

City of Richmond Arts & Culture Economic Impact Study

FINAL REPORT

InterVISTAS

strategic
transportation
& tourism
solutions



Prepared for
BC Children's Art & Literacy Society
The City of Richmond
Gateway Theatre
Richmond Arts Coalition
Richmond Chamber of Commerce

Prepared by
InterVISTAS Consulting Inc.
in partnership with Sydney Johnsen

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Executive Summary

In 2004, the City of Richmond developed the *Richmond Arts Strategy* with the goal of clarifying and consolidating Richmond's vision for arts/culture development. The mission of the strategy was to provide a ten-year creative vision, five-year strategic goals and objectives, and a direction for long-term facility planning¹.

The *Strategy* goals, identified from input by members of the arts community, City staff, cultural consultants, and the Arts Strategy Steering Committee, included:

- To build capacity within and support for arts organizations;
- To strengthen, support and enhance the artistic community;
- To increase the variety and diversity of arts experiences and opportunities;
- To expand public awareness and understanding of the value of the arts; and
- To broaden the economic potential and contribution of the arts.

The Richmond Arts Strategy cited that there were areas of further study required, including a scan/inventory and economic impact of the sectors. The City of Richmond commissioned these studies in August 2007.

The *Richmond Arts and Cultural Economic Impact Study* and *Richmond Arts and Cultural Community Scan* were prepared concurrently. The purpose of the Richmond Arts and Culture Economic Impact Study is to provide a quantification of the economic impact of Richmond's Arts and Culture sector in terms of employment, wages, GDP and economic output measures and also taxation impacts.

The Arts and Culture sector in the City of Richmond is a considerable economic generator for the region and the province.

Richmond's arts and culture sector is a major economic generator by every measure. In 2007, it is estimated that this employment sector supported a total of 734 direct person years of employment (1,488 direct jobs), \$33 million in wages, \$37 million in GDP, and \$78 million in output in British Columbia. Considering multiplier impacts, the total impacts of the sectors are estimated at 1,128 person years of employment, \$52 million in wages, \$63 million in GDP, and \$135 million in output economy-wide in British Columbia.

The in-province economic impacts of on-going arts and culture related operations within Richmond are summarised in **Table ES-1**.

¹ Source: Richmond Arts Strategy, July 2004.

Table ES-1: Economic Impacts of Richmond Art and Culture Sector in British Columbia

Type of Impact	Jobs	Person Years	Wages (\$ millions)	GDP (\$ millions)	Economic Output (\$ millions)
Direct	1,488	734	\$33	\$37	\$78
Indirect	553	272	\$13	\$17	\$42
Induced	248	122	\$6	\$9	\$15
Total	2,289	1,128	\$52	\$63	\$135

The Arts and Culture sector in Richmond is a strong generator of tax revenues.

Each of the 1,488 current direct jobs is filled by a person earning wages in Richmond's arts and culture sector while supporting the provincial and national economies by paying taxes. Employees in Richmond's arts and culture sectors and their employers paid some \$14.3 million in taxes (\$9.3 million Federal, \$2.6 million Provincial and \$2.4 million Municipal).

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- Suzanne Haines, Project Co-chair, Chair, Richmond Arts Coalition. General Manager, Gateway Theatre;
- Debbie Tobin, Chair, British Columbia Children's Art and Literacy Centre;
- Suzanne Greening, Arts Coordinator, City of Richmond; and
- Nicki Roberts, Co-Chair, Arts & Culture Committee, Richmond Chamber of Commerce

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1.0 Introduction

In 2004, the City of Richmond developed the *Richmond Arts Strategy* with the goal of clarifying and consolidating Richmond's vision for arts/culture development. The mission of the strategy was to provide a ten-year creative vision, five-year strategic goals and objectives, and a direction for long-term facility planning².

The *Strategy* goals, identified from input by members of the arts community, City staff, cultural consultants, and the Arts Strategy Steering Committee, included:

- To build capacity within and support for arts organizations;
- To strengthen, support and enhance the artistic community;
- To increase the variety and diversity of arts experiences and opportunities;
- To expand public awareness and understanding of the value of the arts; and
- To broaden the economic potential and contribution of the arts.

The Richmond Arts Strategy cited areas of further study required, a scan inventory and economic impact of the sector. The City of Richmond commissioned these studies in August 2007. The *Richmond Arts and Cultural Economic Impact Study* was prepared in conjunction with the *Richmond Arts and Cultural Community Scan*.

The Richmond Arts Coalition, the Richmond Chamber of Commerce through the Business and the Arts Committee, Gateway Theatre, the BC Children's Art and Literacy Centre Society and the City of Richmond - Cultural Services submitted a request to *Arts Now/Legacies Now* for funding support to conduct these studies. Upon approval of those funds, they formed a steering committee to guide the study.

1.1 Purpose of Study

The purpose of the Richmond Arts and Culture Economic Impact Study is to provide a quantification of the economic impact of Richmond's Arts and Culture sector in terms of employment, wages, GDP and economic output measures and also taxation impacts.

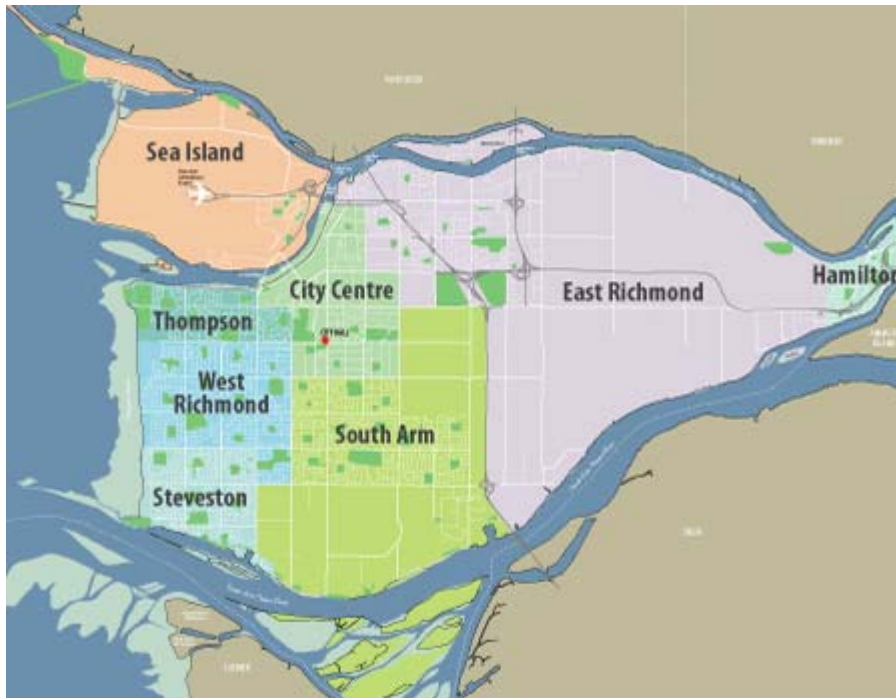
² Source: Richmond Arts Strategy, July 2004.

2.0 Richmond Arts and Culture Economic Impact

2.1 City of Richmond Demographics

The City of Richmond is located on Canada's Pacific Coast and is a part of Metro Vancouver in the Province of British Columbia. Richmond is an island city that consists of Sea Island, most of Lulu Island and fifteen smaller islands. Figure 2-1 provides an area map of the various communities within the City of Richmond.

Figure 2-1: City of Richmond Community Area Map



Population. Richmond is the fourth largest municipality in the Metro Vancouver region in terms of population, representing 8.2% of the regional total. According to the City of Richmond, it is estimated that Richmond has a population size of 188,100, as of 1 January 2008. The population of Richmond has experienced continual growth at a steady pace in recent decades, with an average growth rate of 1.6% over the past three years, compared with 1.2% for BC as a whole.

Language. Richmond is a culturally diverse city. According to the 2006 Census conducted by Statistics Canada, immigrants make up 57.4% of its population, the highest proportion in any Canadian municipality. Of its immigrant population, 81.6% are from Asia and the Middle East, 10.9% from Europe, a further 2.3% from Africa and the 5.2% from the Americas, Oceania or Other. In terms of language, neither English nor French is the Mother Tongue of 58.7% of the city's population, again, the highest of any Canadian City. After English, the next most spoken language is Chinese which is spoken by 37.6% of the population (Cantonese 16.4%, Mandarin 7.7% and Other Chinese dialect 13.4%).

Industry. According to the 2006 Census, over 108,000 people work in Richmond, this is up 3.4% over results of the 2001 Census. The top 3 occupations of Richmond residents include 29% in sales and service, 21% of Richmond residents working in business, finance and administration and 12% in management.

2.2 What is Economic Impact?

Economic impact is a measure of the spending and employment associated with a sector of the economy, a specific project (such as the construction of a new facility), or a change in government policy or regulation.

