

# THE ECONOMIC IMPACT OF THE BOWERY PROJECT IN DOWNTOWN AKRON



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# EXECUTIVE SUMMARY

The Bowery Project will redevelop five buildings connected to the Civic, a total of 190,000 square feet of space including 40,000 square feet of retail and office space and 92 apartments in downtown Akron along the Ohio & Erie Canalway. With such a large development project, the economic benefits to Summit County of construction alone are over \$69 million and will create or support nearly 500 jobs. This economic impact includes the direct economic impact of construction as well as the indirect and induced effects (or multiplier effects) resulting from the overall increased economic activity in Summit County associated with the construction project.

The largest impact of the project stems from redeveloping prime real estate in the economic center of the greater Akron area creating retail, office space, and housing in currently unutilized space. The Bowery Project will attract residents by developing this waterfront area creating a walkable neighborhood with nearby businesses, restaurants, retail, the University of Akron, the Akron Civic Theater and other cultural and entertainment venues in downtown. This will have an ongoing impact generating economic activity in Akron year after year. In just 5 years, it will produce an additional \$44 million and will create or support 400 additional jobs. In 20 years, this economic impact will grow to over \$175 million and 1,600 jobs.

In total, the Bowery Project will generate well over \$113 million and over 850 jobs in Summit County in just five years. In 20 years, that number will total well over \$245 million and just over 2,000 jobs (see Table 1). Every \$1 of the \$42 million investment results in \$2.71 in total output after 5 years as well as \$5.84 after 20 years. However, in the scenario that the project is funded with an 80/20 debt to equity split, every \$1 of equity investment results in \$13.54 in total output after 5 years as well as \$29.20 after 20 years.

*“The largest impact of the project stems from redeveloping prime real estate in the economic center of the greater Akron area creating retail, office space, and housing in currently unutilized space.”*

TABLE 1: BOWERY PROJECT ECONOMIC IMPACT

IMPACT AT 5 YEARS	EMPLOYMENT	LABOR INCOME	TOTAL OUTPUT
1 - DIRECT	444	\$18,640,654	\$53,991,437
2 - INDIRECT	151	\$7,801,704	\$21,170,034
3 - INDUCED	287	\$12,971,345	\$38,601,103
TOTAL	883	\$39,413,701	\$113,762,574
IMPACT AT 20 YEARS	EMPLOYMENT	LABOR INCOME	TOTAL OUTPUT
1 - DIRECT	952	\$31,344,125	\$89,965,754
2 - INDIRECT	238	\$12,500,700	\$34,915,235
3 - INDUCED	893	\$40,436,897	\$120,418,166
TOTAL	2,083	\$84,281,722	\$245,299,155

Source: Summary of IMPLAN Model Output

## I. INTRODUCTION

Mixed-use developments in urban cores are key to creating vibrant walkable streets and to fostering economically viable places. Live-work neighborhoods integrate the spaces that support the daily lives of a diverse population consistent with the prevailing urban planning principles.



By integrating office and retail space with apartments, mixed-use developments provide residents with proximity to jobs and to shopping, restaurants and cafes. Located near the Akron Civic Theater, Lock 3, and Canal Park, the Bowery Project also builds on existing amenities in the area. These types of consumer amenities have become increasingly important as cities have become oriented around amenities.<sup>4</sup> Migration to high-amenity areas has increased as incomes have risen in the U.S. and quality of life has become increasingly important in the location choice of Americans.<sup>5,6</sup> Places with beaches and mountains have clearly benefited from their natural amenities experiencing tremendous population growth while most cities in Ohio and the Midwest have been losing people. In stark contrast to many other Midwest cities, Columbus' population has been booming.<sup>7</sup> Columbus' population growth is the result of people from within Ohio moving there, in-

<sup>4</sup> Edward Glaeser, Jed Kolko, & Albert Saiz. (2001). "Consumer City." *Journal of Economic Geography*, 1(1): 27-50.

<sup>5</sup> Mark Partridge. (2010). "The duelling models: NEG vs amenity migration in explaining US engines of growth." *Papers in Regional Science*, 89(3): 513-536.

<sup>6</sup> Jordan Rappaport. (2009). "The Increasing Importance of Quality of Life." *Journal of Economic Geography*, 9(6): 779-804.

<sup>7</sup> Adam Millsap. (August 6, 2018). "Columbus, Ohio is Booming But Will it Last?" *Forbes* <https://www.forbes.com/sites/adammillsap/2018/08/06/columbus-ohio-is-booming-but-will-it-last/#430d704525be>



state migration, and Northeast Ohio has sent a large number of residents to Columbus.<sup>8</sup> Various amenities (other than beaches and mountains) can also increase the quality of life in cities and attract and retain residents in areas like Columbus - and Akron. College-educated young professionals have been moving to downtowns in Columbus and across the country.<sup>9,10</sup> The University of Akron provides a steady supply of young college-educated professionals from Northeast Ohio and beyond. The College of Business at the University of Akron is just over a five-minute walk from the Bowery Project. It is critically important to retain the talent we have fostered right here in Northeast Ohio. Not only young professionals, but retirees and empty nesters have also been moving back to the walkable neighborhoods in downtowns.<sup>11</sup> Ultimately, trends toward walkable neighborhoods are driven by the demand for them.

***"The Bowery Project strengthens the unique identity and character of Akron."***



In addition to shopping and restaurants, growth-inducing consumption amenities can also be cultural or historical. The Bowery Project builds upon the rich history of Akron by redeveloping historic buildings along the Ohio & Erie Canalway. Historic buildings are important for the liveliness and vitality of a city as well as its economy.<sup>12</sup> The Bowery Project strengthens the unique identity and character of Akron.

<sup>8</sup> Ibid.

<sup>9</sup> Eugenie Birch. (2005). "Who Lives Downtown" The Brookings Institution, Living Cities Census Series. <http://midtowndetroitinc.org/sites/default/files/images/site-content/Brooking%20Institute%20-%20Who%20Lives%20Downtown.pdf>

<sup>10</sup> Richard Florida. (2002). The Rise of the Creative Class. New York: Basic Books.

<sup>11</sup> Ronda Kaysen. (February 20, 2018). "Buying into an Urban Retirement." AARP. <https://www.aarp.org/home-family/friends-family/info-2018/urban-retirement-fd.html>

