Economic Impacts of Yukon Museums and Heritage Institutions

SUBMITTED TO THE:

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Executive Summary

The Yukon Historical and Museums Association recognized the need for a better understanding of the role that heritage institutions play in the Yukon Economy. They secured funding and support from the Yukon Cultural Services, Department of Tourism in the late winter of 2003 and approached Luigi Zanasi Economist to conduct the study. The Study Team was assembled and the relevant data collection commenced immediately and was assembled over a two-month period.

This study estimates the economic impact of 14 heritage institutions in the Yukon as well as the Yukon government's spending on museums:

Binet House
Cultural Services Museum Assistance Program
Faro Interpretative Centre
Keno City Mining Museum
Kluane Museum of Natural History
Old Log Church Museum
Tr'ondëk Hwëch'in Cultural Centre
Yukon Transportation Museum
Beringia Centre
Dawson City Museum
George Johnston Museum
MacBride Museum
Northern Lights Centre
Teslin Tlingit Heritage Centre
Yukon Historical & Museums Association

Summary of key findings:

Costs and Benefits

Although museums have similar types of economic impacts as other types of spending they have additional effects.

- Studies on the costs and benefits of museums done outside the Yukon (in Quebec) have shown that the social benefits of museums are much greater than the social costs. In the Yukon, the benefits might be even higher because of the relatively greater importance of tourism spending. This, in economic theory, usually justifies government subsidies.
- Benefits are measured by people's willingness to pay for them. The excess of benefits over costs means that people are prepared to pay more for museums (either as visitors or taxpayers) than what museums actually cost.

Total Impacts:

The total impact of the heritage institutions on the Yukon's Gross Domestic Product (GDP), exports, and employment are summed up in the table below.

	Total Yukon impact
GDP ($)	$3,360,000
Employment (person-years)	50
Net exports ($)	$752,000

- The GDP impact includes direct spending, indirect impact from Statistics Canada's Input-Output (I-O) model, and the induced impact of ancillary tourist spending.
- Employment impact is direct employment plus indirect employment from Statistics Canada's I-O model.

Direct impacts

Direct impacts represent the amount of money directly injected in the Yukon economy by heritage institutions spending:

- Total direct spending on Yukon heritage institutions was about $3,000,000 in 2002. This amounts to about 0.3% of the total $1.2 billion Yukon economy
- The total direct impact on the Yukon economy was $2,740,000 once imports are subtracted from the total spending.
- $780,000 worth of goods and services was exported from the Yukon by heritage institutions. This includes admission fees and gift shop sales to non-residents as well as grants from outside of the Yukon ($250,000 in 2002).
- Heritage institutions purchases show $310,000 worth of goods and services imported from outside the Yukon.
- The direct net export of good and services was $470,000.

Direct employment

- The Yukon museums and heritage institutions indicated that they directly employed 100 people in 2002, including 21 full-time permanent employees. 79 people were part-time and/or seasonal workers.
- Heritage institutions directly generate about 39 person-years employment.
- Total payroll of the 15 heritage organizations was $1,385,000, about 0.3% of total Yukon wages and salaries.

Indirect impacts

Indirect impacts are "up-stream" effects resulting form the heritage institutions purchasing goods and services from other industries. Yukon heritage institutions and agencies buy most of their goods and services in the Yukon.

- Total purchases of 15 heritage organizations amount to $1,700,000 (excluding wages & salaries).
- 82% (or $1,423,703 worth) of goods and services are purchased in the Yukon. If the payroll is added to that amount, over 90% of heritage institution spending remains in the Yukon.
- 30% of that spending was for specialized Yukon professional and technical labour and expertise, and those dollars stay in the Yukon.

Indirect employment

- With $3 million in spending, this means that about 50 person-years of employment were generated in the Yukon. Given that heritage institutions indicated that they were directly responsible for close to 40 person-years, 10 person-years of employment were created in other industries.
- Yukon museums and heritage institutions also created an additional 8.5 person-years of employment in other provinces and territories.

Induced impacts

Induced impacts include the effects of people spending their wages and salaries and other income. Induced impacts can also include the impact of ancillary tourist spending attributable to heritage institutions, i.e. spending that would not have occurred in the absence of the institution. This is sometimes referred to as an "ancillary impact" to distinguish it from the impact resulting from spending wages and salaries.

- There is $3,000,000 total spending by heritage institution, which potentially means that the total economic impact of the 15 heritage institutions would be about $3.54 million on the Yukon economy. However, little confidence can be placed on this figure since it is based on outdated multipliers (1990) and Statistics Canada no longer supplies more recent figures.

- Yukon heritage institutions induce tourist to stay longer and spend more. Ancillary spending attributed to the heritage community was roughly an additional $330,000, based on the assumption that museums induce visitors to spend one extra hour in the community.