Economic impact can be measured in various ways. Two of the most popular ways to assess economic impact are in terms of the dollar value of industrial output produced, or in terms of person years (full-time equivalents or FTEs) of employment generated. Other measures include value-added (GDP) and value of capital used and/or created.

This study measures the economic impact of the City of Richmond arts and culture sector, including direct, indirect and induced:

- *Employment*
- *Wages*
- *Economic / Industrial Output*
- *Gross Domestic Product (value-added)*

All of these are used to express the gross level of activity or expenditure from a sector of the economy, a specific project, or a change in policy or regulation. As such, they are not “net” measures that weigh benefits against costs, but nevertheless these measures can be useful in developing an appreciation of projects, investments, and economic sectors.

2.3 Scope of the Study

The following chapters quantify the existing economic impact of the City of Richmond arts and culture sector.

The organizations that generate the existing economic impacts are businesses or organizations that support arts and culture related services in the City of Richmond. Arts and culture related activities encompass a broad range of services and its definition is highly subjective in the eyes of the public. Therefore, for the purposes of this study, we assume that businesses or organizations supporting the arts and culture sector fall into one of the following ten categories:

- **Art galleries and dealers.** This includes commercial art galleries, art dealers, art distributors and publishers.
- **Arts instruction and education.** This includes music, drama and art teachers, music schools, dance and acting schools.
- **Commercial arts.** This includes commercial artists, graphic designers, photographers, radio broadcasters, media groups, book publishers, architects, and interior designers.

- **Performing arts.** This includes musicians, musical ensembles, bands, orchestras, comedy groups, theatre companies, and touring entertainers.
- **Visual arts.** This includes painters, sculptors, ceramic artists, photographers and craftspersons.
- **Literary arts.** This includes creative writers.
- **Events and festivals.** This includes coordinators, administrators, featured performers.
- **Cultural facilities.** This includes public art galleries, museums, libraries, theatre venues, heritage sites and public studios.
- **Service and material providers.** This includes artists' suppliers, picture framers, craft retailers and suppliers, dance, masquerade and theatrical suppliers, musical instrument retailers, audio/video service and equipment providers, arts consultants, ticket outlets, and live music venues.
- **Societies and organizations.** This includes cultural service organizations and recreational arts groups.

2.4 Outline of the Economic Impact Results

This report is designed to provide an estimate of the current economic impacts of the arts and culture sector in the City of Richmond as of June 2007.

- **Chapter 3** explains the methodology for estimating current economic impact in Richmond related to arts and culture. Current economic impact measures and describes the existing economic impact of the Richmond arts and culture sector.
- **Chapter 4** measures and describes the current direct employment base by means of a survey of employers within the arts and culture sector.
- **Chapter 5** uses multipliers to infer indirect and induced employment related to arts and culture businesses and organizations, as well as GDP and economic output.
- **Chapter 6** measures the tax contribution of the existing arts and culture related businesses and organizations in the City of Richmond.
- **Chapter 7** summarises the economic impact study results.

3.0 The Methodology for Economic Impact Analysis

3.1 Estimating Current Economic Impact

The direct employment base of the arts and culture sector is first measured. Employment figures are generally more understandable by the public than more abstract measures such as economic output or GDP. Employment figures also have the advantage of being a more accurate measure, both because the firms are more likely to provide data on employment, as opposed to information on revenues, wages and other monetary amounts, and because there is less chance of double counting economic activity.³ The City of Richmond arts and culture sector's measure of direct employment and wages forms the basis for the rest of this study on the sector's contribution to the City of Richmond economy.

The economic impact study then assesses the indirect and induced (or "multiplier") employment supported city-wide by arts and culture related operations, as well as economic activity in terms of economic output and GDP using Statistics Canada economic multipliers. The tax revenues generated annually by the arts and culture sector in the City of Richmond are also estimated.

3.2 Surveying Direct Employment

Employment attributable to the arts and culture industry was measured by surveying 251 arts and culture related businesses and organizations located in the City of Richmond. Specifics of the survey methodology are contained in **Appendix B** and sample copies of the survey are found in **Appendix C**. Telephone follow-ups were conducted to increase the response rate. In total, over half (52%) of the businesses and organizations contacted returned the questionnaire, representing an estimated 72% of total person years of employment covered by the survey. In a few cases, firms did not complete the entire survey, but did provide figures on total employment.

3.3 Inferring Employment

Employment was "inferred" for firms that did not respond to the survey by using a proven and accepted methodology.⁴ This includes using other sources of employment information such as past employment surveys or using survey results for firms of similar types. A conservative approach was taken when using other survey or employment information to infer for non-responding firms. **Appendix E** provides additional detail on inferred employment.

³ For example, revenues reported by an organization in the performing arts double count revenues received by set designers. The set designer's revenue is an expense for the performing arts organization.

⁴ The methodology employed in this study to infer for non-respondents is also used by the federal government for estimating the national income and product accounts.

There may be firms which were not surveyed simply because it was not known that they existed. We do not include an estimate of employment for such non-surveyed firms because there is no basis for an assessment. In any event, we expect most of these to be very small in terms of missed employment.

3.4 Direct versus Indirect versus Induced Employment

Employment can be broken down into the following categories:

Direct employment is employment that can be attributed to Richmond which includes those businesses or organizations directly involved in arts and culture related services. Thus, the direct employment base includes employment at public and private organizations involved in arts and culture, businesses offering arts and culture related commercial services, self employed artists of various types, as well as those supplying the arts and culture sector with material goods and administrative or technical support services.

Indirect employment is employment in other industries that results from arts and culture related activity in the region. For example, employment at a janitorial company that provides cleaning services to a local art gallery would be considered indirect employment. Indirect employment is generated in support of direct arts and culture related employment.

Induced employment is employment generated from expenditures by individuals employed indirectly or directly. For example, if a ballet instructor in Richmond goes out for dinner, this would result in additional (induced) employment hours in the general economy. The outing would support hours of induced employment in the food & beverage sector.

Total employment is the sum of direct, indirect and induced employment. The multiplier (indirect and induced) economic impacts represent the maximum potential stimulus to the economy resulting from activity of arts and culture related businesses and organizations in the City of Richmond.

Volunteer contribution is the contribution of individuals who volunteer their time to supporting Richmond's arts and culture related activities while not generating an income for their work contributions. Volunteer contribution is very common in the arts and culture industry, both on a regular basis and on a one-time basis for special events. For example, an organization that relies on volunteer club members to carry out the organization's mandate would be considered **regular volunteer** contributors, while additional persons recruited for the purpose of carrying out a performance that is hosted by the organization would be considered **one-time volunteers**.

3.5 Economic Multipliers

Measurement of indirect and induced economic activity is difficult. While it might be possible to conduct a survey of such employers, the survey would need to cover thousands of firms for indirect employment. For induced employment, the entire economy would need to be scrutinised. In addition to the time and financial resources needed to conduct such surveys, the quality of responses would be suspect. It would be difficult for a

regional produce supplier to know how much, if any, his or her business depends on provisioning arts and culture related event caterers.

As an alternative to costly and inaccurate surveys, indirect and induced effects are typically measured by the use of *economic multipliers*. Multipliers are derived from economic/ statistical/accounting models of the general economy.⁵ They come in a variety of forms and differ greatly in definition and application. Thus great care must be exercised in choosing the appropriate set of multipliers to use. In addition, the use of multiplier analysis is limited by a number of factors, these being:

- the accuracy of the structure and parameters of the underlying model;
- the level of unemployment in the economy;
- the assumption of constant returns to scale in production;
- the assumption that the economy's structure is static over time; and
- the assumption that there are no displacement effects.

Multiplier impacts must be interpreted with caution since they may be illusory when the economy experiences high employment and output near industry capacity. In general, the use and reporting of multiplier impacts is discouraged. When they are reported, it is recommended that the reader be reminded of the limitations on the use of multipliers. Mindful of these limitations, this study has undertaken multiplier analysis to estimate indirect and induced employment.

3.6 Study Time Frame

The employment survey was conducted during September to November 2007 and the results reflect employment as of June 2007.

3.7 Jobs versus Person Years

Traditionally, one measures employment by the number of jobs. However, when part-time and/or seasonal workers are used, this can be a misleading measure resulting in an overstatement of economic impact. Whenever possible, employment impacts are measured both in terms of the number of jobs and the number of person years.⁶

⁵ The multipliers used for the analysis are based on Statistics Canada economic multipliers for British Columbia from the 2001 Interprovincial Input-Output model, the most recent available. These multipliers were updated with Consumer Price Indices to account for inflation through 2007.

⁶ One person year is equivalent to 1,832 hours of work. See **Appendix D** for a detailed calculation of the number of hours per person year. Person years are the same as full time equivalents (FTEs).

