



**Report for:**

**Economic Impacts from Expanding the Sterling  
and Francine Clark Art Institute**

*Prepared for:*

**THE  
CLARK**

**The Sterling and Francine Clark Art Institute**  
225 South Street, Williamstown, MA 01287

*Prepared by:*

**Economic Development Research Group, Inc.**  
2 Oliver Street, 9<sup>th</sup> Floor, Boston, MA 02109

**2012**

# Table of Contents

<b>Introduction</b> .....	<b>1</b>
Overview.....	1
Approach.....	3
Model Geography: .....	4
Framing the Analysis: .....	5
Sequence of the Analysis: .....	5
<b>Direct Effects of the Construction Phase</b> .....	<b>6</b>
<b>Total Economic Impacts from the Expansion Construction</b> .....	<b>9</b>
Impacts by Region .....	9
Job Impacts .....	9
Labor Income Impacts.....	10
Business Sales Impacts .....	10
Berkshire County Job Impacts by <i>type</i> of Industry .....	10
Tax revenues Generated in Massachusetts from Construction Phase.....	11
<b>Direct Effects of Added Operations and Visitor Spending</b> .....	<b>13</b>
Added Operations & Maintenance at the Clark .....	13
Additional Jobs with the Clark.....	14
Additional Visitors.....	15
<b>Total Impacts from Additional Visitor Spending</b> .....	<b>18</b>
Tax revenues Generated in Massachusetts from Added Operations .....	19
<b>Recap of Total Impacts Generated</b> .....	<b>22</b>
<b>About the IMPLAN Model</b> .....	<b>24</b>
<b>The Firm</b> .....	<b>25</b>

# 1

## INTRODUCTION

### Overview

The Sterling and Francine Clark Art Institute (The Clark) and the activity on its campus in Williamstown are a major part of the local and regional economy. As a center for research, the Clark's facilities are habitually used by students, teachers, and scholars and the museum is open to the public over 330 days each year. The Clark welcomes nearly 200,000 visitors each year—a constant draw of cultural tourists, specialists, and families intrigued and engaged by its renowned collections, public programs, and exhibitions. Over 120 people work each day at the Clark as employees of the Institute, contractors, and concessioners; more work at the colleague entities based on the campus: the Williamstown Art Conservation Center and the Graduate Program in the History of Art jointly administered by the Clark and Williams College.

The impact of its direct business sales, employment spending, and ongoing spending on its campus and its programming contributes to the stability and prosperity of Williamstown, the Berkshires, and the surrounding areas in Massachusetts, New York, and Vermont. A 2004 study estimated “the Clark’s current operations generate on average each year nearly 355 jobs in the region and add \$17.2 million to the region’s personal income, and increase the gross product of the regional economy by more than \$18.3 million each year on average.”<sup>1</sup> That study preceded the construction, in phases, of new buildings, the renovation of the existing structures, and fundamental changes to the site which enhance the experience of the natural surroundings of the 140-acre campus. The first phase was completed in 2008: the Stone Hill Center and its surrounding site, access road, and independent physical plant.

Now that the next phase is underway—a construction project of \$134 million—the Clark sought to understand the nature of economic impacts resulting from its remaining capital investment projects and the subsequent increase in annual operations. This document describes the results of the economic impact study. The focus is on the “added” activities on the Clark’s campus *over and above* what would have occurred without the expansion proposals. Some of the activity is of limited duration – such as that during the construction interval. Other activities will be recurring each year – for example, additional employees of the Clark once the new/expanded facilities are open, employees to serve “new” visitors, or a prior

---

<sup>1</sup> Stan McMillen, Kathryn Parr, Xiumei Song, et al., Economic Impact of the Sterling and Francine Clark Art Institute: Ongoing Operations and Future Expansion, Connecticut Center for Economic Analysis, December 2004, iii.

visitor who now makes a longer visit as a result of the new program offerings. The economic impacts take the form of *changes in jobs*, labor income, business sales (also referred to as Output), and dollars of gross regional product. Many of these impacts will occur in Berkshire County centered around the Clark, and some will occur in the regional economies that adjoin Berkshire County influenced by direct purchasing patterns of the Clark, where their employees live, or simply due to economic connections (“*spillovers*”) across borders. For Berkshire County and the state of Massachusetts, some of the changes in economic activity will lead to added tax revenues. Those will also be addressed.

## Key Findings of Our Study

The annual *total* economic impact and Massachusetts tax revenues Impact from the various phases of the Clark’s Phase II expansion plan are summarized as follows:

- Post-construction, an annual increase in visitation brings cultural tourist spending locally worth
  - \$9.6m per year, sustained, supporting 114 jobs in Berkshire County and associated labor income of \$4.5m
  - \$17.0m of added visitor spending in peak/opening year
- Post-construction, sustained attendance levels increase tax revenues (local and MA) by \$529k per year
- Annual Construction period jobs (average for 3 years):
  - 86 in Berkshire Co. with labor income of \$4.8m
  - 241 from the *rest of* Massachusetts with labor income of \$15.9m
  - 196 from the metro Albany area with labor income of \$12.9m
- Construction period tax revenues (local and MA) of \$992k/year

## Approach

To measure the resulting economic impacts for a region-of-impact as a result of project-related spending an economic *input-output analysis* (I-O) is developed. The information about the activity tied to various project phases is termed “direct effects.” The portion of the “direct effects” that touch on “local” businesses and working-age residents then create “multiplier effects” as local supplier transactions occur, and income earned from some stage in the project is spent as consumer spending. These multiplier effects reflect how the initial ‘injection to the local economy’ supports more local business and wage generation. Economic impacts can be expressed as jobs, \$ of sales, \$ of labor income or \$ of gross regional product. Here’s an example (using the job metric) of what an input-output model describes:

