

Economic Impact of the Savannah River Site

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Executive Summary

The Savannah River Site (SRS, the Site) has been a key economic driver in the surrounding region since its establishment in the early 1950s.

The counties most impacted by SRS operations are Aiken, Allendale, and Barnwell counties in South Carolina and Columbia and Richmond counties in Georgia. Although employment has waned over time as its mission has evolved, SRS remains one of the largest employers in the region. As such, the influence of the Site extends across the entire region as many of the dollars circulating in the regional economy originate from or are related to the Site. The primary purpose of this study is to measure the impact of SRS on the surrounding five counties and understand how SRS influences the surrounding communities.

Since changing significantly in the 1990s, SRS's mission has been relatively stable. The outlook for SRS remains steady as the Department of Energy Environmental Management and National Nuclear Security Administration missions continue. Through the stability that SRS provides to the surrounding region there is an impact on small businesses in the area. Thus, a secondary purpose of this study is to provide insights into the possible impact that the Site has on small businesses in the region.

A third purpose of this study is to report the age profile of workers on the Site.

FISCAL AND ECONOMIC IMPACT

The Savannah River Site's impact on the five counties goes beyond the number of jobs and the dollars spent in the local economy. The Site has a ripple effect in the local economy as each dollar spent circulates in the local economy and each employee spends their earnings in the local economy.

To estimate the total economic and fiscal impact of the Site on the five counties, an economic impact analysis was conducted. The analysis estimates three types of impacts: direct, indirect, and induced. The total economic impact is the sum of the direct, indirect, and induced effects of the SRS operations. The results of the study are summarized below.

OUTPUT. SRS organizations spent \$1.2 billion in the regional economy in the form of wages, benefits, and other direct expenditures. This spending by SRS organizations generated an additional \$1 billion. The total \$2.2 billion in output is 10 percent of the Gross Domestic Product.

EMPLOYMENT. The Site includes seven organizations that employed 8,639 residents of the five counties in 2020. The spending associated with the Site generated an additional 7,173 jobs in sectors such as restaurants, real estate, employment services, building services, and retail. In all, the Site supports 15,813 jobs in the regional economy, which is 6.8 percent of the five counties' employment base.

JOBS AND WAGES. The Site provides a wide range of good jobs for residents in the five

counties. The Site organizations provide a range of jobs and careers requiring different skills and education. Site organizations offer jobs in business management, information technology, security, construction, management of natural resources, scientific research, and engineering.

Many organizations employ craft personnel with a high school diploma while others provide entry level jobs after college and managerial opportunities after many years of experience. The average wages for all workers at the Site who reside in the five counties was \$97,918. By comparison, the average wage in the five counties is less than \$55,000.

TAXES. In addition, activities at the Site generate local, state, and federal taxes. The Site generated \$289 million in federal, state and local taxes.

SMALL BUSINESS. SRS has a large impact on small businesses in the region. For this study, small businesses are characterized as women-owned, disadvantaged-owned, veteran-owned, service-disabled veteran-owned, and historically underutilized businesses. In total SRS spent \$176,758,020 at small businesses both inside and outside of the impact region, and \$114,607,052, or 65 percent, within the five counties.

AGE PROFILE

The Savannah River Site's average age of the employees is 46.8 years old, slightly older than the USA average of 42.5 (Bureau of Labor Statistics, 2020). Approximately 51.7% of workers on the Site are between 45 and 64 years old.

1. Introduction

The Savannah River Site (SRS, or the Site) has been a crucial economic force in the local five counties (Aiken, Allendale, and Barnwell counties in South Carolina and Columbia and Richmond counties in Georgia) since it was authorized by President Harry S. Truman and created in the 1950s. Even with employment fluctuations, the Site has remained a major employer in the local economy. There have been massive shifts in employment over the years at SRS with a high in the early 1990's of 26,000 and a low of under 10,000 in 2008. As of 2020, there are 11,350 people employed at the Site providing a major source of income for the local region.

The purpose of this study is to show the effects of the Site on the five counties' gross domestic product (GDP), wages, and employment. It also documents the impact on small businesses in the local economy and presents information on the age profile of workers at the Site. The study analyzes the direct, indirect, and induced effects that SRS has had on the local region. Those are defined as follows:

- The **direct effect** is the initial change in expenditures or jobs. These are associated with SRS's direct gross expenditures and include the gross industry output and employment.
- The **indirect effect** is the secondary impact of the Site buying goods and services from other local industries, with the cycle of spending working its way through the supply chain. In other words, the indirect effect is associated with SRS organizations spending in the local economy.
- The **induced effect** is the response by the local economy that occurs through re-spending of income. These effects arise as SRS workers spend their income at retail, service, and other types of local establishments. This spending boosts revenues and profits at local businesses, which, in turn, leads to more spending by the businesses and their employees.

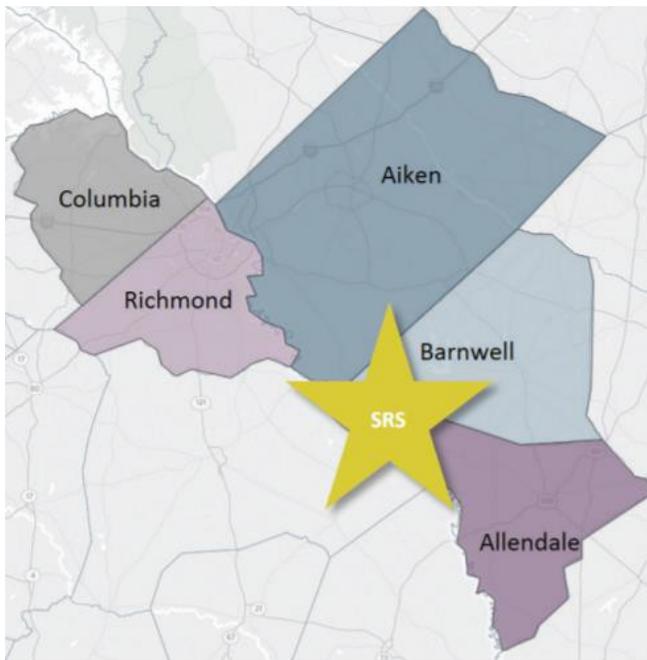
Overview of the Savannah River Site

SRS covers 310 square miles across Aiken, Allendale, and Barnwell counties in South Carolina. The Site also attracts employees from Columbia and Richmond counties in Georgia.

The Site was constructed in the 50s to make tritium and plutonium-239 for nuclear weapons. From 1953 to 1988 it would produce 36 metric tons of plutonium. After doing this for 50 years, the Site's mission shifted to the clean-up of nuclear waste made during production. SRS handles and stores nuclear waste to help support the United States national defense. Since 2002 they have blended down over 22 metric tons of enriched uranium that was used by the Tennessee Valley Authority in several of its reactors. Currently, there is 36 million gallons of radioactive liquid waste stored at the Site. They have also processed 2,400 spent nuclear fuel caskets since 1964.

The current missions of SRS include environmental stewardship, environmental cleanup, waste management, disposition of nuclear materials, and maintaining the nuclear deterrent.

Figure 1.1 Region of Impact



Source: The Savannah River Site: Economic Impact and Workforce Transition, August 2017.

To help maintain the Site and the waste, there are several organizations on the Site including:

Federal Organizations

- The US Forest Service - Plant trees for erosion control and secrecy. Manage land and wildlife.
- Department of Energy (DOE) - Owns the Site

State Organization:

- Savannah River Ecology Laboratory (SREL) - Pursues basic and applied ecological research - a research unit of the University of Georgia

Private companies

- Centerra - Security
- Savannah River Nuclear Solutions (SRNS) - Management and Operations contractor – maintain process including handling waste, environmental management, homeland security
- Savannah River Remediation (SRR) - Liquid waste
- Parsons - Saltwaste Processing Facility

We use the term “SRS organizations” throughout this report to collectively mean all seven organizations and private companies listed above.

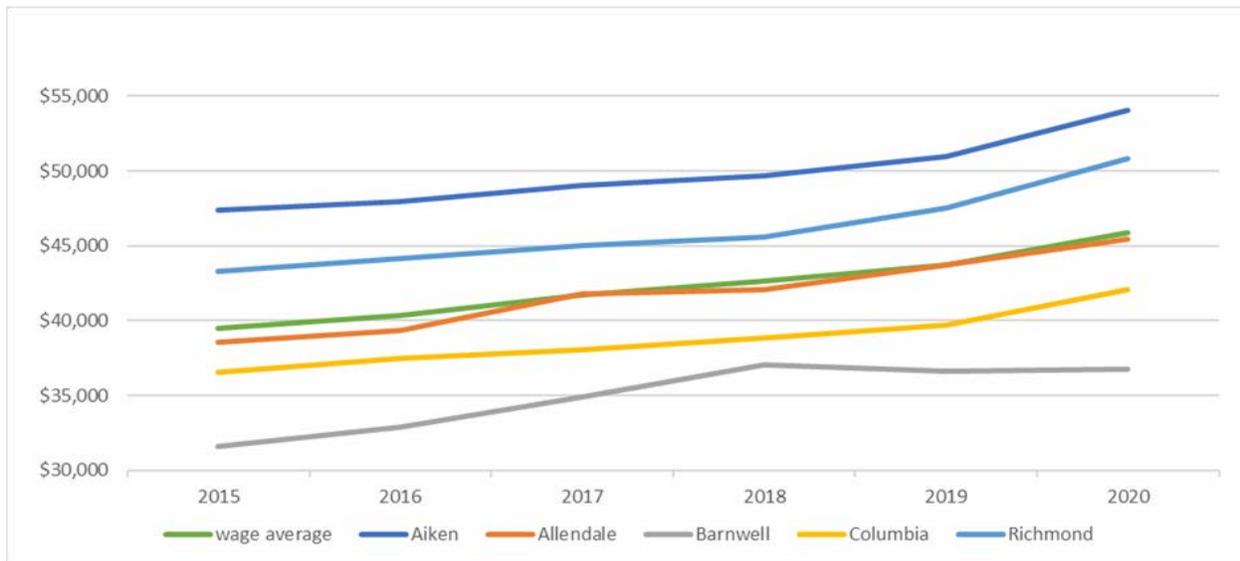
2. Economy

This section describes the economy of the five counties in terms of wages, unemployment and employment, GDP, and population. Each of the counties have been impacted by SRS through wages, benefits, and additional spending. Through this spending SRS has created stability in each of the counties even through the recent COVID-19 pandemic.

Wages

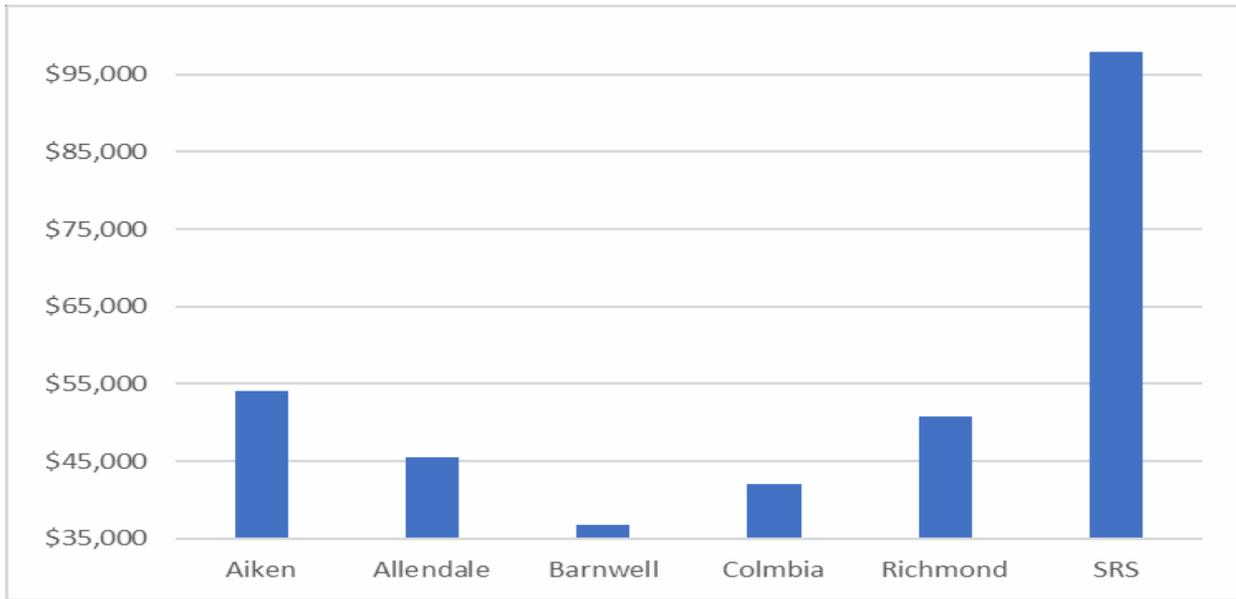
The five counties have had substantially different average yearly wage and wage growth from 2015 to 2020. Aiken is the county with the highest average yearly wage with \$54,082 as of 2020 and Barnwell has the lowest with \$36,751. Each county has had overall steady growth with Allendale and Richmond having dips around 2018 then steadily going back up while Barnwell's wages have plateaued since 2018.

