



# **The Economic Impact of Capital Availability to Minority-Owned Small Businesses in Baltimore**

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Submitted to:  
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Empower Baltimore Management  
Corporation

January 28, 2005

## **Table of Contents**

Executive Summary .....	3
Introduction.....	5
The Broad Policy Objective.....	6
Methodology-Measuring Economic Impacts.....	6
Results.....	8
Impacts in Maryland .....	9
Impacts in Baltimore City.....	15
Conclusion .....	22
Appendix A-Implan Methodology.....	23
Appendix B-List of Interviewees.....	25

## List of Exhibits

Exhibit E1: Summary of Impacts from 12 Empower Baltimore Firms, Baltimore City and Maryland .....	4
Exhibit 1: Jobs Created and Retained by 12 Empower Baltimore Firms .....	8
Exhibit 2: Employment Impacts in Maryland from Empower Baltimore Created and Retained Jobs .....	9
Exhibit 3: Employment Impacts in Maryland from All Empower Baltimore Jobs .....	10
Exhibit 4: Income Impacts in Maryland from Empower Baltimore Created and Retained Jobs (thousands of 2004 dollars) .....	11
Exhibit 5: Income Impacts in Maryland from All Empower Baltimore Jobs (thousands of 2004 dollars).....	12
Exhibit 6: Fiscal impacts Stemming from Relevant Economic Activity in Maryland (thousands of 2004 dollars) .....	13
Exhibit 7: Output Impacts in Maryland from Empower Baltimore Created and Retained Jobs (thousands of 2004 dollars) .....	14
Exhibit 8: Output Impacts in Maryland from All Empower Baltimore Jobs (thousands of 2004 dollars).....	15
Exhibit 9: Employment Impacts in Baltimore City from Empower Baltimore Created and Retained Jobs .....	16
Exhibit 10: Employment Impacts in Baltimore City from All Empower Baltimore Jobs.....	17
Exhibit 11: Income Impacts in Baltimore City from Empower Baltimore Created and Retained Jobs (thousands of 2004 dollars) .....	18
Exhibit 12: Income Impacts in Baltimore City from All Empower Baltimore Jobs (thousands of 2004 dollars).....	19
Exhibit 13: Fiscal impacts Stemming from Relevant Economic Activity in Baltimore City (thousands of 2004 dollars).....	19
Exhibit 14: Output Impacts in Baltimore City from Empower Baltimore Created and Retained Jobs (thousands of 2004 dollars) .....	20
Exhibit 15: Output Impacts in Baltimore City from All Empower Baltimore Jobs (thousands of 2004 dollars).....	21
Exhibit 16: Summary of Impacts from 12 Empower Baltimore Firms, Baltimore City and Maryland .....	22

## Executive Summary

The Empower Baltimore Management Corporation (EBMC) hired Sage Policy Group<sup>1</sup>, Inc. (SPG) to study the economic impact of loan funds that it makes available to local business entities. Professional asset managers like Meridian Management Group, Inc. (MMG) and Harbor Bank manage these funds. This study focuses on the economic impact of Community Development Ventures, Inc. (CDV), a fund managed by MMG.

In order to conduct its research, SPG collected data on firms to which CDV had made loans or in which CDV had invested venture capital. Economic impacts were derived by quantifying the jobs, income and output generated by companies that were the recipients of Empower Baltimore funds, and then integrating these estimates with an IMPLAN input-output econometric model to determine the total multiplicative effect of investments made. The study's greatest challenge involved separating those impacts that were genuinely associated with loans/investments from those that would have occurred even in the absence of Empowerment Zone fund availability.

This study comes on the heels of another SPG study conducted on behalf of the Greater Baltimore Committee (GBC). That study determined that the Baltimore area lags comparable cities in terms of minority firm presence and minority firm average size and revenue once our region's relative demographics are considered. Specifically, there is a shortfall of over 13,700 minority businesses in the Baltimore area.<sup>2</sup> There are numerous factors that explain Baltimore's historic underperformance with respect to minority firm formation, survivorship, and expansion, including an apparent lack of access to capital, particularly for early-stage companies.

Because CDV provides financing through loans and/or investments in early stage minority-owned companies, it is effectively serving an underserved marketplace. Therefore, the expectation is that the social return on financing would be high. The total amount of funds disbursed to the twelve companies analyzed was \$4,305,867. These funds were disbursed over the period 1998-2004.

Our results are consistent with this expectation. The economic impacts associated with the twelve firms analyzed are summarized in Exhibit E.1. With respect to Baltimore City, the economic impacts include:

- 662 jobs created, or one job for every \$6,504.33 disbursed;
- \$20,943,000 in annual household income; and
- \$42,984,800 in annual gross city product.

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<sup>1</sup> The primary author of this report is Sage Policy Group economist Anirban Basu, who was ably assisted by economist John Duberg of the Nearing Group. SPG policy analyst Vanessa Francis supported data collection efforts, while SPG research assistant Braedyn Woodring supported editing and formatting.

<sup>2</sup> Basu and Woodring (2004), Sage Policy Group, *Bridging the Gap: An Analysis of Baltimore's Minority- and Women-Owned Business Communities* (available through the Greater Baltimore Committee).

When broadening the analysis to incorporate total impacts on Maryland's macroeconomy, the measured economic contributions are:

- 834 jobs created, or one job for every \$5,162.91 disbursed;
- \$29,151,600 in annual household income; and
- \$66,440,100 in annual gross state product.

The study team also calculated the fiscal impact of the activities of the firms under consideration. If one considers only those activities taking place in Baltimore City, the calculated fiscal impact is \$2,033,000. This figure refers to the tax revenues paid to governments in Maryland, including the State of Maryland and City of Baltimore. If one also considers relevant activities taking place in Maryland but outside of Baltimore City, this fiscal impact figure rises to \$2,829,000.

The broad conclusion is that these loans collectively represent an effective way to leverage entrepreneurial dynamism and private investment potential. The results are also consistent with the notion that increasing financing availability to early-stage minority owned companies would generate disproportionately large economic impacts assuming effective asset management and screening of financing applicants.