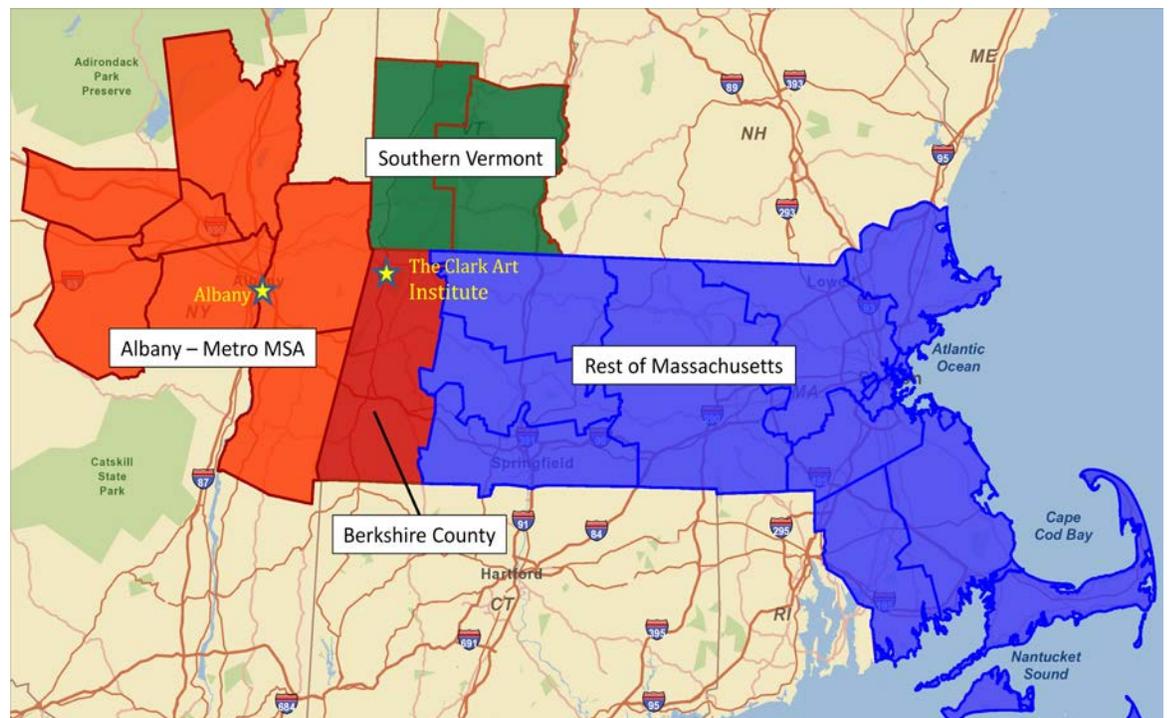
$$\textit{Direct} \text{ (jobs)} + \textit{indirect} \text{ (jobs)} + \textit{induced} \text{ (jobs)} = \textit{Total (Job) impact}$$

We use a multi-region I-O model available through Minnesota IMPLAN Group (MIG). A brief description of the IMPLAN *input-output* modeling system is included at the end of this document.

## Model Geography:

For Clark’s purposes the regions in the economic impact measurement system were defined as *Berkshire County*, the *rest of Massachusetts*, *southern Vermont* (Windham and Bennington counties), and the *Albany metro-area*<sup>2</sup> augmented by the addition of Columbia county. These boundaries (apart from Berkshire County) matter since among other reasons they represent (a) key market area for the Art Institute’s visitor base, (b) a labor pool for Clark’s employment needs, and (c) a vendor base.

**Figure 1: The Clark’s Regions-of- Influence**



<sup>2</sup> The Albany metro-area is comprised of the following six counties: Albany, Schoharie, Schenectady, Montgomery, Saratoga & Rensselaer.

## **Framing the Analysis:**

Using Clark's best estimates of *data regarding the construction phase spending, extra visitors, extra operations & maintenance spending*, and many assumptions used in the prior Economic Impact study (2004), we identify a first-round of new sales (termed *output* in the I-O jargon) for Berkshire County businesses, and new wages for the county's resident workers. We do similarly for the three other economies defined in the impact model. Then all regions, through their unique set of multiplier responses, amplify that first-round of sales and wages into "something more". The "something more" reflects (a) the mix of businesses present, (b) the number of businesses present, and (c) the track record for local businesses to meet local demands and/or external (export) demands.

## **Sequence of the Analysis:**

Impacts are identified for (i) the initial construction phase (these are temporary impacts lasting the duration of construction), and for (ii) the Clark added operational spending and new visitor spending which will occur every year.