Figure 2.1 Average Wages for the Five Counties



By comparison, the average yearly wage for a SRS employee is \$97,918, close to double that of Aiken (\$54,082) and close to three times that of Barnwell (\$36,751).

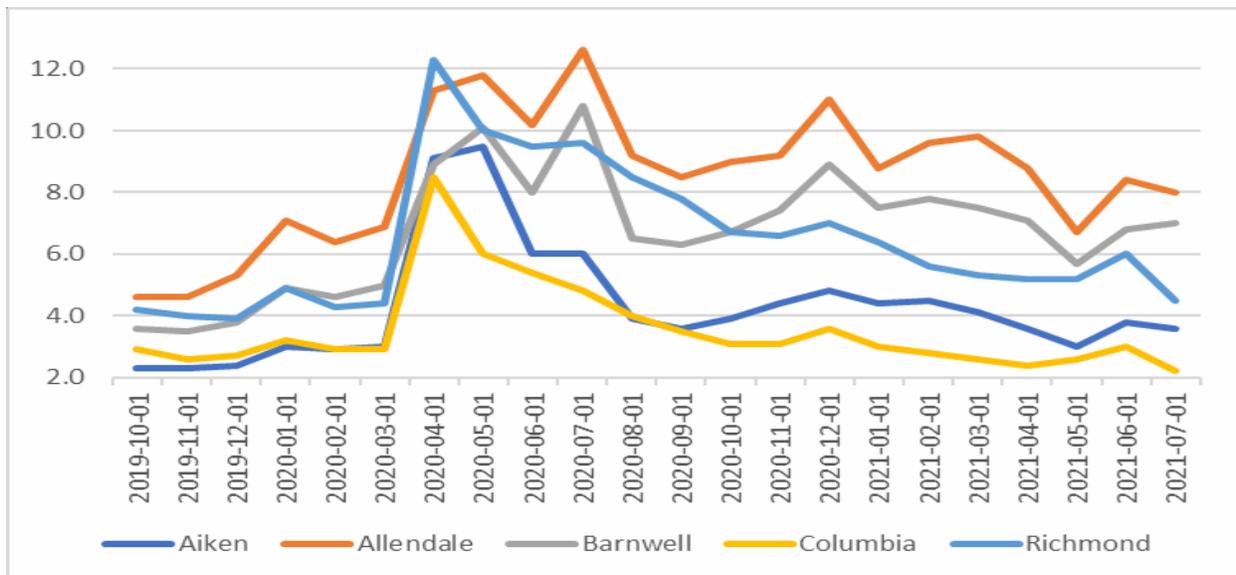
Figure 2.2 Average Wage by County



Unemployment

The Covid-19 crisis impacted the unemployment rate starting in 2019 and 2020. The worst month over all was April of 2020 with all counties spiking above an 8% unemployment rate which continued through July for all counties. Highest unemployment rates were seen in Richmond and Allendale counties at 12.3% and 12.6% respectively. As of July of 2021, every county was at or below 8% with Allendale being the highest at 8%.

Figure 2.5 Unemployment Rate of the Five Counties



Employment

From 2016 through 2019 employment in the five counties has been growing, peaking at 240,336 employed persons in October 2019. There was a steep fall in April of 2020 to 220,851 due to the Covid-19 pandemic (see figure 2.6). While this decrease in employment was happening, employment at SRS remained steady at just over 10,000 in the first half of 2020. Figure 2.7 shows the steady employment levels for workers at SRS who were resident in the five counties. In the first half of 2020 about 8,700 were employed at the Site and were resident in the five counties. SRS kept thousands of jobs stable through this time when the economy was reeling from the pandemic.

Figure 2.6 Employment in the Five Counties

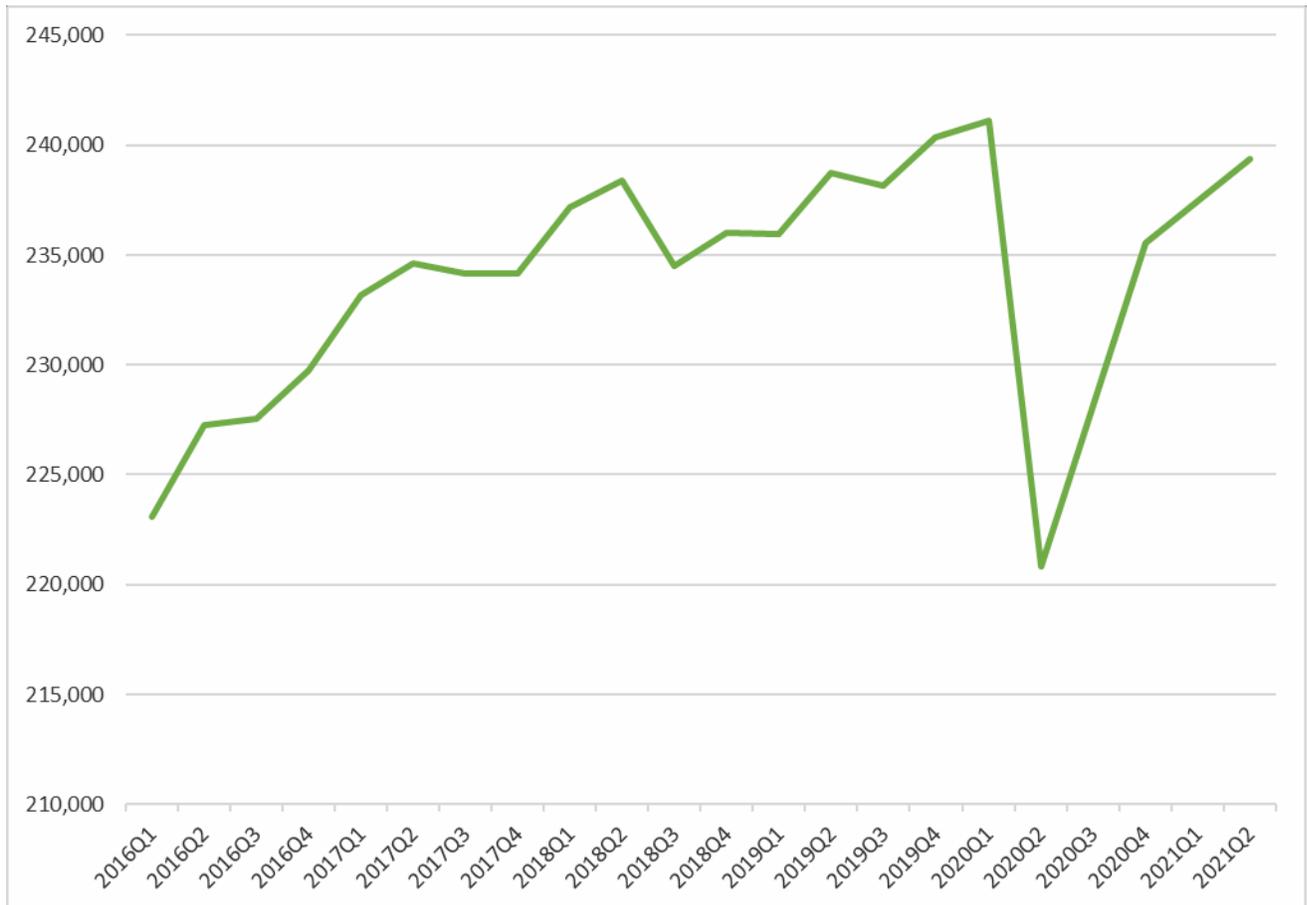
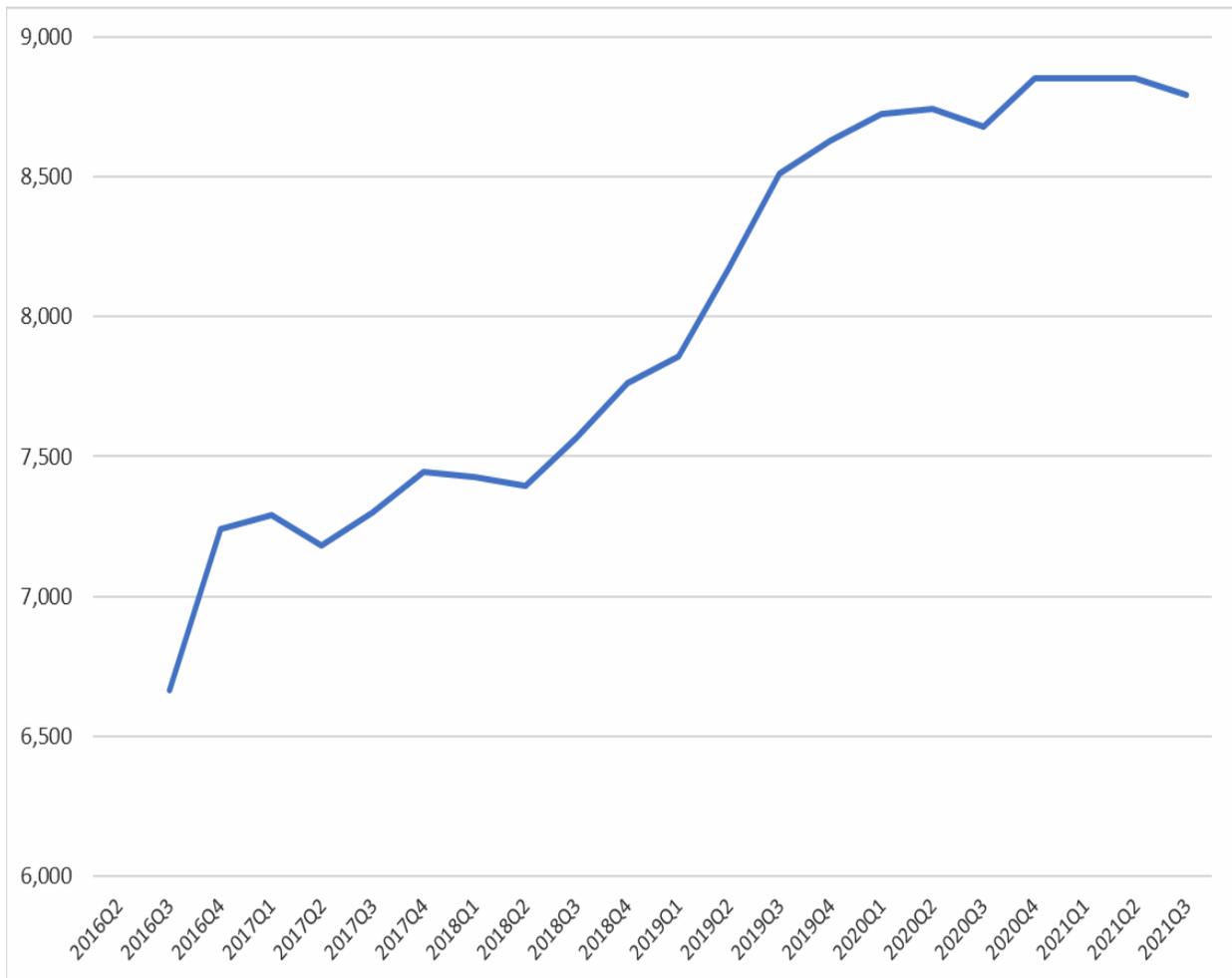


Figure 2.7 Employment at SRS for Workers Residing in the Five Counties



Gross Domestic Product

The total real Gross Domestic Product (GDP) is \$22,047,662,000 for the five counties in 2019. From 2014 to 2019 the economy has grown from \$20.2 billion to \$22.0 billion, a growth of \$1.8 billion (see Figure 2.8). Figure 2.9 shows that Richmond County accounts for 53% of GDP for the five counties, significantly greater than the next highest, Aiken County at 28 %. The lowest county for the percent of GDP is Allendale with 1%.