4.0 Direct Employment Impacts

4.1 Introduction

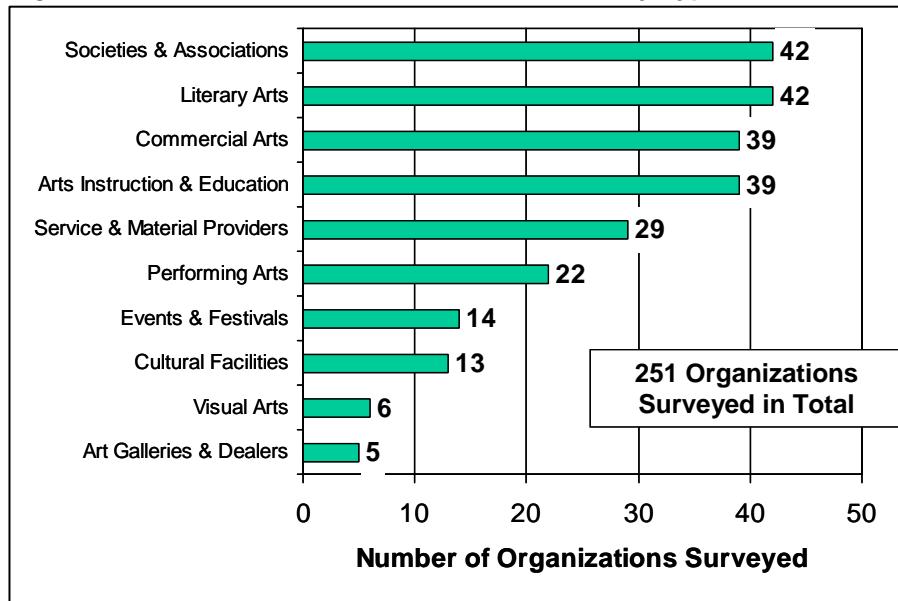
This chapter describes the direct employment in the arts and culture sector of Richmond. Both jobs and person years (full-time equivalents) figures are presented. Wages associated with this direct employment are estimated.⁷

On-going arts and culture related operations in Richmond make considerable contributions to local employment, as well as the provincial and national economies.

4.2 Arts and Culture Industry Types

Of survey respondents, the distribution of type of industry is displayed in Figure 4-1.

Figure 4-1: Distribution of Arts and Culture Industry Types in Richmond



⁷ Note that wage data in the 2007 study is based on estimated wages for the arts and culture sector based on survey results and Statistics Canada data. Wage data in the previous study was based on the provincial level multipliers.

The 251 firms that received employment surveys for the City of Richmond Arts and Culture economic impact study included businesses and organizations whose operations are directly related or dependent upon arts and culture. The City of Richmond provided a list of arts and culture related businesses and organizations and hand delivered copies of the survey to those organizations that are operated by the City of Richmond. InterVISTAS Consulting used the yellow pages phone directory and online sources to identify additional arts and culture related companies. See **Figure 4-2**.

Figure 4-2: Total Number of Firms Surveyed

Type of Business	Number of Firms Surveyed	Number of Firms' Responses	Response Rate
Art Galleries and Dealers	5	2	40%
Arts Instruction and Education	39	18	46%
Commercial Arts	39	9	23%
Performing Arts	22	14	64%
Visual Arts	6	6	100%
Literary Arts	42	19	45%
Events and Festivals	14	6	43%
Cultural Facilities	14	13	93%
Service and Material Providers	29	18	62%
Societies and Organizations	41	30	73%
Total	251	135	54%

4.3 Arts and Culture Direct Employment and Wages

Direct employment related to on-going operations in the Richmond arts and culture sector totalled 1,488 jobs as of June 2007.⁸ After adjusting for part-time and seasonal employment, the 1,488 jobs amount to 734 person years of employment.⁹ This implies a direct job to person year ratio of over 2.0. This ratio implies that this industry sector has a high proportion of part-time and seasonal employment.

As of June 2007, the Richmond arts and culture sector supports:

- 1,488 direct jobs representing 734 person years
- \$33 million in wages

Employees at arts and culture related businesses and organizations earned nearly \$33 million in wages in 2007, for an average of \$45,213 per person year of employment. This compares to an overall average of \$43,472 per person year of employment in British Columbia across all industries. Commercial and visual arts reported relatively high wage levels in Richmond indicating wages over \$55,000 per annum. This also compares to those involved in Arts Instruction/Education indicating wages of approximately \$31,000 per annum. Employment figures are summarised in **Figure 4-3** for wages as well as jobs and person years.

Figure 4-3: Richmond Arts and Culture Direct Employment and Wages

	Jobs	Person Years	Wages (\$ millions)
Direct Arts and Culture Employment	1,488	734	\$33

Although not directly comparable the direct jobs reported above, the study, *Artists in Large Canadian Cities*, by Hills Strategies, reported that North Vancouver had 875 artists in 2001 and Victoria, BC had 860 artists in 2001.¹⁰

4.4 Cultural Employment Regional Comparison

In 2006, Richmond’s share of labour force in the cultural sector is estimated to be 2.51% of Richmond’s total labour force.

⁸ See **Appendix D** and **Appendix E** for details on employment breakdown.

⁹ In addition, there are a total of 88 person years of contract employment and 7 person years of contract firm employment.

¹⁰ The definition of artist in the Hills Strategies report includes the following occupations: actor, artisans and craftspersons, conductors, composers, arrangers, dancers, musicians, singers, other performers (such as circus performers and puppeteers), painters, sculptors, other visual artists, producers, directors, choreographers, and writers.

The Statistics Canada report, *Culture Employment in a Northern American Context 1981 to 2001*, shows the share of labour force involved in the cultural sector for various cities in Canada and the United States. See **Figure 4-4** for the comparison.

Figure 4-4: Regional Comparison of Estimated Share of Labour Force in Cultural Sector, 2006

Region	2006 Estimated Share of Labour Force in Cultural Sector
United States	1.86%
Canada	1.91%
Richmond*	2.51%
Montreal	2.55%
Toronto	2.73%
Vancouver	2.85%
San Francisco	3.19%
New York City	3.24%
Los Angeles	3.35%

Source: Statistics Canada Culture Employment in a North American Context 1981 to 2001.

*Note: Richmond's share of labour force in cultural employment is calculated by dividing total number of jobs in the arts and culture sector in 2006 (results from this EI study) by Richmond's 2001 labour force scaled up to 2006 by applying the B.C.'s labour force growth rate for 2006 over 2001. This is a conservative estimate as the study, *Artists in Large Canadian Cities (March 2006)*, by Hills Strategies, found that the growth in the arts labour force was at least 10 times the growth in the overall labour forces.

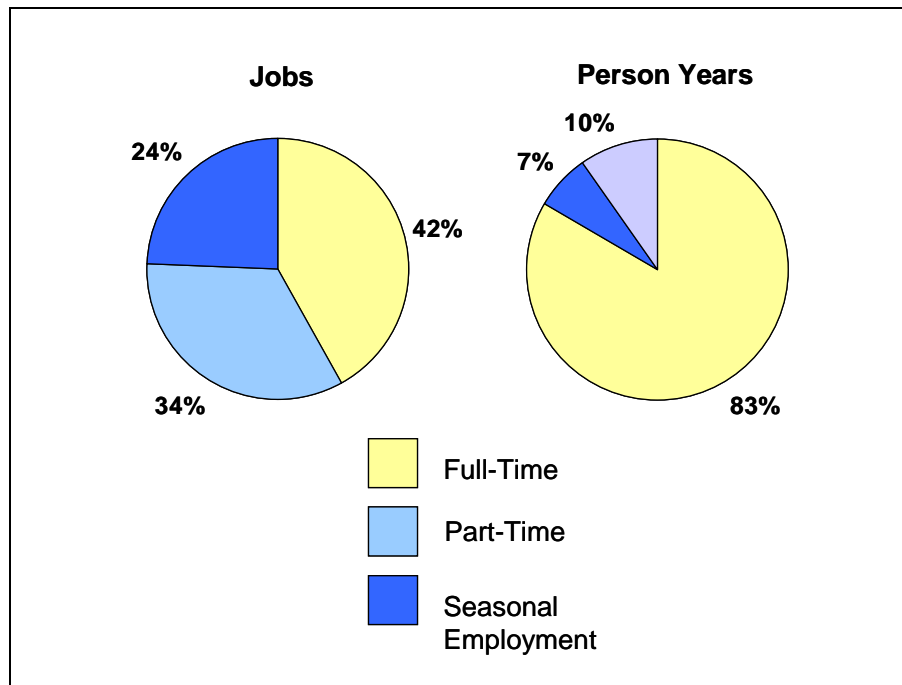
For Canada, approximately 1.91% of the overall nation's labour force is employed in the cultural sector. Relatively, Richmond captures a slightly larger proportion of cultural employment than at the national level, with 2.51% of the city's labour force working in the cultural sector. However, Canada's 3 largest cities - Vancouver, Toronto and Montreal, all show a slightly larger proportion of cultural employment than the City of Richmond, at 2.85%, 2.73% and 2.55%, respectively.