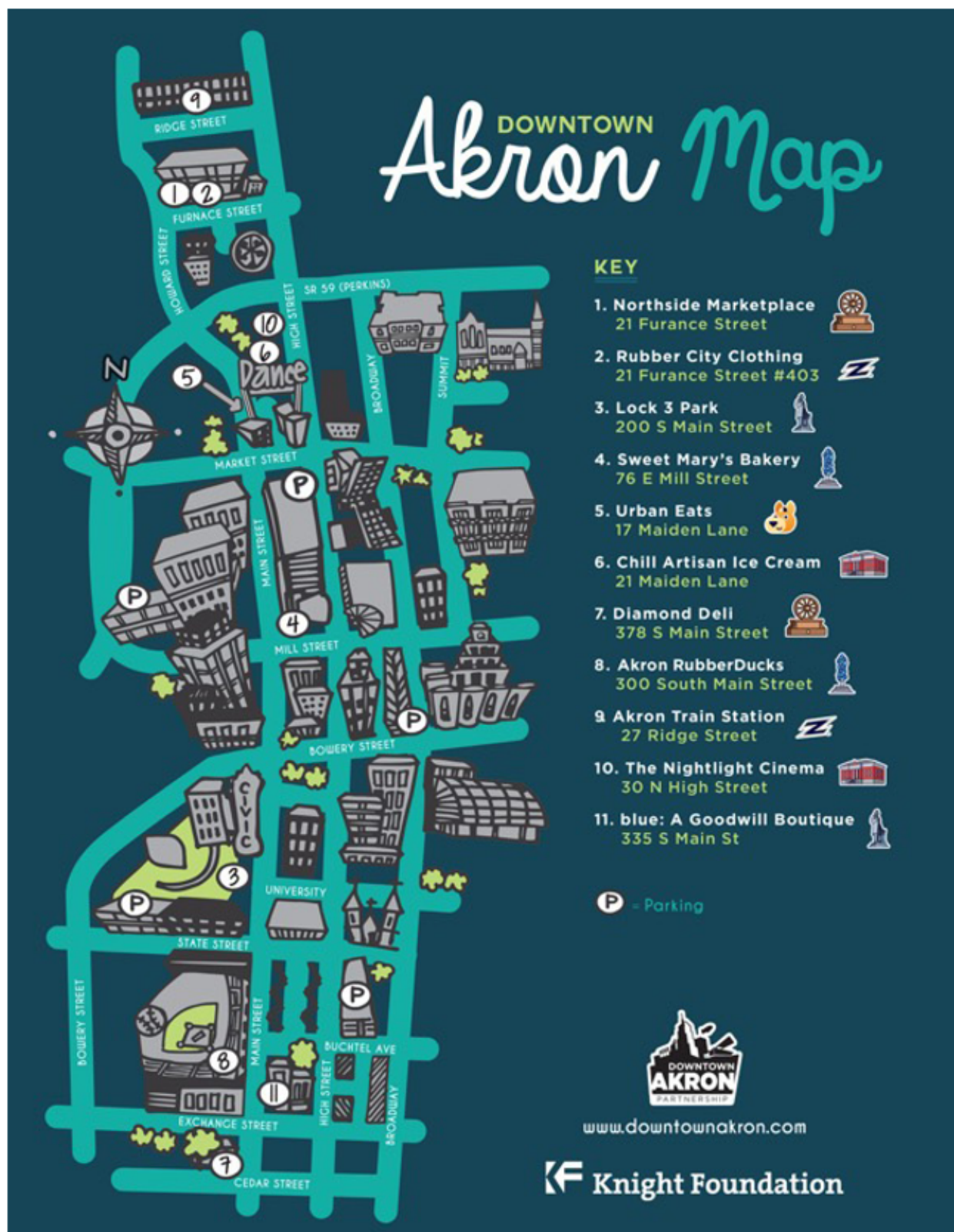
<sup>12</sup> National Trust for Historic Preservation <https://www.arch.columbia.edu/books/reader/370-preservation-and-the-new-data-landscape>

Ultimately, the Bowery Project is about connection, bringing people together fostering a vibrant community centered around and building on the amenities that downtown Akron offers. The construction project alone brings economic activity through construction jobs (direct effect), higher demand for inputs (indirect effect), and higher demand for local goods and services from the associated labor income (induced effect). But the largest benefits to the greater Akron area are from the benefits year after year of having housing, retail, and office space and the direct, indirect, and induced effects associated with it. Residents of the new Bowery apartments as well as those from greater Akron and elsewhere generate demand for local goods and revenue for local business. The increased demand supports new jobs which in turn create more tax dollars for the local community, as the new employees pay taxes on their earned wages and businesses pay taxes on their increased revenues as well. By strengthening Akron's urban core, the Bowery Project will benefit the entire region as the economic health of the suburbs is tied to the viability of the central city.<sup>13,14</sup>

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<sup>13</sup> H.V. Savitch, David Collins, Daniel Sanders, and John Markham. (1993). "Ties that Bind: Central Cities, Suburbs, and the New Metropolitan Region." *Economic Development Quarterly*, 7(4).

<sup>14</sup> Mark Partridge, Dan Rickman, Kamar Ali, and Rose Olfert. (2008). "Employment Growth in the American Urban Hierarchy: Long Live Distance." *The B.E. Journal of Macroeconomics*, 8(1): 1935-1690.





## II. ECONOMIC IMPACT ANALYSIS FOR THE BOWERY PROJECT

There are two main sources of the economic impact of the Bowery Project: (1) the construction project itself, the direct economic impact on the construction industry as well as the indirect and induced effects associated with building a project, the multiplier effect, and (2) the apartments and office and retail space created as well as its associated indirect and induced effects. The economic impact of the construction project tends to be a shorter-term impact whereas the impact of the apartments and office and retail space generate economic activity for a much longer time period. Thus, we measure the expected economic impact 5 years after construction and 20 years after construction.



### THE MULTIPLIER EFFECT

Captures the secondary effects from the interconnections between various local economic sectors.

- Indirect effects measure the economic impact on the various industry suppliers of local goods and services.
- Induced effects measure the impact of changes in household spending of income on local goods and services.



We use IMPLAN (Impact Analysis for Planning) to measure the direct, indirect, and induced effects from both construction and from the additional apartments and office and retail space. IMPLAN uses an input-output methodology to model the economic links between industry sectors of the local economy (see Appendix A for more detail). With data provided by Welty Building Company on the scope of the Bowery Project (e.g. the total square footage of space and the breakout of the redevelopment between apartments, retail, and office space), we use IMPLAN to estimate the economic impacts throughout the economy in Summit County.

The **direct impact** of the construction project, for example, includes the construction jobs created or supported directly by the Bowery Project and the labor earnings associated with these jobs. The **indirect impact** of the construction project includes spending by the construction industry on inputs such as building materials, which supports jobs and earnings in industries that supply inputs. The wages and salaries earned by employees in the construction industry and by employees in the various industries that supply inputs are then recirculated in the local economy by spending on local goods and services, the **induced effect**. The direct, indirect, and induced effects reflect the three components of the total economic impact (equation 1).

### EQUATION 1

$$\text{Total Effect} = \text{Direct Effect} + \text{Indirect Effect} + \text{Induced Effect}$$

Within each of these effects, we focus on the impact on employment (jobs) and total output (\$). The total output includes the value of intermediate purchases in other industries and the value-added by the industry (equation 2). The value-added includes the labor income associated with employment in the industry.

### EQUATION 2

$$\text{Output} = \text{Intermediate Purchases} + \text{Value-Added}$$

Once the direct, indirect, and induced effects are measured, we calculate the multiplier effect (equation 3). We calculate the employment multiplier and the output multiplier. The multiplier effect describes how many additional dollars (or jobs) are created or supported in other industries per each additional dollar (or job) in the construction industry associated with the Bowery Project. Because the linkages between economic sectors varies by region, the multiplier effect is specific to Summit County.<sup>15</sup>

### EQUATION 3

$$\text{Multiplier Effect} = (\text{Direct} + \text{Indirect} + \text{Induced})/(\text{Direct})$$

## II.A. ECONOMIC IMPACT ANALYSIS FOR THE BOWERY CONSTRUCTION

Table 2 presents the economic impact of the construction associated with the Bowery Development. The Bowery Project will redevelop five buildings connected to the Civic along Main Street in downtown Akron. In total, Welty Building Company will redevelop 190,000 square feet of space which includes 40,000 square feet of office and retail space (split about evenly between the two) and 92 apartments. The direct employment, 275, is an estimate of the jobs that are created or supported by the construction project. The indirect employment, 122, are the jobs created or supported by the intermediate inputs necessary for the construction project. The induced employment, 85, accounts for the jobs that are created or supported as a result of household spending on local goods and services from the wages and salaries associated with the construction project. The total employment, 482, are the additional jobs created or supported by the Bowery Project Construction.