Figure 2.8 Total Real GDP for the Five Counties

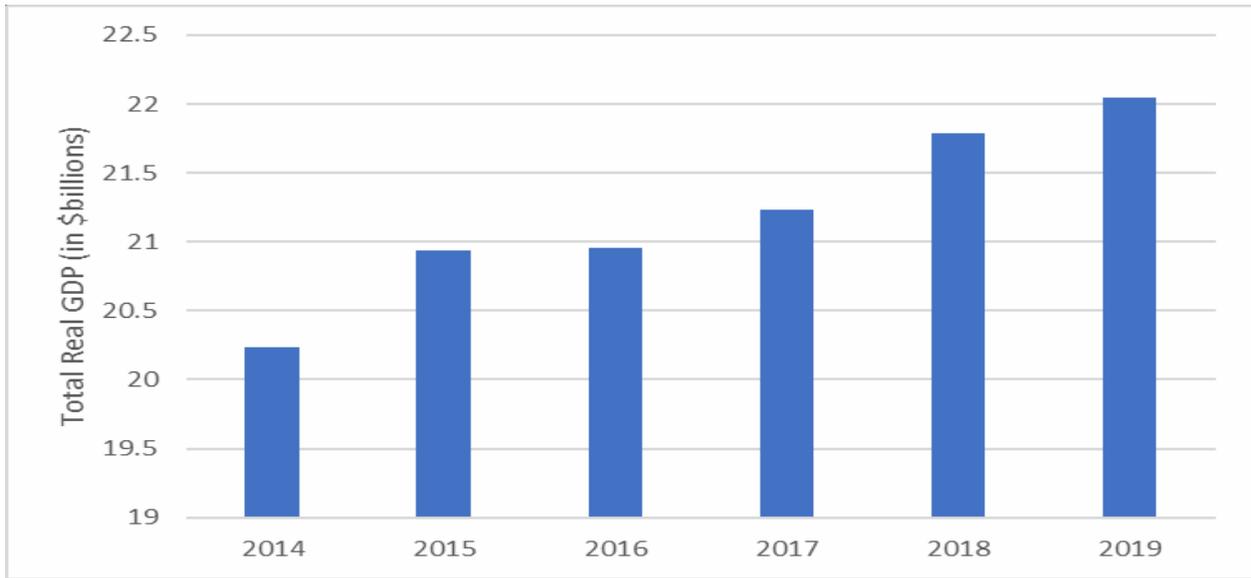
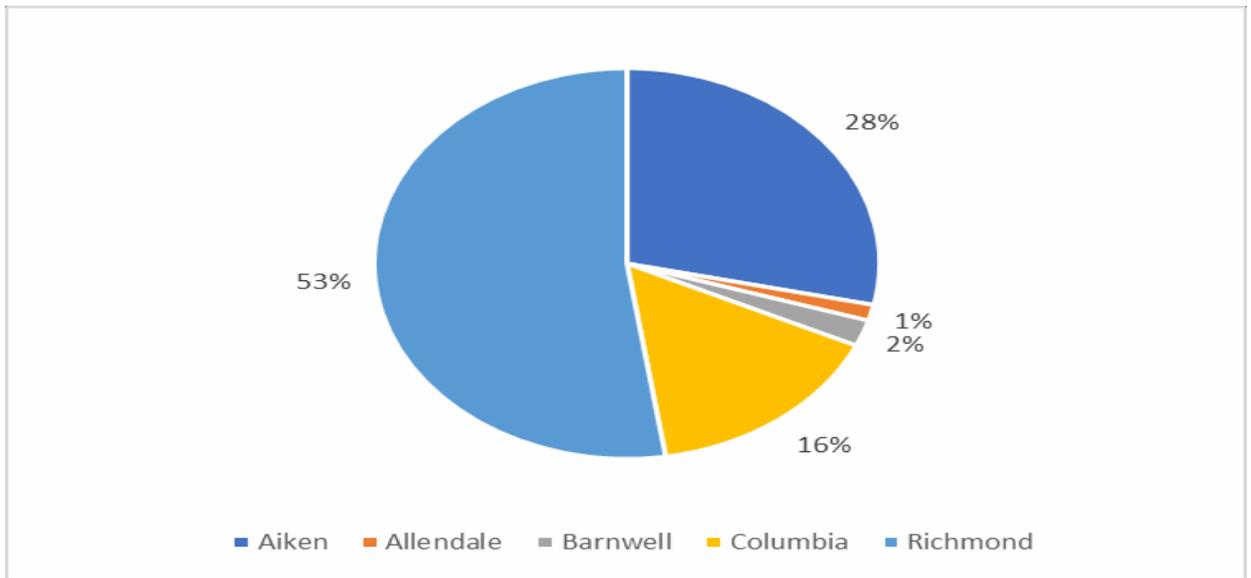


Figure 2.9 County Share of GDP



Population

The county that has the largest population is Richmond with 201,852 people as of 2019 and the county with the smallest population is Allendale with 9,024 people (see Figure 2.10). Barnwell and Allendale have seen a decline in their population, but Richmond, Columbia, and Aiken have seen a population increase. The latter three made up for the formers' decline which has allowed for overall growth in the five counties (see Figure 2.12) so that 551,228 people currently reside in the five counties. Richmond also has one of the younger populations with the median age being 34, while Allendale has one of the oldest populations with the median being 42 (see Figure 2.11).

Figure 2.10 Population by County

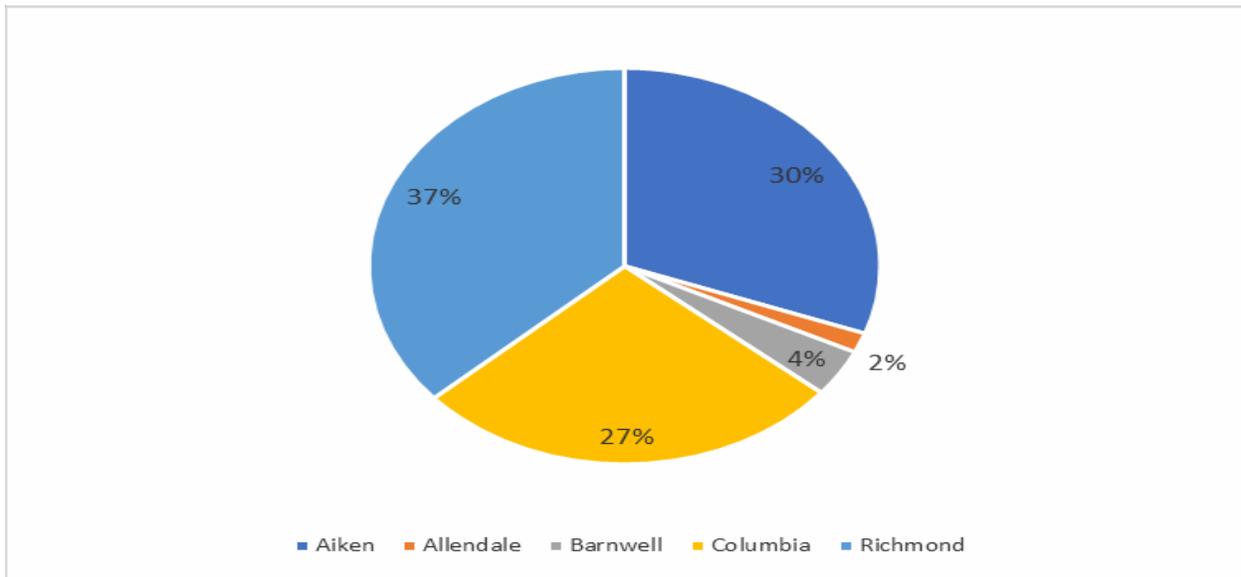


Figure 2.11 Median Age of Population

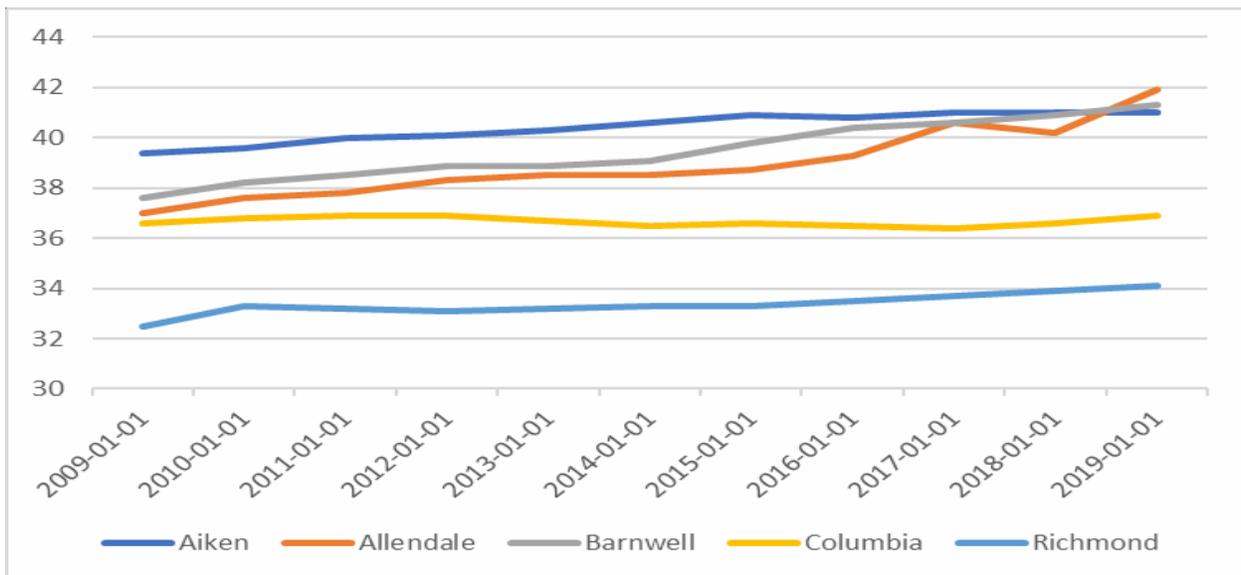
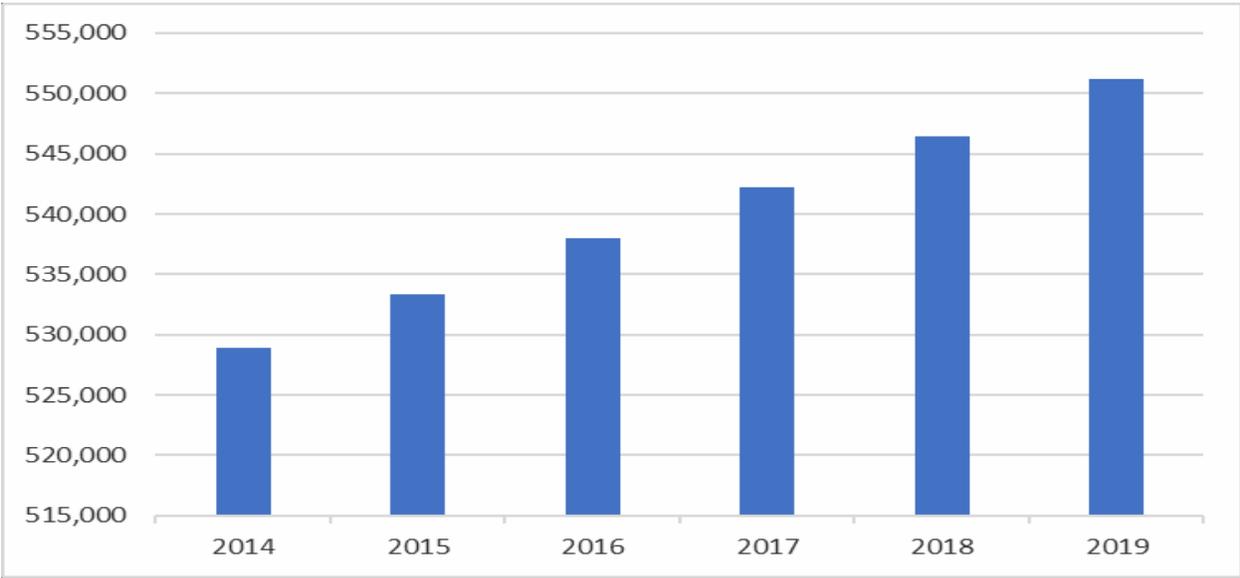


