

## **Risk and Return on Investment Assessment**

### **The Economic and Fiscal Impact of the Firms Most at Risk of Closure from Covid19**

**Colorado Springs, Colorado -- April 28, 2020**

Summit Economics, LLC was retained by the City of Colorado Springs to estimate the economic and fiscal impacts to Colorado Springs and El Paso County that might result from soft loans or investments made with local businesses who have either shut down or are at serious risk of laying off employees and closing the business as a result of the Covid19 pandemic. The research effort:

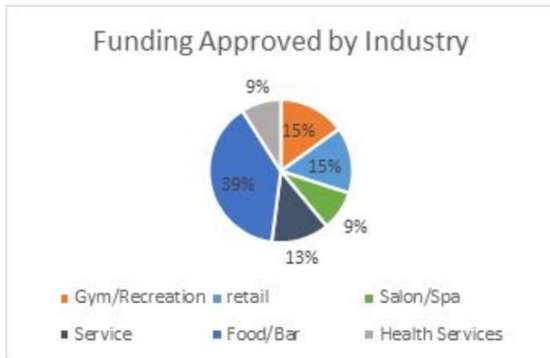
*Shall develop a two phase approach to assist with tracking and assessing the return on investment of the local small business stabilization efforts of the funders/investors and the consortium of the Survive and Thrive, the City [of Colorado Springs], El Paso County, the Pikes Peak Community Foundation, the DDA, the CSCEDC, and others.*

The first phase involved limited research given the urgency of the economic situation facing small businesses and developing an economic impact model resulting from the research and critical assumptions as outline herein. The second phase involves monitoring progress and estimating the impact associated with the assistance made to small businesses through the efforts of funders/investors.

#### **Business Sectors Most Impacted**

Two sources of information were reviewed to determine the business sectors most impacted by the economic shutdown associated with the pandemic. These include 1) initial applications and soft loan investments made by Survive and Thrive in the last few weeks and 2) national research conducted by the National Bureau of Economic Research.

Figure 1: Week 1 Funding by Industry



### Survive and Thrive Applications and Funding

Through week 1 of their program (approximate date of April 15th) Survive and Thrive approved loans totaling just under \$500,000 to 25 businesses. This was out of an applicant pool of roughly 200. An additional 22% of the applicants have been recommended for funding. Approximately 70% of the applicants are very small businesses with less than 10 employees and \$500,000 in annual sales. Approved funding by industry is shown in Figure 1.

### National Bureau of Economic Research (NBER)

NBER is the national bureau responsible for calling the official beginning and end of recessions. They conduct extensive research on the national economy in a nonpartisan fashion. Their working papers are circulated for discussion and comment primarily among economists. Their working paper titled *How are Small Businesses Adjusting to COVID-19? Early Evidence from a Survey*, discusses survey results of more than 5,800 small businesses in the United States in the week following March 26, 2020.<sup>1</sup> The paper's abstract summarizes the main findings:

*First, mass layoffs and closures have already occurred. In our sample, 43 percent of businesses are temporarily closed, and businesses have – on average – reduced their employee counts by 40 percent relative to January. Second, consistent with previous literature, we find that many small businesses are financially fragile. For example, the median business has more than \$10,000 in monthly expenses and less than one month of cash on hand. Third, businesses have widely varying beliefs about the likely duration of COVID related disruptions. Fourth, the majority of businesses planned to seek funding through the CARES act. However, many anticipated problems with accessing the aid, such as bureaucratic hassles and difficulties establishing eligibility.*

Unfortunately, none of the dire findings are surprising. For the purposes of this research, we are interested in the types of businesses that appear most in need and future expectations

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<sup>1</sup> For full working paper see <http://www.nber.org/papers/w26989>. The survey respondents align well with the 2017 Census of Businesses with under 500 employees.

among the businesses. This will assist in establishing parameters for the economic impact model. Reviewing the White Paper, we note:

- Firms have a median of less than half a month of cash available in the end of January 2020 relative to their monthly expenses. This argues for drastic operational cuts and a liquidity crisis.
- Just over 50% of small businesses believe the COVID-19 crisis will end before July 1, 2020.
- The respondents, despite their financial situation are optimistic they will be open on December 31, 2020 with just under 60% with less than median cash on hand believing it is very to extremely likely they will be open and just under 80% of those with more than median cash on hand.
- Approximately 70% of those respondents believing the crisis will end before July 1 believe they will be open on December 31, 2020. For each quarter that small business believe the crisis will extent (from July 1 to October 1 and then October 1 to January 1) the confidence of being open December 31, 2020 drops by approximately 10% so that only 50% of those respondents believing the crisis will extend until the end of the year believe they will be open by year's end.
- Respondents from the Mountain region when compared to other regions were above the mean in their expectation of the length of the COVID-19 crisis (16 weeks versus mean 15.38) and below with mean in percentage currently closed (38.8 versus mean of 44.6%) and belief they will be closed on December 31, 2020 (34.8% versus mean of 36.6%).
- Firms with 5 to 9 employees were more likely to be currently closed and, along with firms with 10 to 19 employees were more likely to believe they would be closed on December 31.
- Industries with the highest current closure rate are: Personal Services (86%), Arts and Entertainment (71.3%), Tourism & Lodging (61.5%), Restaurants & Related (54.3%), All Retailers except Grocery (52.2%), Health Care & Related (44.5%). These rates of current closure compare to the mean across all industries of 44.6%. The same industries were above average in expecting to be closed on December 31 even though their relative positions changed with personal services dropping to 38.7% and restaurants (54.6%), lodging (44.2%), and retail (44.1%) climbing to the top 3.

### County Business Patterns

County Business Patterns (CBP) is a census of establishments conducted by the U.S. Census Bureau. The reported data includes total enterprise establishments in El Paso County, their employees as of March 12<sup>th</sup> of each year, and both last annual payroll and payroll for the first

quarter of each calendar year. The data reporting lags by about three years. Thus, the last year with a final (versus preliminary) report is 2017. The number of establishments is further broken down by general and detailed industry and sector, as well as the number of establishments by number of employees (1-5, 5-9, 10-19, 20-49, 50-99, 100-249, 250-499, 500-999, 1000 plus).

CBP does not include non-employer statistics (NES) which includes all federal tax paying establishments without employees. This is significant as the total number of non-employee tax filing establishments totals 52,838 in El Paso County while the number of establishments with employees only totaled 17,542 in 2017. Looking at estimated sales or output by establishments, the order is reversed as NES only reports sales of \$2.2 billion while establishments with employees reported an annual payroll of \$11.3 billion which equates roughly into total sales of \$30.5 billion.

This report considers only establishments with employees. In 2017 the 17,542 establishments reported 242,125 employees with an \$11.3 billion annual payroll. The first quarter 2017 payroll was \$2.7 billion.

*Table 1: Industries most at risk*

<b>High Closure Rate Industry Shares of Total</b>			
	Establish-ments	Employ-ees	Payroll
Accommodation and food services	7.8%	12.5%	5.2%
Arts, entertainment, and recreation	1.6%	1.6%	0.6%
Health care and social assistance	12.1%	16.2%	16.6%
Personal and laundry services	2.8%	1.2%	0.6%
Retail trade	11.7%	13.0%	8.4%
Total High Closure Rate Industries	36.2%	44.4%	31.4%
Total for all Industries	100.0%	100.0%	100.0%

The industries with higher closure rates from the NBER study, which generally corresponds with the initial funding by Survive and Strive, comprise 33.5% of all establishments under 20 employees and 36.1% of all firms in El Paso County. Table 1 shows the share of total establishments, employees, and annual payroll represented by the high closure rate industries. As shown in the table, the industries with the highest closure rates

represent 36.2% of all establishments, 44.4% of all employees, and 31.4% of all annual payroll in El Paso County. All of these industries except Health Care and Social Assistance could be considered at high risk of permanent closure.