Exhibit E1: Summary of Impacts from 12 Empower Baltimore Firms, Baltimore City and Maryland

Firm Supported by Empower Baltimore	Baltimore City Impacts			Maryland Impacts		
	Employment Impacts	Income Impacts (\$000s)	Output Impacts (\$000s)	Employment Impacts	Income Impacts (\$000s)	Output Impacts (\$000s)
AM & Sons Electrical	35	\$1,692.1	\$2,913.3	41	1,840.1	3,424.5
Allstate Carpet	11	\$541.5	\$932.3	13	588.8	1,095.8
Citimedia	19	\$1,148.1	\$3,656.6	25	1,373.2	4,377.7
CMIS Technologies	13	\$774.8	\$1,573.7	17	983.2	2,074.5
Economic Computer Systems dba Mid-Atlantic Broadband	5	\$290.6	\$590.1	6	368.7	777.9
Mainstreet Technologies	42	\$2,518.2	\$5,114.5	55	3,195.5	6,742.1
MidAtlantic Metro BroadBand fka/Ntegrity	0	\$0.0	\$0.0	71	3,869.9	12,337.3
Moorish American Construction	31	\$1,489.0	\$2,563.7	36	1,619.3	3,013.5
Patriarch	435	\$8,833.5	\$17,218.1	485	11,366.2	22,872.5
Sitel Resources	11	\$703.2	\$2,973.4	17	972.6	3,904.0
Taylor Graphics	20	\$1,056.9	\$2,186.2	21	913.2	1,984.8
Wells Construction	39	\$1,895.1	\$3,262.9	46	2,060.9	3,835.4
<b>Total</b>	<b>662</b>	<b>\$20,943.0</b>	<b>\$42,984.8</b>	<b>834</b>	<b>29,151.6</b>	<b>66,440.1</b>

## Introduction

The Empower Baltimore Management Corporation (EBMC) hired Sage Policy Group<sup>3</sup>, Inc. (SPG) to study the economic impact of loan funds that it makes available to local business entities. Professional asset managers like Meridian Management Group, Inc. (MMG) and Harbor Bank manage these funds. This study focuses on the economic impact of Community Development Ventures, Inc. (CDV), a fund managed by MMG. The economic impact of Harbor Bank loans/investments is treated in a separate report also authored by SPG.

In order to conduct the research, SPG collected data on firms to which CDV had made loans or in which CDV had invested venture capital. Economic impacts were derived by quantifying the jobs, income and output generated by companies that were the recipients of Empower Baltimore funds, and then integrating these estimates with an IMPLAN input-output econometric model to determine the total multiplicative effect of investments made. The study's greatest challenge involved separating those impacts that were genuinely associated with loans/investments from those that would have occurred even in the absence of Empowerment Zone fund availability. Further detail on this aspect of the study team's methodology is presented below.

This study comes on the heels of another SPG study conducted on behalf of the Greater Baltimore Committee (GBC). That study determined that the Baltimore area lags comparable cities in terms of minority firm presence and minority firm average size and revenue once our region's relative demographics are considered. Specifically, there is a shortfall of over 13,700 minority businesses in the Baltimore area.<sup>4</sup> When factoring in that those minority businesses that do exist in the Baltimore metropolitan area are smaller on average than their counterparts in other leading US metros, the under-representation of minority firms in Baltimore contributes to a loss of \$5 billion in lost potential business sales per annum and 30,000 fewer jobs across the region. There are numerous factors that explain Baltimore's historic underperformance with respect to minority firm formation, survivorship, and expansion, including an apparent lack of access to capital, particularly for early-stage companies.

Because CDV provides financing through loans and/or investments in early stage minority-owned companies, it is effectively serving an underserved marketplace. Therefore, the expectation *ceteris paribus* would be that the social return on financing would be high. This of course assumes effective screening of financing applicants to determine those that are most credit- or investment-worthy, and effective asset management over time. Therefore, the expectation is that the social return on financing would be high. The total amount of funds disbursed to the twelve companies analyzed was \$4,305,867. These funds were disbursed over the period 1998-2004.

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<sup>3</sup> The primary author of this report is Sage Policy Group economist Anirban Basu, who was ably assisted by economist John Duberg of the Nearing Group. SPG policy analyst Vanessa Francis supported data collection efforts, while SPG research assistant Braedyn Woodring supported editing and formatting.

<sup>4</sup> Basu and Woodring (2004), Sage Policy Group, *Bridging the Gap: An Analysis of Baltimore's Minority- and Women-Owned Business Communities* (available through the Greater Baltimore Committee).

In order to gain insight into the nature of investments/loans made by CDV, SPG surveyed nearly a dozen recipients of loans/investments. Uniformly, high level representatives of these companies informed SPG researchers that no alternatives to CDV loans/investments existed at the time at which CDV made its financing decisions. The surveyed also confirmed that the availability of financing was critical to their business survival and expansion. Finally, the surveyed suggested that the CDV application process was extraordinarily thorough, and that the process improved the quality of information organization within interviewed companies. The improved state of company documentation supported subsequent business expansion efforts.

### **The Broad Policy Objective**

Among the most significant goals of the Empower Baltimore program is the retention and creation of employment. Indeed, the creation of employment is critical to Empower Baltimore's mission of fostering sustained economic opportunities and building communities within the Empowerment Zone.

Empower Baltimore seeks to fulfill its mission in several ways. One of these is by offering loans that provide critically needed funds to firms operating or based in the inner city neighborhoods that are encompassed by Baltimore's Empowerment Zone. By providing capital to firms so that they can sustain and expand their businesses, Empower Baltimore also helps create the conditions that create and retain jobs.

Employment is of obvious benefit to the individuals who fill those retained and created jobs and to the firms that use those jobs in meeting the demands for goods and services those firms provide. The employment retained or created by firms is also helpful in understanding the broader economic impacts of the Empower Baltimore program. Because employment is central to Empower Baltimore's mission, records of jobs created and retained are well maintained and comprehensive. Other basic measures of economic activity (e.g., sales by businesses or payroll) are often more difficult to collect or can be misleading. Usually it is a straightforward matter to count jobs.

### **Methodology - Measuring Economic Impacts**

The economic activity represented by jobs associated with Empower Baltimore generates a multiplier effect that extends into the economy of Baltimore City and the State of Maryland and expands the benefits created directly by Empower Baltimore in the firms with which it works. In the language of economics, this additional economic activity is termed the indirect and induced effects of the jobs created or retained as a result of Empower Baltimore's actions.

The jobs retained or created by the Empower Baltimore firms are considered direct effects. Indirect effects occur when the firms directly assisted by Empower Baltimore purchase goods and services from other firms. The construction firms assisted by Empower Baltimore buy construction materials, for example, from Baltimore and Maryland lumber yards and other businesses and hire subcontractors to complete some of

the work for their construction projects. These lumber yards and other businesses in turn purchase supplies and services from other local firms partly in response to the business they conduct with the Empower Baltimore firms. Similarly, subcontractors will use part of the money they receive from Empower Baltimore firms to buy goods and services from Baltimore and Maryland firms. In its totality this succession of purchases by suppliers and suppliers of suppliers creates the indirect effect.

The wages received by the employees and owners of Empower Baltimore firms and of the succession of suppliers linked to Empower Baltimore firms create induced effects. These wages are spent in Baltimore and Maryland for a very broad range of consumer purchases from housing and groceries to entertainment and Christmas gifts. The economic activity associated with these purchases is the induced effect.

These direct, indirect, and induced effects can be measured along three dimensions: employment (measured in full-time and part-time jobs), income (measured in dollars), and output or sales of goods and services (measured in dollars). These effects are estimated using proprietary software and a computer model created for this analysis.<sup>5</sup>

In estimating the economic impacts of Empower Baltimore, this analysis relied on typical measures of employment, income, and output. The analysis assumes that the firms directly affected by Empower Baltimore's loans as well as the firms that are part of the indirect and induced effects of these loans behave approximately like all city or state firms in those industries.