Figure 2.12 Five County Population from 2014 to 2019



3. Age Profile

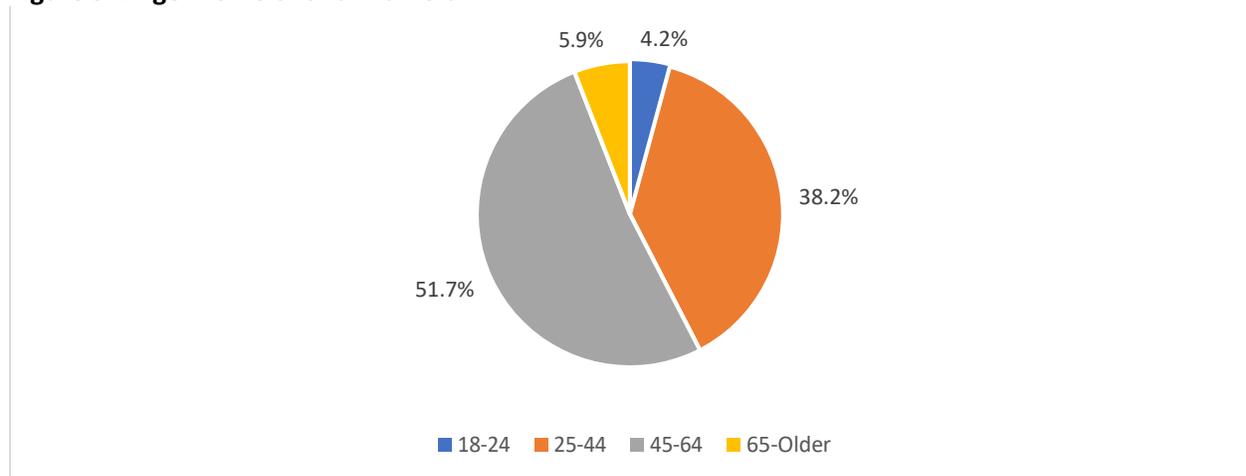
The average age of the employees on the Site is 46.8 years old, slightly older than the USA average, that is 42.5 (Bureau of Labor Statistics, 2020). Table 3.1 identifies that employees of SREL are younger than the Site average while employees of DOE and Centerra are older.

Table 3.1 Average Age of SRS Employees by Organization

Organization	Average Age
Centerra	49.7
DOE	53.1
Forest Service	45
SREL	33
SRR	47
SRNS	46.5

Figure 3.1 is a breakdown of all employees of SRS to age categories: 18-24 / 25-44 / 45-64 / 65-older. Most of the employees of the Site, approximately 51.7%, are between 45 and 64 years old.

Figure 3.1 Age Profile of SRS Workers



One way to understand these age categories from Figure 3.1 is by splitting them by generations, meaning that more than half of the workforce of the Site is from Generation X.

Table 3.2 The Breakdown Age per Generation

Generation	Birth Years	Currently Age	Population in USA
Baby Boomers	1946 - 1964	57 - 75 years old	71.6 million
Generation X	1965 - 1980	41 - 56 years old	65.2 million
Y1(Millennials)	1981 - 1991	25 - 29 years old	31 million
Y2(Millennials)	1992 - 1996	29 - 39 years old	42 million
Generation Z	1997 - 2012	6 - 24 years old	68 million

Figure 3.2 provides an age breakdown by organization. From the six organizations, only SREL has a higher percentage of workers aged 25 to 44 years old compared to workers aged 45 to 64 years old. For the other five employers more than half of the employees are 45 to 64 years old.

Figure 3.2 Age Breakdown by Organization

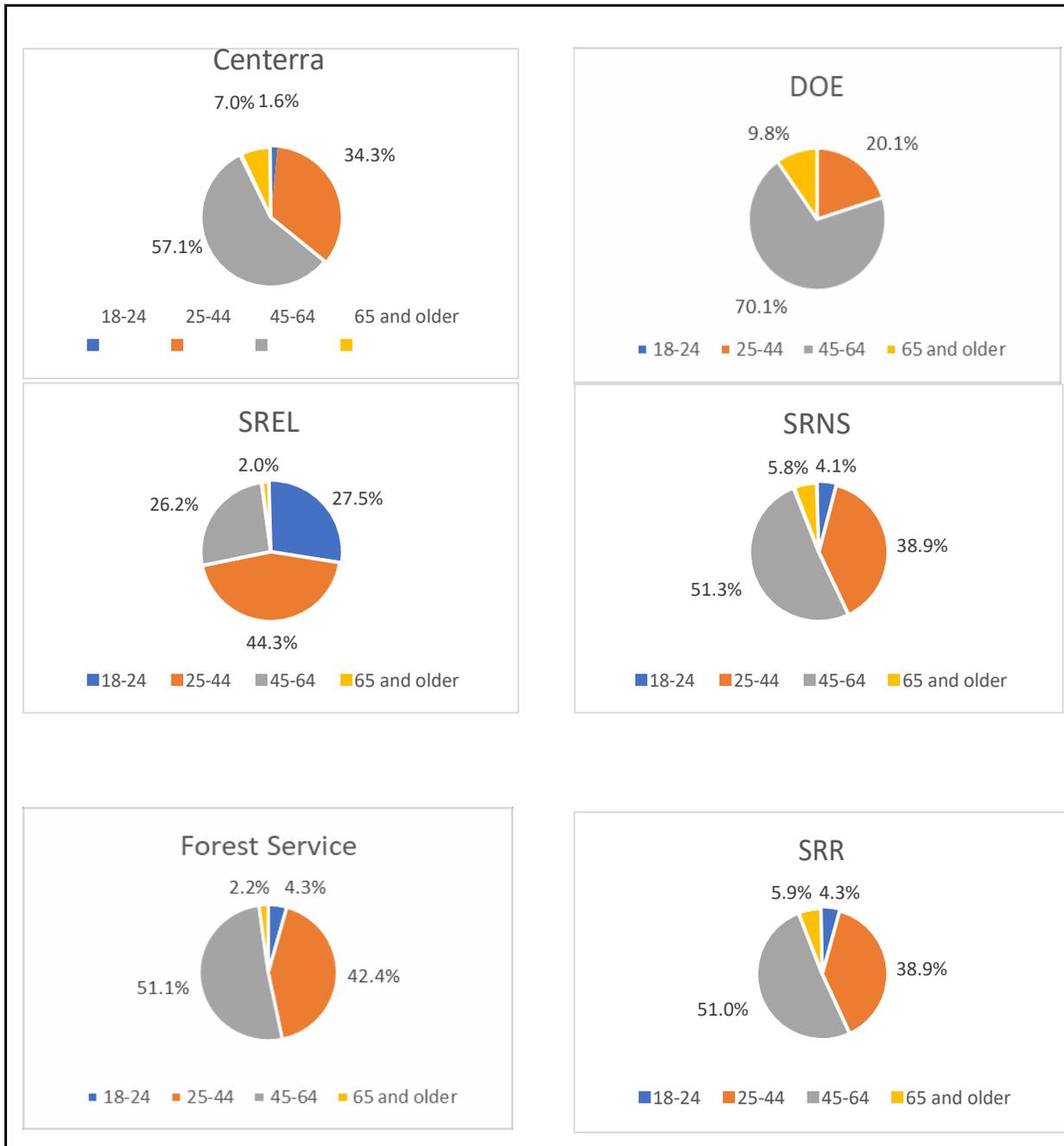
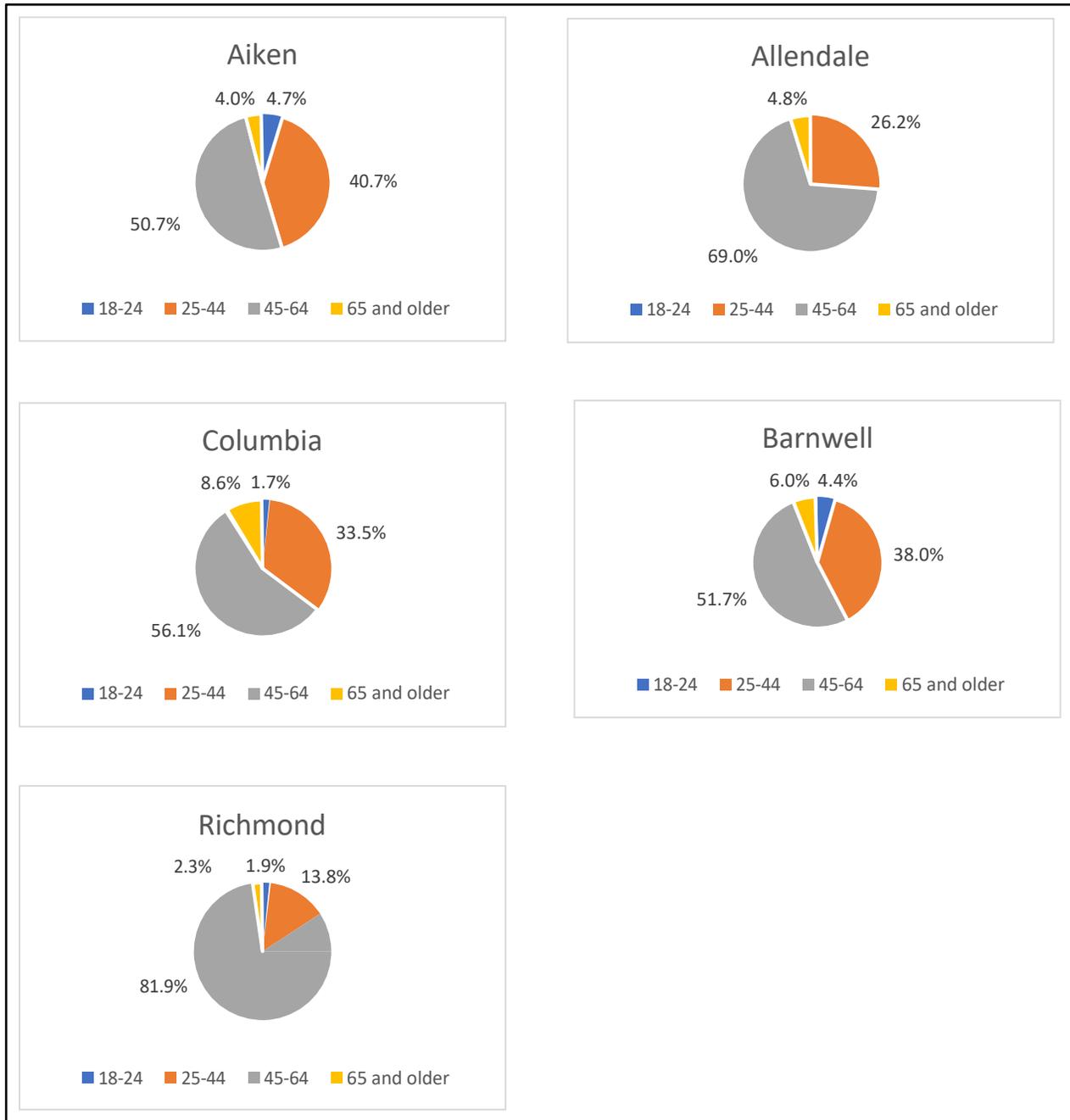


Figure 3.3 Age Distribution for Each County



Allendale and Richmond have significantly older populations overall than the SRS age profile, while the other three counties, Aiken, Barnwell, and Columbia, are similar in profile to the Site as a whole.