As noted in Table 2, the industries each have a different business structure. Accommodation

Table 2: Industry Indices

Indices of High Closure Rate Industries			
	Average per Establishment		
	# of Employees	Annual Payroll 000s *	Annual Sales 000s **
Accommodation and food services	22	\$ 426	\$1,292
Arts, entertainment, and recreation	13	\$ 256	\$ 775
Health care and social assistance	18	\$ 880	\$3,521
Personal and laundry services	6	\$ 137	\$ 303
Retail trade	15	\$ 461	\$2,304
Total for all Industries	14	\$ 644	\$1,951
* Excludes many tips in food service, and personal services plus owners non-compensation income. Estimated by Summit Economics.			
CBP U.S. Census, Summit Economics			

and food services tends to have the largest number of employees per establishment but lower payrolls due to the common practice of tipping in the industry. The lower average payroll is also common in another tourism industry – Arts, Entertainment and Recreation. Personal care services are on average the smallest establishments and yet their payrolls comprise a larger percentage of estimated total sales. The retail industry is especially vulnerable to the current crisis as retail stores are also being pressured by market trends to online retail sales.

## Impact Modeling

### Industry Impact

This modeling effort has been prepared at two levels. The first level shows the total number of establishments (firms), jobs, and payroll impacted, as well as the total output (establishments' revenue) and fiscal impacts (sales taxes) at risk in all the most impacted industry sectors as noted in the NBER survey. The total number of jobs within each sector was estimated using County Business Patterns (CBP) for firms with 1 to 25 employees, and then run through the Implan economic impact system to estimate payroll and output for those jobs.<sup>2</sup> Payroll earnings per job also came from CBP. These average earnings then drove the estimated sales tax impacts from both the direct and the total job impacts. The total industry assessment is useful to understand the magnitude of the risk to the local economy.

The second level of analysis used the same approach; however, it shows the impact per direct job. It is most useful when comparing the investment made to save a job to the results in terms of total jobs, household earnings or payroll and output saved, as well as the tax revenue saved.

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<sup>2</sup> Implan economic impact model is one of the more nationally recognized and accepted regional impact models in the U.S. <https://implan.com>

Table 3 presents each industry sector judged to be most at risk of closure due to Covid 19, as well as the total number of jobs in each of those sectors in El Paso County. The table then summarizes the results of the analysis to show total jobs, direct and total payroll, direct and total average earnings per job, and the total output generated by that industry, per year. The 30,546 direct jobs and 13,303 indirect and induced job most at risk support a grand total of \$2.26 billion in payroll earnings per year, and \$4.89 billion in output. Output is the rough equivalent of private, public, and non-profit revenues from all relevant establishments.

*Table 3 Economic Impacts by Industry Sector*

<b>Summary of Impacts by Industry Sector for Firms with 1-25 Employees</b>	Direct Jobs	Indirect & Induced Jobs	Total Jobs	Multiplier*	Direct Payroll	Total Payroll	Direct Average Wage	Total Average Wage	Total Output
Clothing and Clothing Accessories Stores	1,658	559	2,217	1.34	55,811,619	81,682,704	\$ 33,662	\$ 36,841	200,801,317
Accommodation	893	382	1,275	1.43	37,993,429	56,043,451	\$ 42,546	\$ 43,942	175,831,236
Ambulatory Health Care Services	8,525	5,725	14,250	1.67	697,100,654	970,342,111	\$ 81,771	\$ 68,096	2,056,777,648
Amusement, Gambling, and Recreation Industries	838	279	1,117	1.33	32,522,269	45,771,309	\$ 38,809	\$ 40,965	119,140,743
Food Services and Drinking Places	8,173	1,928	10,101	1.24	256,578,269	344,406,152	\$ 31,393	\$ 34,096	824,964,944
Furniture and Home Furnishings Stores	655	309	963	1.47	32,678,081	46,980,235	\$ 49,928	\$ 48,767	112,064,466
Miscellaneous Store Retailers	1,793	413	2,206	1.23	67,721,686	86,290,291	\$ 37,781	\$ 39,125	139,277,940
Museums, Historical Sites, and Similar Institutions	77	41	118	1.54	3,123,930	4,932,178	\$ 40,836	\$ 41,804	17,717,623
Other Personal Services	2,485	1,659	4,144	1.67	186,585,763	262,423,759	\$ 75,100	\$ 63,332	525,906,020
Non Store Retailers	913	280	1,192	1.31	22,286,923	35,280,744	\$ 24,424	\$ 29,590	110,528,286
Motor Vehicle & Parts Dealers	1,662	851	2,513	1.51	131,608,394	170,274,411	\$ 79,187	\$ 67,751	301,189,944
Electronics & Appliance Stores	357	138	495	1.39	20,468,927	26,767,561	\$ 57,336	\$ 54,029	55,697,586
Health & Personal Care Stores	1,027	359	1,385	1.35	46,040,576	62,470,230	\$ 44,852	\$ 45,103	127,971,520
General Merchandise Stores	291	78	369	1.27	11,171,033	14,709,360	\$ 38,388	\$ 39,884	29,965,759
Performing Arts, Spectator Sports, and Related Industries	467	82	549	1.18	6,776,380	10,206,451	\$ 14,510	\$ 18,589	23,624,790
Sporting Goods, Hobby, Musical Instrument, and Book Stores	735	219	953	1.30	28,599,409	38,583,304	\$ 38,937	\$ 40,482	71,024,398
<b>Total Most Impacted Industries</b>	<b>30,546</b>	<b>13,303</b>	<b>43,848</b>	<b>1.44</b>	<b>\$ 1,637,067,341</b>	<b>\$ 2,257,164,252</b>	<b>\$ 53,594</b>	<b>\$ 51,477</b>	<b>\$4,892,484,222</b>
* Multiplier is the ratio of total jobs to direct jobs. * Indirect jobs are created from firms buying supplies and services from other firms. Induced are from employees spending their paychecks									
Implan, Summit Economics									