# 2

## DIRECT EFFECTS OF THE CONSTRUCTION PHASE

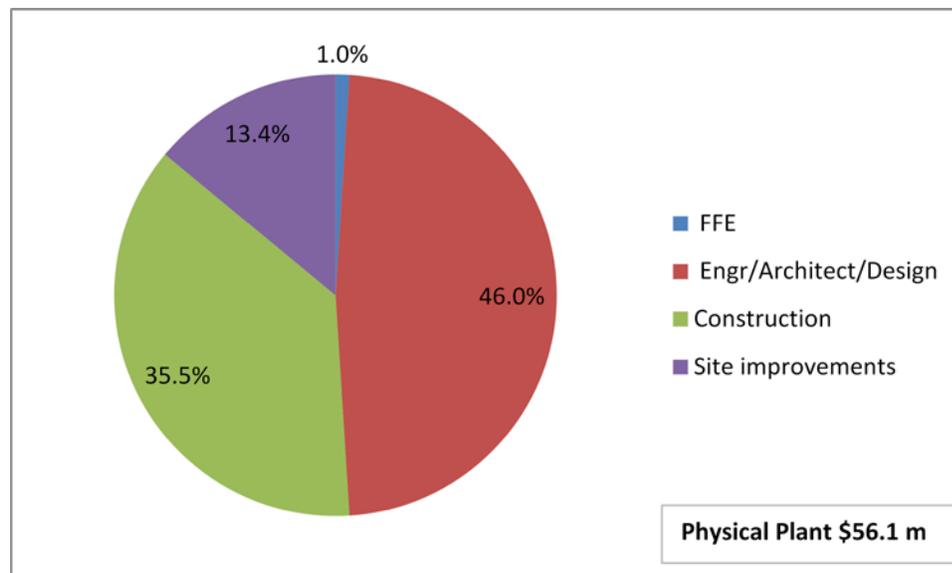
Phase II involves the construction of a

- new physical plant (duration 1.7 years, completed in March 2012, investment of \$56.1 million),
- new Visitor, Exhibition Conference Center (VECC, duration 2.3 years, complete by September 2013, open by June 2014, investment of \$54.3 million), and
- renovation of the existing Manton Research Center and Museum Building (duration 2.5 years, complete and open by June 2014, investment of \$23.5 million)

These facilities are estimated to cost \$134 million (2011\$). In addition there is another \$7.5 million to be spent on interim program enhancements known as ClarkNOW.

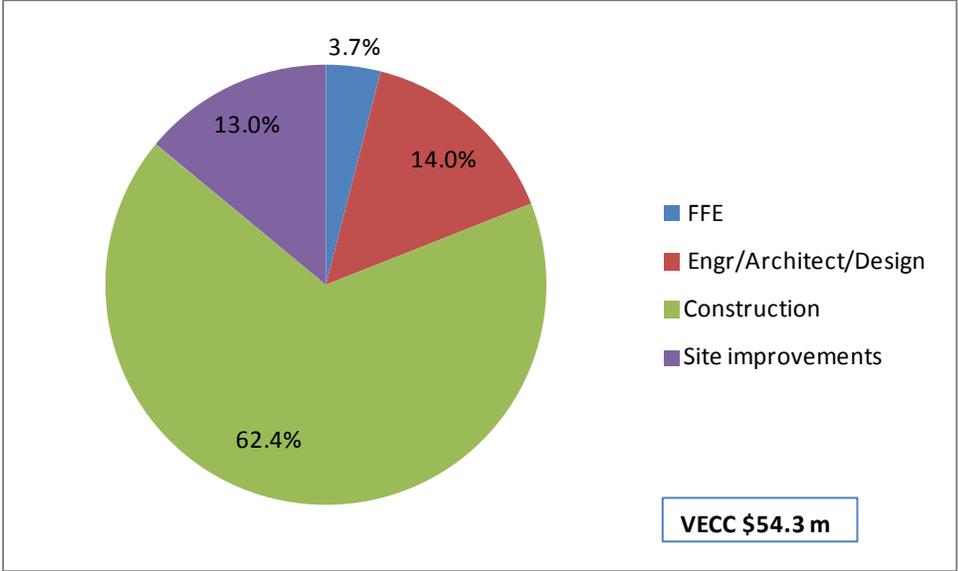
The complexion of project spending differs for each of the three facilities as shown in Figures 2 through 4.

**Figure 2: Construction Budget Requirements (%) - New Physical Plant and Site Improvements in 2010 and 2011<sup>3</sup>.**

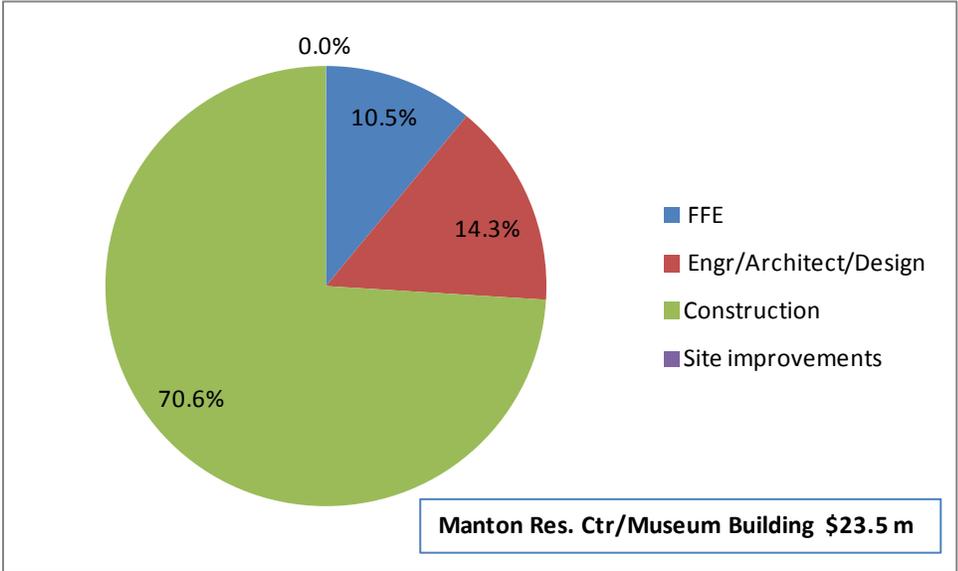


<sup>3</sup> Another \$2.4 million in interim program enhancement accompanies this budget.

**Figure 3: Construction Budget Requirements (%) – New Visitor Exhibition Conference Center in 2011 and 2012<sup>4</sup>.**



**Figure 4: Construction Budget Requirements (%) – Renovation of the Manton Research Center and Museum Building in 2012-2014<sup>5</sup>.**



<sup>4</sup> Another \$4.0 million of interim program enhancement accompanies this budget.

<sup>5</sup> Another \$1.1 million of interim program enhancement accompanies this budget.