4. Economic Impact on the Local Economy

The Savannah River Site's local impact on the five counties goes beyond the number of jobs and the dollars spent in the local economy. The Site has a ripple effect in the local economy as each dollar spent circulates, and each employee spends their earnings in the local economy.

To estimate the total economic and fiscal impact of the Site on the five counties, an economic impact analysis was conducted. The analysis estimates three types of impacts: direct, indirect, and induced.

The **direct effect** is the initial change in expenditures or jobs. These are associated with SRS's direct expenditures and include the gross industry output, and employment.

The **indirect effect** is the secondary impact of the Site buying goods and services from other local industries, with the cycle of spending working its way through the supply chain. In other words, the indirect effect is associated with SRS organizations spending in the local economy.

The **induced effect** is the response by the local economy that occurs through re-spending of income. These effects arise as SRS workers spend their income at retail, service, and other types of local establishments. This spending boosts revenues and profits at local businesses, which, in turn, leads to more spending by the businesses and their employees.

The total economic impact is the sum of the direct, indirect, and induced effects of the SRS operations. Site organization provided spending on wages, fringe benefits and expenditures for fiscal year (FY) 2020 and the economic impact was modelled using IMPLAN for the third quarter of 2020¹. IMPLAN is based on the input-output economic model. Input-output analysis is a form of economic analysis based on the interdependencies between economic sectors (<https://implan.com/application>).

The results of the analysis are summarized below.

Employment

The Site includes two federal agencies, one state organization, and four private contractors that employed 11,352 workers as of September 2020, of which 8,639 were residents of the five counties. For each job at SRS, an additional 7,173 jobs were created in the five counties, 2,688 from indirect effects and 4,485 from induced effects (see Table 4.1). In all, the Site is responsible for 15,813 jobs in the regional economy, which is 6.8% of the employment base in the five counties.

Output

SRS spent \$1,184,863,930 in the regional economy in the form of wages, benefits, and other direct expenditures. This spending by SRS organizations generated an additional \$1,003,323,730 (\$362 million in indirect effects and \$642 million in induced effects). The total \$2,170,378,118 in output is 10% of the GDP.

¹ One organization only reported total Site payroll, fringe benefits and expenditures. The percent other organizations spent on payroll and expenditures in the five counties was applied to this organization's total expenditures.

Table 4.1 Economic Impact on the Five Counties

Impact	Employment	Output
Direct	8,639	\$1,167,054,389
Indirect	2,688	\$361,755,517
Induced	4,485	\$641,568,213
Total	15,813	\$2,170,378,119

Employment Impact

In FY 2020, the SRS workforce consisted of 8,639 highly paid jobs within the five counties. SRS spending created an additional 2,688 jobs resulting from indirect effects, and 4,485 jobs due to induced effects.

The total impact of employment in the five counties is mainly concentrated in facilities and support services, followed by waste management and remediation services, and investigation and securities services (see Table 4.2). This is not surprising as they represent the three largest employers on the Site - SRNS, SRR, and Centerra.

Table 4.2 Total Economic Employment Impact of the Top 10 Industries in Five Counties

Impact		Total
	Industry	Employment
1	Facilities support services	5,194
2	Waste management and remediation services	2,270
3	Investigation and security services	740
4	Employment services	734
5	Architectural, engineering, and related services	413
6	Limited-service restaurants	337
7	Full-service restaurants	327
8	Hospitals	324
9	Other real estate	282
10	Employment and payroll of federal govt, non-military	254

Table 4.3 Indirect Impact Employment on the Top 10 Industries in Five Counties

Impact		Indirect
	Industry	Employment
1	Employment services	657
2	Personal and household goods repair and maintenance	198
3	Other real estate	162
4	Services to buildings	148
5	investigation and security services	112
6	Waste management and remediation services	106
7	Full-service restaurants	93
8	Business support services	83
9	Architectural, engineering, and related services	73
10	All other food and drinking places	73

Table 4.4 Induced Employment Impact on the Top 10 Industries in Five Counties

Impact		Induced
	Industry	Employment
1	Hospitals	324
2	Limited-service restaurants	315
3	Full-service restaurants	234
4	Retail - General merchandise stores	178
5	Offices of physicians	173
6	Retail - Food and beverage stores	147
7	Other real estate	121
8	Home health care services	115
9	All other food and drinking places	103
10	Personal care services	102

The indirect and the induced employment effects are spread across many economic sectors. Tables 4.3 and 4.4 show the industries that benefit the most from the indirect and induced effects of SRS operations. The indirect effects represent the relationships between SRS organizations and their suppliers. The indirect employment shows the number of jobs that are supported by business-to-business transactions as a result of economic activity generated by SRS and are concentrated in business services. The induced effects support a range of jobs in industries such as restaurants, retail, and healthcare.

Output Impact

In FY 2020, SRS organizations spent \$1.8 billion in wages, fringe benefits, and other expenditures in total, of which \$1.2 billion was in the local five counties. The \$1.2 billion in direct expenditures led to an additional \$362 million in indirect effects and an additional \$642 million in induced effects in the local five counties.

Table 4.5 Economic Output of the Top 10 Industries

Impact		Total
	Industry	Output
1	Facilities support services	\$652,992,136
2	Waste management and remediation services	\$374,732,639
3	Owner-occupied dwellings	\$89,699,444
4	Architectural, engineering, and related services	\$83,985,015
5	Investigation and security services	\$83,335,111
6	Employment services	\$77,947,045
7	Hospitals	\$57,536,696
8	Other real estate	\$49,330,474
9	Employment and payroll of federal govt, non-military	\$35,205,431
10	Offices of physicians	\$33,235,007

Tables 4.6 and 4.7 show the top ten industries that benefit the most from indirect and induced effects of SRS operations. The industries supported by organizations on SRS are similar whether measuring the impact by employment or output.

Table 4.6 Economic Indirect Output of the Top 10 Industries

Impact		Indirect
	Industry	Output
1	Employment services	\$69,806,485
2	Waste management and remediation services	\$32,292,716
3	Other real estate	\$28,259,673
4	Architectural, engineering, and related services	\$16,171,547
5	Accounting, tax preparation, bookkeeping, and payroll services	\$9,763,775
6	Electric power transmission and distribution	\$9,263,678
7	Personal and household goods repair and maintenance	\$7,887,576
8	Investigation and security services	\$7,571,690
9	Monetary authorities and depository credit intermediation	\$7,334,432
10	Maintenance and repair construction of nonresidential structures	\$7,148,489

Table 4.7 Economic Induced Output of the Top 10 Industries

Impact		Induced
	Industry	Output
1	Owner-occupied dwellings	\$89,699,444
2	Hospitals	\$57,536,696
3	Offices of physicians	\$33,235,007
4	Limited-service restaurants	\$22,631,345
5	Other real estate	\$21,070,801
6	Monetary authorities and depository credit intermediation	\$18,576,578
7	Full-service restaurants	\$14,691,058
8	Retail - General merchandise stores	\$13,633,592
9	Retail - Food and beverage stores	\$10,954,160
10	Electric power transmission and distribution	\$10,727,166

Fiscal Impact

The Savannah River Site also generates tax revenues for local, state, and federal governments based on the income and expenditures of employees and the SRS organizations. IMPLAN estimates the size of the tax revenues in the five counties. Table 4.8 shows the total of the direct, indirect, and induced tax revenues. SRS is contributing \$289,257,099 of tax revenue to the local region.

Table 4.8 Tax Revenues

Local Taxes	County	State	Federal	Total
Total (Direct, Indirect, and Induced)	\$5,062,864	\$45,588,499	\$221,382,456	\$289,257,099

Economic Impact on South Carolina Counties

The Savannah River Site’s impact on the local counties of South Carolina (Aiken, Allendale, and Barnwell) goes beyond the number of jobs and the dollars spent in the local economy. The Site has a ripple effect in the local economy as each dollar spent circulates and each employee spends their earnings in the local economy.

To estimate the total economic and fiscal impact of the Site on the three South Carolina counties, an economic impact analysis was conducted on the South Carolina county region. This analysis estimates the three types of impacts that were previously calculated for the entire five counties.

The information below are estimates of the direct, indirect and induced impacts solely for the (three county) South Carolina region.

The total economic impact on this region is the sum of the direct, indirect, and induced effects of the SRS operations.

The results of the analysis are summarized below.

Employment

The Site employs 6,126 workers who reside in either Aiken, Allendale, or Barnwell county. The spending associated with SRS generates a ripple of jobs in various industries. For each job on SRS, an additional 3,743 jobs were created in the three South Carolina counties (see Table 4.9). In all, the Site is responsible for 9,686 jobs in the regional economy, which is 12.1% of the South Carolina counties employment base.

Output

From the budget, SRS spent \$842,326,209 in the South Carolina counties in the form of wages, benefits, and other direct expenditures. This spending by SRS organizations generated an additional \$232,227,970 in indirect impact and \$242,817,446 in induced effect. The total amount in output is \$1,304,785,617, which is 18.5% of the Gross Domestic Product.

Table 4.9 Economic Impact on the Three Counties of South Carolina

South Carolina		
Impact	Employment	Output
Direct	6,126	\$829,740,201
Indirect	1,833	\$232,227,971
Induced	1,910	\$242,817,446
Total	9,868	\$1,304,785,617

Employment Impact

In FY 2020, the SRS workforce consisted of 6,126 highly paid jobs within the three county South Carolina region. The SRS spending created an additional 1,833 jobs resulting from indirect effects, and 1,910 jobs due to induced effects. Tables 4.10, 4.11, and 4.12 indicate the

top ten industries affected by employment impact, both indirect and induced.

Table 4.11 shows the industries most impacted by SRS’s indirect spending in the Aiken, Allendale, and Barnwell counties. The total output is focused on services such as, employment, waste management, and architectural engineering and related services. The induced effects support a range of jobs in industries such as restaurants, retail and healthcare.

