, 2018 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](http://SparkCenterSC.com).

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