In addition to overall project budget size and how it gets used, a key aspect of generating local economic impacts is how many ‘local’ firms are used (from Berkshire County). Clark has provided the following expectation in Table 1 of where its “suppliers/contractors” will come from for all three facilities to be built or improved. Several items to note: (1) a large percent of the construction contracting will go to firms in other parts of Massachusetts; (2) Albany metro-area firms will handle the majority of site improvement work; and (3) a large portion of the construction-related expenses will be fulfilled with firms beyond Clark’s regions-of-influence, that’s elsewhere in the U.S. or the world. These are “leakages” and will not create impacts for the county. There is reliance on (northern)<sup>6</sup> Berkshire County firms for a part of these projects as well.

**Table 1: Sourcing of Construction Purchases (percent)**

Construction Budget Uses	Berkshire County firms		Surrounding Regions of Influence			Elsewhere
	North Berkshire Co. firms	South Berkshire Co. firms	rest of MA firms	Albany-metro firms	so. VT firms	
FFE purchases	13	0	9	0	0	78
Engr/Architect/Design expense	14	0	9	15	0	62
Construction expense	10	0	46	25	0	19
Site Improvements	2	0	17	81	0	0

<sup>6</sup> A sub-county region defining the *northern* portion of Berkshire County is defined by the following zip-codes: 01201, 01202, 01203, 01220, 01225, 01226, 01227, 01235, 01237, 01247, 01256, 01267, 01270, 01342, and 01343.

# 3

## TOTAL ECONOMIC IMPACTS FROM THE EXPANSION CONSTRUCTION

### Impacts by Region

Annual changes in jobs, the associated labor income and business sales are shown below. These changes reflect the direct effects (Ch.1) as they allocate onto each of the regions *plus* the economic ‘ripple’ effect gauged through the region-specific multiplier values. Construction phase impacts are temporary and occur over four years (Spring 2010 through late Spring 2014).

### Job Impacts

Shown in Table 2, Berkshire County should experience annual job impacts over this interval equal to approximately 86 jobs. Of these 49 jobs are directly tied to the construction outlays with various businesses in northern Berkshire County. The size of the annual job impacts for *rest of Massachusetts* and the Albany metro-area economies is the result of how construction and site improvement expenses are expected to be awarded. None of the construction budget fulfillment is expected to use firms in the southern Vermont region.

**Table2: Construction Interval Annual Jobs Impacts by Region**

Jobs	New Plant		VECC		Manton/Museum Renovation		Average Annual "Total Impact" during Construction Interval
	direct	Total	direct	Total	direct	Total	
No. Berkshire Co.	26	46	16	28	7	12	86
Berkshire Co.							86
rest of Massachusetts	49	97	52	101	22	42	241
Albany metro-area	49	96	40	76	13	24	196
southern Vermont	na	na	na	na	na	na	na

## Labor Income Impacts

Annual labor income impacts, shown in Table 3, follow the resulting pattern (related to the amount and the distribution) of job impacts. Annually, at minimum 65 percent of the Berkshire County’s total labor income impact is generated with northern Berkshire County firms through direct project awards.

**Table3: Construction Interval Annual Labor Income Impacts by Region (\$2011)**

Labor Income	New Plant		VECC		Manton/Museum Renovation		Average Annual Total Impact* during Construction interval
	direct	Total	direct	Total	direct	Total	
No. Berkshire Co.	\$ 1,752,262	\$ 2,862,556	\$ 961,727	\$ 1,507,760	\$ 417,899	\$ 653,480	\$ 4,823,796
Berkshire Co.							
rest of Massachusetts	\$ 3,587,041	\$ 6,540,226	\$ 3,597,805	\$ 6,638,383	\$ 1,448,992	\$ 2,716,478	\$ 15,895,088
Albany metro-area	\$ 4,126,671	\$ 6,595,791	\$ 2,989,633	\$ 4,934,842	\$ 786,069	\$ 1,353,430	\$ 12,884,064
southern Vermont	na	na	na	na	na	na	na

## Business Sales Impacts

Annual changes in business sales are explained foremost by the allocation of Clark construction budget dollars. Of the project dollars that remain within the economic boundary depicted by the 4-regions, (northern) Berkshire County handles 15 percent of the direct project purchases – some \$7.23 million per year across all three building projects. From that, the county experiences additional economic activity bringing the total sales impact to \$11.8 million per year.

**Table 4: Construction Interval Annual Business Sales (‘Output’) Impacts by Region (\$2011)**

Business Sales	New Plant		VECC		Manton/Museum Renovation		Average Annual Total Impact* during Construction interval
	direct	Total	direct	Total	direct	Total	
No. Berkshire Co.	\$ 3,715,117	\$ 6,204,106	\$ 2,445,782	\$ 3,889,421	\$ 1,072,964	\$ 1,699,004	\$ 11,792,531
Berkshire Co.							
rest of Massachusetts	\$ 8,503,835	\$ 16,401,806	\$ 9,063,798	\$ 17,190,027	\$ 3,750,571	\$ 7,148,227	\$ 40,740,060
Albany metro-area	\$ 9,523,825	\$ 16,170,056	\$ 7,613,301	\$ 12,815,461	\$ 2,063,860	\$ 3,586,686	\$ 32,572,203
southern Vermont	na	na	na	na	na	na	na

## Berkshire County Job Impacts by type of Industry

The industries within Berkshire County that will incur the majority of total job impact during the construction interval are as depicted in Table 5 ranked in descending order. This group of industries should include those tied to direct construction vendors, and it does. However top ranking job impacts for *retail stores-food & beverage, wholesale trade, and Food & drinking places* are explained by multiplier effects vis-à-vis household spending using take-home pay,

and indirect B-2-B transactions.