Table 4.10 Total Economic Impact on the Top 10 Industries in South Carolina by Employment

Impact		Total
	Industry	Employment
1	Facilities support services	3,694
2	Waste management and remediation services	1,611
3	Investigation and security services	460
4	Employment services	455
5	Architectural, engineering, and related services	290
6	Personal and household goods repair and maintenance	210
7	Limited-service restaurants	194
8	Services to buildings	162
9	Full-service restaurants	143
10	Other real estate	141

Table 4.11 Indirect Economic Impact on the Top 10 Industries in South Carolina by Employment

Impact		Indirect
	Industry	Employment
1	Employment services	434
2	Personal and household goods repair and maintenance	197
3	Services to buildings	135
4	Other real estate	101
5	Waste management and remediation services	80
6	Landscape and horticultural services	61
7	Investigation and security services	54
8	Architectural, engineering, and related services	52
9	Full-service restaurants	50
10	Office administrative services	40

Table 4.12 Induced Economic Impact on the Top 10 Industries in South Carolina by Employment

Impact		Induced
	Industry	Employment
1	Limited-service restaurants	178
2	Retail - General merchandise stores	100
3	Full-service restaurants	93
4	Retail - Food and beverage stores	84
5	Offices of physicians	76
6	Nursing and community care facilities	61
7	Home health care services	59
8	Personal care services	58
9	Retail - Miscellaneous store retailers	51
10	Individual and family services	48

Table 4.13 Total Economic Impact on the Top 10 Industries in South Carolina

Impact		Total
	Industry	Output
1	Facilities support services	\$452,123,962
2	Waste management and remediation services	\$283,355,802
3	Architectural, engineering, and related services	\$59,934,459
4	Employment services	\$56,732,732
5	Investigation and security services	\$55,680,322
6	Owner-occupied dwellings	\$47,817,069
7	Employment and payroll of federal govt, non-military	\$24,299,083
8	Other real estate	\$22,389,905
9	Limited-service restaurants	\$14,004,915
10	Other local government enterprises	\$13,575,168

Table 4.14 Indirect Economic Impact on the Top 10 Industries in South Carolina

Impact		Indirect
	Industry	Output
1	Employment services	\$54,051,354
2	Waste management and remediation services	\$24,844,093
3	Other real estate	\$15,925,113
4	Architectural, engineering, and related services	\$12,299,755
5	Other local government enterprises	\$8,161,462
6	Personal and household goods repair and maintenance	\$7,045,532
7	Electric power transmission and distribution	\$6,619,788
8	Investigation and security services	\$6,087,358
9	Maintenance and repair construction of nonresidential structures	\$5,821,404
10	Services to buildings	\$4,536,904

Table 4.15 Induced Economic Impact on the Top 10 Industries in South Carolina

Impact		Induced
	Industry	Output
1	Owner-occupied dwellings	\$47,817,069
2	Limited-service restaurants	\$12,855,780
3	Offices of physicians	\$11,596,206
4	Hospitals	\$8,379,503
5	Retail - General merchandise stores	\$7,486,233
6	Other real estate	\$6,464,792
7	Retail - Food and beverage stores	\$6,238,642
8	Full-service restaurants	\$5,710,803
9	Other local government enterprises	\$5,413,706
10	Monetary authorities and depository credit intermediation	\$5,057,085

Fiscal Impact

Table 4.16 Tax Revenues

Impact	County	State	Federal	Total
Total (Direct, Indirect, and Induced)	(\$909,230)	\$13,867,861	\$173,590,797	\$184,188,535

Table 4.16 shows the total of the direct, indirect, and induced tax revenues in South Carolina counties for the SRS operations during the year of 2020. The negative revenues for county taxes represent the loss of property tax income because of Federal ownership of the Site. The Federal government does make Payments in Lieu of Taxes (PILT) to the three South Carolina counties that totaled approximately \$6.5 million in 2017.

Economic Impact on Georgia Counties

The Savannah River Site’s local impact on the Georgia counties (Richmond and Columbia) goes beyond the number of jobs and the dollars spent in the local economy. The Site has a ripple effect in the local economy as each dollar spent circulates and each employee spends their earnings in the local economy.

To estimate the total economic and fiscal impact of the Site on the Georgia counties, an economic impact analysis was conducted. The analysis estimates three types of impacts: direct, indirect, and induced. The total economic impact is the sum of the direct, indirect, and induced effects of the SRS operations. The results of the analysis are summarized in Table 4.17.

Table 4.17 Economic Impact on the Two Georgia Counties

Impact	Employment	Output
Direct	2,513	\$337,326,827
Indirect	827	\$104,178,727
Induced	1,161	\$169,342,142
Total	4,501	\$610,847,696

Employment

The Site employs 2,513 residents of the two county Georgia region in 2020. The SRS spending created an additional 827 jobs resulting from indirect effects, and 1,161 jobs due to induced effects. Thus, for each job at SRS, an additional 1,988 jobs are created in the Georgia counties. In all, the Site is responsible for 4,501 jobs in the regional economy, which is 3.0% of the two county Georgia employment base.

Table 4.18 Total Employment Impact on the Top 10 Industries in the Georgia Counties

Impact	Total
Industry	Employment
1 Facilities support services	1,503
2 Waste management and remediation services	657
3 Investigation and security services	266
4 Employment services	235
5 Architectural, engineering, and related services	111
6 Full-service restaurants	95
7 Other real estate	89
8 Limited-service restaurants	89
9 Hospitals	88
10 Employment and payroll of federal govt, non-military	78

Table 4.19 Indirect Employment Impact on the Top 10 Industries in the Georgia Counties

Impact		Indirect
	Industry	Employment
1	Employment services	214
2	Other real estate	55
3	Investigation and security services	52
4	Personal and household goods repair and maintenance	52
5	Services to buildings	42
6	Full-service restaurants	32
7	Business support services	26
8	Waste management and remediation services	26
9	All other food and drinking places	25
10	Accounting, tax preparation, bookkeeping, and payroll services	20

Figure 4.20 Induced Employment Impact on the Top 10 Industries in the Georgia Counties

Impact		Induced
	Industry	Employment
1	Hospitals	88
2	Limited-service restaurants	82
3	Full-service restaurants	64
4	Retail - General merchandise stores	46
5	Offices of physicians	43
6	Retail - Food and beverage stores	38
7	Other real estate	34
8	All other food and drinking places	28
9	Home health care services	27
10	Personal care services	26

The indirect and the induced employment effects were spread across many economic sectors. Tables 4.19 and 4.20 show the industries that benefit the most from the indirect and induced effects of SRS operations and indirect effects are concentrated in business services. The induced effects represent the spending of their employees and further support jobs in industries such as restaurants, retail, personal care, and healthcare.

Output

In FY 2020, SRS organizations spent \$342,539,101 in the Georgia counties in the form of wages, benefits, and other direct expenditures. This spending by SRS organizations generated an additional \$104,178,727 in indirect and \$169,342,142 in induced output effects. The total output represents 4.1% of the total GDP for the two-county region.

Table 4.21 Total Output Impact on the Top 10 Industries in the Georgia Counties

Impact		Total
	Industry	Output
1	Facilities support services	\$200,748,042
2	Waste management and remediation services	\$88,484,200
3	Investigation and security services	\$27,593,902
4	Owner-occupied dwellings	\$24,184,057
5	Employment services	\$23,430,120
6	Architectural, engineering, and related services	\$21,954,224
7	Other real estate	\$16,098,176
8	Hospitals	\$15,446,609
9	Employment and payroll of federal govt, non-military	\$10,907,234
10	Monetary authorities and depository credit intermediation	\$8,806,878

Table 4.21 shows the industries supported by SRS spending in Columbia and Richmond counties. The total output is focused on business services, such as facilities, employment, investigation, and security services. Also, the induced effects support a range of jobs in industries such as healthcare, restaurants, and real estate (see Table 4.23).

Table 4.22 Indirect Output Impact on the Top 10 Industries in the Georgia Counties

Impact		Indirect
	Industry	Output
1	Employment services	\$21,325,417
2	Other real estate	\$10,033,131
3	Waste management and remediation services	\$5,839,747
4	Accounting, tax preparation, bookkeeping, and payroll services	\$3,202,007
5	Monetary authorities and depository credit intermediation	\$2,790,719
6	Electric power transmission and distribution	\$2,749,005
7	Cable and other subscription programming	\$2,729,016
8	Architectural, engineering, and related services	\$2,711,948
9	Personal and household goods repair and maintenance	\$2,249,027
10	Services to buildings	\$2,058,746

Table 4.23 Induced Output Impact on the Top 10 Industries in the Georgia Counties

Impact		Induced
	Industry	Output
1	Owner-occupied dwellings	\$24,184,057
2	Hospitals	\$15,446,609
3	Offices of physicians	\$8,680,787
4	Other real estate	\$6,065,045
5	Monetary authorities and depository credit intermediation	\$6,016,158
6	Limited-service restaurants	\$5,852,816
7	Full-service restaurants	\$4,046,907
8	Retail - General merchandise stores	\$3,610,550
9	Electric power transmission and distribution	\$2,865,538
10	Wireless telecommunications carriers (except satellite)	\$2,859,545

Fiscal Impact

Figure 4.24 Tax Revenues for the Georgia Counties

Taxes	County	State	Federal	Total
Total (Direct, Indirect, and Induced)	\$874,744	\$11,370,129	\$61,868,999	\$77,746,092

Table 4.24 shows the total of the direct, indirect, and induced tax revenues for Georgia counties for the SRS operations during the year of 2020. SRS has contributed \$77,746,092 of tax revenue to the two counties of Georgia.

5. Small Business

SRS spent almost \$115 million on small businesses within the five counties which accounts for around 65% of its spending on small businesses. As seen in Table 5.1, the breakdown of the small business categories is as follows: veteran-owned, service-disabled veteran-owned, historically underutilized hubs, disadvantaged-owned, women-owned, and other small business (those that do not fit under the stated categories).

Table 5.1 Total and Five Counties Expenditures with Small Businesses

Business	Total	Five-County	Five-County %
Small Business	\$176,758,020	\$114,607,052	64.8%
Veteran-owned	\$15,480,892	\$9,387,286	60.6%
Service-disabled	\$8,969,633	\$7,499,862	83.6%
Historically Underutilized	\$9,508,584	\$2,985,160	31.4%
Disadvantaged	\$41,191,427	\$18,375,061	44.6%
Women-owned	\$77,496,762	\$56,672,042	73.1%
Other Small Business	\$24,110,721	\$19,687,641	81.7%