As for the United States, it has a smaller share of cultural employment compared to Canada. Individual U.S. cities have much larger shares of cultural employment compared to Canadian cities with 3.19% for San Francisco, 3.24% for New York City and 3.35% for Los Angeles.

4.5 Full-time versus Part-time and Seasonal Employment

Of the surveyed jobs, there were 1,049 direct jobs attributable to the Richmond arts and culture related operations in 2007, 42% were permanent full-time jobs. An additional 34% were permanent part-time jobs. A further 24% of arts and culture related jobs at Richmond are seasonal. However, in terms of person years, the distribution is 83% permanent full-time, 7% permanent part-time and 10% seasonal. The breakdown of the Richmond arts and culture related jobs and person years by full-time, part-time and seasonal positions are presented in **Figure 4-5**. Due to the nature of the arts/culture sector, it is not surprising a majority of jobs are either part time or seasonal.

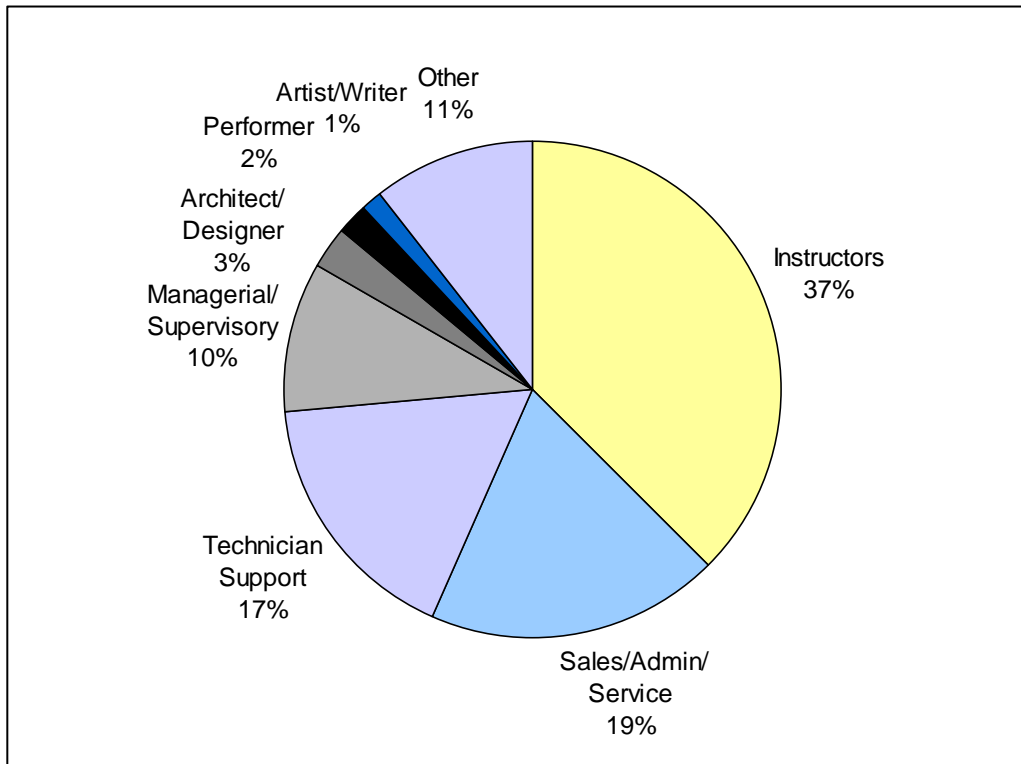
Figure 4-5: Full-time Versus Part-Time and Seasonal Arts and Culture Related Employment



4.5.1 Arts and Culture Related Job Types

Of the completed surveys that report a breakdown of job types, the majority of arts and culture related jobs at Richmond are related to instructing (37%) as seen in **Figure 4-6**. The second most common job function is sales/administration/service (19%), followed by Technician support (17%) and managerial/supervisory positions (10%).

Figure 4-6: City of Richmond Arts and Culture Related Job Types



5.0 Multiplier Impacts

5.1 Introduction

The previous chapters discussed how direct employment related to on-going arts and culture related operations in Richmond was measured. However, the employment impact does not end there; other sectors of the economy are dependent on these employers' businesses. *Indirect* employment is generated at suppliers to the arts and culture related businesses and organizations. Additionally, there may be a general stimulus to the overall provincial economy when direct (and indirect) employees spend their wages. These employment effects are referred to as *induced* employment. Total employment impacts are the sum of direct, indirect, and induced impacts.

Arts and culture related *total* (*direct + indirect + induced*) employment in British Columbia:

- 2,289 jobs
- 1,128 person years
- \$52 million in wages

5.2 Indirect Employment

Indirect employment is employment in non-arts and culture industries that supply or provide services to these industries. An example of this would be jobs that exist at a janitorial company to provide cleaning services to local art galleries.

Using British Columbia employment impact multipliers, an estimated 272 person years (553 jobs) are indirectly generated in British Columbia industries that supply Richmond arts and culture related businesses and organizations.¹¹ Labour income associated with indirect employment is estimated at \$13 million in British Columbia.

Arts and culture related *indirect* employment in British Columbia:

- 553 jobs
- 272 person years
- \$13 million in wages

Figure 5-1: Indirect Employment and Wages

	Indirect Employment	
	Person Years	Wages (\$ millions)
Arts and Culture Related Employment	272	\$13

¹¹ The source of the multipliers was Statistics Canada's 1996 Interprovincial Input Output Model.

5.3 Induced Employment

Induced employment is somewhat more complicated than indirect employment. It is employment created because of expenditures by individuals employed both directly and indirectly by the arts and culture related businesses and organizations. It is the demand for goods and services generated by wage earnings from economic activity in the arts and culture sector. Induced employment in British Columbia attributable to the arts and culture community in Richmond is estimated at approximately 122 person years (248 jobs).¹²

Arts and culture related *induced* employment in British Columbia:

- 248 jobs
- 122 person years
- \$6 million in wages

Figure 5-2: Induced Employment and Wages

	Induced Employment	
	Person Years	Wages (\$ millions)
Arts and Culture Related Employment	122	\$6

5.4 Total Employment

Figure 5-3 summarises the direct, indirect, induced and total employment attributable to the on-going arts and culture related operations in the City of Richmond.

Figure 5-3: Arts and Culture Related Direct and Total Employment in the City of Richmond

	Jobs	Person Years	Wages (\$ millions)
Direct	1,488	734	\$33
Indirect	553	272	\$13
Induced	248	122	\$6
<i>Total</i>	<i>2,289</i>	<i>1,128</i>	<i>\$52</i>

¹² Statistics Canada has recommended some ratios of induced to direct plus indirect impacts which are used here.

5.5 Volunteer Contribution

In addition to the contributions of income-generating employment of the arts and culture sector, volunteer workers also have a significant contribution to promoting arts and culture in Richmond. Volunteer contribution is especially common in the arts and culture industry, both on a regular basis and on a one-time basis for special events.

In comparison, in 2004, 47% of British Columbians (1.6 million) volunteered through a group or association (not limited to arts and culture sector) contributing on average, 199 hours per annum.¹³

Figure 5-4 summarises the total annual volunteer contributions to the arts and culture sector in Richmond, of surveyed organizations.

Figure 5-4: Annual Arts and Culture Related Volunteer Contributions (Surveyed Organizations Only)

	Arts and Culture Related Volunteer Contributions	
	Total Hours	Person Years
<i>Total Volunteers</i>	33,372	18

5.6 Economic Output and GDP

Previous sections focused on the employment impacts of arts and culture related operations in the City of Richmond. This section turns to the arts and culture sector's broader economic impacts that are measured in dollars.

In addition to employment, there are two additional measures: *economic output* and *gross domestic product (GDP)*. Economic output roughly corresponds to the *gross revenues* of goods or services produced by an economic sector, while GDP measures only *value-added* revenues.

Economic output: total revenues from industrial output including materials and supplies.

GDP: value-added in industrial output, net of intermediate revenues.

To estimate economic output for a sector, one might add up the gross revenues of the various firms in that sector. However, to find GDP for a sector, care must be taken to avoid double counting. The revenues of one firm providing service to another are not incremental GDP. For example, in the automobile sector, one cannot add the value (gross revenue) of

¹³ Source: BC Stats, Infoline, Issue 06-24, 16 June 2006.

a finished auto to the value of the tires. The tires are already included in the value of the automobile.

One approach to measuring economic output and value-added is to ask firms in a survey to provide information on their gross revenues, payments to suppliers, etc. However, there are several problems with the approach. First, it is much too expensive. Second, the double counting problem makes this approach impractical.