The labor income associated with these jobs is included in column 2 of Table 2. The wages and earnings (direct+indirect+induced) resulting from the Bowery construction total over \$24 million. Because the Bowery construction project involves redeveloping historic buildings, as opposed to building completely new structures, comparatively more of the impact occurs through employment and labor income (which is more likely to remain in the local area resulting in a larger economic impact) than through building materials (which typically results in more leakage of the economic impact as inputs are purchased from outside the local area). Wages and earnings directly associated with the construction industry will increase by over \$14.4 million. Local suppliers to the construction industry will see their wages and earnings increase by approximately \$6 million. As a result of household spending from the additional wages and earnings, other industries such as the retail industry will see wages and earnings increase by nearly \$4 million. Thus, the construction project will increase jobs and earnings in a variety of industry sectors across the local economy.

<sup>15</sup> At the county level, the typical IMPLAN output multiplier is 1-2. <https://implanhelp.zendesk.com/hc/en-us/articles/115009505707-General-Information-About-Multipliers>



The value-added column reflects the difference between the industry's total output and the cost of intermediate inputs. It is the value that the industry specifically adds to the economy of the local area through the Bowery construction, totaling over \$35 million. The total output directly associated with the Bowery construction, value-added and intermediate inputs, is \$42 million. For suppliers to the industry, their total output will increase by over \$16 million. For local retailers and other industries that will see a bump in sales from the additional household income, their total output will increase by over \$11 million. In total, Summit County will the Bowery construction will increase total output by nearly \$70 million.

**TABLE 2: BOWERY PROJECT ECONOMIC IMPACT OF CONSTRUCTION**

IMPACT	EMPLOYMENT	LABOR INCOME	VALUE-ADDED	TOTAL OUTPUT
1 - DIRECT	275	\$14,406,164	\$18,799,524	\$41,999,998
2 - INDIRECT	122	\$6,235,372	\$9,634,312	\$16,588,301
3 - INDUCED	85	\$3,816,161	\$6,653,445	\$11,328,749
<b>TOTAL</b>	<b>482</b>	<b>\$24,457,697</b>	<b>\$35,087,281</b>	<b>\$69,917,048</b>

Source: Summary of IMPLAN Model Output

## II.B. ECONOMIC IMPACT ANALYSIS FOR THE BOWERY APARTMENTS, OFFICE AND RETAIL

The largest economic impact of the Bowery Project is derived from the specific type of spaces the Bowery Project will create, office and retail space and apartments, in unutilized space in a prime location in downtown Akron. We incorporate various aspects of these economic effects that will benefit Summit County year after year. We provide the results of the economic impact 5 years after construction and 20 years after construction in Table 3.<sup>16</sup>

The Bowery project will create 40,000 square feet of office and retail space. Downtown Akron retailers and restaurants typically bring in about \$200 per square foot annually in sales.<sup>17</sup> This amounts to about \$7.2 million in additional sales revenue each year, assuming a 90% occupancy rate at any given time. This office and retail space also increases employment in downtown Akron which further increases the tax base from the additional labor income that is taxed. There are also additional jobs created or supported by the apartments, for example, property managers, maintenance workers, etc. The apartments also increase the number of nearby residents that will shop in the new retail space as well as other retail spaces in downtown Akron. The impact is measured by approximating the additional household income of the future residents of the Bowery apartments.<sup>18</sup> These residents will also frequent new and existing restaurants and entertainment venues in downtown Akron. For example, the Akron Civic Theater plans to increase the number of events each year in response to the Bowery Project. They estimate that attendance will increase by approximately 15,000 people per year (from residents of the Bowery apartments as well as residents throughout Summit County). As residents who live outside downtown attend additional events at the Akron Civic Theater, they too will spend more on local retail and eating and drinking places with an average of \$85.17.<sup>19</sup> This increases employment in downtown retail and restaurant establishments as well as for the Akron Civic Theater. The Akron Civic Theater plans to hire additional full time and part-time staff as the number of events and the number of attendees increase.<sup>20</sup>

*“This office and retail space also increases employment in downtown Akron which further increases the tax base from the additional labor income that is taxed.”*

<sup>16</sup> We use a discount rate of 6% to estimate the total net present value of benefits.

<sup>17</sup> Boulevard Strategies. (2014). Retail Market Analysis for Downtown Akron. <https://www.downtownakron.com/files/docs/web-retail-study.pdf>

<sup>18</sup> To estimate the total increase in household income in the Bowery apartments, we assume that 30 percent of income is spent on housing. The average apartments size is 800 sqft, 23 of them sold at \$1.75/sqft and 69 sold at \$2/sqft. We estimate that the total additional household income in the Bowery apartments will be approximately \$5.704 million.

<sup>19</sup> “The Economic Impact of the 2015 Akron Marathon” (Shawn Rohlin and Nadia Greenhalgh-Stanley)

<sup>20</sup> Phone conversation with Howard Parr, the Akron Civic Theater.



All of the various direct employment effects associated with the Bowery apartments and office, retail, and restaurant space are reflected in the direct employment numbers in Table 3, about 169 jobs after 5 years. The local suppliers of inputs to these spaces see an increase of about 29 jobs created or supported by the new spaces. After 5 years, the higher labor income that leads to an increase in household spending on local goods and services results in creating or supporting 202 additional jobs, the induced effect. After 5 years, the total number of jobs created or supported by these additional spaces

is about 400 jobs. The labor income associated with these jobs totals about \$15 million. All of the various industries add value to the economy worth over \$25.7 million contributing to an increase in total output after 5 years of over \$43.8 million.

In 20 years, the present value of total output increases from \$43.8 million to over \$175 million and the number of jobs increases from 400 to 1,601 (Table 3). Thus, the largest impact of the Bowery Project is through the live-work neighborhood it creates.

**TABLE 3: BOWERY PROJECT ONGOING IMPACT (APARTMENTS, OFFICE AND RETAIL)**

IMPACT AT 5 YEARS	EMPLOYMENT	LABOR INCOME	VALUE-ADDED	TOTAL OUTPUT
1 - DIRECT	169	\$4,234,490	\$7,174,142	\$11,991,439
2 - INDIRECT	29	\$1,566,332	\$2,622,187	\$4,581,734
3 - INDUCED	202	\$9,155,184	\$15,979,588	\$27,272,354
<b>TOTAL</b>	<b>400</b>	<b>\$14,956,006</b>	<b>\$25,755,916</b>	<b>\$43,845,526</b>
IMPACT AT 20 YEARS	EMPLOYMENT	LABOR INCOME	VALUE-ADDED	TOTAL OUTPUT
1 - DIRECT	677	\$16,937,961	\$28,696,567	\$47,965,756
2 - INDIRECT	116	\$6,265,328	\$10,488,747	\$18,326,934
3 - INDUCED	808	\$36,620,736	\$63,918,351	\$109,089,417
<b>TOTAL</b>	<b>1,601</b>	<b>\$59,824,025</b>	<b>\$103,103,665</b>	<b>\$175,382,108</b>

Source: Summary of IMPLAN Model Output

## II.C. OVERALL ECONOMIC IMPACT ANALYSIS FOR THE BOWERY PROJECT

The total economic impact of the Bowery project includes the increased economic activity that results from the construction project and the ongoing impact of the office space, retail and restaurants, and additional residents living in the Bowery apartments. The total economic impacts include the direct impact of these activities as well as the multiplier effect as the economic activity spreads through the industry interconnections in the economy and from the additional household spending from income earned. Table 4 provides a summary of the overall impact of both the construction project itself and the ongoing impact of creating office, retail and restaurant space, and apartments. In 5 years, the Bowery Project will create or support over 880 total jobs and nearly \$114 million in economic activity. In 20 years, those figures grow to just over 2,000 jobs and \$245 million of total output.