Critically, SPG's interviews revealed that several of the companies analyzed would not exist but for the financial lifeline provided to them through CDV (and that lifeline would not exist but for funds provided by EBMC in the instances studied). One 8(a) government contractor, for instance, informed us that but for CDV, their first contract with the federal government would have gone unfulfilled. That contract was fulfilled however, due to the availability of working capital supplied by CDV. Since that time, this Baltimore City-based, minority-owned business has grown exponentially, and is now actively bidding on \$100 million federal government contracts. Others reported that their firms would be much smaller but for CDV financing. Therefore, the study team is comfortable reporting the economic impacts below as being largely associated with MMG and Empower Baltimore activities.

Finally, the analysis looks at impacts across the State of Maryland and within Baltimore City. Empower Baltimore is most immediately concerned with helping firms and people in the Empowerment Zone neighborhoods within Baltimore City where most of the economic effects occur. These effects, however, extend beyond city limits and provide additional benefits to businesses and residents across the state. Results are therefore separately provided for both the geographies of Baltimore City and Maryland.

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<sup>5</sup> The analysis is based on software and data created by the Minnesota IMPLAN Group, Inc. IMPLAN has become the industry standard for the kind of input-output analysis conducted for this project.

## Results

Firms supported by Empower Baltimore/MMG through CDV funding reported the number of jobs that they created or retained. These jobs are presented in Exhibit 1 for each of the 12 firms included in this analysis.

Exhibit 1: Jobs Created and Retained by 12 Empower Baltimore Firms

<b>Firms</b>	<b>Created Jobs</b>	<b>Retained Jobs</b>	<b>Total Jobs</b>
AM & Sons Electrical	10	15	25
Allstate Carpet	1	7	8
Citimedia	7	4	11
CMIS Technologies	4	4	8
Economic Computer Systems dba Mid-Atlantic Broadband	1	2	3
Mainstreet Technologies	19	7	26
MidAtlantic Metro BroadBand fka/Ntegrity	31	0	31
Moorish American Construction	8	14	22
Patriarch	227	150	377
Sitel Resources	4	1	5
Taylor Graphics	4	9	13
Wells Construction	8	20	28
<b>Total</b>	<b>324</b>	<b>233</b>	<b>557</b>

The data above represents the peak employment in these firms in the period 1998 through 2003. For individual firms, peak employment appears to have occurred at different times during this period. While employment data are available for each firm, these data are not available for each year for each firm. It is, therefore, difficult to understand the extent to which this employment has been sustained over time. From the data available on the firms, it is clear that one of these firms—Sitel Resources—has failed and is no longer in business. Patriarch, the largest generator of employment of these 12 firms, however, had a total of 377 employees in 2003 and had increased its employment by over 150 percent from the previous year. Thus, although the persistence of employment for all 12 firms cannot be determined from the available data, there is evidence that a majority of these jobs were still in place at the end of the period being analyzed and, thus, most of the economic activity represented by these jobs has likely been sustained.

One firm—MidAtlantic Metro BroadBand—that created employment as a result of the Empower Baltimore program initially located those employees in Baltimore City, but then moved them to Columbia, Maryland. Because these jobs now reside outside the Empower Baltimore boundaries, the analysis of impacts includes these jobs when looking at statewide impacts, but excludes them in the analysis of impacts in Baltimore City.

## Impacts in Maryland

As shown in Exhibit 1 above, 324 jobs have been created in Maryland as a result of Empower Baltimore funds. In addition, those firms have been able to save or retain 233 jobs. In total, Empower Baltimore funding helps to directly create or retain 557 jobs.

These direct jobs generate indirect and induced jobs as the Empower Baltimore firms interact with their suppliers and the employees of the directly and indirectly affected firms spend their paychecks. As a result, the 324 jobs created directly by the Empower Baltimore funding stimulate 62 indirect jobs and 108 induced jobs. The 233 jobs retained directly as a result of Empower Baltimore are responsible for an additional 36 indirect jobs and 71 induced jobs. The total employment impact in Maryland is then 494 jobs associated with newly created jobs and 340 jobs associated with retained jobs.

Exhibit 2: Employment Impacts in Maryland from Empower Baltimore Created and Retained Jobs

Firms Supported by Empower Baltimore	Employment Impacts from Created Jobs				Employment Impacts from Retained Jobs			
	Direct Impacts	Indirect Impacts	Induced Impacts	Total	Direct Impacts	Indirect Impacts	Induced Impacts	Total
AM & Sons Electrical	10	2	5	17	15	3	7	25
Allstate Carpet	1	0	0	2	7	1	3	12
Citimedia	7	4	5	16	4	2	3	9
CMIS Technologies	4	1	3	8	4	1	3	8
Economic Computer Systems dba Mid-Atlantic Broadband	1	0	1	2	2	1	2	4
Mainstreet Technologies	19	6	14	40	7	2	5	15
MidAtlantic Metro <sup>6</sup> BroadBand fka/Ntegrity	31	16	24	71	0	0	0	0
Moorish American Construction	8	2	4	13	14	3	6	23
Patriarch	227	23	42	292	150	15	28	193
Sitel Resources	4	4	5	13	1	1	1	3
Taylor Graphics	4	1	2	7	9	2	4	15
Wells Construction	8	2	4	13	20	4	9	33
<b>Total</b>	<b>324</b>	<b>62</b>	<b>108</b>	<b>494</b>	<b>233</b>	<b>36</b>	<b>71</b>	<b>340</b>

Note: Totals reflect partial job creation and rounded and may not be the sum of the rounded direct, indirect, and induced impacts.

Exhibit 2 above presents the employment impacts in Maryland for the Empower Baltimore program for the 12 listed firms. Impacts are presented at the individual firm level.<sup>7</sup>

<sup>6</sup> Initial investment made at start-up. Correspondingly, no retained jobs have been assigned to MidAtlantic Metro BroadBand.

Exhibit 3 presents the employment impacts from all jobs created or retained in Maryland as a result of Empower Baltimore funding. These totals are taken directly from the data in Exhibit 2. As shown, a total of 557 jobs were created or retained statewide in the firms receiving CDV funding. In turn, these jobs helped create an additional 97 jobs in the chain of suppliers linked to the directly affected firms. Wages spent by the employees holding these direct and indirect jobs created another 180 induced jobs. In total, CDV funding was instrumental in the creation or retention of 834 jobs.

Exhibit 3: Employment Impacts in Maryland from All Empower Baltimore Jobs

Firms Supported by Empower Baltimore	Employment Impacts from All Jobs			
	Direct Impacts	Indirect Impacts	Induced Impacts	Total
AM & Sons Electrical	25	5	11	41
Allstate Carpet	8	2	4	13
Citimedia	11	6	8	25
CMIS Technologies	8	3	6	17
Economic Computer Systems dba Mid-Atlantic Broadband	3	1	2	6
Mainstreet Technologies	26	9	20	55
MidAtlantic Metro BroadBand fka/Ntegrity	31	16	24	71
Moorish American Construction	22	4	10	36
Patriarch	377	39	70	485
Sitel Resources	5	6	6	17
Taylor Graphics	13	3	6	21
Wells Construction	28	6	13	46
<b>Total</b>	<b>557</b>	<b>97</b>	<b>180</b>	<b>834</b>
Note: Totals reflect partial job creation and are rounded and may not be the sum of the rounded direct, indirect, and induced impacts.				