An alternative is to infer economic output and GDP for an economic sector from employment data using economic multipliers. Statistics Canada produces economic multipliers both for Canada and all of the provinces and territories, and these are both more cost effective and more accurate than obtaining the data from surveys. This method, using Statistics Canada economic multipliers for British Columbia is the approach adopted here.

5.7 Richmond Arts and Culture Sector Economic Output and GDP

According to Statistics Canada's *Economic Contribution of the Culture Sector to Canada's Provinces*, British Columbia is the third largest producer of culture GDP in Canada, accounting for \$5.2 billion. The province's culture GDP increased every year between 1996 and 2003. On average, culture contributed 4% of the province's overall GDP.

Figure 5-5 provides economic output and GDP impacts related to on-going arts and culture related operations for the City of Richmond.

The employment supported by the arts and culture related businesses and organizations in Richmond described in Chapter 5 generates \$37 million in direct gross domestic product and \$78 million in direct economic output in the provincial economy. Including multiplier effects, operations at these businesses may be supporting \$63 million in total (direct, indirect and induced) GDP and \$135 million in economic output economy-wide in Richmond.

Figure 5-5: Direct and Total GDP and Economic Output in Richmond Generated by the Arts and Culture Sector

	GDP (\$ millions)	Economic Output (\$ millions)
Direct	\$37	\$78
Indirect	\$17	\$42
Induced	\$9	\$15
<i>Total</i>	<i>\$63</i>	<i>\$135</i>

6.0 Tax Revenue Impacts of Richmond Arts and Culture Related Operations

6.1 Introduction

This chapter documents the current contribution to government revenues resulting from arts and culture related operations in the City of Richmond.¹⁴ This includes revenues received by federal, provincial and municipal governments.

Taxes paid by employers and employees. These include income and payroll taxes, social insurance contributions (such as the employment insurance premiums) for all direct employment associated with the arts and culture sector in Richmond and the federal and provincial corporate income taxes paid by employers.

Tax revenues generated by the arts and culture sector in Richmond amount to \$14 million a year, across the municipal, provincial and federal levels government.

For each category, taxes paid to the federal, provincial and municipal levels of government are separately identified.¹⁵

The purpose of this section is to present the tax revenue contributions resulting from the activity attributable to the arts and culture sector in Richmond. As with all such studies, a conceptual decision has to be made as to how broad a definition of *economic activity* should be used in measuring the impacts. For this study we have taken a relatively narrow definition. For example, we have **not** included:

- Taxes associated with indirect or induced employment (i.e. multiplier effects).
- Consumption taxes (GST and PST) paid by employees of arts and culture related businesses and organizations when they spend their income.

It would be very difficult to broaden the scope of the tax base in this analysis to include taxes generated by indirect and induced employment. The level of detail collected on direct employment by the survey is critical to the analysis, while such information is not available for the indirect and induced employment. This being the case, impacts and speculation about the general economy would be complex and averages would not necessarily be precise or accurate. Therefore, the tax analysis in this report is limited to revenues attributable to direct employment only.

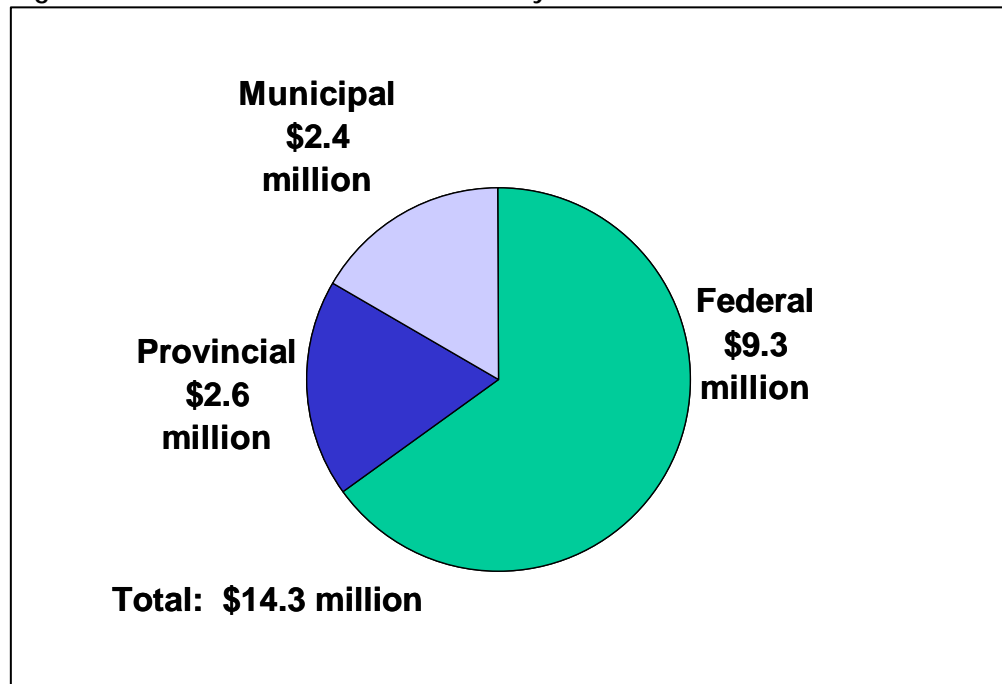
¹⁴ All estimates are based on 2006 calendar year tax rates, unless otherwise stated. See **Appendix F** for basic assumptions of the tax study.

¹⁵ For the most part, this study **estimates** taxes paid from information on the employers and employees within Richmond's arts and culture sector. In every case conservative methods were used.

6.2 Taxes by Level of Government

The federal government is the largest recipient of tax revenue, receiving over \$9 million (78% of the total), as seen in **Figure 6-1**, while the provincial government received \$2.6 million. The City of Richmond receives an estimated \$2.4 million in property tax revenues from Richmond businesses and residents in the arts and culture sector.

Figure 6-1: Breakdown of Tax Revenues by Government



7.0 Summary: Economic Impact

The arts and culture related businesses and organizations at the City of Richmond have a significant impact on regional employment which, in turn, has considerable impacts on the British Columbia economy measured by GDP, economic output and tax revenues.

The Arts and Culture Sector in the City of Richmond is a considerable economic generator for the region and the province.

Richmond's arts and culture sector are major economic generators by every measure. In 2007, it is estimated that this employment sector supported a total of 734 direct person years of employment (1,488 direct jobs), \$33 million in wages, \$37 million in GDP, and \$78 million in output in British Columbia. Considering multiplier impacts, the total impacts of the sector are estimated at 1,128 person years of employment, \$52 million in wages, \$63 million in GDP, and \$135 million in output economy-wide in British Columbia.

The in-province economic impacts of on-going arts and culture related operations within Richmond are summarised in **Figure 7-1**.

Figure 7-1: Economic Impacts of Richmond Art and Culture Sector in British Columbia

Type of Impact	Jobs	Person Years	Wages (\$ millions)	GDP (\$ millions)	Economic Output (\$ millions)
Direct	1,488	734	\$33	\$37	\$78
Indirect	553	272	\$13	\$17	\$42
Induced	248	122	\$6	\$9	\$15
Total	2,289	1,128	\$52	\$63	\$135

The Arts and Culture Related Sector in Richmond is a strong generator of tax revenues.

Each of the 1,488 current direct jobs is filled by a person earning wages in Richmond's arts and culture sector while supporting the provincial and national economies by paying taxes. Employees in Richmond's arts and culture sectors and their employers paid some \$14.3 million in taxes (\$9.3 million Federal, \$2.6 million Provincial and \$2.4 million Municipal).

Appendix A: Economic Impact: Glossary of Terms

Contract Work: Any work which is done for a company by an individual who is not on the payroll or work done for a company by another company. Generally speaking, firms will contract out work in areas in which they do not have expertise or when there are cost advantages to doing so.

Direct Employment: Direct employment is employment that can be directly attributable to the operations in an industry, firm, etc. It is literally a head count of those people who work in a sector of the economy. All of those people who work in an arts and culture related capacity would be considered direct employment.

Economic Activity: (also Output, Production) The end product of transforming inputs into goods. The end product does not necessarily have to be a tangible good (for example, knowledge), nor does it have to create utility (for example, pollution). Or, more generally, the process of transforming the factors of production into goods and services desired for consumption.

Employment Impact: Employment impact analysis determines the economic impact of employment in terms of jobs created and salaries and wages paid out. In the case of the arts and culture sector, the direct, indirect, induced and total number of jobs or person years created by arts and culture related businesses or organizations is examined to produce a snapshot of arts and culture activities.

Full-time Equivalent (FTE): (also Person Year) One full-time equivalent (FTE) year of employment is equivalent to the number of hours that an individual would work on a full-time basis for one year. In this study we have calculated one full-time equivalent year to be equivalent to 1,832 hours. Full-time equivalent years are useful because part-time and seasonal workers do not account for one full-time job.¹⁶

GDP: (also value-added) A measure of the money value of final goods and services produced as a result of economic activity in the nation. This measure is net of the value of intermediate goods and services used up to produce the final goods and services.