*"In 5 years, the Bowery Project will create or support over 880 total jobs and nearly \$114 million in economic activity."*

**TABLE 4: BOWERY PROJECT ECONOMIC IMPACT**

IMPACT AT 5 YEARS	EMPLOYMENT	LABOR INCOME	VALUE-ADDED	TOTAL OUTPUT
1 - DIRECT	444	\$18,640,654	\$25,973,666	\$53,991,437
2 - INDIRECT	151	\$7,801,704	\$12,256,498	\$21,170,034
3 - INDUCED	287	\$12,971,345	\$22,633,033	\$38,601,103
<b>TOTAL</b>	<b>883</b>	<b>\$39,413,703</b>	<b>\$73,331,896</b>	<b>\$113,762,574</b>
IMPACT AT 20 YEARS	EMPLOYMENT	LABOR INCOME	VALUE-ADDED	TOTAL OUTPUT
1 - DIRECT	952	\$31,344,125	\$47,496,091	\$89,965,754
2 - INDIRECT	238	\$12,500,700	\$20,123,058	\$34,915,235
3 - INDUCED	892	\$40,436,897	\$70,571,796	\$120,418,166
<b>TOTAL</b>	<b>2,083</b>	<b>\$84,281,722</b>	<b>\$138,190,946</b>	<b>\$245,299,155</b>

Source: Summary of IMPLAN Model Output

The Bowery Project will affect a variety of firms and establishments from a diversity of industries throughout Summit County. From Table 4, the employment multiplier is about 2.2, meaning that every direct job created from the Bowery project will result in about 1.2 jobs in other industries, 2.2 jobs in total.<sup>21</sup> The output multiplier is 2.7, meaning that every \$1 of direct output from the Bowery Project results in a total economic gain of \$2.7 with

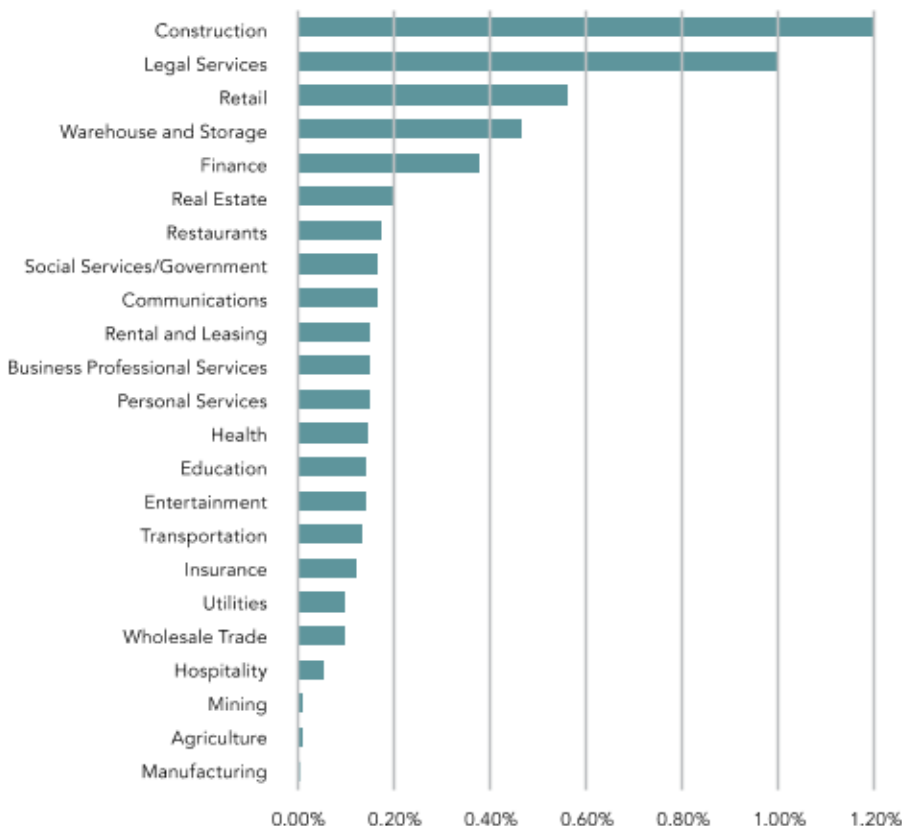
<sup>21</sup> Employment multiplier = 2,083/952 = 2.188



\$1.7 gained by other industries throughout the community.<sup>22</sup> Figure 1 depicts the output growth by industry that results from the Bowery Project. The largest growth impact occurs directly in the construction industry that will see a 1.2% increase in total output. We can see that a variety of other industries will be similarly affected by the increase in economic activity as dollars circulate in the economy throughout Summit County, for example, legal services (1.00%), retail (0.56%), warehousing and storage (0.47%), finance (0.38%), real estate (0.20%), restaurants (0.18%), etc. The direct, indirect, and induced effects are all the result of a \$42 million investment (including construction costs, acquisition, legal fees, soft costs). Appendix B provides a more detailed industry breakout of the impact of the Bowery Project. We can also use our economic impact estimates to calculate return on investment from the Bowery Project. Every \$1 of the \$42 million investment results in \$2.71 in total output after 5 years.<sup>23</sup> After 20 years, every \$1 of the \$42 million investment results in \$6 in total output.<sup>24</sup>

*“After 20 years, every \$1 of the \$42 million investment results in \$6 in total output.”*

**FIGURE 1: GROWTH IN TOTAL OUTPUT BY INDUSTRY**



<sup>22</sup> Output multiplier =  $\$245,299,155 / \$89,965,754 = 2.73$ .

<sup>23</sup>  $\$113,762,574 / \$41,999,998 = \$2.71$

ROI for Summit County (5 years) =  $(\$113,762,574 - \$41,999,998) / \$41,999,998 = 171\%$

<sup>24</sup>  $\$245,299,155 / \$41,999,998 = \$5.84$

ROI for Summit County (20 years) =  $(\$245,299,155 - \$41,999,998) / \$41,999,998 = 484\%$

## II.D ECONOMIC IMPACTS WITH LIQUIDITY

Although these economic multipliers are quite meaningful, it is important to understand how much economic impacts one can spur when deciding whether to contribute investment dollars to the project. Assuming a typical 80/20 debt to equity funding the \$42 million investment would comprise of \$8.4 million of equity investment and \$33.6 million in debt. Therefore, every \$1 of equity investment results in \$13.54 in total output after 5 years while \$1 of equity investment results in \$29.20 after 20 years. This demonstrates how powerful equity investment in Akron's Downtown can be.

## II.E BOWERY PROJECT FISCAL IMPACT

We focus mainly on the economic impact at the county level, though the economic impact will be centered around downtown Akron and will also extend beyond Summit county's border (though to a lesser extent). The increased economic activity will result in higher tax revenues from the federal to sub-county level. In table 5, we examine the fiscal impact of the Bowery Project at the federal, state, county, and sub-county level. After 5 years, the sub-county tax revenues will increase by over \$2.2 million. After 20 years, the sub-county should expect an increase in tax revenues of over \$6.4 million (net present value). The state of Ohio can expect an additional tax revenue of \$3.7 million over 5 years and nearly \$11 million after 20 years, while the federal government would get \$7.5 million over 5 years and \$16.6 million after 20 years.