The employment created through the efforts of Empower Baltimore has associated income in the form of wages, salaries, and other compensation as well as profits. The model created for this analysis estimates this income. It should be noted that this income is more than the payroll reported by firms assisted with Empower Baltimore funding. That payroll figure does not necessarily include the income that owners derive. More importantly, payroll data does not address the income generated by the indirect and induced employment.

The income impacts presented in this analysis include all forms of compensation for all workers, proprietors, and owners of affected firms and business establishments. Workers include full-time and part-time employees, contract workers, and others involved in

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<sup>7</sup> Each industry possesses its own multiplier. Therefore, the relationship between direct and total impact varies by firm. These differences are attributable to the differing nature of the purchases from suppliers that different types of businesses make and the ability of the Maryland economy to provide those needed goods and services. Differences are also attributable to separate levels of compensation for the directly and indirectly affected firms and how those levels of compensation are then spent in the Maryland economy.

creating the goods and services produced by affected firms and business establishments. For small businesses like those supported by Empower Baltimore this income includes the profit that owners make on sales of goods and services

Exhibit 4: Income Impacts in Maryland from Empower Baltimore Created and Retained Jobs (thousands of 2004 dollars)

Firms Supported by Empower Baltimore	Income Impacts from Created Jobs				Income Impacts from Retained Jobs			
	Direct Impacts	Indirect Impacts	Induced Impacts	Total	Direct Impacts	Indirect Impacts	Induced Impacts	Total
AM & Sons Electrical	490.0	88.8	157.2	736.0	735.0	133.3	235.8	1,104.0
Allstate Carpet	49.0	8.9	15.7	73.6	343.0	62.2	110.1	515.2
Citimedia	505.6	181.8	186.5	873.9	288.9	103.9	106.6	499.3
CMIS Technologies	332.9	53.7	105.0	491.6	332.9	53.7	105.0	491.6
Economic Computer Systems dba Mid-Atlantic Broadband	83.2	13.4	26.3	122.9	166.4	26.9	52.5	245.8
Mainstreet Technologies	1,581.1	255.1	498.9	2,335.1	582.5	94.0	183.8	860.3
MidAtlantic Metro BroadBand fka/Ntegrity	2,239.1	804.9	826.0	3,869.9	0.0	0.0	0.0	0.0
Moorish American Construction	392.0	71.1	125.8	588.8	686.0	124.4	220.1	1,030.4
Patriarch	4,570.9	815.5	1,457.5	6,843.8	3,020.4	538.8	963.1	4,522.4
Sitel Resources	376.8	235.9	165.4	778.1	94.2	59.0	41.4	194.5
Taylor Graphics	188.1	32.9	60.0	281.0	423.2	74.1	134.9	632.2
Wells Construction	392.0	71.1	125.8	588.8	980.0	177.7	314.4	1,472.1
<b>Total</b>	<b>11,200.6</b>	<b>2,633.1</b>	<b>3,750.0</b>	<b>17,583.6</b>	<b>7,652.4</b>	<b>1,447.8</b>	<b>2,467.7</b>	<b>11,567.9</b>

Note: Totals are rounded and may not be the sum of the rounded direct, indirect, and induced impacts.

Exhibit 4 summarizes the income impacts associated with jobs created and retained as a consequence of CDV funds. Direct, indirect, induced, and total impacts are provided by individual firm and are totaled for each of these categories. As shown, income associated with direct impacts of created jobs totals \$11.2 million; income associated with indirect and induced impacts of created jobs totals \$2.6 million and \$3.8 million, respectively. Total income impacts associated with jobs created by Empower Baltimore firms are \$17.5 million.

Exhibit 4 also provides estimates for income impacts related to the jobs retained as a result of Empower Baltimore funding. The direct income impacts for these retained jobs totals \$7.7 million while indirect and induced impacts total \$1.4 million and \$2.5 million, respectively. Total income impacts related to retained jobs are \$11.6 million.

Exhibit 5: Income Impacts in Maryland from All Empower Baltimore Jobs (thousands of 2004 dollars)

Firms Supported by Empower Baltimore	Income Impacts from All Jobs			
	Direct Impacts	Indirect Impacts	Induced Impacts	Total
AM & Sons Electrical	1,224.9	222.1	393.0	1,840.1
Allstate Carpet	392.0	71.1	125.8	588.8
Citimedia	794.5	285.6	293.1	1,373.2
CMIS Technologies	665.7	107.4	210.1	983.2
Economic Computer Systems dba Mid-Atlantic Broadband	249.6	40.3	78.8	368.7
Mainstreet Technologies	2,163.6	349.2	682.7	3,195.5
MidAtlantic Metro BroadBand fka/Negrity	2,239.1	804.9	826.0	3,869.9
Moorish American Construction	1,077.9	195.4	345.9	1,619.3
Patriarch	7,591.4	1,354.3	2,420.5	11,366.2
Sitel Resources	471.0	294.8	206.8	972.6
Taylor Graphics	611.3	107.0	194.9	913.2
Wells Construction	1,371.9	248.7	440.2	2,060.9
<b>Total</b>	<b>18,853.0</b>	<b>4,080.9</b>	<b>6,217.7</b>	<b>29,151.6</b>

Note: Totals are rounded and may not be the sum of the rounded direct, indirect, and induced impacts.

The income impacts in Maryland for all jobs created and retained as a result of Empower Baltimore's program of lending funds to these 12 Empowerment Zone, inner city businesses are presented in Exhibit 5. These totals are the sums of the data presented in Exhibit 4. The estimated income impacts of the jobs directly created and retained by the Empower Baltimore firms totals \$18.9 million. For all created and retained jobs, the indirect and induced income impacts are \$4.1 million and \$6.2 million, respectively. The total income impacts in Maryland for all jobs created and retained as a result of the Empower Baltimore firms addressed in this analysis total \$29.2 million.

Exhibit 6 below presents the tax revenues associated with EBMC/CDV investments. On a per annum basis, the amount of taxes generated equal \$2,829,000.