GNP: GNP is equal to GDP plus the incomes of nationals abroad and minus income of foreigners.

Indirect Employment: Indirect employment is employment which results because of direct employment. For the arts and culture sector, it would include that portion of employment in supplier industries which are dependent on sales to the arts and culture sector. In some cases, contract work would be considered indirect employment.

¹⁶ *The Dictionary of Modern Economics*, David W. Pearce, General Editor, The MIT Press, Cambridge Mass., 1984

Induced Employment: Induced employment is employment created because of expenditures by direct and indirect employees.

Multiplier Analysis: Analysis using economic multipliers in which indirect and induced economic impacts is quantified. Essentially, a multiplier number is applied to the "directly traceable economic impact" to produce indirect and total effects. (See Multiplier.)

Multiplier: Economic multipliers are used to infer indirect and induced effects from a particular sector of the economy. They come in a variety of forms and differ in definition and application. A multiplier is a number which would be multiplied by direct effects in order to calculate indirect or induced effects. In the case of the arts and culture sector, as in many other cases, multipliers can lead to illusory results and thus must be used with great care.

Output: (also Economic Activity, Production) The end product of transforming inputs into goods. The end product does not necessarily have to be a tangible good (for example, knowledge), nor does it have to create utility (for example, pollution). Or, more generally, it is defined as the process of transforming the factors of production into goods and services desired for consumption.

Seasonality: Seasonality results when the supply and demand for a good is directly related to the season in which it is consumed. For example, a crafts retail store may experience changes in net income as a result of seasonality. A movie theatre may also experience seasonality due to the demand for indoor activities during the wet and cold seasons, resulting in an increase in showtimes by the movie theatre during the busy season.

Value-Added: (also GDP) A measure of the money value of final goods and services produced as a result of economic activity in the nation. This measure is net of the value of intermediate goods and services used up to produce the final goods and services.

Appendix B: Employment Survey

Identification of the Survey Population

The 251 firms that received employment surveys for the City of Richmond Arts and Culture economic impact study included businesses and organizations whose operations are directly related or dependent upon arts and culture. The City of Richmond provided a list of arts and culture related businesses and organizations and hand delivered copies of the survey to those organizations that are operated by the City of Richmond. InterVISTAS Consulting used the yellow pages phone directory and online sources to identify additional arts and culture related companies.

Table A - 1: Total Number of Firms Surveyed

Type of Business	Number of Firms Surveyed	Number of Firms' Responses	Response Rate
Art Galleries and Dealers	5	2	40%
Arts Instruction and Education	39	18	46%
Commercial Arts	39	9	23%
Performing Arts	22	14	64%
Visual Arts	6	6	100%
Literary Arts	42	19	45%
Events and Festivals	14	6	43%
Cultural Facilities	14	13	93%
Service and Material Providers	29	18	62%
Societies and Organizations	41	30	73%
Total	251	135	54%

Questionnaire Design

The basic questionnaire was designed to be effective in obtaining information and, equally importantly, to be as clear and easy to understand as possible for respondent firms. The basic survey was provided to businesses and organizations whose operations are directly related or dependent upon arts and culture. The basic questionnaire provided to businesses and organizations of the arts and culture sector contained questions in the following areas:

General Information

- Name of firm, address
- Contact person's name and title
- Phone numbers
- Email address
- Type of industry

Total Employment Numbers

- Total employees on payroll as of June 2007
- Total payroll excluding benefits, 2006

Part-time and Full-time Employment

- Full-time permanent employees
- Part-time permanent employees
- Full-time seasonal employees
- Part-time seasonal employees
- Average hours and weeks for part-time and seasonal employees

Employees on Contract

- Total employees on contract
- Average hours and weeks for individual contractors

Employment by Trade

- A selection of job trades was provided to categorise employment

Outsourcing

- Name and function of contract firms

- Total hours performed by contract firms, 2006
- Total hours performed by regular volunteers

Special Events or Festivals

- Name of special event or festival hosted
- Total income earning hours performed for each event
- Total volunteer hours performed for each event

Copies of the surveys are provided in **Appendix C**.

Conducting the Survey

The survey was either hand delivered or mailed out with a cover letter from the City of Richmond and Gateway Theatre. The letter explained the purpose of the study, the confidentiality of responses and encouraged members of the arts and culture community to participate. Postage paid envelopes were provided with all mail-out surveys.

Following the initial mail-outs and throughout the following months, non-responding businesses and organizations were contacted by telephone to follow up. Businesses and organizations were encouraged to return the survey and new copies were offered if the originals were lost. The replacement surveys were faxed or emailed instead of mailed.

Analysis of the Results

The survey results were compiled into a custom MS Excel database for analysis.

Appendix C: Cover Letter and Sample Surveys

August 2007

To All Members of the Richmond Arts and Culture Sector:

The City of Richmond, in partnership with the Richmond Arts Coalition, the Richmond Chamber of Commerce, the Gateway Theatre, the Vancouver Children's Art Gallery & Literacy Centre, and Tourism Richmond, is currently undertaking a study of the economic impact and inventory scan of the arts and culture industry in Richmond. The results of the study will provide our industry with a detailed analysis of the scope of arts and culture in Richmond. The information collected through this study will assist in meeting the goals identified in the 2004 "City of Richmond's Arts Strategy" and show the value of further supporting the arts and culture sector in our community.

In order to undertake this study, we need your co-operation. We would like to ask you to participate in the attached employment survey to complete the economic impact analysis. In order to keep this initiative on time and on budget, we request that you complete this survey as soon as possible, so that InterVISTAS Consulting Inc. can compile the results without delay. The completed survey can be returned by using the postage paid envelope provided or by faxing it to 604-717-1818.

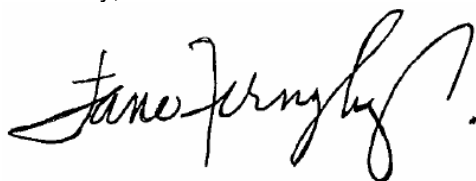
We appreciate that some of the information requested in the survey may be of a sensitive nature to you and your organisation. Please be assured that InterVISTAS Consulting will maintain the confidentiality of your survey response, and that the completed surveys will not be viewed by anyone other than researchers at InterVISTAS Consulting. Only the aggregate survey totals will be provided in the final report. The published document will not reveal employment figures or other data for any individual firms.

The economic impact survey is under the supervision of Doris Mak, Manager, Special Projects at InterVISTAS Consulting. Should you have any questions regarding the study, or completing the survey, please contact her at 604-717-1838 or doris_mak@intervistas.com.

In addition, if you have not already done so, also please complete the short questionnaire available at www.richmond.ca/culturalsurvey for the Art and Cultural Scan component of this study. The questionnaire collects citizens' valuable knowledge about Richmond's arts and cultural organisations, activities, and facilities and asks for their guidance on Richmond's cultural future.

Thank you for your co-operation. We look forward to receiving your input into this study.

Sincerely,



Jane Fernyhough
Manager, Cultural Services, City of Richmond
Theatre



Suzanne Haines
General Manager, Gateway



City of Richmond Arts & Culture
Employment Survey August 2007

The figures you provide in the following sections are strictly confidential and will be viewed only by InterVISTAS Consulting and reported only in an aggregate form. For the purposes of this study, it is important that the figures you provide are as accurate and current as possible. **When answering the questions below regarding your organisation, please include all related subsidiary businesses.**

Name of Business/Organization: _____

Contact Person: _____

Phone number: _____ Email: _____

Address: _____

City, Province: _____ Postal Code: _____

Q1. Type of Industry (check one only)

Please choose the industry sector that best describes your organisation's services. If your organisation is involved in more than one area, please choose the predominant area of your operations.

- Art Galleries & Dealers** (i.e. commercial art galleries, art dealers, art distributors and publishers)
- Art Instruction & Education** (i.e. music, drama and art teachers, music schools, dance and acting schools)
- Commercial Arts** (i.e. artists, graphics designers, architects, interior designers, photographers, media groups, film companies, and radio broadcasters)
- Performing Arts** (i.e. musicians, bands, orchestras, comedy groups, theatre companies, and touring entertainers)
- Visual Arts** (i.e. painters, sculptors, ceramic artists, and craftsperson)
- Literary Arts** (i.e. creative writers, book publishers, and printers)
- Events & Festivals** (i.e. coordinators, administrators, and featured performers)
- Cultural Facilities** (i.e. public art galleries, museums, libraries, and theatre venues)
- Service & Materials Providers** (i.e. retailers and suppliers for arts & crafts, dance, theatre, and music; arts consultants; ticket outlets; and live music venues)
- Societies & Associations** (i.e. cultural service organizations and recreational art groups/clubs)
- Other**, please specify _____

Q2. Generating Income through work in the Arts and Cultural Sector

Do you earn an income through your work in the arts and cultural sector?