Figure 5.1 Total and Five Counties Expenditures with Small Businesses

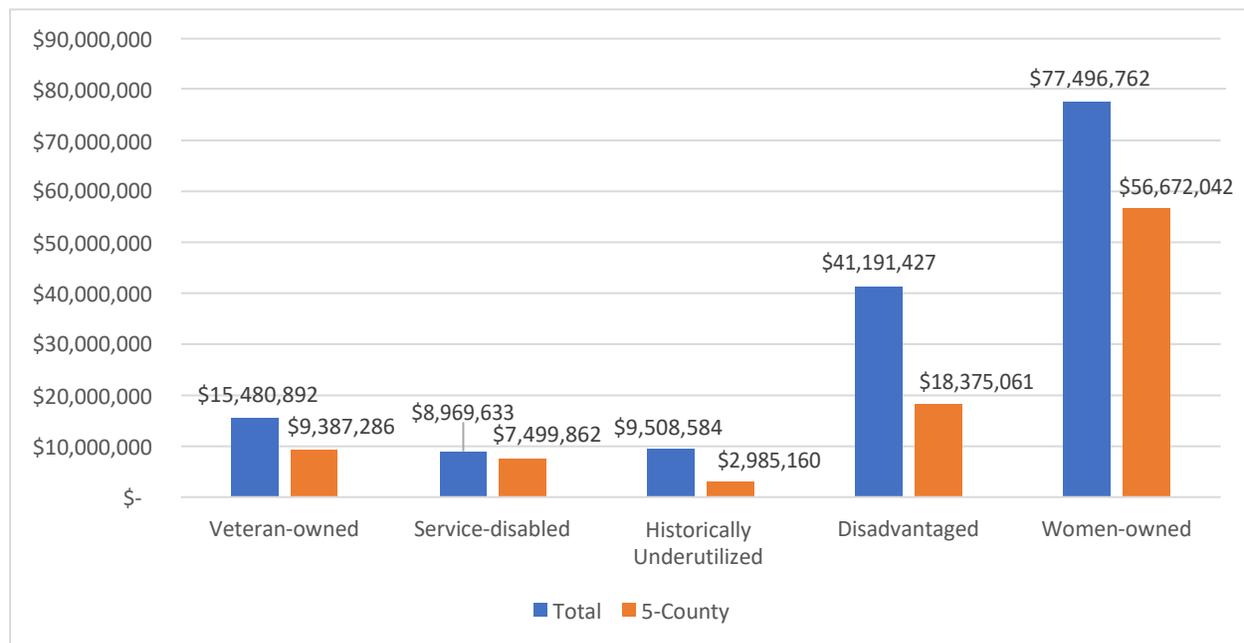
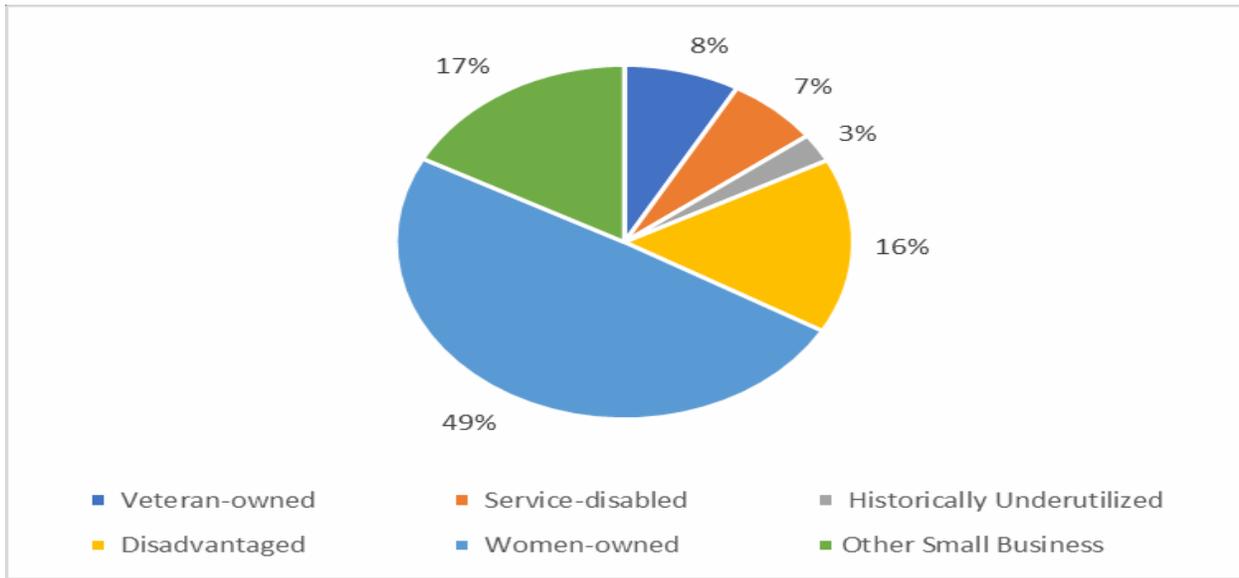


Figure 5.1 illustrates the comparison of SRS's spending. Veteran-owned spending in total was \$15.5 million with only \$9 million occurring within the five counties. This is shown respectively for the other categories of small businesses. Service-disabled small businesses account for the largest percentage (83.6%) of spending in the local region while women-owned businesses account for the largest dollar amount (\$56.7 million).

Figure 5.2 Percentage of Spending at Small Businesses by Type in the Five Counties



Almost half of small business spending is with women-owned small businesses and the least amount of spending is with historically underutilized hubs which account for only 3% within the five counties.

Within Columbia and Richmond counties, most of the spending, excluding the other small business category, went into disadvantaged-owned businesses and the least percentage of spending, at 2%, was in service-disabled veteran-owned businesses (see Figure 5.3). In the South Carolina counties, by contrast, 63% of spending was at women-owned businesses followed by disadvantaged-owned businesses at 18%.

Figure 5.3 Percent Spending Across the Five Categories of Small Business in Georgia

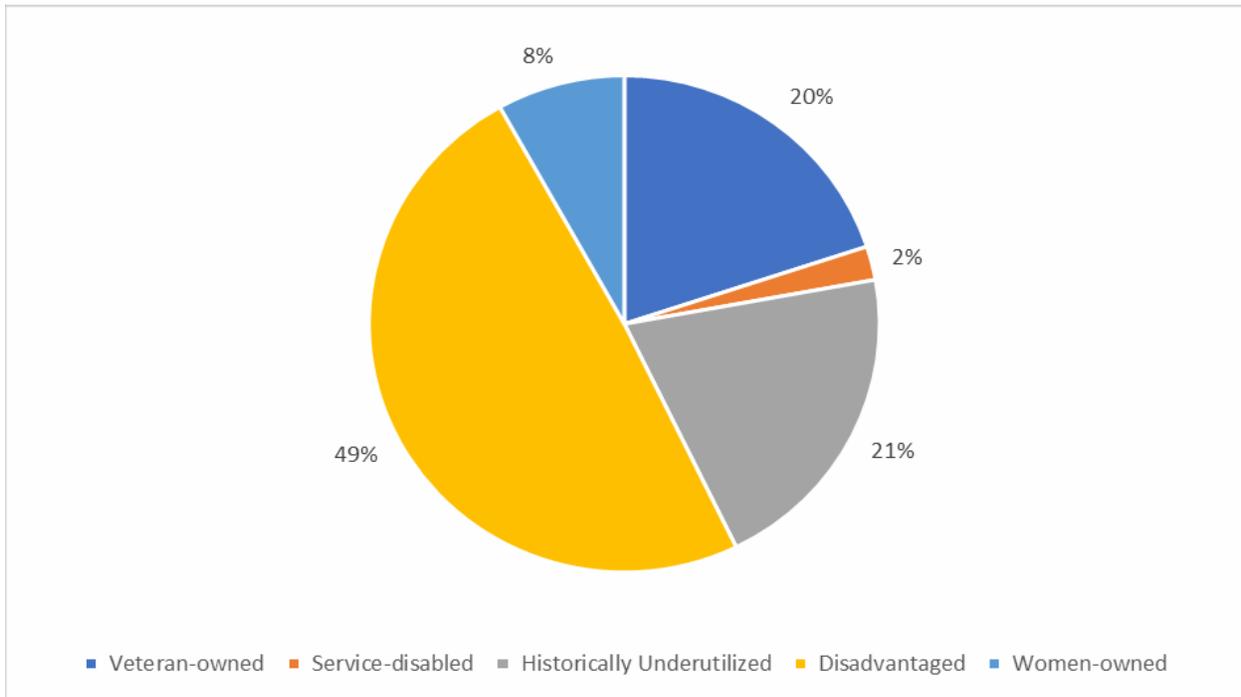
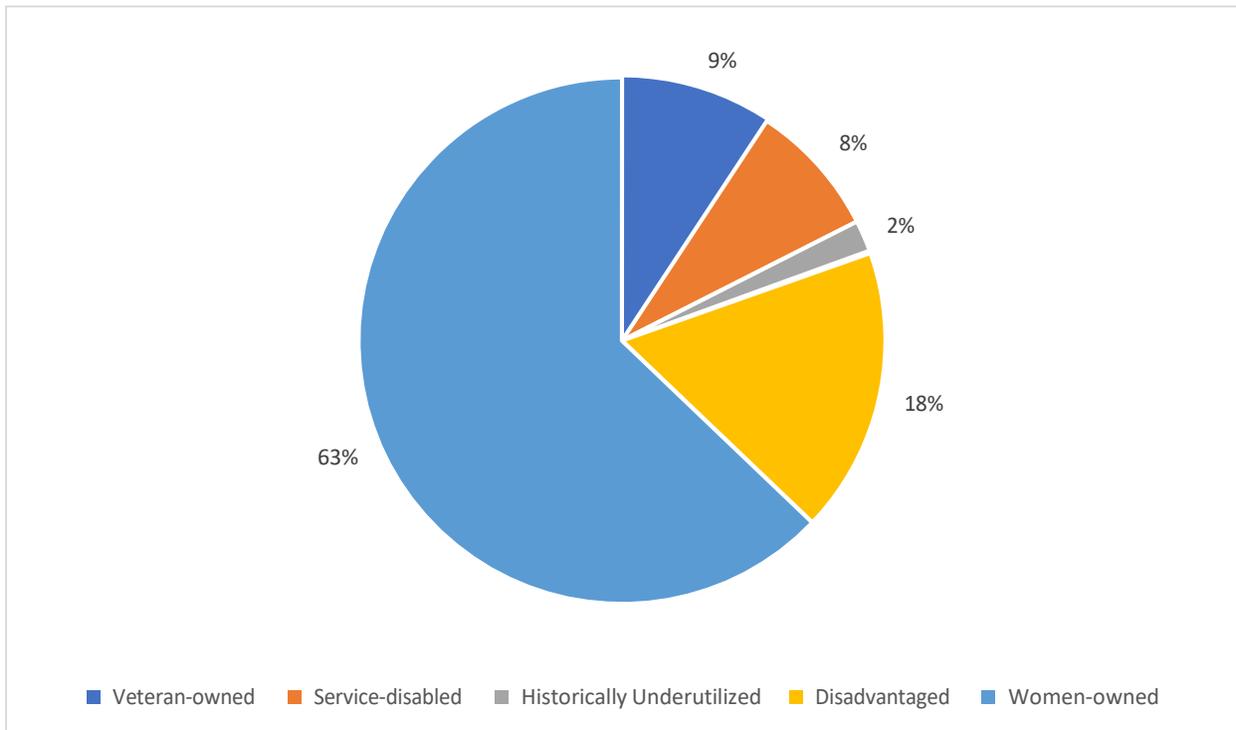


Figure 5.4 Percent Spending Across the Five Categories of Small Business in South Carolina



Small Business Impact

Small businesses have a huge impact on the five counties. Small businesses contribute to local economies by bringing growth and innovation to the community in which the small business is established. This plays a major part in stimulating economic growth by providing employment opportunities and improving the communities' overall quality of life. When jobs are created, the GDP in that area increases and when more jobs are created, a more competitive market begins to form. This allows for the price level of products to lower as local businesses may be able to offer cheaper products for consumers. This decrease in price level builds the communities' confidence to spend. This increase in money and tax revenues allow the government to spend more on important public services such as health and education. Education is seen as an important determinant of welfare and happiness; quality of life. Small businesses are an essential part of the circle that impacts the five counties, and all regions nationwide.

Table 5.2 illustrates the spending and jobs created within the five major small business categories by SRS organization's expenditures. It is important to note that these numbers are estimates, with the model suggesting that X number of jobs are directly supported by SRS expenditures, giving \$Y in revenue.

For example, it is estimated that 284 jobs are directly supported at women-owned businesses with an associated output of \$56.7 million. A further 127 jobs are supported by indirect effects (\$16 million output) of SRS expenditures and 98 jobs (\$14 million in output) from induced effects. It is important to note that the indirect and induced effects are not necessarily at women-owned businesses but occur in the general economy. The same interpretation may be applied to disadvantaged, veteran, service disabled, and historically underutilized hub businesses.

Table 5.2 IMPLAN Analysis for Small Businesses

<i>Women-Owned</i>		
Impact	Employment	Output
Direct	284	\$56,672,042
Indirect	127	\$16,386,163
Induced	98	\$14,178,817
Total	508	\$87,237,022

<i>Disadvantaged-Owned</i>		
Impact	Employment	Output
Direct	86	\$18,112,702
Indirect	38	\$4,838,297
Induced	31	\$4,454,762
Total	155	\$27,405,761

<i>Veteran-Owned</i>		
Impact	Employment	Output
Direct	52	\$9,387,286
Indirect	24	\$2,992,636
Induced	17	\$2,389,199
Total	92	\$14,769,121

<i>Service-Disabled Veteran-Owned</i>		
Impact	Employment	Output
Direct	41	\$7,499,862
Indirect	18	\$2,362,621
Induced	13	\$1,921,290
Total	73	\$11,783,773

<i>Underutilized</i>		
Impact	Employment	Output
Direct	18	\$2,937,049
Indirect	8	\$1,025,534
Induced	5	\$779,881
Total	31	\$4,742,464

6. Comparison to Previous Reports

Previous studies were conducted in 2011 (using 2010 data) and 2017 (using 2016 data). This study used 2020 data to continue to examine the effects on the local economy but also added the impact on just the South Carolina counties and just the Georgia counties. Additionally, this study analyzed expenditures at small businesses and the age profile of the Site.