Exhibit 6: Fiscal impacts Stemming from Relevant Economic Activity in Maryland  
(thousands of 2004 dollars)

		<b>Income in Maryland</b>	<b>Income tax</b>	<b>Sales tax</b>	<b>Property tax</b>	<b>Total tax</b>
<b>Created Jobs</b>	Direct Effects	11,200.6	554	328	205	1,087
	Indirect Effects	2,633.1	130	77	48	256
	Induced Effects	3,750.0	185	110	69	364
	<b>Total</b>	<b>17,583.6</b>	<b>870</b>	<b>515</b>	<b>322</b>	<b>1,707</b>
<b>Retained Jobs</b>	Direct Effects	7,652.4	378	224	140	743
	Indirect Effects	1,447.8	72	42	26	141
	Induced Effects	2,467.7	122	72	45	240
	<b>Total</b>	<b>11,567.9</b>	<b>572</b>	<b>339</b>	<b>212</b>	<b>1,123</b>
<b>All Jobs</b>	Direct Effects	18,853.0	932	552	345	1,830
	Indirect Effects	4,080.9	202	120	75	396
	Induced Effects	6,217.7	308	182	114	603
	<b>Total</b>	<b>29,151.6</b>	<b>1,442</b>	<b>854</b>	<b>533</b>	<b>2,829</b>

Source. Tax rates are based on statewide averages from Comptroller of Maryland web site for workers earning \$45,000 to \$49,999 annually.

Output is the measure of the sale of goods and services by businesses in Maryland. Output impacts are then the new sales that are brought to Maryland businesses as a result of the Empower Baltimore program. Exhibit 7 presents estimated output impacts in Maryland related to the jobs created by the Empower Baltimore program as well as the output impacts related to retained jobs. For the created jobs, direct output impacts are valued at \$25 million; an additional \$6.8 million and \$10.7 million of output impacts are categorized as indirect and induced impacts, respectively. Total output impacts related to created jobs are estimated at \$42.6 million.

Exhibit 7: Output Impacts in Maryland from Empower Baltimore Created and Retained Jobs (thousands of 2004 dollars)

Firms Supported by Empower Baltimore	Output Impacts from Created Jobs				Output Impacts from Retained Jobs			
	Direct Impacts	Indirect Impacts	Induced Impacts	Total	Direct Impacts	Indirect Impacts	Induced Impacts	Total
AM & Sons Electrical	713.0	209.0	447.8	1,369.8	1,069.5	313.5	671.7	2,054.7
Allstate Carpet	71.3	20.9	44.8	137.0	499.1	146.3	313.5	958.9
Citimedia	1,749.8	504.8	531.2	2,785.8	999.9	288.4	303.6	1,591.9
CMIS Technologies	604.8	133.2	299.2	1,037.2	604.8	133.2	299.2	1,037.2
Economic Computer Systems dba Mid-Atlantic Broadband	151.2	33.3	74.8	259.3	302.4	66.6	149.6	518.6
Mainstreet Technologies	2,873.0	632.9	1,421.0	4,926.9	1,058.5	233.2	523.5	1,815.2
MidAtlantic Metro BroadBand fka/Ntegrity	7,749.3	2,235.4	2,352.6	12,337.3	0.0	0.0	0.0	0.0
Moorish American Construction	570.4	167.2	358.2	1,095.8	998.2	292.6	626.9	1,917.7
Patriarch	7,715.5	1,905.3	4,151.2	13,772.0	5,098.3	1,259.0	2,743.1	9,100.5
Sitel Resources	1,898.8	753.4	471.1	3,123.2	474.7	188.3	117.8	780.8
Taylor Graphics	357.7	82.3	170.8	610.7	804.7	185.1	384.2	1,374.1
Wells Construction	570.4	167.2	358.2	1,095.8	1,426.0	418.0	895.6	2,739.6
<b>Total</b>	<b>25,025.1</b>	<b>6,845.0</b>	<b>10,680.9</b>	<b>42,551.0</b>	<b>13,336.1</b>	<b>3,524.5</b>	<b>7,028.6</b>	<b>23,889.1</b>

Note: Totals are rounded and may not be the sum of the rounded direct, indirect, and induced impacts.

For retained jobs, total output impacts in Maryland are estimated at \$23.9 million. These total impacts can be disaggregated into direct impacts of \$13.3 million, indirect impacts of \$3.5 million, and induced impacts of \$7.0 million.

The output impacts for the State of Maryland for all jobs created and retained as a consequence of Empower Baltimore's program are shown in Exhibit 8, which presents totals of the data in Exhibit 7. The output impacts of the jobs directly created and retained by the Empower Baltimore firms total \$38.4 million. For all created and retained jobs, the indirect and induced income impacts are \$10.4 million and \$17.7 million, respectively. The total output impacts in Maryland related to all jobs created and retained by the Empower Baltimore firms addressed in this analysis totals \$66.4 million. In other words, Maryland firms were able to sell an additional \$66.4 million worth of goods and services because of the funding Empower Baltimore provided to the 12 firms listed in Exhibit 8.

Exhibit 8: Output Impacts in Maryland from All Empower Baltimore Jobs (thousands of 2004 dollars)

Firms Supported by Empower Baltimore	Output Impacts from All Jobs			
	Direct Impacts	Indirect Impacts	Induced Impacts	Total
AM & Sons Electrical	1,782.4	522.5	1,119.5	3,424.5
Allstate Carpet	570.4	167.2	358.2	1,095.8
Citimedia	2,749.7	793.2	834.8	4,377.7
CMIS Technologies	1,209.7	266.5	598.3	2,074.5
Economic Computer Systems dba Mid-Atlantic Broadband	453.6	99.9	224.4	777.9
Mainstreet Technologies	3,931.4	866.1	1,944.6	6,742.1
MidAtlantic Metro BroadBand fka/Negrity	7,749.3	2,235.4	2,352.6	12,337.3
Moorish American Construction	1,568.5	459.8	985.1	3,013.5
Patriarch	12,813.8	3,164.4	6,894.3	22,872.5
Sitel Resources	2,373.5	941.7	588.9	3,904.0
Taylor Graphics	1,162.4	267.4	555.0	1,984.8
Wells Construction	1,996.3	585.3	1,253.8	3,835.4
<b>Total</b>	<b>38,361.1</b>	<b>10,369.4</b>	<b>17,709.5</b>	<b>66,440.1</b>

Note: Totals are rounded and may not be the sum of the rounded direct, indirect, and induced impacts.

### Impacts in Baltimore City

Empower Baltimore’s mission is to work with businesses in Baltimore City. Economic impacts were accordingly estimated for the city itself. These impacts are a subset of, not separate from or in addition to, the statewide impacts discussed above.

The same software and computer model that provided estimates of the impacts of the Empower Baltimore program in the State of Maryland also can be used for Baltimore City. Consistently the impacts in Baltimore City are smaller than they are in the state as a whole. This reflects the fact that there are more opportunities for the economy of the state to respond to the demands for goods and services that the Empower Baltimore program creates.

Nevertheless, the majority of the impacts created in the State of Maryland occur in Baltimore City. Thus, most of the demands for goods and services that create the multiplier effect are satisfied within the city limits near where the firms helped by Empower Baltimore are located.