- No.** (continue to Q8)
- Yes – I am self-employed.** (continue to Q3)
- Yes – Our arts and cultural business/organisation has income generating employees.** (continue to Q3)



City of Richmond Arts & Culture
Employment Survey August 2007

Q3. Total Employment

If your organisation has income generating employees, please state the total number of employees you had on payroll as of June 2007 in Richmond. **These figures should include full time, part time and seasonal work, but should not include employment for work done on contract or on a volunteer basis.**

Total Number of Employees on Payroll: <small>(including the owner(s), as of June 2007)</small>	
Total Annual Payroll: <small>(Excluding employee benefits, 2006 figures)</small>	

Q4. Income Generating Employees – Part-Time and Full-Time

A. Permanent Employees: A permanent employee is one that works year round. Of the total number of income generating employees in Q3, how many are permanent employees and how many are full-time and how many are part-time?

Number of Full-Time <u>Permanent</u> Paid Employees:	
Number of Part-Time <u>Permanent</u> Paid Employees:	
Total <u>Permanent</u> Paid Employees:	

For part-time paid employees, on average, how many **hours per week** will they work this year (2007)?

# of Weekly Hours:	
---------------------------	--

If it is difficult to obtain this information or if there is great variation, you may provide a range of weekly hours (i.e., less than 10 hours, 10-15 hours, etc).

B. Seasonal Employees: A seasonal employee is one that is hired for work during peak or specific time periods only. Of the total number of income generating employees in Q3, please indicate how many are seasonal full-time and part-time employees (2007)?

Number of Full-Time <u>Seasonal</u> Paid Employees:	
Number of Part-Time <u>Seasonal</u> Paid Employees:	
Total <u>Seasonal</u> Paid Employees:	

For seasonal paid workers, on average, how many **weeks** and how many **hours per week** will they work this year (2007)?

Number of Weeks Per Year:	
Number of Weekly Hours:	

If it is difficult to obtain this information or if there is great variation, you may provide a range of weekly hours (i.e., less than 10 hours, 10-15 hours, etc).

THE SUM OF THE PERMANENT AND SEASONAL EMPLOYEES LISTED IN Q4A AND Q4B SHOULD EQUAL THE NUMBER OF TOTAL EMPLOYEES IN Q3.



City of Richmond Arts & Culture
Employment Survey August 2007

Q6. Employees on Contract

In addition to your total number of employees on payroll, please indicate the number of employees on contract that contribute services to your organisation.

Number of Individual Contractors:	
-----------------------------------	--

For contractors, on average, how many weeks and how many hours per week will they work this year (2007)?

Number of Weeks Per Year:	
Number of Weekly Hours:	

Q6. Employment by Trade

In order to reflect the diversity of arts & culture-related employment in Richmond, please provide us with a breakdown of your total payroll employees, by position.

Employment by Trade		Number of Employees
General	Managerial/Supervisory	
	Sales/Administrative	
	Technician Support	
Specialist	Artist/Writer	
	Performer	
	Architect/Designer	
	Instructor	
	Other, please specify:	

Q7. Outsourcing

Since we do not want to exclude any arts and cultural employment from Richmond, we would like you to briefly comment on whether your organisation contracts out any important services to other firms (i.e. janitorial services, catering services, etc.)?

- No.
- Yes. If yes, please complete the following table indicating the functions you contract out to other firms and an estimate of the annual hours on contract. Also include the names of the firms you use so we can ensure that we do not double count any work performed by other firms that we are surveying as a part of this study.

Function	Name of Firm	Estimated Number of Hours Performed by Firm in 2006
<i>Example: Janitorial</i>	<i>Spic and Span Cleaners</i>	<i>100 hours/year (2 hours/week)</i>



City of Richmond Arts & Culture
Employment Survey August 2007

Q8. Regular Volunteer Hours

If you have volunteers, please estimate the total number of regular volunteer hours per week. Regular volunteers do not include those who volunteer for specific events only. For example, if your organisation relies on volunteer club members to carry out the organisation's mandate, please indicate the total number of hours per week worked on regular activities by all club members.

Total Number of Volunteer Hours Per Week:	
---	--

Q9. Special Events or Festivals

Does your organisation hold any special events or festivals that require additional workers not included in either the total number of employees in Q3 or the total number of regular volunteers in Q8?

- No.
- Yes. If yes, please complete the following table indicating the special event or festival and an estimate of the total number of hours worked by both income generating and volunteer workers for the purpose of carrying out the event.

Special Event or Festival	Additional <i>Income Earning</i> Hours Required for the Event	Additional <i>Volunteer</i> Hours Required for the Event
<i>Example: Tall Ships</i>	<i>100 hours</i>	<i>100 hours</i>

**Thank you for your assistance in completing this survey.
Please return this survey using the postage paid envelope provided, or by fax to:**

**Attention: Doris Mak
Fax: 604-717-1818
Email: doris_mak@intervistas.com**

If you have any questions, please call Doris at 604-717-1838.

Appendix D: Calculation of Person Hours per Year

The following are details of calculations for the average number of hours per person year (PY).

Calculation of person hours per year:	
	365 days per year
Less:	(104) weekend days
	(11) legal holidays
	(15) average vacation days
	(6) sick leave
	<hr/>
	229 days per person year
	* 8 hours per work day
<hr/>	
1,832 hours per person year	

Workdays vary anywhere from 6.5 to 8 hours; however, in order to be conservative, an 8-hour workday was assumed.¹⁷ Similarly, numbers of vacation and sick leave days may also vary.

¹⁷ Essentially, we are using a measure of paid hours per year. Using a measure of productive hours per year with 6-1/2 hour workdays (8 hours less 1 hour for lunch less two 15 minute work breaks) would give 1,489 hours per person year. Using this lower figure would result in inferring a greater number of person years from seasonal and part-time jobs. Using the 1,832 figure, we infer a lower number of person years.

Appendix E: Summary of Total Jobs and Person Years

Total Jobs and Person Years		
	Jobs	Person Years
Arts and Culture employment surveyed	1,049	531
Arts and Culture employment inferred	439	202
<i>Sub-Total</i>	<i>1,488</i>	<i>733</i>

Surveyed Employment

The following table provides a breakout of *surveyed* jobs and person years.

	Full - Time	Part - Time	Seasonal	Total
Jobs	441	352	256	1,049
Person Years	441	38	51	531

Inferred Employment

This section of the appendix describes how employment was inferred for non-responding arts and culture related businesses and organizations.

Our approach was to utilise information from responding firms for each type of business and use it, along with publicly available information on individual non-responding firms, to make inferences. This approach is generally deemed to be the best approach, and indeed, is often used for developing the national income and products account (i.e. partial survey with inference for non-surveyed or non-responding firms based on responses of surveys received). Our approach was conservative in that, unlike the national income and products account inference, we assumed that the non-responding firms were smaller than respondents.¹⁸

Inferred employment was based on employment information from firms in each business type that responded to the survey. The mean employment of respondents in each business type was calculated, excluding outliers, and then adjusted downwards. For example, especially large firms were excluded from the "mean without outliers" and then this was reduced by at least 30% to obtain conservative results. This "adjusted mean" employment for each business type was then applied to the non-respondent firms.

¹⁸ As with the national income and products account approach, we recognise and discard outliers in the survey respondents when making inferences for non-respondents.

Appendix F: Tax Revenues Attributable to Arts and Culture related Employers

Introduction

This appendix describes the employment and other assumptions on which tax revenues calculations are based. As well, the approaches used to estimate employer and employee contributions to local, provincial and federal governments are presented. All estimates are for the 2006 calendar year unless otherwise stated.

Some of the taxes pose conceptual questions about how much, or if any, tax revenue from a particular source should be attributed to businesses and organizations serving the arts and culture sector in Richmond. These questions are highlighted and simplifying assumptions are put forth.

Employment in the arts and culture sector in Richmond

The majority of tax calculations in this report depend on direct employment and total wages. The total direct employment (in person years) used for these calculations is 734 person years. The total payroll is estimated at \$33 million.

Personal Income Tax (Federal and Provincial)

Tax base and rates. Under the *Income Tax Act*, federal income tax is paid on taxable income at a rate that increases with taxable income. A federal surtax applies on top of the basic federal tax. The surtax applies to all taxpayers but is charged only on tax above the minimum level.

Provincial income tax was formerly calculated as a percentage of federal tax, but most provincial governments have begun collecting taxes on a sliding scale. British Columbia uses the sliding scale method. **Table A-2** shows the provincial and federal income tax rates for 2006.