**Table 5: Allocation of Total Job Impacts across County Industries**

Sector	Description	Share of Total Job Impacts
36	Construction of other new nonresidential structures	42%
324	Retail Stores - Food and beverage	25%
360	Real estate establishments	12%
319	Wholesale trade businesses	6%
370	Specialized design services	4%
413	Food services and drinking places	4%
382	Employment services	2%
394	Offices of physicians, dentists, and other health practitioners	2%
397	Private hospitals	2%
369	Architectural, engineering, and related services	2%
354	Monetary authorities and depository credit intermediation	1%

## Tax revenues Generated in Massachusetts from Construction Phase

We estimate additional tax revenues for *Berkshire County* and for *Massachusetts* related to sales, lodging, and meals taxes, and personal income tax. The increase in business sales for restaurants, hotels/other lodging establishments and retail businesses are identified in the IMPLAN analysis results that form Table 4 above<sup>7</sup>. Personal income tax generation uses the IMPLAN estimated results for labor income generation shown in Table 3 above adjusted to remove the fringe benefit value.

The following are the effective tax rates:

- Personal Income Tax - 4.4 percent is used<sup>8</sup> instead of the 5.0 percent
- Sales tax 4.7 percent is used instead of the 6.25 percent to account for some non-taxable retail activity (e.g. clothing transactions less than \$200, groceries, alcohol)
- Hotel occupancy excise tax – we use the 5.0 percent State rate and the enacted local option for another 6.0 percent
- Meals tax – we use the 6.25 percent State rate and the enacted local option for another 0.75 percent

Table 6 shows the annual average tax impacts based over the construction interval. On an annualized basis, the average contribution to State tax revenue is

<sup>7</sup> Retail “output” from IMPLAN reflects just the local mark-up portion on annual cash register receipts. IMPLAN “output” results therefore are scaled up to approximate full receipts before a sales tax estimation is done.

<sup>8</sup> Source: Massachusetts Department of Revenue

approximately \$990,000 per year, with an additional \$2,110 to local governments in Berkshire County.

**Table 6: Annual Tax Revenues from the Construction Phase –Select Taxes**

	<b>Tax Revenue Generated in Berkshire Co.</b>	<b>Tax Revenue to Berkshire County</b>	<b>Tax Revenue Generated in Rest of MA</b>	<b>Tax Revenue to MA State Budget</b>
Personal Income Tax	\$138,000	\$0	\$456,000	\$594,000
Retail Sales Tax	\$84,000	\$0	\$259,000	\$343,000
Room Occupancy Tax	\$650	\$330	\$720	\$1,030
Meals Tax	\$17,000	\$1,780	\$38,000	\$52,000
<b>TOTAL</b>	<i>na</i>	<b>\$2,110</b>	<i>na</i>	<b>\$990,030</b>

Source: EDR Group calculations using adjusted IMPLAN impact results, effective tax rates and data from the Massachusetts Department of Revenue.

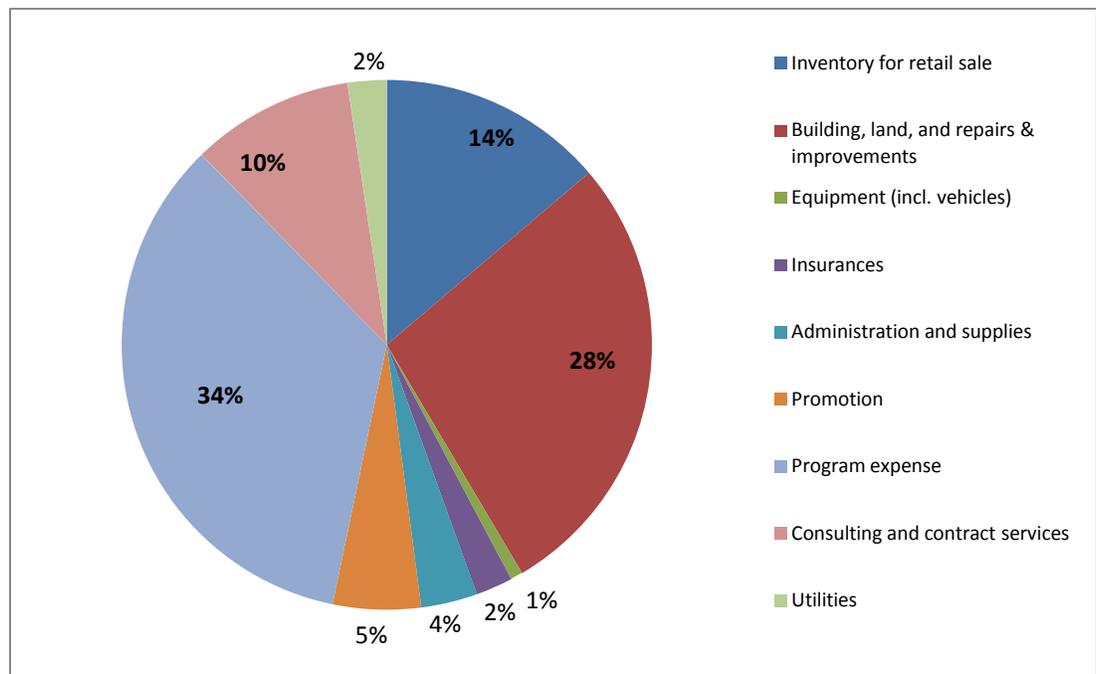
# 4

## DIRECT EFFECTS OF ADDED OPERATIONS AND VISITOR SPENDING

### Added Operations & Maintenance at the Clark

Starting in July 2014, the Clark will have the new facilities operational. This will require approximately \$2.4 million annually of added Operations and Maintenance (O&M) expenses (excluding payroll expense to be discussed separately) which has the following allocation as shown in Figure 5. This source of additional spending will be recurring each year.

**Figure 5: Additional Annual O&M Expense starting in 2014**



The geographic spread of these annual purchases is shown in Table 7 along with the total annual impacts they generate. A large percent (54) of these expenditures are fulfilled by vendors from outside the 4-region territory. As a result the total impacts are modest for the county and the other three surrounding economies.