**TABLE 5: BOWERY PROJECT FISCAL IMPACT**

IMPACT AT 5 YEARS	FEDERAL	STATE	COUNTY	SUB-COUNTY
SOCIAL INSURANCE TAXES	\$4,135,319	\$93,485	\$0	\$0
TAXES IN PRODUCTION AND IMPORTS	\$284,631	\$3,089,143	\$451,990	\$1,808,344
CORPORATE PROFIT TAXES	\$719,942	\$633	\$0	\$17,269
PERSONAL TAXES AND TRANSFERS	\$2,422,516	\$526,064	\$9,314	\$383,565
<b>TOTAL</b>	<b>\$7,562,408</b>	<b>\$3,709,325</b>	<b>\$461,304</b>	<b>\$2,209,178</b>
IMPACT AT 20 YEARS	FEDERAL	STATE	COUNTY	SUB-COUNTY
SOCIAL INSURANCE TAXES	\$8,886,330	\$200,889	\$0	\$0
TAXES IN PRODUCTION AND IMPORTS	\$937,999	\$9,516,541	\$1,392,420	\$5,570,860
CORPORATE PROFIT TAXES	\$1,670,538	\$1,470	\$0	\$40,071
PERSONAL TAXES AND TRANSFERS	\$5,188,469	\$1,275,708	\$19,968	\$821,824
<b>TOTAL</b>	<b>\$16,683,336</b>	<b>\$10,994,608</b>	<b>\$1,412,388</b>	<b>\$6,432,755</b>

Source: Summary of IMPLAN Model Output



## V. CONCLUSION

The Bowery Project is an important piece of a larger push to redevelop Akron's downtown to foster a more vibrant and economically viable city and region. It brings jobs and economic activity not only to the construction industry but also to many different industries, businesses, and people throughout the county. After 5 years, the Bowery project will create or support over 880 jobs and increase total output by well over \$113 million (Table 1) and increase county and sub-county tax revenue by nearly \$2.7 million (Table 5). After 20 years, the economic impact will grow to create or support approximately 2,000 jobs and increase total output by well over \$245 million (Table 1) and increase tax revenue for the county and sub-county by over \$7 million (Table 5).

In addition to the economic stimulus that can be directly estimated, the Bowery Project provides additional benefits that are not captured by our estimates. Our estimates rely on detailed publicly available data on the current market structure and interactions of industries throughout Summit County. One limitation of this data is that it cannot account for interactions that occur outside of the market, externalities. For example, adding apartments in downtown Akron will bring households to live in the central city where carbon emissions are lower – resulting in environmental and health benefits associated with the Bowery Project not captured by our estimates. On average, households in central cities release 10 tCO<sub>2</sub> fewer emissions annually, the result of living in more walkable neighborhoods.<sup>25</sup> Recent estimates suggest the social cost of carbon emissions is approximately \$31 per ton.<sup>26</sup> Thus, lower carbon emissions result in real economic gain for the world that is not captured in our estimates. Our estimates do not capture other positive externalities such as the health benefits associated with living in a central city and walking more resulting in lower obesity rates.<sup>27</sup> It also does not capture the aesthetics of the Bowery Project in redeveloping historic buildings in Akron along the Ohio & Erie canalway waterfront and whether it will spur further development in downtown Akron. Finally, our estimate cannot adequately capture changes that may occur if the Bowery Project helps to fundamentally change the structure of the economy in greater Akron, in particular if the Bowery Project is successful in retaining college-educated residents preventing brain drain and promoting brain gain in Akron. Many of these impacts will depend on the future success of the Bowery Project and how residents will respond. Given the current market structure of Summit County, our estimates show that the Bowery Project will have a significant impact on jobs and total output of the economy immediately and for years to come.

***"After 5 years, the Bowery project will create or support over 880 jobs and increase total output by well over \$113 million and increase county and sub-county tax revenue by nearly \$2.7 million. After 20 years, the economic impact will grow to create or support approximately 2,000 jobs and increase total output by well over \$245 million and increase tax revenue for the county and sub-county by over \$7 million."***

<sup>25</sup> Christopher Jones and Daniel Kammen. (2014). *Environmental Science and Technology*, 48: 895-902

<sup>26</sup> William Nordhaus. (2017). "Revisiting the Social Cost of Carbon." *Proceedings of the National Academy of Sciences of the United States*, 114(7): 1518-1523.

<sup>27</sup> Zhenxiang Zhao and Robert Kaestner. (2010). "Effects of Urban Sprawl on Obesity." *Journal of Health Economics*, 29(6):779-787.

## **APPENDIX A: A CLOSER LOOK AT THE INPUT-OUTPUT MULTIPLIER FRAMEWORK**

This section describes in detail the methodology used to calculate the economic impact figures for the Bowery Project. The full economic impact of a project or program is not realized in the initial functions of that project or program. To truly measure the effects that may be incurred, all the interactions in an economy must be considered. For every dollar spent, an effect is created that allows for a portion of that dollar to reenter the economy. This effect is the multiplier effect created by some level of spending. By purchasing a meal at a local restaurant, a portion of that money will be given to a local worker who will in turn spend a portion of that money at a local business. Thus, the initial spending creates secondary and even tertiary spending in the local economy.

The multiplier effects that are used for this study are derived from IMPLAN and the publicly available data it incorporates from the U.S. Census Bureau. It is based upon the Input-Output (IO) accounting framework. The basis of the IO method is to create a table of the distribution of

any inputs purchased within an industry and the outputs sold. Using IMPLAN allows us to capture localized effects instead of state or even nationwide effects.

In general terms, the multiplier effect says that an extra dollar spent inside of an economy from an outside source creates a ripple effect throughout that economy. For example, a non-local attendee at the Akron Civic Theater goes to a restaurant and buys a meal, leaving a tip for the server. That server then uses that extra income to purchase gas from a local gasoline station. That gasoline station then takes those extra profits and puts them into a savings account at a local bank. That local bank then takes that money and uses it for a loan to give to another local business. This cycle is known as the money multiplier effect and is computed using the econometric input-output model. Each sector within an economy (gasoline, hotel, restaurant, etc.) has its own specific multiplier corresponding to the money multiplier effect on business revenues, personal incomes, and increased employment in the local economy.

## APPENDIX B: DETAILED INDUSTRY IMPACT OF THE BOWERY PROJECT

DESCRIPTION	TOTAL OUTPUT	IMPACT OUTPUT	ESTIMATED GROWTH %
CONSTRUCTION OF NEW MULTIFAMILY RESIDENTIAL STRUCTURES	\$85,851,391.41	\$22,762,000.00	26.51%
CONSTRUCTION OF NEW COMMERCIAL STRUCTURES, INCLUDING FARM STRUCTURES	\$217,809,647.54	\$8,238,000.00	3.78%
RETAIL - GENERAL MERCHANDISE STORES	\$322,142,999.83	\$10,445,369.60	3.24%
LEGAL SERVICES	\$432,270,539.68	\$4,333,726.77	1.00%
ARCHITECTURAL, ENGINEERING, AND RELATED SERVICES	\$483,588,722.42	\$4,827,265.56	1.00%
OTHER FINANCIAL INVESTMENT ACTIVITIES	\$542,782,449.84	\$4,808,316.36	.89%
RETAIL - FOOD AND BEVERAGE STORES	\$348,010,744.44	\$2,769,971.51	.80%
RETAIL - ELECTRONICS AND APPLIANCE STORES	\$64,969,030.39	\$349,129.46	.54%
WAREHOUSING AND STORAGE	\$120,833,091.72	\$568,951.51	.47%
RETAIL - HEALTH AND PERSONAL CARE STORES	\$216,269,279.85	\$838,393.42	.39%
RETAIL - MISCELLANEOUS STORE RETAILERS	\$149,823,765.91	\$477,538.10	.32%
RETAIL - BUILDING MATERIAL AND GARDEN EQUIPMENT AND SUPPLIES STORES	\$295,058,611.87	\$927,793.74	.31%
RETAIL - CLOTHING AND CLOTHING ACCESSORIES STORES	\$261,210,733.20	\$809,576.98	.31%
RETAIL - FURNITURE AND HOME FURNISHINGS STORES	\$129,322,659.52	\$387,936.22	.30%
CONCRETE BLOCK AND BRICK MANUFACTURING	\$11,339,141.52	\$32,593.13	.29%
RETAIL - SPORTING GOODS, HOBBY, MUSICAL INSTRUMENT AND BOOK STORES	\$99,879,867.36	\$265,831.45	.27%
COMMERCIAL AND INDUSTRIAL MACHINERY AND EQUIPMENT RENTAL AND LEASING	\$114,041,989.32	\$296,651.58	.26%
RETAIL - GASOLINE STORES	\$192,369,301.49	\$487,824.08	.25%
READY-MIX CONCRETE MANUFACTURING	\$26,426,757.14	\$65,212.69	.25%
DATA PROCESSING, HOSTING, AND RELATED SERVICES	\$246,644,685.38	\$566,451.91	.23%
SPECIALIZED DESIGN SERVICES	\$37,349,868.69	\$84,940.81	.23%
ENVIRONMENTAL AND OTHER TECHNICAL CONSULTING SERVICES	\$39,104,088.65	\$88,929.19	.23%
FUNDS, TRUSTS, AND OTHER FINANCIAL VEHICLES	\$257,249,525.37	\$572,098.61	.22%