- When total ancillary visitor expenditures are added to the $472,000 in net direct exports, the heritage institutions are responsible for a total of approximately $803,000 in exports.

Revenues

Non government organizations are responsible for securing all of their revenues either by grant writing or by generating it through its operations.

- Museums generated 43% or $900,754 of their revenues in 2002 through admissions, gift shop sales, donations, and sales of other services.
- Museums leveraged 57% or $1,024,354 of their revenues from three levels of government granting programs.

Summary of local community impacts

A summary of the local impacts – as calculated in the local area impact model – are presented in Table 1 below. These include the sum of direct, indirect and induced spending on heritage institutions in their community.

Table 1: Summary of local impact by community

Community	Total expenditures ($)	% of community Gross Domestic Product	Total employment impact (person-years)	% of community employment
Burwash Landing	$63,890	5.7%	2.30	6.4%
Dawson City	$388,693	1.1%	15.26	2.7%
Faro	$26,118	0.4%	1.70	1.5%
Mayo & Keno City	$129,412	1.6%	5.10	4.1%
Teslin	$228,524	3.2%	8.68	10.4%
Watson Lake	$198,732	0.7%	6.41	1.8%
Whitehorse	$1,728,694	0.3%	51.40	0.5%

In percentage terms, the Kluane Natural History Museum in Burwash Landing makes the relatively greatest impact on Gross Domestic Product (GDP) where it contributes 5.7% of local economy. The Kluane Museum's percentage impact on employment is also substantial at 6.4%, but the George Johnston Museum and Teslin Tlingit Heritage Centre combine to account for more than 10% of employment in Teslin. The Faro number is an underestimate because visitor numbers were not available.

Not surprisingly, the lowest percentage impacts by heritage institutions are in Whitehorse, although that community has five institutions. The size of Whitehorse's economy and its large government sector considerably diminishes the relative importance of the impacts.

The community impacts cannot simply be added up to estimate the total Yukon impact of the heritage institutions. Table 1 represents community-level impacts which look only at the spending of the community's own heritage institution(s) within their community. It does not capture any cross-spending between Yukon communities. The largest impact of such cross-spending is felt in Whitehorse, but there is also spending by Whitehorse institutions in other communities, for example for arts and crafts.

Acknowledgements

The economic impact study team wishes to thank and acknowledge the many people and organizations for agreeing to participate in this exercise. The data we required to conduct our analysis in many cases is sensitive business information, which we recognize is not normally available for the asking. Without hesitation and with total openness the entire community was forthcoming with their detailed revenues and expenditures. This sharing attests to the community's confidence in the team, and the goals of the study. We would like to acknowledge Cultural Services Branch, the Department of Tourism and Culture and the Government of Yukon, for providing the resources to conduct this study. The Yukon Historical and Museums Association recognized the need and was instrumental in bringing this study forward; In particular Mr. Brent Slobodin was key to the genesis of the study, and Ms. Marjorie Copp and Mr. Mike Mancini provided assistance and support from the offices of the YHMA. We also want to thank the following people and organizations for their willingness and openness and who gave us their time and patience to insure the success of this project. In no particular order we thank:

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Economic Impact of Museums, Heritage Centres, Interpretation Centres and Heritage Agencies in the Yukon

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Economic Impact of Yukon Museums and Heritage Institutions

1 Introduction

The Yukon Historical and Museums Association and the Cultural Services Branch of the Yukon Department of Tourism and Culture commissioned this study. The goal of the study is to obtain an understanding of the importance of the heritage institution industry to the Yukon economy.

It is intended to be more than a simple standard economic impact of spending. The work includes collection of detailed spending & revenue data for each museum, cultural centre, interpretation centre, YHMA and the Museums Assistance Program and a detailed analysis of that data. The data allows estimating direct and indirect effects of heritage institution spending on Gross Domestic Product (GDP) and employment. As well, this study examines the effect of museum activity on other industries. Economic impacts are examined at the territorial level and for each community that has a heritage institution or institutions.

The "Heritage Institution" industry group comprises establishments primarily engaged in collecting, researching, preserving and exhibiting objects, traditional ways, sites and natural wonders of historical, cultural and educational value. The standard industry definition includes museums, cultural centres, historic sites, science centres, non-commercial art galleries and zoological parks.

For the purposes of the study the Yukon's heritage sector is defined as the fifteen organizations listed below. However, the list of participants is not a complete representation of the Yukon's heritage facilities and organizations. Three smaller institutions; Tage Cho Hudan Interpretive Centre in Carmacks, Big Jonathan House in Pelly Crossing and the Koolseen Centre in Carcross were not included in the study. Broadening the sector to include all organizations normally included in the heritage institution industry group would also include the Yukon Archives, Fort Selkirk, and others.