Table 4: Sales Tax Receipts from Most at-Risk Industries

Summary of First Year Sales Tax Impacts	City Sales Tax	County Sales Tax	PPRTA Sales Tax
	Clothing and Clothing Accessories Stores	\$ 713,580	\$ 281,315
Accommodation	\$ 489,596	\$ 193,014	\$ 156,922
Ambulatory Health Care Services	\$ 8,476,909	\$ 3,341,858	\$ 2,716,958
Amusement, Gambling, and Recreation Industries	\$ 399,858	\$ 157,636	\$ 128,160
Food Services and Drinking Places	\$ 3,008,732	\$ 1,186,135	\$ 964,337
Furniture and Home Furnishings Stores	\$ 410,419	\$ 161,800	\$ 131,545
Miscellaneous Store Retailers	\$ 753,832	\$ 297,184	\$ 241,613
Museums, Historical Sites, and Similar Institutions	\$ 43,088	\$ 16,986	\$ 13,810
Other Personal Services	\$ 2,292,534	\$ 903,787	\$ 734,787
Non Store Retailers	\$ 308,213	\$ 121,507	\$ 98,786
Motor Vehicle & Parts Dealers	\$ 1,487,517	\$ 586,425	\$ 476,768
Electronics & Appliance Stores	\$ 233,841	\$ 92,187	\$ 74,949
Health & Personal Care Stores	\$ 545,740	\$ 215,147	\$ 174,917
General Merchandise Stores	\$ 128,501	\$ 50,659	\$ 41,186
Performing Arts, Spectator Sports, and Related Industries	\$ 89,164	\$ 35,151	\$ 28,578
Sporting Goods, Hobby, Musical Instrument, and Book Stores	\$ 337,064	\$ 132,881	\$ 108,033
<b>Total Most Impacted Industries</b>	<b>\$ 19,718,587</b>	<b>\$ 7,773,674</b>	<b>\$ 6,320,060</b>

Table 4 shows the total annual sales tax revenue impacts that would be lost if all payroll earnings disappeared from the indicated sectors. The City Sales tax rate is 3.12%, the County is 1.23% and the PPRTA is 1%. In total, the most impacted industries' payrolls currently generate about \$19.7

million in City sales tax, \$7.8 million to the County and \$6.3 million to the PPRTA.

Table 5: Average Size of Firms Modeled

Average Number of Employees for Industry Sectors Most at Risk of Closure for Firms with 1 to 25 Employees			
NAICS	Industry Sector	Total Employees	Avg # Employees
448	Clothing and Clothing Accessories Stores	1,658	8.2
721	Accommodation	893	8.6
621	Ambulatory Health Care Services	8,525	5.7
711	Amusement, Gambling, and Recreation Industries	838	6.7
722	Food Services and Drinking Places	8,173	9.6
442	Furniture and Home Furnishings Stores	655	6.5
453	Miscellaneous Store Retailers	1,793	6.8
712	Museums, Historical Sites, and Similar Institutions	77	7.7
8129	Other Personal Services	2,485	5.2
454	Non Store Retailers	913	4.5
441	Motor Vehicle & Parts Dealers	1,662	8.7
443	Electronics & Appliance Stores	357	5.6
446	Health & Personal Care Stores	1,027	7.7
452	General Merchandise Stores	291	9.2
711	Performing Arts, Spectator Sports, and Related Industries	467	4.0
451	Sporting Goods, Hobby, Musical Instrument, and Book Stores	735	6.7
	<b>Total All Industries Most at Risk of Closure</b>	<b>30,546</b>	<b>6.8</b>
County Business Patterns, Summit Economics			

