

Economic Impact of the Arts and Cultural Industry in the City of Roanoke



Roanoke Valley-Alleghany

REGIONAL
commission

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The economic impact analysis provided in this report was generated using an economic impact model (IMPLAN) calibrated for a specific study area using standard regional data sets. The results are to be interpreted as a best estimate of economic impact based on the assumptions and/or data provided by the client.

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Introduction

In 2010, the Roanoke Valley-Alleghany Regional Commission completed an “Economic Impact of the Arts and Cultural Industry in the Blue Ridge Region of Virginia” and an “Economic Impact of the Arts and Cultural Industry in the City of Roanoke”.

In 2013, the City of Roanoke requested that the staff of the Roanoke Valley – Alleghany Regional Commission revisit aspects of those reports to again determine the economic contribution of arts and culture on the Region.

There is great deal of the discourse regarding the intangible impacts of arts and culture that is often reflected when translating and measuring economic value. Thus, this study only measures the economic impact in terms of dollars spent and visitor spending.

Methodology

The study area for this analysis includes arts and cultural organizations in the City of Roanoke, but measures the impact on the Roanoke Metropolitan Statistical Area (MSA) as a whole. It is generally the opinion of most analysts and tourism professionals that visitors often disregard jurisdictional boundaries.

Staff of the Roanoke Valley – Alleghany Regional Commission (RVARC) utilized results from a survey performed in the summer of 2013 to determine the contribution of arts and cultural organizations located within the City of Roanoke’s jurisdictional boundaries. Fifteen

Organizations
Harrison Museum of African American Culture
Local Colors of Western Virginia
Science Museum of Western Virginia
Roanoke Children’s Theatre
Historical Society of Western Virginia
Roanoke Ballet Theatre
Virginia Museum of Transportation
Mill Mountain Zoo
Jefferson Center Foundation LTD
Southwest Virginia Ballet
Opera Roanoke
Center in the Square
Mill Mountain Theatre
Taubman Museum of Art
Roanoke Symphony Orchestra

organizations responded to the survey.

Detailed information in expenditures and visitation was collected. Few of the organizations were able to supply detailed financials based on local vs. non-local funding.

Staff then used specialized software called IMPLAN which was developed by IMPLAN Group LLC.

How does IMPLAN Work?

At the heart of the IMPLAN model is a national input-output dollar flow table called the Social Accounting Matrix (SAM). Unlike other static input-output models, which just measure the purchasing relationships between industry and household sectors, SAM also measures the economic relationships between government, industry, and household sectors.

The model uses actual economic and employment data to model 440 industries to determine how industry dollars are spent to produce commodities. National level and county level production data sets are then combined to produce a series of multipliers.

Multipliers measure the amount of total economic activity that results from an industry or household spending money in the local economy. IMPLAN uses the national and county-level data multipliers to estimate economic impacts of various activities. Once all input data has been entered into the model, IMPLAN then generates a series of summary output tables to show the direct, indirect, and induced economic impacts.

- **Direct impacts** are those that result from the direct infusion of money in the economy as a result of an economic event. These impacts consist of permanent jobs, wages, and output of economic events.
- **Indirect impacts** are the jobs, wages, and output created by businesses, which provide goods and services essential to an economic activity (construction, tourism, etc.). Indirect impacts represent a cumulative total of several cycles of spending that work their way through the local economic supply chain until all remaining money from the initial stimulus leaks from the study area economy. For example, a series of restaurants making purchases of goods from local suppliers as a result of participant spending on meals would be an example of a portion of indirect impacts as defined in this analysis
- **Induced impacts** are those impacts that result from household spending by those impacted by the direct and indirect phases of economic activities. The spending of wages earned by employees working for industries impacted by economic events represents the largest portion of induced impacts. This spending creates induced employment, especially in the service sectors.

The summary output tables also show the direct, indirect, and induced effects of labor income, value added, and output.

- **Labor income** equals employee compensation plus proprietor income. Employee compensation in the IMPLAN model is the total payroll cost of the employees paid by the employer. This includes wage and salary, all benefits, and employers paid payroll taxes (social security, unemployment, etc.) Proprietor Income consists of payments received by self-employed individuals and unincorporated business owners.

- **Value added** is defined as the difference between an industry's total output and the cost of any intermediate inputs. Value added includes employee compensation, taxes, and operating surplus. Value added is best understood as the contribution made to gross domestic product or, more simply, as new wealth in the region.
- **Output** can generally be understood as regional sales activity. Output is more precisely defined as the value of industry production.
- **Employment** is reported from by the model as all jobs, including part-time and seasonal workers. Employment numbers can be changed to full-time equivalency (FTE), but the ratio varies by industry sector.

What Can IMPLAN Analyses Reveal

An IMPLAN analysis seeks to quantify the economic benefit that expenditures for a project (construction) or an activity (tourism or events.) have on a local or regional economy. For example, expenditures spent on the construction of a building or the purchase of items on a trip such as lodging and gasoline create additional purchases in various sectors of the economy. Money spent on landscaping for a newly constructed building or the purchase of hotel furniture both create numerous opportunities for those receiving the money to make additional consumer and business purchases. This process creates jobs and expands the economy.