Binet House
Cultural Services Museum Assistance Program
Campbell Region Interpretive Centre
Keno City Mining Museum
Kluane Museum of Natural History
Old Log Church Museum
Tr'ondëk Hwëch'in Cultural Centre
Yukon Transportation Museum
Beringia Centre
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The heritage institutions of the Yukon represented in this study have broad range of organizational structure and governance; nine are community based not-for-profit societies, two are owned and operated by First Nation governments, two are run as municipal facilities, and one is run by the Yukon Government. The museums have played and continue to play an important role in the preserving and

nurturing the cultural tourism product of the Yukon. Over the past twenty-five years the heritage sector has come of age. It is sophisticated, recognized nationally, staffed with trained professionals, and has well-developed mandates to serve the museological need of their community as well as the visiting traveller.

This study deals with the economics and dollars of the heritage sector, and it may appear that that is all there is, however it should be recognized that these facilities are much more. They are the result of thousands of hours of people giving to their community. Museums, Heritage Centres, Interpretation Centres and the Yukon Historical and Museums Association are about preservation, interpretation, enlightenment, enrichment, inspiration, community pride and they help us celebrate who we are. They are about communities and people striving to improve their community. Economists call these things "intangibles", and their value is very difficult to measure in dollars and cents.

2 Methodology

This study is essentially an Economic Impact Analysis (EIA) of the heritage sector in the Yukon, although one section is devoted to reviewing cost-benefit implications of heritage institutions.

The types of data collected identify and measure the economic impact of "heritage" institutions and allow a review of the impact on other industries, employment, tourism, and on how much these institutions bring into the Yukon from the Outside. In addition we make use of other sources of statistical information, including Yukon Visitor Exit Surveys, and Statistics Canada data where relevant.

As well, the detail of expenditures allows two scales of impact estimation, territory-wide and local impact. The "in community" expenditures are plugged into a local area impact model (LAIM) developed by *Informetrica Limited*. The impact of heritage institutions on each community can then be estimated. This may prove to be very useful tool for participating institutions.

2.1 Data collection

Each institution was notified of the study via a joint letter from YHMA and YTG Cultural Services. The letter was followed by an email or telephone call from the consultants. In order to reduce the burden for organizations, funds were reserved to cover data entry costs or data was entered for the institution by the consultant.

All organizations except for two were able to receive and use the Excel Template (in Appendix I) electronically. Fortunately the data reporting for the two organizations was easily entered on the faxed templates and we received their responses by mail or fax.

The financial data collected represents the last complete fiscal year, normally considered January 1st to December 31st 2002. In the cases where organizations have year-ends on March 31st, or in the case of the YHMA whose fiscal year end is August 31st, financial data for the previous full year (2001) is used.

Data was collected and recorded using a user-friendly Excel spreadsheet template, which allowed participants to record three types of information: Revenues, Human Resources and Expenditures.

Expenditure data was coded by industry using the North American Industry Classification System (NAICS), enabling the study team to relate the data to available statistical information on other industries in the Yukon. This allows estimating the impact of heritage institutions on different industries.

2.2 Cost Benefit Vs Economic Impact analysis

Cost-Benefit Analysis (CBA) and Economic Impact Analysis (EIA) are two very different frameworks used by economists to assess projects or other discrete contributors to an economy. They have very different data requirements and differ fundamentally in their time dimension. EIA looks at annual impacts in a given year or over a certain period while BCA adds up discounted costs and benefits over an extended period.

2.2.1 Economic Impact Analysis (EIA)

Economic Impact Analysis uses tools developed in macroeconomic analysis. EIA evaluates the total effect the injection of funds attributable to an institution or project has on a series of regional or national macroeconomic variables including GDP, employment, labour income, and government finances. An EIA

presupposes the injection of funds into the economy. In the case of heritage institutions, this includes all spending by heritage institutions, including spending funded by territorial, First Nation, federal and municipal governments, entrance fees and grants from other institutions.

Economic impacts are usually classified as direct, indirect, or induced. Direct impacts flowing from a heritage institution in a local economy, for example, would include the jobs created at the institution and the resulting increase in employment income, local GDP and tax receipts. Indirect impacts would be the increased employment and income created by the institution purchasing goods and services from local suppliers. Finally, induced impacts are the increased employment and income created by the spending of the institution's own employees in the community. The scale of indirect and induced impacts is heavily dependent on the size and diversity of the local economy. If more goods and services are available locally, there tends to be less leakage out of the local economy and indirect and induced impacts will be greater.