## APPENDIX B: CONTINUED

DESCRIPTION	TOTAL OUTPUT	IMPACT OUTPUT	ESTIMATED GROWTH %
MANAGEMENT CONSULTING SERVICES	\$218,389,505.42	\$479,453.32	.22%
REAL ESTATE	\$1,930,324,063.36	\$4,188,468.35	.22%
OFFICE ADMINISTRATIVE SERVICES	\$97,058,734.59	\$206,066.70	.21%
OFFICES OF DENTISTS	\$243,236,985.51	\$500,890.18	.21%
MISCELLANEOUS NONMETALLIC MINERAL PRODUCTS MANUFACTURING	\$11,744,962.76	\$23,945.35	.20%
EMPLOYMENT SERVICES	\$590,097,468.87	\$1,172,890.78	.20%
SECURITIES AND COMMODITY CONTRACTS INTERMEDIATION AND BROKERAGE	\$220,680,882.80	\$435,499.04	.20%
ADVERTISING, PUBLIC RELATIONS, AND RELATED SERVICES	\$330,110,063.56	\$650,521.97	.20%
POSTAL SERVICE	\$105,520,106.02	\$206,867.79	.20%
FULL-SERVICE RESTAURANTS	\$441,100,368.48	\$859,539.79	.19%
ASPHALT PAVING MIXTURE AND BLOCK MANUFACTURING	\$3,406,262.12	\$6,562.38	.19%
OUTPATIENT CARE CENTERS	\$211,350,923.85	\$404,952.11	.19%
OTHER EDUCATIONAL SERVICES	\$82,466,023.72	\$157,398.71	.19%
RELIGIOUS ORGANIZATIONS	\$81,614,802.00	\$155,031.63	.19%
MONETARY AUTHORITIES AND DEPOSITORY CREDIT INTERMEDIATION	\$883,888,574.22	\$1,666,791.60	.19%
PHOTOGRAPHIC SERVICES	\$10,885,363.04	\$20,515.75	.19%
OWNER-OCCUPIED DWELLINGS	\$2,168,049,559.97	\$4,085,919.59	.19%
OTHER COMPUTER RELATED SERVICES, INCLUDING FACILITIES MANAGEMENT	\$82,179,560.03	\$154,754.25	.19%
OFFICES OF OTHER HEALTH PRACTITIONERS	\$211,825,106.12	\$398,769.91	.19%
NONDEPOSITORY CREDIT INTERMEDIATION AND RELATED ACTIVITIES	\$122,477,849.56	\$230,310.39	.19%
WIRELESS TELECOMMUNICATIONS CARRIERS (EXCEPT SATELLITE)	\$303,028,863.22	\$566,396.81	.19%
GRANTMAKING, GIVING, AND SOCIAL ADVOCACY ORGANIZATIONS	\$85,773,495.05	\$159,897.37	.19%
BUSINESS AND PROFESSIONAL ASSOCIATIONS	\$75,948,860.05	\$141,507.91	.19%
COMMUNITY FOOD, HOUSING, AND OTHER RELIEF SERVICES, INCLUDING REHABILITATION SERVICES	\$54,229,306.05	\$100,721.39	.19%
NEWSPAPER PUBLISHERS	\$49,086,419.54	\$90,574.49	.18%

**APPENDIX B: CONTINUED**

DESCRIPTION	TOTAL OUTPUT	IMPACT OUTPUT	ESTIMATED GROWTH %
ACCOUNTING, TAX PREPARATION, BOOKKEEPING, AND PAYROLL SERVICES	\$290,567,804.84	\$535,381.75	.18%
MEDICAL AND DIAGNOSTIC LABORATORIES	\$52,963,710.88	\$97,584.49	.18%
SCENIC AND SIGHTSEEING TRANSPORTATION AND SUPPORT ACTIVITIES FOR TRANSPORTATION	\$104,292,520.11	\$191,759.87	.18%
OTHER PERSONAL SERVICES	\$67,866,669.43	\$124,742.18	.18%
INTERNET PUBLISHING AND BROADCASTING AND WEB SEARCH PORTALS	\$256,618,087.80	\$464,849.72	.18%
PRIVATE HOUSEHOLDS	\$13,281,752.47	\$23,951.22	.18%
ALL OTHER FOOD AND DRINKING PLACES	\$167,673,167.03	\$300,283.34	.18%
COMMERCIAL AND INDUSTRIAL MACHINERY AND EQUIPMENT REPAIR AND MAINTENANCE	\$97,221,091.86	\$173,548.14	.18%
OFFICES OF PHYSICIANS	\$882,567,643.03	\$1,569,924.28	.18%
OTHER CONCRETE PRODUCT MANUFACTURING	\$15,336,892.20	\$27,187.04	.18%
INDIVIDUAL AND FAMILY SERVICES	\$142,989,854.70	\$253,084.06	.18%
DIRECTORY, MAILING LIST, AND OTHER PUBLISHERS	\$15,272,791.94	\$26,431.27	.17%
FITNESS AND RECREATIONAL SPORTS CENTERS	\$40,236,971.27	\$69,584.14	.17%
RADIO AND TELEVISION BROADCASTING	\$59,415,504.47	\$102,217.84	.17%
LABOR AND CIVIC ORGANIZATIONS	\$129,182,556.81	\$221,860.62	.17%
MAINTENANCE AND REPAIR CONSTRUCTION OF RESIDENTIAL STRUCTURES	\$138,274,378.98	\$237,270.12	.17%
COMMERCIAL SPORTS EXCEPT RACING	\$23,989,947.65	\$40,613.67	.17%
OTHER AMBULATORY HEALTH CARE SERVICES	\$68,197,561.79	\$115,014.33	.17%
COURIERS AND MESSENGERS	\$191,697,573.49	\$322,986.93	.17%
LIMITED-SERVICE RESTAURANTS	\$794,905,054.99	\$1,338,744.57	.17%
MARKETING RESEARCH AND ALL OTHER MISCELLANEOUS PROFESSIONAL, SCIENTIFIC, AND TECHNICAL SERVICES	\$62,535,201.08	\$103,876.45	.17%
RETAIL - NON-STORE RETAILERS	\$727,083,264.86	\$1,201,566.29	.17%
AMUSEMENT PARKS AND ARCADES	\$11,095,513.12	\$18,326.81	.17%
PERSONAL AND HOUSEHOLD GOODS REPAIR AND MAINTENANCE	\$91,717,519.92	\$150,727.92	.16%
SATELLITE, TELECOMMUNICATIONS RESELLERS, AND ALL OTHER TELECOMMUNICATIONS	\$18,433,092.42	\$30,173.41	.16%
JUNIOR COLLEGES, COLLEGES, UNIVERSITIES, AND PROFESSIONAL SCHOOLS	\$17,861,701.24	\$28,989.42	.16%