Economic Scope of Arts Organizations in the City of Roanoke

The purpose of this section of the report is to identify economic activity in the arts and cultural industry and to quantify the degree of impact made to the region's economy. It should be noted that the activity represented here is not a complete picture of the total impact of the arts and cultural organizations in the Region. As previously mentioned, this study only measures the economic impact in terms of organization and visitor spending. One analysis measures the relative size of the arts and cultural institutions as a sector of the economy. The second analysis measures the impact of visitors and tourists to the region. No attempt has been made to measure intangible benefits the organizations and their impact on visitors and the residents they serve.

Employment

Employment is one of the most direct methods of quantifying economic contribution. The following table shows that arts and cultural organizations responding to the survey and located within the City of Roanoke employ 95 full-time employees and 132 part-time employees.

Volunteers are shown to make an important and valuable contribution to arts and cultural organizations, most if not all of which are nonprofit organizations. The organizations reported that 5,085 volunteers assisted their organizations in 2012, spending 12 hours on average per volunteer.

Reported Employees and Volunteers

Type	Number
Paid Full Time Staff	95
Part Time Staff	132
Seasonal Workers	50
Contract Staff	389
Total Payroll	\$ 4,440,815
Volunteers	5,085
Volunteer Hours	61,399

Funding

Organizations were asked to report revenues for the 2012 tax year. Respondents were asked to itemize their revenues using a set of categories. RVARC staff used this information to determine the proportion of arts and culture organization funding that can be considered new money to the region. It is important to note that money attracted from residents and businesses within the local region is merely a recirculation of wealth existing within the region. More positive economic impacts are made when funds are attracted from outside the immediate region.

See the following table for a breakdown of all revenues by category and a breakdown of revenues attracted from all sources.

2012 Revenues-All Organizations

Source	Amount
Local Government	\$ 939,611
Admission Sales	\$ 620,923
Ticket Sales	\$ 1,279,433
Ticket Commission Sales	\$ 134,709
Facility Fee Revenue	\$ 234,290
Membership Sales	\$ 505,103
Program Sales	\$ 473,846
Rental Revenue	\$ 593,073
Other Event Income	\$ 314,296
Foundations	\$ 1,656,957
Corporations	\$ 1,372,070
Business	\$ 183,952
Bequests	\$ 92,184
Endowment	\$ 504,953
Individual Donations	\$ 2,470,404
Other	\$ 1,668,927
Federal Government	\$ -
State Government	\$ 224,133
Total	\$ 13,268,864

The above table includes all revenue from visitors and local residents. One should also note that only \$224,133 was reported as revenue from State and Federal sources. The total revenue was \$13,268,864, while total expenditures were \$15,462,158. The economic impact analysis was completed using total expenditures.

Ideally, revenue should be separated by local vs. non-local sources. Only five of the 15 organizations were able to detail their revenue streams in this manner, thus the decision was made to measure visitor impacts using reported visitation of tourists.

Tourism and Visitation

The project team knew it was of vital importance to quantify to the degree possible the amount of tourist visitation generated as a result of the arts and culture offerings in the City of Roanoke. The following table details the visitation estimates of participating organizations.

Reported Visitors

Type	Number
Local Residents	227,775
Tourist	92,579
Local Students Served	66,700
Non-Local Students Served	27,917

Note: Not all groups could report detailed visitation or tourists.

Because not all organizations are able to distinguish local residents from tourists, the reported visitation numbers are considered incomplete. However, one could also assume that each tourist visits more than one museum or venue, thus the count in the table likely represents a higher number than actual visitors. Without another measure to use for tourist visitation, and the fact that the number of 92,579 is very similar to past visitation estimates, this number was used to estimate the visitor impact using an IMPLAN model.

Finally, a tourist profile was compiled of the arts and cultural tourist to the Region. Data was obtained from the Virginia Tourism Corporation that represents tourist spending to the region. The following table shows average spending by party and per-person spending based on their survey. The average travel party size reported was 2.9 people.

2011 Shenandoah Valley Region Travel Profile

Average Travel Party Size	2.9		
Spending	Percent	Per Party	Per Person
Total	100%	\$ 341.40	\$ 117.72
Transportation	6%	\$ 20.48	\$ 7.06
Parking	5%	\$ 17.07	\$ 5.89
Lodging	10%	\$ 34.14	\$ 11.77
Food/Dining	23%	\$ 78.52	\$ 27.08
Groceries	10%	\$ 34.14	\$ 11.77
Entertainment	8%	\$ 27.31	\$ 9.42
Gaming	1%	\$ 3.41	\$ 1.18
Shopping/Gifts	9%	\$ 30.73	\$ 10.60
Amenities	2%	\$ 6.83	\$ 2.35
Other	1%	\$ 3.41	\$ 1.18
Gasoline	26%	\$ 88.76	\$ 30.61

Source: Virginia Tourism Corporation, 2013

Estimates of expenditures by tourists were applied to estimated attendance and visitation data to arrive at a direct expenditure estimate which was entered into the model and parsed among gasoline retail, lodging, food and beverage, entertainment, and retail industry sectors. The data was obtained from the Virginia Tourism Corporation and represents spending in the Shenandoah Valley Region, which includes Roanoke. It should be noted that only 45% of visitors spend the night in a motel/hotel, thus lodging numbers may seem lower than what might be expected according to the Virginia Tourism Corporation survey.