The calculation of indirect and induced impacts requires the use of multipliers. Total institution payroll, for example, is multiplied by a pre-set figure to arrive at the number of induced jobs created in the local economy through employee spending. The use of multipliers can often be contentious. Custom multipliers can be estimated from knowledge of a local economy and surveys of peoples spending habits, multipliers can be derived from existing models of local economies (e.g. based on business diversity), or Statistics Canada's inter-provincial input-output model can be used.

2.2.2 Cost-Benefit Analysis (CBA)

Cost-Benefit Analysis stems from a microeconomic perspective. It attempts to add up all private and social costs and benefits of an institution and come up with a single dollar measure of net social benefit or a ratio of dollar costs to dollar benefits. The time stream of costs and benefits are discounted using some appropriate "social discount rate" to obtain a present value of costs and benefits. Unlike EIA, private and public expenditures and investments are viewed as costs since they consume societal resources that could have alternative uses. Other costs include on-going operating costs, as well as costs imposed on those who do not benefit from the project ("negative externalities" – e.g. pollution, noise, reduction of property values, etc.). Benefits are usually measured using the concept of consumer surplus or willingness to pay for certain goods and services, including the value of "positive externalities".

In many cases, prices do not exist for benefits (e.g. for improved societal health, improved individual wellbeing etc.) and different methods have been devised to estimate the willingness to pay. The quality and reliability of these methods varies greatly depending on what is to be measured and the quality of the available data. Criticism of CBAs tendency to undervalue (or entirely ignore) either benefits or costs simply because they are not readily quantifiable has led to the increased use of qualitative measures in CBA through what is known as multiple accounts analysis.

While a cost-benefit analysis of Yukon heritage institutions was not conducted because it was beyond the scope of the terms of reference and, in any case, the required data does not exist, we have added a section reviewing a relevant study done on Quebec museums.

3 Review of Costs and Benefits of Museums

While this study is an economic impact analysis, it is useful to view museums in the context of cost-benefit analysis. From an economic impact analysis perspective, museums are no different than any other type of spending. However, EIA does not provide a complete picture. EIA starts with the assumption that any type of spending is good for the economy. So, for example, from an EIA perspective, clean up of environmental disasters generates economic activity and jobs, no different than spending on museums, education or any other project that provides long-term benefits. On the other hand, cost-benefit analysis addresses this problem and compares the benefits to spending. In CBA, spending is viewed as a cost, i.e. using society's resources that could have been used elsewhere. These costs are compared to the benefits.

Cost-benefit analysis is often used to evaluate education, environmental impacts and regulation and transportation infrastructure investments, as well as any number of public or private projects. Cost-benefit analysis helps to determine whether a project is worth doing and whether government money should be used to subsidise it. The basic argument is that government should not spend money on projects or activities unless social benefits exceed social costs.

While there are many economic impact studies on art museums, the only cost-benefit study of heritage museums we have found after considerable research was done in Quebec by Fernand Martin, a well-known economist at the Université de Montréal.[1] The Martin study focuses on methods to estimate benefits, as costs are relatively easily estimated. The study then computes the benefits of two different museums in Quebec: the Musée de la civilisation in Quebec City and a small regional museum, the Colby-Curtis Museum in Stanstead.

Data is not available to undertake a cost-benefit analysis of this type for museums in the Yukon. It would require a fairly major survey to obtain much of the data required. Nevertheless the methods and basic findings of the study are instructive and can be outlined.

3.1 Costs

In cost-benefit analysis, costs are the value of societal resources used by a project or museum. These include not only costs or expenses in the accounting sense, but also the value or opportunity cost of people's non-remunerated time (i.e. volunteers) and additional external costs that a project might impose on others without paying (negative externalities). The standard example of negative externalities is pollution clean-up costs. In the case of museums, negative externalities are very small, if they exist at all.

The costs used by the Martin study are essentially the museums' operating costs. Although it is recognized as a cost [Martin, pp. 54-55], the value of volunteer time given to museums is not included in the analysis. People's time given to museums represents a social cost because, presumably, museum volunteer time could be used for other things: either the volunteers could use their leisure time in other ways, or they could be working and getting more income. In either case, people's time is generally valued at their wage-rate.

Although volunteer time is a social cost, it can be argued that the cost of their time is more than offset by the value of the satisfaction volunteers get from helping their community. Otherwise, museum volunteers would be doing something else. In fact most museums recognize that part of their social responsibility is to provide opportunities for the people to express community contribution, explore their creativity, pursue hobbies and even learn new skills and new knowledge. Resourceful organizations have programming that caters to volunteers and capitalize on their time, skills and resources.

[1] Fernand Martin et Jean Lavoie, *Une méthode d'évaluation économique des musées*, Société des musées québécois, 1992.

The costs of operating museums are borne by museum goers through their entry fees and purchases, by individuals and organizations who make donations for the operation of the museum, and by the general public, through government grants funded by taxes. Note that in-kind donations of artifacts are not considered costs as they represent transfers of assets, so the loss by the donor is offset by the gain by the museum.