**APPENDIX B: CONTINUED**

DESCRIPTION	TOTAL OUTPUT	IMPACT OUTPUT	ESTIMATED GROWTH %
GENERAL AND CONSUMER GOODS RENTAL EXCEPT VIDEO TAPES AND DISCS	\$50,036,650.91	\$80,606.61	.16%
TRANSIT AND GROUND PASSENGER TRANSPORTATION	\$36,918,117.77	\$59,322.96	.16%
OTHER LOCAL GOVERNMENT ENTERPRISES	\$195,280,966.84	\$310,912.23	.16%
WIRED TELECOMMUNICATIONS CARRIERS	\$677,196,611.57	\$1,074,907.69	.16%
BOWLING CENTERS	\$7,526,775.08	\$11,932.55	.16%
CAR WASHES	\$42,495,348.70	\$67,185.52	.16%
LOCAL GOVERNMENT PASSENGER TRANSIT	\$14,877,967.55	\$23,424.63	.16%
MUSEUMS, HISTORICAL SITES, ZOOS, AND PARKS	\$40,293,370.69	\$63,331.02	.16%
PROMOTERS OF PERFORMING ARTS AND SPORTS AND AGENTS FOR PUBLIC FIGURES	\$14,453,424.72	\$22,702.44	.16%
INVESTIGATION AND SECURITY SERVICES	\$104,452,430.67	\$163,636.88	.16%
INSURANCE AGENCIES, BROKERAGES, AND RELATED ACTIVITIES	\$815,887,553.60	\$1,270,473.41	.16%
WATER, SEWAGE AND OTHER SYSTEMS	\$7,331,290.92	\$11,298.17	.15%
WASTE MANAGEMENT AND REMEDIATION SERVICES	\$115,626,604.34	\$175,712.20	.15%
PERFORMING ARTS COMPANIES	\$38,396,385.75	\$58,196.26	.15%
VETERINARY SERVICES	\$95,016,249.04	\$143,567.25	.15%
ELECTRONIC AND PRECISION EQUIPMENT REPAIR AND MAINTENANCE	\$57,329,044.21	\$86,066.84	.15%
SERVICES TO BUILDINGS	\$217,293,938.28	\$322,467.55	.15%
INDEPENDENT ARTISTS, WRITERS, AND PERFORMERS	\$43,452,850.72	\$64,415.08	.15%
LANDSCAPE AND HORTICULTURAL SERVICES	\$175,277,332.34	\$258,695.76	.15%
HOME HEALTH CARE SERVICES	\$221,716,771.34	\$325,756.75	.15%
CHILD DAY CARE SERVICES	\$112,814,793.66	\$165,690.94	.15%
OTHER AMUSEMENT AND RECREATION INDUSTRIES	\$83,777,533.97	\$121,795.59	.15%
AIR TRANSPORTATION	\$94,330,515.35	\$136,856.53	.15%
AUTOMOTIVE REPAIR AND MAINTENANCE, EXCEPT CAR WASH-ES	\$468,426,440.35	\$673,207.57	.14%
PERIODICAL PUBLISHERS	\$138,822,152.98	\$196,970.48	.14%
CABLE AND OTHER SUBSCRIPTION PROGRAMMING	\$17,919,883.84	\$25,114.20	.14%



**APPENDIX B: CONTINUED**

DESCRIPTION	TOTAL OUTPUT	IMPACT OUTPUT	ESTIMATED GROWTH %
OTHER MILL-WORK, INCLUDING FLOORING	\$5,651,751.65	\$7,855.09	.14%
PERSONAL CARE SERVICES	\$150,405,700.01	\$208,183.11	.14%
AUTOMOTIVE EQUIPMENT RENTAL AND LEASING	\$95,811,893.97	\$132,486.94	.14%
HOSPITALS	\$2,584,795,186.94	\$3,567,970.33	.14%
OTHER SUPPORT SERVICES	\$82,773,922.84	\$113,757.99	.14%
FACILITIES SUPPORT SERVICES	\$16,876,135.80	\$22,931.52	.14%
DRY-CLEANING AND LAUNDRY SERVICES	\$41,884,943.24	\$56,784.66	.14%
MAINTENANCE AND REPAIR CONSTRUCTION OF NONRESIDENTIAL STRUCTURES	\$314,069,065.06	\$422,736.25	.13%
BUSINESS SUPPORT SERVICES	\$204,730,119.46	\$273,712.52	.13%
GAMBLING INDUSTRIES (EXCEPT CASINO HOTELS)	\$188,272,004.03	\$244,655.75	.13%
OTHER STATE GOVERNMENT ENTERPRISES	\$34,424,757.45	\$44,451.07	.13%
TRUCK TRANSPORTATION	\$931,399,996.94	\$1,197,323.78	.13%
TRAVEL ARRANGEMENT AND RESERVATION SERVICES	\$67,801,342.27	\$86,134.07	.13%
RESIDENTIAL MENTAL RETARDATION, MENTAL HEALTH, SUB-STANCE ABUSE AND OTHER FACILITIES	\$77,188,863.10	\$96,933.57	.13%
WOOD WINDOWS AND DOOR MANUFACTURING	\$3,211,120.39	\$3,971.67	.12%
ELEMENTARY AND SECONDARY SCHOOLS	\$154,964,054.13	\$186,071.34	.12%
INSURANCE CARRIERS	\$1,785,462,436.37	\$2,010,231.39	.11%
NEWS SYNDICATES, LIBRARIES, ARCHIVES AND ALL OTHER INFORMATION SERVICES	\$13,651,116.49	\$15,216.30	.11%
DEATH CARE SERVICES	\$38,514,340.08	\$42,037.01	.11%
LOCAL GOVERNMENT ELECTRIC UTILITIES	\$24,355,725.01	\$26,459.58	.11%
ELECTRIC POWER TRANSMISSION AND DISTRIBUTION	\$1,143,886,993.06	\$1,239,357.70	.11%
ALL OTHER CROP FARMING	\$504,500.89	\$533.22	.11%
VIDEO TAPE AND DISC RENTAL	\$14,411,763.90	\$14,718.65	.10%
WHOLESALE TRADE	\$3,604,580,237.41	\$3,655,650.64	.10%
RETAIL - MOTOR VEHICLE AND PARTS DEALERS	\$688,574,201.81	\$668,955.04	.10%
RACING AND TRACK OPERATION	\$6,447,083.80	\$6,241.53	.10%
COMPUTER SYSTEMS DESIGN SERVICES	\$130,850,403.04	\$125,737.09	.10%
BOOK PUBLISHERS	\$4,349,005.79	\$4,047.94	.09%