Figure 6.1 compares the economic impact from the three studies, while Figure 6.2 compares the jobs supported by SRS. Overall, the economic impact of the SRS was \$2.2 billion in 2020, down from \$2.4 billion in the previous two studies. The number of jobs supported by the Site also fell from over 23,000 in 2010 to 18,700 in 2016, to just under 16,000 in 2020. Most of the difference between 2016 and 2020 is due to reduced induced effects. Induced effects were about \$180 million less in 2020 than in 2016 (see Figure 6.3). Induced jobs were 2,366 fewer. However, the average wage increases in 2020 by about \$10,000 to \$97,918.

Much of this reflects the effects of the COVID-19 pandemic which severely reduced the number of supported jobs in the restaurant industry, health care, and retail (see Table 6.1). Economic growth for 2020 was sluggish in comparison to previous years because of the spread of the COVID-19 virus. Public reaction to the disease, and lock downs, caused a decrease in consumer spending and an associated decrease in jobs. The job multiplier decreased to 1.8 in 2020 from 2.2 in 2016, mostly due to fewer induced jobs in retail, leisure and hospitality, and health care.

Figure 6.1 Comparison of Economic Impact

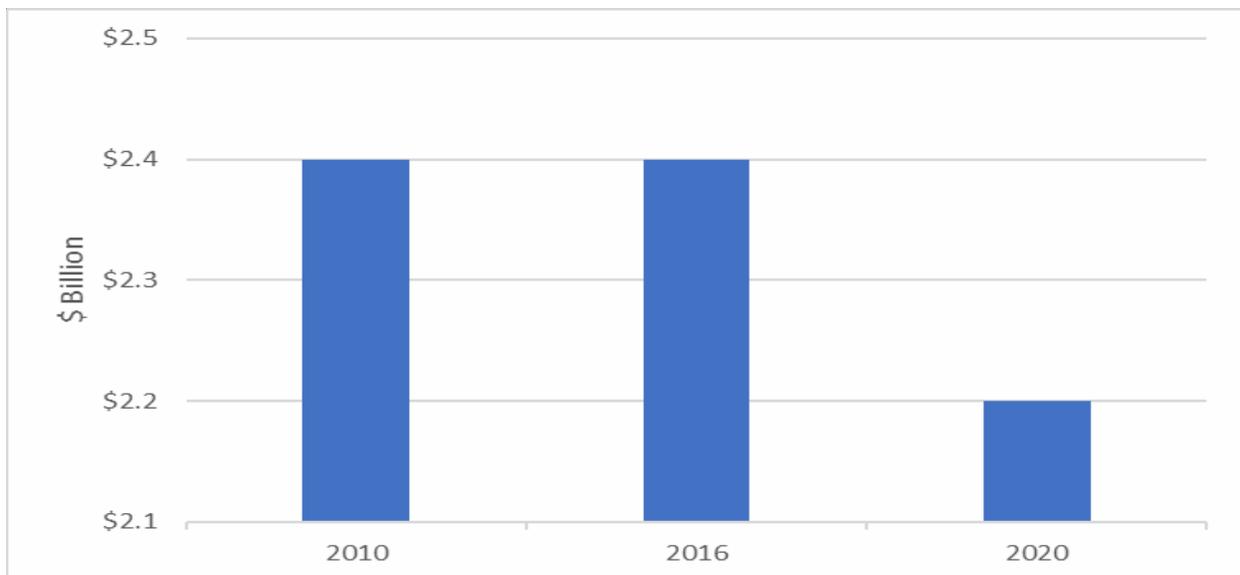


Figure 6.2 Comparison of Jobs Supported

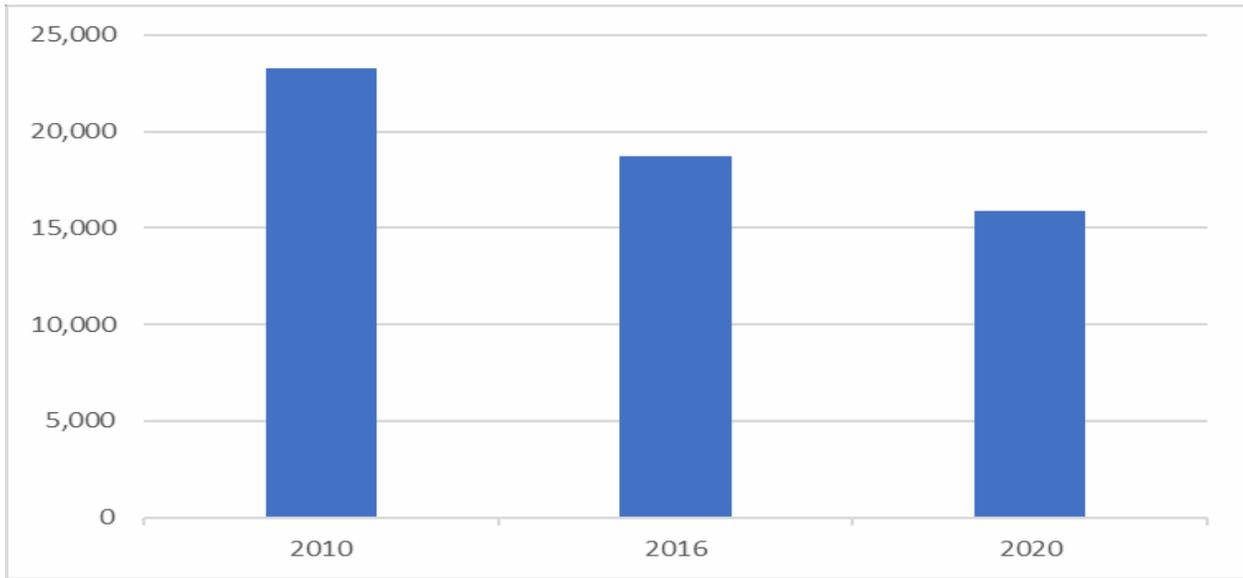


Figure 6.3 Output Impact Comparison 2016 and 2020

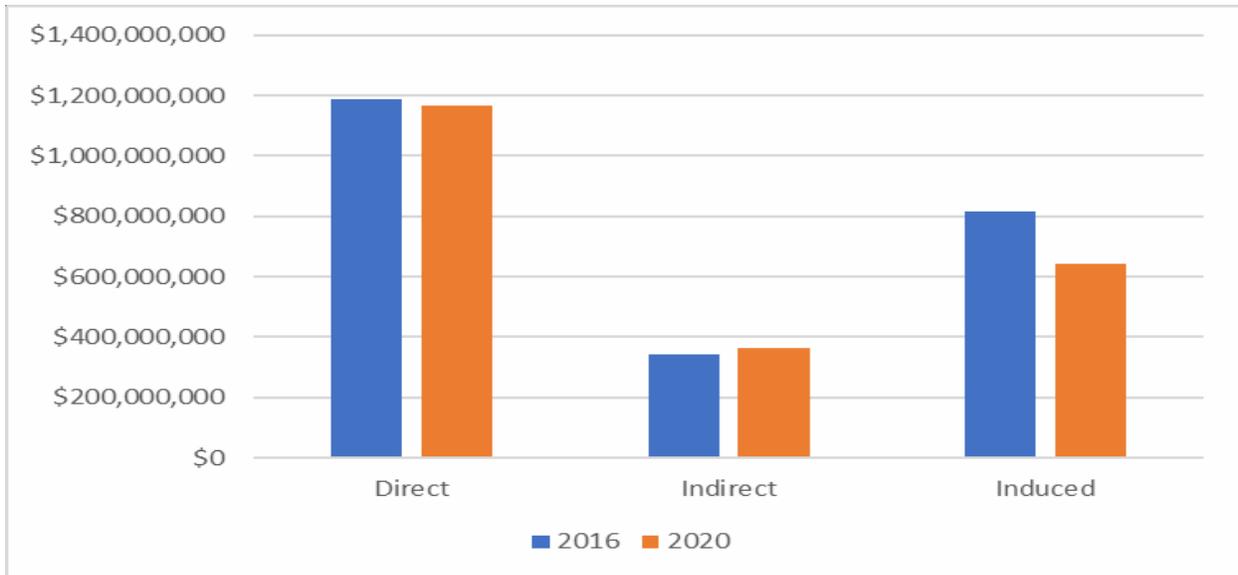


Table 6.1 Comparison of Supported Induced Jobs

Impact		Induced
	Industry	Employment (2016)
1	Hospitals	324 (431)
2	Limited-service restaurants	315 (413)
3	Full-service restaurants	234 (362)
4	Retail - General merchandise stores	178 (253)
5	Offices of physicians	173 (246)
6	Retail - Food and beverage stores	147 (222)
7	Other real estate	121 (331)
8	Home health care services	115
9	All other food and drinking places	103 (178)
10	Personal care services	102 (159)

Table 6.2: Comparison of Key Variables for 2016 and 2020

	2016	2020
Scope	FY 2016	FY 2020
Methodology	Economic impact analysis	Economic impact analysis
Economic model	IMPLAN	IMPLAN
SRS Employment		
Total	10,532	11,352
Five counties	8,566	8,639
SRS wages		
Total	\$914,375,507	\$984,782,178
Five counties	\$753,660,806	\$857,031,782
SRS Total Expenditures		
Total	\$1.8 billion	\$1.8 billion
Five counties	\$1.4 billion	\$1.4 billion
Impact Summary	FY 2016	FY 2020
Total employment	18,705	15,813
Total output	\$2.4 billion	\$2.2 billion
Total Taxes	\$388 million	\$289 million
Summary Statistics	FY 2016	FY 2020
Employment multiplier	2.2	1.8
Average SRS wages (in the five counties)	\$87,978	\$97,918

In summary, the SRS in 2020 had the following characteristics and impacts in the five counties:

- Average wage of \$97,918
- Average age of 46.8
- Economic impact of \$2.2 billion
- 15,813 jobs supported
- \$115 million direct spending with small businesses

Definitions²

- Veteran-owned: a concern not less than 51% of which is owned by one or more veterans, or in the case of any publicly owned business, not less than 51% of the stock which is owned by one or more veterans
- Service-disabled: a concern not less than 51% of which is owned by one or more service-disabled veterans, or in the case of any publicly owned business, not less than 51% of the stock which is owned by one or more service-disabled veterans
The management and daily business operations of which are controlled by one or more service-disabled veterans, or in the case of a service-disabled veteran with a permanent and severe disability, the spouse or permanent caregiver of such veteran.
- Historically Underutilized Hubs: As defined in FAR 52.219-4, a small business concern that appears on the List of Qualified HUBZone Small Business Concerns maintained by the SBA.
- Disadvantaged: Small Business Act defines socially disadvantaged individuals are those who have been subjected to racial or ethnic prejudice or cultural bias within American society because of their identities as members of groups and without regard to their individual qualities and the social disadvantaged must stem from circumstances beyond their control
 - Black
 - Hispanic American
 - Native American
 - Asian Pacific American
 - Subcontinent Asians American
- Women-owned: a concern that is at least 51% owned by one or more women; or in the case of any publicly owned business, at least 51% of its stock is owned by one more women.

² https://savannahrivernuclearsolutions.com/opportunities/sup_diversity/definitions.htm;
<https://www.acquisition.gov/far/52.219-27?&searchTerms=veteran-owned+business>;
<https://web.sba.gov/sbtn/sbat/8aAssessmentTool.html>