3.2 Benefits

In cost-benefit analysis, benefits are estimated on the basis of what people are willing to pay. The Martin study identified and estimated the following benefits of museums:

- Use values
  - Entrance fees
  - Other museum net income
  - Consumer surplus
- Non-use values
  - Option
  - Bequest
  - Existence
- Positive externalities
  - Economic impact resulting from exports
  - Educational value
  - Other externalities e.g. cultural values

Martin's estimates of benefits of museums combines approaches used in transportation infrastructure cost-benefit analysis (for use values), approaches used in environmental impact assessment (for non-use values), and approaches used in economic impact analysis (for some externalities).

Use value is the value of the benefits obtained by those who visit a museum. Presumably, the value of the museum experience is worth at least as much as the entrance fee and what they spend at the museum, otherwise people would not pay it.

However, many people would be prepared to pay more than the posted entrance fee. The difference between what they would be willing to pay and what they actually pay is termed consumer surplus. Martin estimates the consumer surplus using the method normally used in evaluating transportation infrastructure. This is the transportation cost measure, or the value of the time and money spent to travel to the museum. Calculating the consumer surplus requires information on the specific origin of visitors so that transportation costs and times can be calculated.

Non-use values are what individuals are prepared to spend (in taxes or donations) to have a museum, even though they might not actually visit it. Three types of non-use values are generally recognized in the literature, especially in relation to environment protection: option value, bequest value and existence value.

Option value is what people might be willing to pay to have the possibility of visiting museums in the future. It is similar in principle to the option to purchase any asset or to an insurance premium. Bequest value is the desire to leave an inheritance to future generations. Bequest value is particularly relevant in the case of museums. Their role in maintaining heritage and preserving historical artifacts is very important. Finally, people might be willing to pay just to ensure that museums continue to exist, whether they intend to benefit them or not. However, it is difficult to disentangle the three different types of non-

use values. Typically they are calculated together, based on surveys using "contingent valuation" techniques where people are asked how much they are prepared to pay for something such as a museum. Questions in this type of survey are often cast in the form of, "Would you be willing to pay X more in taxes if the extra money went to, e.g., museums?"

Positive externalities include some of the economic impacts, the educational role of museums, and a number of other positive benefits generated by museums such as cultural activities, travelling exhibits, and research. Economic impact in cost-benefit analysis is limited to the impact of exports i.e., visitor spending in the area as opposed to the total spending that standard EIA considers. Depending on the geographic framework of the analysis, it estimates only the economic activity generated by the spending of those living outside the geographic scope of analysis. The spending of museum visitors from the region of interest is already included in the use-values, while other types of spending (e.g. museum programs) are considered a cost, not a benefit.

3.3 Conclusions

The Martin study, after applying a fairly sophisticated cost-benefit analysis on the large Musée de la civilisation and on the small the Colby-Curtis Museum in Stanstead, concluded that both museums' benefits exceeded their costs.

Of particular interest to the Yukon, the Colby-Curtis Museum is a small, volunteer-run museum with about 2,700 visitors a year. This is comparable to a number of the smaller museums in the Yukon. The total benefits of that museum were close to $60,000 (in 1991) compared to $35,000 in costs. The largest portion of the benefits was the non-use values, which were calculated based on surveys of the value of museums to the general public. So, despite few visitations and a small budget, the museum had a fairly large positive benefit compared to its cost.

Note that benefits are estimated using methods that measure people's willingness to pay. The excess of benefits over costs means that people are prepared to pay more for museums (either as visitors or taxpayers) than what museums actually cost.

The same type of analysis in the Yukon would doubtless lead to similar results, especially given that the externalities (i.e. tourism spending) are likely to be relatively more important than in Quebec. However, a full cost-benefit analysis could only be done if the contingent valuation data were available. This would require a separate survey, which is beyond the scope of this study.

In the Yukon experience, museums initially were established to support the fledgling tourism industry, however in the last two decades they have and are evolving a stronger social commitment. More obvious is the role of First Nation Cultural Centres as keepers and instructors of traditional culture. While not-for-profit museums depend heavily on tourist spending for survival, they are increasingly meeting a greater social role. Winter programming, travelling exhibitions, virtual exhibitions, and public lectures were once the domain of the larger institutions, but today they are offered by smaller organizations.

4 Overall Economic Impacts

What is the total impact of heritage organizations on the Yukon's economy? Impacts can be measured in a number of ways looking at different variables. A standard economic impact assessment evaluates the total effect of the injection of funds attributable to an institution on a series of regional or national macroeconomic variables including GDP, employment, labour income, and government finances.