**Table 7: Vendors to Fulfill Extra Annual O&M Expense from Improved Clark Campus.**

	Additional Annual Operating Budget (excluding			
	TOTAL = \$ 2,448,880			
	from Berkshire Co. firms	from rest of MA firms	from Albany-metro firms	from so. VT firms
	35%	8%	2%	2%
<i>direct purchases</i>	\$845,553	\$195,017	\$46,439	\$42,317
Employment	9	2	0.3	0.4
LaborIncome	\$532,794	\$152,981	\$19,671	\$18,243
Business Sales	\$1,284,353	\$367,851	\$48,366	\$45,520

### Additional Jobs at the Clark

The new level of sustained operations attributable to the completed facilities will require added positions at the Clark (within its staff and that of its contractors and concessioners) at a projected extra payroll of \$977,290 annually above 2010 levels.<sup>9</sup> Using the 2010 distribution of annual payroll to regions where Clark workers reside disperses the \$1.14 million as shown in Table 8 and this supports impacts driven by household spending from the after-tax payroll dollars. Note that *payroll* is different from the *labor income* concept (the latter includes the value of fringe benefits, which for Massachusetts employers averages another 18 percent on top of payroll<sup>10</sup>).

**Table 8: Employee Spending Annual Impacts from New Clark Payroll**

	Added Annual Payroll CAI	Berkshire Co.	rest of MA	Windham or Bennington county, VT	Albany metro
	\$ 977,290	\$ 977,290	\$ -	\$ -	\$ -
<b>Total Impacts</b>	Employment (indirect only)	7	0	0	0
	LaborIncome (payroll + fringe)	\$ 1,462,490	\$ 15,191	\$ 504	\$ 4,959
	Business Sales (indirect only)	\$ 806,303	\$ 38,385	\$ 1,546	\$ 14,012

<sup>9</sup> Clark staff estimate this added payroll amount would cover approximately 17 staff representing full-time and part-time positions in a variety of roles within the campus operations. We use the dollar value of new payroll and its geographic distribution (all positions are expected to be hires from Berkshire County) to determine region-specific induced impacts.

<sup>10</sup> U.S Dept. of Commerce-BEA NIPA – Regional Data 2010 Table SA06N.

## Additional Visitors

The Clark is expecting peak visitor response in its first year of operating the expanded campus (gallery attendance increases by 30% of 2010 visitor counts), and a sustained increase from year 2 onward (at approximately 20% of recent visits). Added conferences will also draw visits that otherwise would not have occurred. Table 9 shows the pattern of added visits.

**Table 9 Annual Visitation - Recent level and Anticipated 'new' post-Expansion**

2010 Total Visitors		Additional Visitors	
		PEAK YR1(beginning in 2014)	SUSTAINED YR2 onward
Galleries	153,180	48,000	28,000
	<i>percent of 2010 levels</i>	31%	18%
Conferences	1,560	2,000	500
	<i>percent of 2010 levels</i>	128%	32%
All other events (public)	40,791		
<i>Total</i>	195,531		

The pattern of visitor origins observed through 2010 is assumed to remain the same for new visits starting in 2014, shown in table 10. While there are residents of Berkshire County who visit the Clark for exhibits or conference events, it is the non-local dollars attracted to the county that signify *net* new money into the economy.

**Table 10: Origins of Clark Visitors and Reasons for Visiting Williamstown**

	Gallery	Conference
Berkshire Co. (local)	15%	29%
rest of Massachusetts	20%	20%
Albany metro-area	11%	5%
Southern Vermont	3%	4%
<i>elsewhere</i>	51%	43%
<b>non-local %</b>	<b>85%</b>	<b>72%</b>

Visitors from different markets (due to distance) make trips of different durations. Clark has observed the following pattern and an average two night visit for the overnight visitor (Table 11):

**Table 11: Trip Duration by Origin**

	<i>Day-trip</i>	<i>Over-night</i>
<b>Gallery Visits</b>		
rest of Massachusetts	50%	50%
Albany metro-area	100%	0%
Southern Vermont	100%	0%
<i>elsewhere</i>	0%	100%
<b>Conference Visits</b>	0%	100%
	# of nights	<b>2</b>

Assumptions for daily visitor spending amounts (in constant 2011\$) for the two trip duration categories refer back to the 2004 Clark impact study<sup>11</sup> - \$60 for the day-trip and \$150 per day for the overnight trip. Combining this information with that contained in Tables 9 through 11 provides estimates for new non-local visitor dollars into Berkshire County for the *peak* and *sustained* years (Table 12).

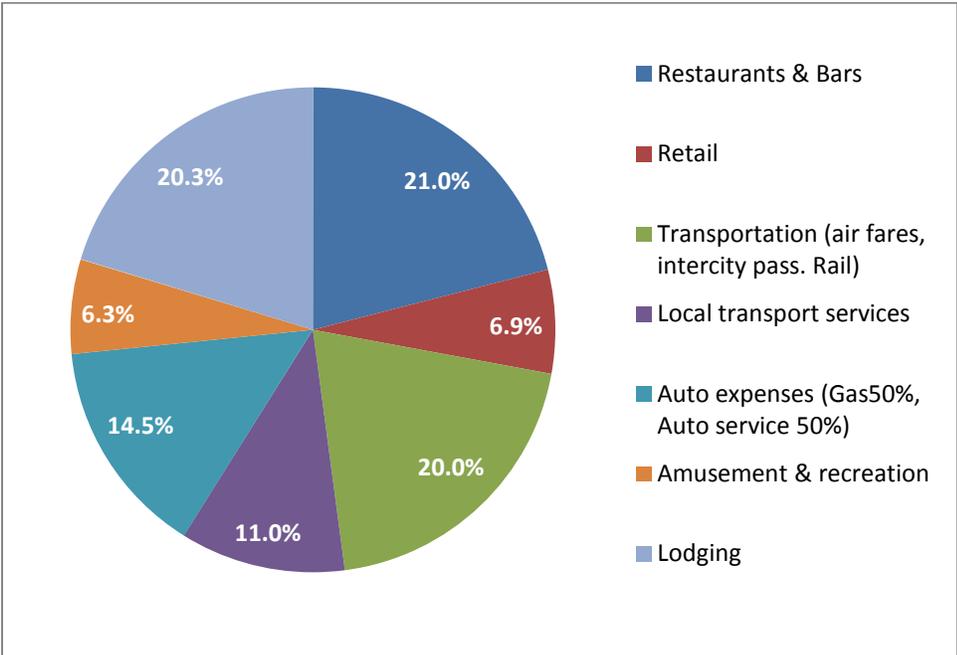
**Table 12: New non-local Annual Visitor Spending to Berkshire County**