As noted above, MidAtlantic Metro BroadBand was able to create and retain jobs as a result of the funding received through the Empower Baltimore program. Because these jobs were relocated from Baltimore City to Columbia, Maryland, the impacts of these jobs are not included in the Baltimore City impacts described below. Although these jobs were able to create economic and fiscal impacts while they were in the city, these effects more properly belong only in the statewide impacts

Exhibit 9 presents the employment impacts associated with jobs directly created in Baltimore City and with jobs retained in Baltimore City. Empower Baltimore's efforts resulted in the creation 293 direct jobs in the 12 firms. In turn, 33 indirect and 40 induced jobs in Baltimore City are related to the 293 direct jobs. For created jobs, the total employment impact is estimated at 366 city jobs. In addition, Empower Baltimore efforts helped to retain 233 jobs at the 12 firms and these directly retained jobs are related to 27 indirect and 36 induced city jobs. For retained jobs, the total employment impact is 296 jobs.

Exhibit 9: Employment Impacts in Baltimore City from Empower Baltimore Created and Retained Jobs

Firms Supported by Empower Baltimore	Employment Impacts from Created Jobs				Employment Impacts from Retained Jobs			
	Direct Impacts	Indirect Impacts	Induced Impacts	Total	Direct Impacts	Indirect Impacts	Induced Impacts	Total
AM & Sons Electrical	10	2	2	14	15	2	4	21
Allstate Carpet	1	0	0	1	7	1	2	10
Citimedia	7	3	3	12	4	2	2	7
CMIS Technologies	4	1	1	6	4	1	1	6
Economic Computer Systems dba Mid-Atlantic Broadband	1	0	0	2	2	0	1	3
Mainstreet Technologies	19	5	7	31	7	2	3	11
MidAtlantic Metro BroadBand fka/Ntegrity	0	0	0	0	0	0	0	0
Moorish American Construction	8	1	2	11	14	2	3	20
Patriarch	227	16	19	262	150	11	13	173
Sitel Resources	4	3	2	9	1	1	0	2
Taylor Graphics	4	1	1	6	9	2	3	14
Wells Construction	8	1	2	11	20	3	5	28
<b>Total</b>	<b>293</b>	<b>33</b>	<b>40</b>	<b>366</b>	<b>233</b>	<b>27</b>	<b>36</b>	<b>296</b>

Note: Totals reflect partial job creation and rounded and may not be the sum of the rounded direct, indirect, and induced impacts.

Exhibit 10 presents the employment impacts from all jobs created or retained in Baltimore City as a result of CDV funding. These totals are taken directly from the data in Exhibit 9. As shown, a total of 526 jobs were created in the firms receiving funding from CDV. In turn, these jobs helped create an additional 60 Baltimore City jobs in the chain of suppliers linked to the directly affected firms. Wages spent by the employees holding these direct and indirect jobs created another 76 induced jobs. In total, Empower Baltimore funding was instrumental in the creation of 662 jobs in the city.

Exhibit 10: Employment Impacts in Baltimore City from All Empower Baltimore Jobs

Firms Supported by Empower Baltimore	Employment Impacts from All Jobs			
	Direct Impacts	Indirect Impacts	Induced Impacts	Total
AM & Sons Electrical	25	4	6	35
Allstate Carpet	8	1	2	11
Citimedia	11	4	4	19
CMIS Technologies	8	2	3	13
Economic Computer Systems dba Mid-Atlantic Broadband	3	1	1	5
Mainstreet Technologies	26	6	9	42
MidAtlantic Metro BroadBand fka/Ntegrity	0	0	0	0
Moorish American Construction	22	3	5	31
Patriarch	377	27	31	435
Sitel Resources	5	4	2	11
Taylor Graphics	13	3	4	20
Wells Construction	28	4	7	39
<b>Total</b>	<b>526</b>	<b>60</b>	<b>76</b>	<b>662</b>

Note: Totals reflect partial job creation and are rounded and may not be the sum of the rounded direct, indirect, and induced impacts.

Exhibit 11 summarizes the income impacts associated with jobs created and retained in Baltimore City as a consequence of CDV funds. Direct, indirect, induced, and total impacts are provided by individual firm and are totaled for each of these categories. As shown, income associated with direct impacts of created jobs totals \$8.1 million; income associated with indirect and induced impacts of created jobs totals \$1.5 million and \$1.5 million, respectively. Total income impacts associated with jobs created by Empower Baltimore firms are \$11.1 million.

Exhibit 11 also provides estimates for income impacts related to the jobs retained as a result of CDV funding. The direct income impacts for these retained jobs totals \$7.3 million while indirect and induced impacts total \$1.2 million and \$1.4 million, respectively. Total income impacts related to retained jobs are \$9.9 million.

Exhibit 11: Income Impacts in Baltimore City from Empower Baltimore Created and Retained Jobs (thousands of 2004 dollars)

Firms Supported by Empower Baltimore	Income Impacts from Created Jobs				Income Impacts from Retained Jobs			
	Direct Impacts	Indirect Impacts	Induced Impacts	Total	Direct Impacts	Indirect Impacts	Induced Impacts	Total
AM & Sons Electrical	502.2	80.3	94.4	676.8	753.3	120.4	141.6	1,015.2
Allstate Carpet	50.2	8.0	9.4	67.7	351.5	56.2	66.1	473.8
Citimedia	480.3	149.2	101.1	730.6	274.4	85.2	57.8	417.5
CMIS Technologies	289.8	43.4	54.2	387.4	289.8	43.4	54.2	387.4
Economic Computer Systems dba Mid-Atlantic Broadband	72.5	10.8	13.6	96.9	144.9	21.7	27.1	193.7
Mainstreet Technologies	1,376.7	206.1	257.5	1,840.2	507.2	75.9	94.9	678.0
MidAtlantic Metro BroadBand fka/Ntegrity	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Moorish American Construction	401.7	64.2	75.5	541.5	703.0	112.4	132.2	947.6
Patriarch	3,959.9	641.8	717.1	5,318.8	2,616.7	424.1	473.9	3,514.6
Sitel Resources	311.2	176.9	74.5	562.5	77.8	44.2	18.6	140.6
Taylor Graphics	242.8	37.6	44.9	325.2	546.2	84.6	100.9	731.7
Wells Construction	401.7	64.2	75.5	541.5	1,004.3	160.5	188.8	1,353.7
<b>Total</b>	<b>8,089.0</b>	<b>1,482.5</b>	<b>1,517.7</b>	<b>11,089.1</b>	<b>7,269.2</b>	<b>1,228.7</b>	<b>1,356.0</b>	<b>9,853.9</b>

Note: Totals are rounded and may not be the sum of the rounded direct, indirect, and induced impacts.

The income impacts in Baltimore City for all jobs created and retained as a result of Empower Baltimore's program of lending funds to inner city businesses are presented in Exhibit 12. These totals are the sum of the figures presented in Exhibit 11. The income impacts of the jobs directly created and retained by the Empower Baltimore firms totals \$15.4 million. For all created and retained jobs, the indirect and induced income impacts are \$2.7 million and \$2.9 million, respectively. The total income impacts in Baltimore City for all jobs created and retained as a result of the Empower Baltimore firms addressed in this analysis totals \$20.9 million.