Impacts are classified as direct, indirect, or induced. The direct impacts of a heritage institution on a local economy, for example, include the jobs created at the institution and the resulting increase in employment income, local GDP (including exports and imports) and tax receipts. Indirect impacts are the increased employment and income created by the institution purchasing goods and services from local suppliers.

Finally, induced impacts are the increased employment and income created by the spending of the institution's own employees in the community. A further form of induced impact created by heritage institutions is the additional or ancillary spending by visitors to the community that is attributable to the institution – i.e., spending on goods and services outside of the institution that would not have occurred in the absence of the institution.

4.1 Direct impacts

4.1.1 Total expenditures

The total expenditures of all of the heritage institutions plus the Yukon Government Cultural Services Museums Assistance Program are summed up in Table 2 below. The numbers include all reported spending by institution. All wages and salaries are considered Yukon expenditures.

Table 2: Spending by Yukon heritage institutions

Institution	Yukon expenditures ($)	Outside expenditures ($)	Total expenditures ($)
MacBride Museum	275,801	41,830	317,631
Old Log Church Museum	156,645	11,903	168,548
Transportation Museum	225,022	29,010	254,032
Kluane Museum	65,715	5,130	70,845
Dawson City Museum	298,153	20,896	319,049
George Johnston Museum	33,554	8,302	41,856
Keno City Mining Museum	10,495	2,163	12,658
Beringia Centre	426,836	18,720	445,556
Faro Interpretative Centre	33,668	883	34,551
Tr'ondëk Hwëch'in Cultural Centre	109,274	46,219	155,493
Teslin Tlingit Heritage Centre	275,069	22,005	297,074
Northern Lights Centre	183,535	62,501	246,036
Binet House	43,655	0	43,655
YHMA	231,221	19,575	250,796
YTG Museum Program	370,144	21,182	391,326
Total expenditures	**$2,738,787**	**$310,319**	**$3,049,106**

Note: To avoid double counting, all grants awarded by the Yukon Government Cultural Services Museums Assistance Program to institutions have not been included under YTG Museums spending.

The overall gross direct impact of the 15 organizations, regardless of where the expenditures were made is approximately $3.05 million.

Table 2 also shows total expenditures within the Yukon, a total of $2.74 million. Heritage institutions directly spent approximately $310,000 Outside. These Outside expenditures are imports to the Yukon and so should be subtracted from the gross impact. The *net direct* impact of the 15 heritage institutions on the Yukon's economy is therefore $2.74 million. In other words, the Yukon's GDP is higher by $2.74 million because of direct spending on heritage institutions.[2] This does not take into account the potential multiplier effects of that spending (induced impacts).

4.1.2 Imports & exports

The Yukon's heritage institutions spend approximately $310,300 on imported goods and services as noted above. But they are also exporters of goods and services. The *direct* exports of the Yukon's heritage institutions consist of:

1. the heritage or other services provided to Outside agencies (e.g. federal government departments) for which they receive payment in the form of grants,
2. admission fees charged to tourists, and,
3. gift shop sales to tourists.

The ancillary spending by tourists attributable to heritage institutions is also considered an export and is included in the discussion of induced impacts in 4.3 below. Direct exports by Yukon heritage institutions are shown in Table 3 below.

Table 3: Direct exports by Yukon heritage institutions

Institution	Outside grants ($)	Tourist admission fees ($)	Gift shop sales to tourists ($)	Total direct exports ($)
MacBride Museum	44,841	42,634	44,385	131,860
Old Log Church Museum	59,363	4,195	6,349	69,908
Transportation Museum	7,881	20,392	27,983	56,256
Kluane Museum	-	17,892	31,681	49,573
Dawson City Museum	34,621	51,511	46,551	132,682
George Johnston Museum	-	11,274	2,115	13,389
Keno City Mining Museum	-	3,947	2,031	5,979
Beringia Centre	-	46,893	-	46,893
Faro Interpretative Centre	-	-	-	-
Tr'ondëk Hwëch'in Cultural Centre	34,175	10,438	6,181	50,794
Teslin Tlingit Heritage Centre	45,120	5,177	19,911	70,208
Northern Lights Centre	2,021	96,554	25,693	124,268
Binet House	840	2,297	4,121	7,257
YHMA	20,485	1,102	1,759	23,346
Total	**$249,348**	**$314,306**	**$218,761**	**$782,415**

Note: No firm data exists on the proportion of Yukoners versus tourists in the attendance figures. For this analysis we are assuming that 75% of admission fees in Whitehorse heritage institutions are paid by tourists. In the other communities we are assuming tourists pay 85% of admission fees. As with attendance, no firm data exists on the proportion of gift shop sales that are made to Yukoners versus tourists. We are assuming that 90% of sales are to tourists.