<b>PEAK Year</b>		<b>Sustained Annual level</b>	
<i>Day-trip</i>	<i>Over-night</i>	<i>Day-trip</i>	<i>Over-night</i>
\$ 714,021	\$ 10,902,454	\$ 409,112	\$ 6,232,565
Total PEAK year	<b>\$ 11,616,475</b>	Total Sustained annual	<b>\$ 6,641,677</b>

Peak attendance, the result of new events and programs in the expanded facilities (the VECC and the Museum Building) is expected to attract 75 percent more in *net* new visitor spending to county businesses compared to sustained patronage levels. However the sustained annual level still brings \$6.6 million of *net* new visitor spending into the county. That money is spent as shown in Figure 6 (below). Note that the portion of visitor budgets used to purchase air fares and intercity train/bus fares is expected to occur outside of the Berkshire County economy.

<sup>11</sup> This is done since the 2010 published daily visitor spending by the Massachusetts Office of Travel & Tourism (MOTT) worth \$354, reflecting business traveler spending patterns is too great a departure from Clark's visitor demographics.

**Figure 6: Visitor Budget Profile**



Source: MOTT Annual Report 2010

# 5

## TOTAL IMPACTS FROM ADDITIONAL VISITOR SPENDING

The annual total impact related to additional non-local visitor spending related to the Clark visit is shown in Table 13 for Peak and Sustained levels of new visitors. Between 73 and 75 percent of these economic impacts accrue to the northern Berkshire County economy based on the historical pattern of local businesses fulfilling the types of purchases in Figure 5. The balance of net new visitor purchases is expected to be satisfied elsewhere in the county.

**Table 13: Sustained Annual Total Impacts of new Visits to The Clark**

	Sustained Year	
<b>Total Impacts</b>	Jobs	81
	Labor Income	\$2,539,166
	Business Sales	\$7,120,944
	Percent in No. Berkshire County	
	Jobs	76%
	Labor Income	74%
	Business Sales	73%

The types of businesses in the county expected to ‘do more business’ and support more jobs are typically tied to the pattern of purchases visitors make. However, there are a few industries shown in Table 14 that reflect background household purchases driven by income created from the initial visitor stimulus (e.g. health care services, and real estate activity).

**Table 14: Top Employment Impact Industries in Berkshire County**

Sector	Description	Employment impact share
413	Food services and drinking places	39%
336	Transit and ground passenger transportation	19%
411	Hotels and motels, including casino hotels	18%
414	Automotive repair and maintenance, except car washes	8%
410	Other amusement and recreation industries	6%
329	Retail Stores - General merchandise	4%
360	Real estate establishments	3%
397	Private hospitals	1%
326	Retail Stores - Gasoline stations	1%
394	Offices of physicians, dentists, and other health practitioner	1%

## Tax revenues Generated in Massachusetts from Added Operations

For this annually recurring phase of the expanded Clark campus we estimate similar categories of added tax revenues to Berkshire County's local governments and to the Massachusetts Treasury.

The ongoing operation and maintenance of Clark will result in an annual contribution to local and state tax revenues as shown below in Table 15:. The annual contribution to state taxes is approximately \$102,230, primarily due to personal income taxes (\$71,000), with an additional contribution to local governments within Berkshire County of almost \$2,000.

**Table 15: Tax Revenue Generated by Additional Clark O&M Spending**

	From Ongoing Operation of CAI			
	Tax Revenue Generated in Berkshire Co.	Tax Revenue to Berkshire County	Tax Revenue Generated in Rest of MA	Tax Revenue to MA State Budget
Personal Income Tax	\$66,000	\$0	\$5,000	\$71,000
Retail Sales Tax	\$10,000	\$0	\$2,000	\$12,000
Room Occupancy Tax	\$410	\$210	\$40	\$230
Meals Tax	\$16,000	\$1,770	\$4,000	\$19,000
<b>TOTAL</b>	<i>na</i>	<b>\$1,980</b>	<i>na</i>	<b>\$102,230</b>

Note: Rounded to avoid false precision; may not sum due to rounding.

Source: EDR Group calculations using adjusted IMPLAN impact results, effective tax rates and data from the Massachusetts Department of Revenue.

New visitors to Clark as a result of the expansion will generate personal income tax and retail sales tax, for the state government, as well as room occupancy tax and meals tax for both state coffers and local governments within Berkshire County. As shown below in Table 16, in the Peak year total taxes to the State would reach \$565,600, with an additional \$159,800 to local governments in Berkshire County. Once visitation reaches a sustained annual level, taxes to the state would be about \$323,000, with an additional \$91,400 to local governments in Berkshire County.