Table 5 shows the average size of the firms in each industry sector most at risk of closure. The impact modeling was solely based on firms up to 25 employees. Firms with more than 25 employees were left out of the analysis.

Table 6: Top Ten Indirect and Induced Industries Impacted

Top Ten Industries Affected: 1-25 Employees Indirect and Induced Employment	
Food services and drinking places	1,488
Real Estate Establishments	1,228
Employment services	709
Offices of physicians, dentists, and other health practitioners	642
Services to buildings and dwellings	343
Retail Stores - General merchandise	303
Retail Stores - Food and beverage	163
Securities, commodity contracts, investments, and related activities	146
Management, scientific, and technical consulting services	148
Maintenance and repair construction of nonresidential structures	88
Implan, Summit Economics	

Table 6 illustrates how the impacts of the industry sectors most at risk of closure (shown in Tables 3 and 4) affect additional industries throughout the economy. Only the indirect and induced jobs in the top ten most impacted sectors are shown.

Impact Per Job Saved

The impact models were then run to show the impact per job in each industry. Knowing the per job impact allows for a better estimation of the benefits of saving one job, allowing for a better ability to gauge the ROI of assistance. The tables are similar to those given in the total impact above (Tables 3 and 4) but based on one job only.

Table 7: Impact per Direct Job Saved

Economic Impacts per 1 Direct Job	NAICS Code	Direct Jobs	Indirect & Induced Jobs	Total Jobs	Total Direct, Indirect, & Induced Payroll	Direct Average Wage	Total Average Wage	Total Output
Clothing and Clothing Accessories Stores	448	1	0.34	1.34	\$ 49,266	\$ 33,662	\$ 36,841	\$121,111
Accommodation	721	1	0.43	1.43	\$ 62,759	\$ 42,546	\$ 43,942	\$196,899
Ambulatory Health Care Services	621	1	0.67	1.67	\$ 113,823	\$ 81,771	\$ 68,096	\$241,264
Amusement, Gambling, and Recreation Industries	711	1	0.33	1.33	\$ 54,620	\$ 38,809	\$ 40,965	\$142,173
Food Services and Drinking Places	722	1	0.24	1.24	\$ 42,140	\$ 31,393	\$ 34,096	\$100,938
Furniture and Home Furnishings Stores	442	1	0.47	1.47	\$ 71,780	\$ 49,928	\$ 48,767	\$171,221
Miscellaneous Store Retailers	453	1	0.23	1.23	\$ 48,140	\$ 37,781	\$ 39,125	\$ 77,700
Museums, Historical Sites, and Similar Institutions	712	1	0.54	1.54	\$ 64,473	\$ 40,836	\$ 41,804	\$231,603
Other Personal Services	8129	1	0.67	1.67	\$ 105,624	\$ 75,100	\$ 63,332	\$211,675
Non Store Retailers	454	1	0.31	1.31	\$ 38,664	\$ 24,424	\$ 29,590	\$121,127
Motor Vehicle & Parts Dealers	441	1	0.51	1.51	\$ 102,452	\$ 79,187	\$ 67,751	\$181,221
Electronics & Appliance Stores	443	1	0.39	1.39	\$ 74,979	\$ 57,336	\$ 54,029	\$156,016
Health & Personal Care Stores	446	1	0.35	1.35	\$ 60,858	\$ 44,852	\$ 45,103	\$124,668
General Merchandise Stores	452	1	0.27	1.27	\$ 50,548	\$ 38,388	\$ 39,884	\$102,975
Performing Arts, Spectator Sports, and Related	711	1	0.18	1.18	\$ 21,855	\$ 14,510	\$ 18,589	\$ 50,588
Sporting Goods, Hobby, Musical Instrument, and Book	451	1	0.30	1.30	\$ 52,530	\$ 38,937	\$ 40,482	\$ 96,698
Average Impact per Job		1	0.45	1.45	\$ 75,661	\$ 54,822	\$ 50,322	\$163,380
Implan, Summit Economics								