Economic Impact of Visitor Spending

The true measure of the economic impact can be estimated if the contribution of outside spending is known. This can be easily calculated using the number of visitors and visitor spending profile. The following table shows the estimated regional impact of 92,579 visitors to attractions in the City of Roanoke:

Impact Summary : Visitor Spending

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	91.2	\$ 2,154,921	\$ 3,675,704	\$ 6,648,636
Indirect Effect	14.9	\$ 594,128	\$ 1,131,397	\$ 1,903,305
Induced Effect	15.4	\$ 604,900	\$ 1,183,695	\$ 1,918,276
Total Effect	121.6	\$ 3,353,949	\$ 5,990,796	\$ 10,470,217

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It is estimated that these visitors help employ 91 people (full or part-part time) and contribute over \$10 million to the regional economy. Additionally, the arts and cultural organizations brought in another \$224,000 of state funds. As outside money, this adds an additional \$347,000 of total output. Thus, the total estimated impact of outside dollars is \$10,817,217. These are new dollars that are brought to the region by the arts and cultural sector in the City of Roanoke.

Size and Impact of Local Arts and Cultural Sector

The arts and culture industry is part of the existing economy within the region. Total expenditures were input into the IMPLAN Professional economic input-output modeling software utilizing proprietary data for the City of Roanoke for 2011.¹

The following is a summary table of the model output:

Impact Summary: 2012 Arts Organizations Spending

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	116	\$ 4,145,457	\$ 8,814,894	\$ 15,462,158
Indirect Effect	38	\$ 1,290,438	\$ 2,935,391	\$ 4,682,749
Induced Effect	30	\$ 1,191,398	\$ 2,331,167	\$ 3,777,683
Total Effect	184	\$ 6,627,293	\$ 14,081,452	\$ 23,922,591

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It is estimated by the model that 116² jobs (full or part-time) are supported per year. Indirect job creation occurs when industries that support the arts and culture sector employ people as a result of the increased business. Induced job creation occurs as a result of spending by

¹ Model software and data provided by the Minnesota IMPLAN Group, <http://www.implan.com>.

² Please note that this employment figure differs from the one reported in the actual survey. This difference is due to the fact that the model is estimating employment in the economy. Also note that the estimated Labor Income is very similar to the number self-reported by the organizations.

employees supported in the indirect and induced phases of impact. Indirect and induced impacts are responsible for the creation or retention of an estimated 68 additional jobs for a total job impact of 184 jobs supported through arts and cultural activities in the Region. The direct stimulus of the funding led to a total output impact (including impacts in the indirect and induced phases of impact) of \$23,922,591.

This analysis measures the relative size and impact of arts and cultural sector in the region. A large portion of dollars used in this analysis come from local sources, thus they are considered a part of the existing economy. For example, local governments and residents could find other ways to spend their dollars, known as economic substitution, that would have a similar impact on the economy should the arts and cultural organizations cease to exist. However, one could easily argue that non-tangible impact would be higher and could not be replaced.

Impact Summary

The Arts and Cultural Industry of the City of Roanoke impacts the economy in important ways. The central core of this industry is the group of nonprofit organizations that serves as a support and stimulus to the entire industry. By holding culturally relevant and exciting events, these nonprofits contribute to the economy by attracting financial stimulus to the region introduced by tourists who spend money for traveler services (food, gas, and lodging) in the Region. By attracting dollars from visitors and other outside sources, arts and cultural organizations in the City of Roanoke have a large impact on the region.

There are undoubtedly other ways that the arts and cultural industry of the City of Roanoke contributes to economic well-being. These other contributions are much more difficult if not impossible to track. For instance, arts and culture are a large part of the area's overall package of quality of life amenities and other positives that make the region unique. For-profit companies who have located to this region have been undoubtedly influenced by this overall package of amenities which include the arts and cultural attractions among other categories. The degree to which these amenities have played a role in relation to other traditional factors, including cost of doing business, differs depending upon the individual company and indeed the individual decision-maker. Quantifying this type of impact is nearly impossible.

The following are the main points of this report, which seeks to quantify aspects of the economic contribution of the Arts and Cultural Industry.

- The Arts and Cultural Industry of the City of Roanoke helps generate \$10,817,217 in new sales activity in the Region as a result of new dollars attracted through visitation/tourism, and other funds attracted from external sources. The 2010 study found an impact of just over \$8 million.
- The size and impact of the local industry sector, based on the expenditures of arts and culture organizations in the City, is \$23,922,591. These are not considered new funds to the region, but a measure of the relative size and impact of the industry to the region's economy.