Exhibit 12: Income Impacts in Baltimore City from All Empower Baltimore Jobs  
(thousands of 2004 dollars)

Firms Supported by Empower Baltimore	Income Impacts from All Jobs			
	Direct Impacts	Indirect Impacts	Induced Impacts	Total
AM & Sons Electrical	1,255.4	200.7	236.0	1,692.1
Allstate Carpet	401.7	64.2	75.5	541.5
Citimedia	754.7	234.4	158.9	1,148.1
CMIS Technologies	579.7	86.8	108.4	774.8
Economic Computer Systems dba Mid-Atlantic Broadband	217.4	32.5	40.7	290.6
Mainstreet Technologies	1,883.9	282.0	352.3	2,518.2
MidAtlantic Metro BroadBand fka/Negrity	0.0	0.0	0.0	0.0
Moorish American Construction	1,104.8	176.6	207.7	1,489.0
Patriarch	6,576.6	1,065.9	1,191.0	8,833.5
Sitel Resources	389.0	221.1	93.1	703.2
Taylor Graphics	789.0	122.2	145.8	1,056.9
Wells Construction	1,406.1	224.7	264.3	1,895.1
<b>Total</b>	<b>15,358.2</b>	<b>2,711.2</b>	<b>2,873.7</b>	<b>20,943.0</b>

Note: Totals are rounded and may not be the sum of the rounded direct, indirect, and induced impacts.

Exhibit 13: Fiscal impacts Stemming from Relevant Economic Activity in Baltimore City  
(thousands of 2004 dollars)

		Income in Baltimore City	Income tax	Sales tax	Property tax	Total tax
Created Jobs	Direct Effects	8,089.0	400	237	148	785
	Indirect Effects	1,482.5	73	43	27	144
	Induced Effects	1,517.7	75	44	28	147
	Total	11,089.1	548	325	203	1,076
Retained Jobs	Direct Effects	7,269.2	360	213	133	706
	Indirect Effects	1,228.7	61	36	22	119
	Induced Effects	1,356.0	67	40	25	132
	Total	9,853.9	487	289	180	956
All Jobs	Direct Effects	15,358.2	760	450	281	1,491
	Indirect Effects	2,711.2	134	79	50	263
	Induced Effects	2,873.7	142	84	53	279
	Total	20,943.0	1,036	614	383	2,033

Source. Tax rates are based on statewide averages from Comptroller of Maryland web site for workers earning \$45,000 to \$49,999 annually.

Exhibit 13 above presents the local (Baltimore City) tax revenues associated with EBMC/CDV investments. On a per annum basis, the amount of taxes generated equal \$2,033,000.

Exhibit 14 presents estimated output impacts in Baltimore City related to the jobs created by the Empower Baltimore program as well as the output impacts related to retained jobs. For the created jobs, direct output impacts are valued at \$15.9 million; an additional \$3.5 million and \$4.3 million of output impacts are categorized as indirect and induced impacts, respectively. Total output impacts related to created jobs are estimated at \$23.6 million.

For retained jobs, total output impacts in Baltimore City are estimated at \$19.4 million. These total impacts can be disaggregated into direct impacts of \$12.8 million, indirect impacts of \$2.8 million, and induced impacts of \$3.8 million.

Exhibit 14: Output Impacts in Baltimore City from Empower Baltimore Created and Retained Jobs (thousands of 2004 dollars)

Firms Supported by Empower Baltimore	Output Impacts from Created Jobs				Output Impacts from Retained Jobs			
	Direct Impacts	Indirect Impacts	Induced Impacts	Total	Direct Impacts	Indirect Impacts	Induced Impacts	Total
AM & Sons Electrical	723.7	177.1	264.5	1,165.3	1,085.6	265.6	396.8	1,748.0
Allstate Carpet	72.4	17.7	26.5	116.5	506.6	123.9	185.2	815.7
Citimedia	1,665.4	378.0	283.5	2,326.9	951.7	216.0	162.0	1,329.7
CMIS Technologies	535.4	99.6	151.9	786.9	535.4	99.6	151.9	786.9
Economic Computer Systems dba Mid-Atlantic Broadband	133.8	24.9	38.0	196.7	267.7	49.8	76.0	393.4
Mainstreet Technologies	2,542.9	473.1	721.6	3,737.5	936.9	174.3	265.8	1,377.0
MidAtlantic Metro BroadBand fka/Ntegrity	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Moorish American Construction	579.0	141.6	211.6	932.3	1,013.2	247.9	370.4	1,631.4
Patriarch	6,892.5	1,465.2	2,009.6	10,367.4	4,554.5	968.2	1,327.9	6,850.7
Sitel Resources	1,702.0	468.1	208.6	2,378.7	425.5	117.0	52.2	594.7
Taylor Graphics	456.8	90.2	125.7	672.7	1,027.8	202.9	282.8	1,513.5
Wells Construction	579.0	141.6	211.6	932.3	1,447.4	354.1	529.1	2,330.6
<b>Total</b>	<b>15,882.9</b>	<b>3,477.1</b>	<b>4,253.1</b>	<b>23,613.1</b>	<b>12,752.2</b>	<b>2,819.3</b>	<b>3,800.0</b>	<b>19,371.6</b>

Note: Totals are rounded and may not be the sum of the rounded direct, indirect, and induced impacts.

The output impacts for Baltimore City for all jobs created and retained as a consequence of Empower Baltimore's program are shown in Exhibit 15, which totals the data from

Exhibit 14. The output impacts of the jobs directly created and retained by the Empower Baltimore firms totals \$28.6 million. For all created and retained jobs, the indirect and induced income impacts are \$6.3 million and \$8.1 million, respectively. The total output impacts in Baltimore City related to all jobs created and retained by the Empower Baltimore firms addressed in this analysis totals \$43.0 million. In other words, Baltimore City firms were able to sell an additional \$43.0 million worth of goods and services as a result of funding Empower Baltimore provided to the 12 firms listed in Exhibit 15.

Exhibit 15: Output Impacts in Baltimore City from All Empower Baltimore Jobs  
(thousands of 2004 dollars)

Firms Supported by Empower Baltimore	Output Impacts from All Jobs			
	Direct Impacts	Indirect Impacts	Induced Impacts	Total
AM & Sons Electrical	1,809.3	442.6	661.4	2,913.3
Allstate Carpet	579.0	141.6	211.6	932.3
Citimedia	2,617.1	594.1	445.4	3,656.6
CMIS Technologies	1,070.7	199.2	303.8	1,573.7
Economic Computer Systems dba Mid-Atlantic Broadband	401.5	74.7	113.9	590.1
Mainstreet Technologies	3,479.8	647.3	987.4	5,114.5
MidAtlantic Metro BroadBand fka/Negrity	0.0	0.0	0.0	0.0
Moorish American Construction	1,592.2	389.5	582.0	2,563.7
Patriarch	11,447.1	2,433.5	3,337.5	17,218.1
Sitel Resources	2,127.5	585.1	260.8	2,973.4
Taylor Graphics	1,484.6	293.1	408.5	2,186.2
Wells Construction	2,026.4	495.7	740.7	3,262.9
<b>Total</b>	<b>28,635.1</b>	<b>6,296.5</b>	<b>8,053.1</b>	<b>42,984.8</b>
Note: Totals are rounded and may not be the sum of the rounded direct, indirect, and induced impacts.				