For example, Clothing and Clothing Accessories (NAICS code 448) in Table 7 shows for every 1 direct job saved in this industry, 1.34 total jobs will be saved, with a total payroll impact of \$49,266 and an output (approximation of revenues) of \$121,111. If funding were given to save 10 jobs in a single store, the result would be 13.4 jobs preserved in the economy with a total of \$492,660 in wages and \$1,211,110 in output.

Table 8: Sales Tax Per Direct Job Saved

First Year Sales Tax Impacts per 1 Direct Job	NAICS Code	City Sales Tax	County Sales Tax	PPRTA Sales Tax
Clothing and Clothing Accessories Stores	448	\$ 430	\$ 170	\$ 138
Accommodation	721	\$ 548	\$ 216	\$ 176
Ambulatory Health Care Services	621	\$ 994	\$ 392	\$ 319
Amusement, Gambling, and Recreation Industries	711	\$ 477	\$ 188	\$ 153
Food Services and Drinking Places	722	\$ 368	\$ 145	\$ 118
Furniture and Home Furnishings Stores	442	\$ 627	\$ 247	\$ 201
Miscellaneous Store Retailers	453	\$ 421	\$ 166	\$ 135
Museums, Historical Sites, and Similar Institutions	712	\$ 563	\$ 222	\$ 181
Other Personal Services	8129	\$ 923	\$ 364	\$ 296
Non Store Retailers	454	\$ 338	\$ 133	\$ 108
Motor Vehicle & Parts Dealers	441	\$ 895	\$ 353	\$ 287
Electronics & Appliance Stores	443	\$ 655	\$ 258	\$ 210
Health & Personal Care Stores	446	\$ 532	\$ 210	\$ 170
General Merchandise Stores	452	\$ 442	\$ 174	\$ 142
Performing Arts, Spectator Sports, and Related Industries	711	\$ 191	\$ 75	\$ 61
Sporting Goods, Hobby, Musical Instrument, and Book Stores	451	\$ 459	\$ 181	\$ 147
Average Impact per Job		\$ 661	\$ 261	\$ 212
Summit Economics				

Continuing the same analogy of funding a store with 10 jobs, the sales tax preserved would be \$4,300 (10 x \$430) for the City of Colorado Springs, \$1,700 (10 x \$170) for El Paso County, and \$1,380 (10 x \$138) for the PPRTA. The preserved sales taxes only include the taxable sales that would be generated by jobs that are

retained. This reasonably assumes the jobs lost as people become unemployed are far less likely to generate taxable sales since the unemployed are seriously budget constrained and typically spend money only on necessities such as food and medications. Conversely, the modeled sales tax results do not assume any sales tax generated from the stores selling to the general public – only from the employees spending their paychecks.

### Risk Assessment and Return on Investment

Table 9 summarizes total economic and fiscal impacts for industry sectors most likely to face closure. The table depicts the total number of firms, direct jobs, and total jobs. The total potential lost output and sales tax if all establishments with 25 or fewer employees were to close is also shown for 1, 3, and 5 years.

Table 9: Summary Risk Assessment and Return on Investment

<b>Summary of Potential Impacts from Industry Sectors Most At Risk of Closure</b>			
Total Number of Firms	4,469		
Total Number of Direct Employees in Firms	30,546		
Average Employees per Firm		6.84	
Total Direct, Indirect, Induced Employment	43,848		
Jobs Multiplier (Total Jobs/Direct Jobs)		1.44	
<b>Years of Firm Closure</b>	<b>1</b>	<b>3</b>	<b>5</b>
Total Lost Output* (in 1000s)	\$ 4,892,484	\$ 14,677,453	\$ 24,462,421
Total Lost Sales Taxes (in 1000s)	\$ 33,812	\$ 101,437	\$ 169,062
* Output is roughly equivalent to total revenues of direct, indirect and induced establishments			
Implan, Summit Economics			