[2] This is based on the expenditure approach to GDP which sums personal consumption expenditures, government spending, gross capital formation and net exports. Expenditures on heritage institutions are either consumption (local visitor spending), government expenditure (Grants from governments), or exports (tourist spending). The amount of imports needs to be subtracted from exports to obtain net exports.

Total *direct* exports by the 15 heritage institutions are approximately $782,400. With the institutions importing $310,300's worth of goods and services, their direct net exports total approximately $472,000.

4.2 Indirect impacts

As discussed above, indirect impacts are the increased employment and income created by the institution purchasing goods and services from local suppliers. Table 4 below shows that the 15 Yukon heritage institutions and agencies buy most of their goods and services in the Yukon. Overall, 82% of heritage institution spending on goods and services is in the Yukon.

Table 4: Local versus Outside goods & services

Institution	Yukon goods & services ($)	Outside goods & services ($)	% of purchases that are local
MacBride Museum	124,801	41,829	75%
Old Log Church Museum	51,349	11,903	81%
Transportation Museum	150,254	29,010	84%
Kluane Museum	32,184	5,130	86%
Dawson City Museum	134,009	20,896	87%
George Johnston Museum	21,932	8,303	73%
Keno City Mining Museum	2,759	2,163	56%
Beringia Centre	228,260	18,720	92%
Faro Interpretative Centre	6,752	883	88%
Tr'ondëk Hwëch'in Cultural Centre	109,274	46,219	70%
Teslin Tlingit Heritage Centre	154,264	22,005	88%
Northern Lights Centre	57,745	62,501	48%
Binet House	28,655	-	100%
YHMA	174,472	19,575	90%
YTG Museum Program	146,990	21,182	87%
Totals	**1,423,703**	**310,317**	**82%**

Note: These figures are for purchase of goods and services only, wages and salaries are not included.

4.2.1 Indirect impacts by industry classification

Table 5 below presents how much museums and heritage institutions bought from different industries. Note that the totals are slightly different than previous tables because not all expenditures could accurately be coded by industry. These numbers were obtained through detailed analysis of individual expenditures by the participating institutions.

Professional, Technical and Scientific Services is by far the most important industry supplying services to heritage institutions. This industry includes the professions (lawyers, accountants, architects and engineers) as well as more specialized technical services such as management, scientific and technical consultants (including exhibition designers, historical researchers, museologists) and advertising agencies. Most of the spending went to Yukon businesses ($438,000 of $498,000). It is noteworthy that expenditures in *Professional, Scientific, and Technical Services* industry are essentially for labour and expertise, thereby minimizing leakages out of the Yukon.

Less important, but still considerable, nearly 10% of expenditures were on goods and services supplied by the *Business Operations Support* industry. This industry includes firms engaged in providing office

administration, janitorial and building maintenance, travel agencies, and security services. Again leakages were minimal as most of the money was spent within the Yukon.

Office supply retailers, electric power companies and suppliers of heating oil were next in line. Federal government expenditures were mainly income tax and GST remittances. The "Other industry" category includes about 22 wide-ranging other industries. Expenditures on each of these industries amounted to less than $10,000 each.

Table 5 Heritage Institution Spending by Industry and Location

	Yukon	*Outside*	***Total***	*Percentage of total*
Professional, Scientific, Tech Services	$438,426	$ 60,220	$ 498,646	30.3%
Business Operations Support	138,906	17,610	156,516	9.5%
Office Supplies	108,564	16,083	124,648	7.6%
Utilities	83,103	-	83,103	5.1%
Heating Oil	72,921	2,638	75,559	4.6%
Government Federal	15,148	60,121	75,268	4.6%
Toy And Hobby Wholesalers	47,925	26,807	74,733	4.5%
Home & Auto Supply Store	59,036	945	59,981	3.6%
Government Territorial	54,220	-	54,220	3.3%
Telecommunications	41,801	357	42,158	2.6%
Insurance	35,816	3,151	38,967	2.4%
Electrical Repair & Precision Equip.	9,891	19,287	29,177	1.8%
Newspaper Publishers	27,617	43	27,660	1.7%
Hotel	22,760	2,616	25,376	1.5%
Leather Goods Producers	24,252	621	24,873	1.5%
Banking	23,951	-	23,951	1.5%
Sign & Miscellaneous Manufacturing	9,706	12,000	21,706	1.3%
Education Services	11,276	8,509	19,785	1.2%
Mining	17,076	935	18,011	1.1%
Government Municipal	16,832	-	16,832	1.0%
Food Services Rest/Caterer	14,276	658	14,934	0.9%
Construction	14,064	-	14,064	0.9%
Electrical Appliances	9,523	4,449	13,972	0.8%
Heritage Institutions	711	9,534	10,244	0.6%
Rental/Leasing	8,186	1,966	10,152	0.6%
Other Industries	75,494	19,688	95,182	5.5%
Total	1,381,481	268,238	1,649,719	100.0%

Note: The total Yukon spending is slightly less than total Yukon spending in Table 4 above because some spending could not be categorized.