**Table 16: Tax Revenue Generated by Additional Clark Visitor Spending**

	<b>Peak Year</b>	<b>Sustained Annual Visitors</b>
Personal Income Tax Generated		
Berkshire County	n/a	n/a
Massachusetts	\$128,000	\$72,800
Retail Sales Tax Generated		
Berkshire County	n/a	n/a
Massachusetts	\$150,700	\$86,200
Room Occupancy Tax Generated		
Berkshire County	\$141,500	\$80,900
Massachusetts	\$134,400	\$76,900
Meals Tax Generated		
Berkshire County	\$18,000	\$10,500
Massachusetts	\$152,500	\$87,200
<b>Subtotal – to Berkshire County</b>	\$159,800	\$91,400
<b>Subtotal – to Massachusetts</b>	\$565,600	\$323,000
<b>Total</b>	\$725,400	\$414,400

Note: Rounded to avoid false precision; may not sum due to rounding.

Source: EDR Group calculations using adjusted IMPLAN impact results, effective tax rates and data from the Massachusetts Department of Revenue.

# 6

## RECAP OF TOTAL IMPACTS GENERATED

The table below presents a consolidation of all the stages of impact generation on Berkshire County, distinguishing that the construction phase impacts will after a four-year interval dissipate. The key permanent stimulus to the county economy rests upon meeting the *targets* for drawing new non-local visits to the area that otherwise would not have come to visit.

**Table 17: Annual Total Economic Impacts on Berkshire County – by Phase**

		Total Annual Impacts Berkshire County	
		<i>Temporary*</i>	<i>Recurring</i>
Construction activities	Jobs	86	na
	Labor Income	\$4,823,796	na
	Business Sales	\$11,792,531	na
Added CAI Payroll	Jobs ( <i>non-direct only</i> )	na	7
	Labor Income	na	\$1,462,490
	Business Sales ( <i>non-direct</i> )	na	\$806,303
Added CAI O&M spending (excl. labor)	Jobs	na	9
	Labor Income	na	\$532,794
	Business Sales	na	\$1,284,353
new non-local Visitor spending	<b>PEAK Year</b>		
	Jobs	na	141
	Labor Income	na	\$4,463,868
	Business Sales	na	\$12,515,426
	<b>Sustained Year</b>		
	Jobs	na	81
	Labor Income	na	\$2,539,166
Business Sales	na	\$7,120,944	

\*These impacts can persist over a four-year interval.

Annual tax revenue generation impacts for select taxes are summarized in Table 18.

**Table 18: Summary of Additional Tax Revenues.**

		ANNUAL	
		Local Tax revenues \$	MA Tax Revenue \$
Temporary	Construction	\$2,110	\$990,000
Recurring	extra O&M spending	\$1,980	\$102,230
	new Visitor Spending		
	<i>Peak</i>	\$159,800	\$565,600
	<i>sustained</i>	\$91,400	\$323,000

# ABOUT THE IMPLAN MODEL

IMPLAN<sup>12</sup> is the most widely used analysis tool for measuring or estimating the economic impacts associated with openings, closings, expansion, contraction, and on-going operations of facilities –ranging from industrial plants to national parks. It shares three fundamental features also found in the other two commonly-used economic impact tools within the US (RIMS-II and REMI):

- It is based on the national input-output technology tables, developed by the US Dept. of Commerce, Bureau of Economic Analysis. This shows how each type of industry relies on a different mix of its own labor and supplies purchased from other industries.
- It is calibrated to reflect local economic patterns (of employment, payroll and business sales) occurring within specified counties (or sub-county areas). This shows a *default* on the extent to which local industries purchase goods and services from suppliers located within the same county.
- It distinguishes the direct effects from indirect and induced (spin-off) effects and measures them in terms of jobs, income, value added and business sales (output).

Each IMPLAN model is calibrated by the vendor with region-specific industry data through the year 2009. Besides containing a NAICS code based industry database at the 3- and 4-digit levels (describing employment, sales, productivity, average compensation) the main capability of the IMPLAN model resides in its input-output core. The core combines the structure of relationships between industries, between industry and types of final demands arising in the region, the extent of local supply (or conversely *import dependence*) to meet local product demand, and the role of trade with the rest of the world.

---

<sup>12</sup> MIG Implan, Stillwater, MN, is an interactive, hands-on model based on publicly-available data from the U.S. Dept. of Commerce and contains a complete set of county (sub-county) level economic accounts. It calculates output, employment, and income effects of changes in a region's economic activity

# THE FIRM

**Economic Development Research Group, Inc. (EDR Group)** is a consulting firm focusing specifically on applying state-of-the-art tools and techniques for evaluating economic development performance, impacts and opportunities. The firm was started in 1996 by a core group of economists and planners who are specialists in models and tools for evaluating impacts of infrastructure, technology workforce and natural resources on economic development opportunities. Glen Weisbrod, President of EDR Group, is a former board member of the Council for Urban Economic Development, now IEDC. EDR Group provides both consulting advisory services and full-scale research projects for public and private agencies throughout North America as well as in Europe, Asia and Africa. Our work focuses on three issues:

- Economic Impact Analysis -- *How can my project/program affect economic growth & attraction? ...How can I best target my efforts?*
- Market / Strategy Analysis -- *How will I be affected by changes in the economy? ...What should I do to respond to them?*
- Benefit / Cost Analysis -- *What will be the economic benefits & costs of my project / program? ...What should I do to maximize net value?*

The economic development work of EDR Group is organized in terms of five areas: (1) Forecasting economic change and needs, (2) Opportunities assessment, (3) Strategy development, (4) Benefit-cost analysis, and (5) Program evaluation. Our firm's work and clients have been nationally recognized for project excellence, including a 2005 recognition award by the International Economic Development Council, a 2002 award by the Northeast Economic Developers Association and a 2000 award by the Government Research Association.

**Mail.** Economic Development Research Group, Inc.  
2 Oliver Street, 9<sup>th</sup> Floor, Boston, MA 02109

**Web.** [www.edrgroup.com](http://www.edrgroup.com)

**Email.** [info@edrgroup.com](mailto:info@edrgroup.com)

**Tel** 1.617.338.6775 **Fax.** 1.617.338.1174