## APPENDIX B: CONTINUED

DESCRIPTION	TOTAL OUTPUT	IMPACT OUTPUT	ESTIMATED GROWTH %
WOOD PRESERVATION	\$1,141,868.20	\$1,059.32	.09%
MOTION PICTURE AND VIDEO INDUSTRIES	\$49,133,635.31	\$44,164.78	.09%
SOFTWARE PUBLISHERS	\$129,316,660.91	\$115,808.19	.09%
LESSORS OF NON-FINANCIAL INTANGIBLE ASSETS	\$156,179,444.88	\$129,057.71	.08%
PIPELINE TRANSPORTATION	\$30,060,775.85	\$24,546.13	.08%
GYPSUM PRODUCT MANUFACTURING	\$6,233,420.02	\$5,065.68	.08%
WATER TRANSPORTATION	\$14,410,211.63	\$11,380.18	.08%
NURSING AND COMMUNITY CARE FACILITIES	\$431,746,044.19	\$307,894.64	.07%
RAIL TRANSPORTATION	\$34,941,456.47	\$24,742.82	.07%
SOUND RECORDING INDUSTRIES	\$17,648,919.22	\$11,797.24	.07%
SAWMILLS	\$4,941,858.04	\$3,153.10	.06%
PRINTING	\$221,211,455.90	\$139,247.94	.06%
NATURAL GAS DISTRIBUTION	\$169,929,855.37	\$100,700.24	.06%
STONE MINING AND QUARRYING	\$14,034,219.72	\$8,059.26	.06%
MANAGEMENT OF COMPANIES AND ENTERPRISES	\$3,709,480,703.12	\$2,093,475.44	.06%
CUT STONE AND STONE PRODUCT MANUFACTURING	\$1,644,865.24	\$878.29	.05%
SIGN MANUFACTURING	\$51,935,997.81	\$27,261.38	.05%
METAL WINDOW AND DOOR MANUFACTURING	\$14,394,950.55	\$6,327.08	.04%
INDUSTRIAL GAS MANUFACTURING	\$16,540,662.44	\$6,947.18	.04%
PESTICIDE AND OTHER AGRICULTURAL CHEMICAL MANUFACTURING	\$41,763,241.83	\$14,759.77	.04%
PREFABRICATED METAL BUILDINGS AND COMPONENTS MANUFACTURING	\$6,533,844.35	\$2,252.49	.03%
FABRICATED STRUCTURAL METAL MANUFACTURING	\$40,802,641.17	\$13,219.14	.03%
SUPPORT ACTIVITIES FOR AGRICULTURE AND FORESTRY	\$2,091,191.63	\$605.55	.03%
ORNAMENTAL AND ARCHITECTURAL METAL WORK MANUFACTURING	\$5,210,371.44	\$1,362.54	.03%
COMMERCIAL HUNTING AND TRAPPING	\$102,379.76	\$26.77	.03%
BREWERIES	\$40,506,529.34	\$9,865.63	.02%
BOTTLED AND CANNED SOFT DRINKS & WATER	\$527,181,848.37	\$108,134.94	.02%
SUPPORT ACTIVITIES FOR OIL AND GAS OPERATIONS	\$9,797,853.91	\$1,964.07	.02%

## APPENDIX B: CONTINUED

DESCRIPTION	TOTAL OUTPUT	IMPACT OUTPUT	ESTIMATED GROWTH %
METAL MINING SERVICES	\$18,883.06	\$3.47	.02%
PETROLEUM LUBRICATING OIL AND GREASE MANUFACTURING	\$16,594,116.92	\$2,920.48	.02%
OTHER NONMETALLIC MINERALS SERVICES	\$24,196.07	\$4.15	.02%
WOOD CONTAINER AND PALLET MANUFACTURING	\$4,753,302.40	\$774.67	.02%
VEGETABLE AND MELON FARMING	\$2,917,209.84	\$452.56	.02%
ALL OTHER MISCELLANEOUS WOOD PRODUCT MANUFACTURING	\$15,832,964.75	\$2,448.06	.02%
HOTELS AND MOTELS, INCLUDING CASINO HOTELS	\$100,102,430.22	\$15,228.01	.02%
FLUID MILK MANUFACTURING	\$26,388,730.64	\$3,965.30	.02%
WIRING DEVICE MANUFACTURING	\$10,260,519.96	\$1,454.92	.01%
CUT AND SEW APPAREL CONTRACTORS	\$1,718,203.35	\$239.34	.01%
OTHER COMMUNICATION AND ENERGY WIRE MANUFACTURING	\$3,807,676.42	\$508.12	.01%
MANUFACTURED ICE	\$21,570,564.70	\$2,687.38	.01%
SHEET METAL WORK MANUFACTURING	\$47,195,144.38	\$5,873.33	.01%
FRUIT FARMING	\$893,920.88	\$110.92	.01%
FROZEN SPECIALTIES MANUFACTURING	\$258,289.82	\$31.80	.01%
PHARMACEUTICAL PREPARATION MANUFACTURING	\$6,289,229.88	\$763.97	.01%
MINERAL WOOL MANUFACTURING	\$11,395,896.28	\$1,376.24	.01%
EXTRACTION OF NATURAL GAS LIQUIDS	\$105,417,461.65	\$12,348.86	.01%
EXTRACTION OF NATURAL GAS AND CRUDE PETROLEUM	\$243,058,382.60	\$28,472.45	.01%
POULTRY AND EGG PRODUCTION	\$109,838.94	\$11.58	.01%
BRICK, TILE, AND OTHER STRUCTURAL CLAY PRODUCT MANUFACTURING	\$4,123,145.15	\$427.91	.01%
BROOM, BRUSH, AND MOP MANUFACTURING	\$8,023,568.96	\$807.71	.01%
WOOD KITCHEN CABINET AND COUNTER TOP MANUFACTURING	\$2,166,071.74	\$196.56	.01%
SCIENTIFIC RESEARCH AND DEVELOPMENT SERVICES	\$556,430,879.38	\$47,980.27	.01%
SUPPORT ACTIVITIES FOR PRINTING	\$7,372,804.55	\$632.00	.01%
GREENHOUSE, NURSERY, AND FLORICULTURE PRODUCTION	\$3,797,133.74	\$323.56	.01%



**APPENDIX B: CONTINUED**

DESCRIPTION	TOTAL OUTPUT	IMPACT OUTPUT	ESTIMATED GROWTH %
ELECTRONIC COMPUTER MANUFACTURING	\$41,005,066.30	\$3,455.51	.01%
GLASS PRODUCT MANUFACTURING MADE OF PURCHASED GLASS	\$1,822,626.30	\$153.35	.01%
AIR CONDITIONING, REFRIGERATION, AND WARM AIR HEATING EQUIPMENT MANUFACTURING	\$97,830,705.19	\$7,757.43	.01%
ELEVATOR AND MOVING STAIRWAY MANUFACTURING	\$78,780,949.10	\$6,238.50	.01%
ALL OTHER MISCELLANEOUS MANUFACTURING	\$5,354,235.73	\$399.39	.01%
BREAD AND BAKERY PRODUCT, EXCEPT FROZEN, MANUFACTURING	\$75,710,136.81	\$5,572.64	.01%
POLYSTYRENE FOAM PRODUCT MANUFACTURING	\$23,212,688.14	\$1,668.92	.01%
MEAT PROCESSED FROM CARCASSES	\$5,715,127.71	\$394.52	.01%
MUSICAL INSTRUMENT MANUFACTURING	\$7,707,316.07	\$501.29	.01%
PAPERBOARD CONTAINER MANUFACTURING	\$136,843,115.83	\$8,190.05	.01%
OTHER SNACK FOOD MANUFACTURING	\$11,294,425.81	\$610.79	.01%
POLISH AND OTHER SANITATION GOOD MANUFACTURING	\$172,060,547.88	\$9,081.96	.01%
POTTERY, CERAMICS, AND PLUMBING FIXTURE MANUFACTURING	\$6,981,943.22	\$349.10	.01%