## Conclusion

Empower Baltimore and CDV have generated significant, identifiable and quantifiable economic impacts on the economies of Baltimore City and Maryland by jointly making financing available to companies that would otherwise lack access to risk-seeking, early-stage capital. Using standard econometric, survey, and modeling techniques, SPG quantified the economic impacts associated with twelve firms to which EBMC/CDV has provided financing in the forms of loans and/or investments. Exhibit 16 presents summary results for Baltimore City and Maryland.

Exhibit 16: Summary of Impacts from 12 Empower Baltimore Firms, Baltimore City and Maryland

Firm Supported by Empower Baltimore	Baltimore City Impacts			Maryland Impacts		
	Employment Impacts	Income Impacts (\$000s)	Output Impacts (\$000s)	Employment Impacts	Income Impacts (\$000s)	Output Impacts (\$000s)
AM & Sons Electrical	35	\$1,692.1	\$2,913.3	41	1,840.1	3,424.5
Allstate Carpet	11	\$541.5	\$932.3	13	588.8	1,095.8
Citimedia	19	\$1,148.1	\$3,656.6	25	1,373.2	4,377.7
CMIS Technologies	13	\$774.8	\$1,573.7	17	983.2	2,074.5
Economic Computer Systems dba Mid-Atlantic Broadband	5	\$290.6	\$590.1	6	368.7	777.9
Mainstreet Technologies	42	\$2,518.2	\$5,114.5	55	3,195.5	6,742.1
MidAtlantic Metro BroadBand fka/Ntegrity	0	\$0.0	\$0.0	71	3,869.9	12,337.3
Moorish American Construction	31	\$1,489.0	\$2,563.7	36	1,619.3	3,013.5
Patriarch	435	\$8,833.5	\$17,218.1	485	11,366.2	22,872.5
Sitel Resources	11	\$703.2	\$2,973.4	17	972.6	3,904.0
Taylor Graphics	20	\$1,056.9	\$2,186.2	21	913.2	1,984.8
Wells Construction	39	\$1,895.1	\$3,262.9	46	2,060.9	3,835.4
<b>Total</b>	<b>662</b>	<b>\$20,943.0</b>	<b>\$42,984.8</b>	<b>834</b>	<b>29,151.6</b>	<b>66,440.1</b>

## **Appendix A-IMPLAN Methodology**

### **What is IMPLAN?**

IMPLAN is an economic impact assessment software system. The system was originally developed and is now maintained by the Minnesota IMPLAN Group (MIG). It combines a set of extensive databases concerning economic factors, multipliers and demographic statistics with a highly refined and detailed system of modeling software. IMPLAN allows the user to develop local-level input-output models that can estimate the economic impact of new firms moving into an area as well as the impacts of professional sports teams, recreation and tourism, and residential development. The model accomplishes this by identifying direct impacts by sector, then developing a set of indirect and induced impacts by sector through the use of industry-specific multipliers, local purchase coefficients, income-to-output ratios, and other factors and relationships.

There are two major components to IMPLAN: data files and software. An impact analysis using IMPLAN starts by identifying expenditures in terms of the sectoring scheme for the model. Each spending category becomes a "group" of "events" in IMPLAN, where each event specifies the portion of activity allocated to a specific IMPLAN sector. Groups of events can then be used to run impact analysis individually or can be combined into a project consisting of several groups. Once the direct economic impacts have been identified, IMPLAN can calculate the indirect and induced impacts based on a set of multipliers and additional factors.

*The hallmark of IMPLAN is the specificity of its economic datasets. The database includes information for five-hundred-and-twenty-eight different industries (generally at the three or four digit Standard Industrial Classification level), and twenty-one different economic variables. Along with these data files, national input-output structural matrices detail the interrelationships between and among these sectors. The database also contains a full schedule of Social Accounting Matrix (SAM) data. All of this data is available at the national, state, and county level.*

Another strength of the IMPLAN system is its flexibility. It allows the user to augment any of the data or algorithmic relationships within each model in order to more precisely account for regional relationships. This includes inputting different output-to-income ratios for a given industry, different wage rates, and different multipliers where appropriate. IMPLAN also provides the user with a choice of trade-flow assumptions, including the modification of regional purchase coefficients, which determine the mix of goods and services purchased locally with each dollar in each sector. Moreover, the system also allows the user to create custom impact analyses by entering changes in final demand. This flexibility is a critically important feature in terms of the SPG proposed approach. SPG is uniquely qualified to develop data and factors tailored to this project, and, where appropriate, overwrite the default data contained in the IMPLAN database.

Another major advantage of IMPLAN is its credibility and acceptance within the profession. There are over five hundred active users of IMPLAN databases and software within the federal and state governments, universities, and among private sector consultants. The following list provides a sampling of IMPLAN users.

## Sample of IMPLAN Users:

### Academic Institutions

Alabama A&M University  
Albany State University  
Auburn University  
Cornell University  
Duke University  
Iowa State University  
Michigan Tech University  
Ohio State  
Penn State University  
Portland State University  
Purdue University  
Stanford University  
Texas A&M University  
University of California – Berkeley  
University of Wisconsin  
University of Minnesota  
Virginia Tech  
West Virginia University  
Marshall University/College of Business

### Federal Government Agencies

Argonne National Lab  
Fed. Emergency Man. Agency (FEMA)  
US Dep't of Agriculture, Forest Service  
US Dep't of Ag., Econ Research Service  
US Dep't of Int., Bureau of Land Mgmt.  
US Dep't of Int., Fish and Wildlife Serv.  
US Dep't of Int., National Parks Service  
US Army Corps of Engineers

### State Government Agencies

MD Dep't of Natural Resources  
Missouri Department of Economic Development  
California Energy Commission  
Florida Division of Forestry  
Illinois Dep't of Natural Resources  
New Mexico Department of Tourism  
South Carolina Employment Security  
Utah Department of Natural Resources  
Wisconsin Department of Transportation

### Private Consulting Firms

Coopers & Lybrand  
Batelle Pacific NW Laboratories  
Boise Cascade Corporation  
Charles River Associates  
CIC Research  
BTG/Delta Research Division  
Crestar Bank  
Deloitte & Touche  
Ernst & Young  
Jack Faucett Associates  
KPMG Peat Marwick  
Price Waterhouse LLP  
SMS Research  
Economic Research Associates  
American Economics Group, Inc.  
L.E. Peabody Associates, Inc.  
The Kalorama Consulting Group  
West Virginia Research League

## **Appendix B-List of Interviewees**

1. Gary Moore, Allstate Carpet
2. Larry Jennings, CMIS Technologies
3. Michael Pitts, MidAtlantic Metro BroadBand
4. Kenneth Davis, Mainstreet Technologies
5. Desiree Butler, Patriarch, Inc.
6. Sandra Harley, Sahara Communications