Table A - 2: Personal Income Tax Rates For 2006

Federal - Basic Tax			
Income Range:	\$0 to \$36,378	Tax Rate:	15.25%
	\$36,379 to \$72,756		22.00%
	\$72,757 to \$118,285		26.00%
	Over \$118,285		29.00%
British Columbia - Basic Tax			
Income Range:	\$0 to \$33,755	Tax Rate:	6.05%
	\$33,756 to \$67,511		9.15%
	\$67,512 to \$77,511		11.7%
	\$77,512 to \$94,121		13.7%
	Over \$94,121		14.7%

Estimation Method and Results

Because the tax rate is progressive, the tax paid by a group of employees depends on the distribution of income among those employees. Unfortunately, the distribution of income is not known and average incomes must be used. This leads to an underestimate of taxes paid.

Each employee is assumed to pay tax as a single tax filer. **Table A-3** shows the estimated average incomes for employees at businesses and organizations of Richmond's arts and culture sector. Estimated income tax payable is \$3.99 million in federal tax and \$1.42 million in provincial tax.

Table A - 3: Income Tax Revenues

Business Type	Payroll(\$M)	Average Income Tax Rate (%)		Estimated Income Tax (\$m)	
		Federal	Provincial	Federal(\$m)	Provincial (\$m)
1. Art Galleries & Dealers	\$0.21	11.7%	4.3%	\$0.03	\$0.01
2. Arts Instructions & Education	\$1.92	8.3%	3.4%	\$0.16	\$0.07
3. Commercial Arts	\$9.68	14.2%	4.6%	\$1.38	\$0.45
4. Performing Arts	\$2.46	14.2%	4.6%	\$0.35	\$0.11
5. Visual Arts	\$1.24	14.2%	4.6%	\$0.18	\$0.06
6. Literary Arts	\$2.33	11.7%	4.3%	\$0.27	\$0.10
7. Events & Festivals	\$1.74	11.7%	4.3%	\$0.20	\$0.08
8. Cultural Facilities	\$4.17	11.7%	4.3%	\$0.49	\$0.18
9. Service & Material Providers	\$4.37	8.3%	3.4%	\$0.36	\$0.15
10. Societies & Associations	\$4.99	11.7%	4.3%	\$0.58	\$0.22
TOTAL	\$ 33.12			\$3.99	\$1.42

The average tax rates used in **Table A-3** are derived from the more detailed calculations of taxes payable shown in **Table A - 4**. In those calculations, assumptions have been made about income from non-employment sources, tax deductions from income (e.g. RPP and RRSP contributions), and tax credits applied against tax otherwise payable (e.g. CPP, EI and charitable contributions). Average deductions credits are calculated from Canada Customs and Revenue Agency, Income Statistics 2006.

Table A - 4: British Columbia Single Tax Filer Income Tax Calculation - 2006

Income					
Employment	20,000	40,000	60,000	80,000	100,000
Other	2,000	4,000	6,000	8,000	10,000
TOTAL	22,000	44,000	66,000	88,000	110,000
Deductions					
RPP	25	390	999	1,767	1,376
RRSP	338	1,263	2,225	3,756	7,809
Carrying Charges	76	133	211	347	1,073
Union	37	180	375	527	257
TOTAL	475	1,966	3,810	6,397	10,515
Taxable Income	21,525	42,034	62,190	81,603	99,485
Credits					
Basic	8,839	8,839	8,839	8,839	8,839
CPP	437	1,192	826	1,567	1,517
EI	180	465	1,455	594	492
Charity	159	318	531	707	1,424
TOTAL	9,616	10,814	11,650	11,708	12,273
Federal Credits	1,466	1,653	1,842	1,902	2,196
Provincial Credits	551	634	703	722	818
Tax Payable					
Federal - Bracket 1	3,283	5,548	5,548	5,548	5,548
Federal - Bracket 2	0	1,244	5,679	8,003	8,003
Federal - Bracket 3	0	0	0	2,300	6,950
Federal Total	3,283	6,792	11,226	15,851	20,500
Federal Total minus Credits	1,816	5,139	9,384	13,949	18,304
BC - Bracket 1	1,302	2,042	2,042	2,042	2,042
BC - Bracket 2	0	501	1,720	3,089	3,089
BC - Bracket 3	0	0	0	1,170	1,170
BC - Bracket 4	0	0	0	561	2,276
BC - Bracket 5	0	0	0	0	789
BC Total	1,302	2,543	3,762	6,861	9,365
BC Total minus Credits	751	1,909	3,060	6,140	8,547
TOTAL TAX PAYABLE	2,567	7,048	12,444	20,089	26,852
Average Rate of Tax					
	11.7%	16.0%	18.9%	22.8%	24.4%
Federal	8.3%	11.7%	14.2%	15.9%	16.6%
Provincial	3.4%	4.3%	4.6%	7.0%	7.8%

Source: Deductions and credits based on Canada Customs and Revenue Agency Income Statistics 2006, Basic Table 2 – British Columbia, All Returns by Total Include Class.

Corporate Income Tax (Federal and Provincial)

Tax base and rates. All corporations are liable to pay federal income tax under the *Income Tax Act*. The tax rate varies by type and size of company and by province. In addition, a 4% surtax is applied on all corporate income tax payable. Provincial governments also levy a corporation income tax on any company having a permanent establishment in that province. **Table A – 5** shows the 2006 corporate tax rates.

Table A - 5: Federal Corporation Income Tax Rates - 2006

Federal Corporation Tax Rates	
General Business	21%
Small Business	12%
Surtax	4%
British Columbia Provincial Corporation Tax Rates	
General Business	12.0%
Small Business	4.5%

Estimation Method and Results

To calculate tax liability precisely is very difficult. It requires knowledge of the total tax base and the proportion of the tax base attributable to the provinces. Therefore, an approximate method has been used.

1. In B.C., the federal corporate income tax collected per employee was \$1,946 and provincial corporate income tax collected per employee was \$698 in 2006.
2. Assuming all companies pay tax at the average rate per employee calculated above, the 2006 corporation income tax liability of Richmond's arts and culture employment sector is estimated to be \$1.43 million toward federal revenues and \$0.51 million toward provincial revenues. The estimated total corporate income tax revenue is \$1.94 million as shown in **Table A – 6**.¹⁹

Table A - 6: Estimated Corporate Income Tax Paid by the Arts and Culture Sector in Richmond

Government	Revenue (\$ millions)
Federal (Millions)	\$1.43
Provincial (Millions)	\$0.51
<i>Total</i>	<i>\$1.94</i>

Employment Insurance Premiums

Tax base and rates. In 2006, employees in Canada paid employment insurance (EI) premiums equal to 1.87% of earnings up to a maximum of \$729 per year. (Maximum insurable earnings are \$39,000) Employers paid EI premiums equal to 1.4 times employee premiums.

Estimation Method and Results

The employee premium rate is applied to total payroll costs for employees earning less than \$39,000 per year. The maximum contribution was used for employment earning more than \$39,000 per year. Estimated employee payments were \$0.51 million in 2006.

The employer rate is applied to the employee payments. Estimated employer payments were \$0.72 million in 2006.

Canada Pension Plan contributions

Tax base and rates. In 2006, employee contributions for the Canada Pension Plan (CPP) were 4.95% of pensionable earnings. Pensionable earnings are actual earnings less \$3,500, to a maximum of \$38,600. The maximum annual employee contribution is \$1,910.70. The employer contribution is the same as the employee contribution.

Estimation Method and Results

The employee contribution rate is applied to average payroll for employment earning less than \$36,400 a year. The maximum contribution was used for employment earning more than the maximum pensionable earnings.

Estimated employer and employee contributions are \$1.35 million each, for a total of \$1.35 million.

Workers' Compensation Board Contributions

Tax base and rates. Employers in each province are required to make contributions to the Workers' Compensation Board to help offset the cost of on-the-job injuries. Employers are classified into industry groups. The contribution rate for each group is based on the injury costs associated with all companies in that group.²⁰ The group contribution rate varies widely among industries and provinces, with an aggregate average rate of \$1.90 in 2006.²¹

Some major companies are not included in the general "rateable" method of contribution, but simply pay the actual cost of their claims plus an allowance for WCB administration costs. As it is not generally known which firms contribute in this manner, nor the value of their claims, an estimate based on reported payroll has been made for all firms.

Conceptual issues. It is possible that some companies are self-insured and their payments could be viewed as a business expense rather than a tax. However, we have chosen to include their contribution because they are required to be part of this government-mandated program.

Estimation Method and Results

The contribution rates for each employment classification in Richmond's arts and culture sector have been applied to the total payroll for that group, to the maximum assessable wage per employee of \$62,400 for British Columbia. Employees of arts and culture related businesses and organisations in Richmond paid an estimated \$0.17 million to Worker's Compensation in 2006.

²⁰ Subject to Experience Rating Adjustment for individual companies.

²¹ Workers Compensation Board of British Columbia.



Prepared by
InterVISTAS Consulting Inc.

Airport Square - Suite 550
1200 West 73rd Avenue
Vancouver, BC
Canada V6P 6G5

Telephone: (604) 717-1800
Facsimile: (604) 717-1818
www.intervistas.com