4.3 Induced impacts

The calculation of induced impacts – those arising from the spending of employees' wages and salaries – was formerly done by using multipliers provided by Statistics Canada in their inter-provincial input-output tables. However, the last published multipliers are for 1990, and Statistics Canada will no longer provide updates. While induced impacts are real, they do tend to be small. There was no multiplier specific to the heritage industry published in 1990. However, the multiplier for the Community, Business, and Personal Service Industry was 1.18. This means that for every $1.00 in spending, the economy would

grow by $1.18. Given $3,050,000 total spending in the heritage sector, this would mean that the induced economic impact would be about $0.6 million.

Museums are unlike other types of spending in that they can also induce additional spending by tourists. Calculations in Section 6 below show that, based on the assumption that heritage institutions increase tourists' length of stay by one hour and that visitor expenditures are proportional to length of stay, visitor expenditures in the Yukon are increased by $331,000 as shown in Table 6.

Table 6: Ancillary visitor expenditure attributed to heritage institutions

Community	*Visitor expenditure ($)*
Burwash Landing	23,852
Dawson City	68,160
Faro	0
Mayo & Keno City	85,636
Teslin	8,680
Watson Lake	34,900
Whitehorse	56,616
Total	$277,844

The amounts shown in Table 6 represent a very prudent estimate of ancillary spending, i.e. apart from admission fees and gift shop sales, attributable to tourists visiting heritage institutions. There is zero visitor expenditure attributed to the Campbell Region Interpretive Centre because there is no data on how many visitors use the Centre. The very high figure attributed to the Mayo & Keno institutions reflects both the assumption that travelling to the area will add more time to a trip than for other institutions and also that the Silver Trail Region has the highest average daily expenditure by tourists. See Section 7.1.2 under Community Level Impacts below for further discussion of how the estimates were arrived at.

When total ancillary visitor expenditures are added to the $472,000 in net direct exports, the heritage institutions are responsible for a total of approximately $750,000 in net exports of goods and services.

4.4 Summary of Impacts

The following table summarizes the total impact of the heritage institutions on the Yukon's Gross Domestic Product (GDP).

Table 7 Summary of Impacts on GDP of Heritage Institution Spending, Yukon, 2002

	Total Yukon impact
Direct value added (wages & operating surpluses)	$1,400,000
Purchases from other industries	1,650,000
Gross spending	$3,050,000
(Minus direct imports)	(310,000)
Direct & indirect impact on GDP	$2,740,000
Induced impacts (multiplier effect)	600,000
Ancillary tourist spending	280,000
Total GDP impact	$333,310

The GDP impact includes direct spending, indirect impact from Statistics Canada's Input-Output (I-O) model, and the induced impact of ancillary tourist spending.

The following table summarizes the effects of heritage institutions on the Yukon's balance of external payments. Yukon heritage institutions bring in $750,000 more than they spend Outside.

Table 8 Yukon Heritage Institution Impacts on the Balance of Payments

	Total Yukon impact
Admission fees from tourists	$ 314,000
Sales to tourists	219,000
Outside funding	249,000
Direct Exports	$ 782,000
(Minus Imports)	(310,000)
Net direct exports	$ 472,000
Ancillary tourist spending	280,000
Total balance of payments impact (Net exports)	$ 752,000

4.5 Revenues by source

Museums and other heritage institutions in the Yukon get their revenues from: admissions, grants & subsidies from governments, sales from in-house gift shops, sales of memberships, cash donations, the rental of facilities, and other miscellaneous sources. Table 9 shows the sources of revenues for the 13 institutions and YHMA. Note that the direct funding for operating deficits for government-owned and operated facilities (Beringia Centre, Tr'ondëk Hwëch'in Cultural Centre, Teslin Tlingit Heritage Centre, Campbell Interpretive Centre and the Northern Light Centre) are not included in the table. Direct funding by the Territorial, First Nation and municipal governments for their own facilities was over $1 million in addition to the revenues outlined in Table 9.

Grants and subsidies in various forms make up the bulk of revenues for most of the Yukon's heritage institutions. Department of Tourism grants for Operations & Maintenance in 2001 amounted to $177,000, and Capital Grants were $370,983, while other YTG grants were for special projects. Other Yukon grants include Yukon Lotteries Commission project grants and some municipalities provided O&M support as well as capital grants. Outside grants and subsidies consist largely of federal government programs provided through Human Resource & Development Canada (HRDC) and the Department of Canadian Heritage.

Table 9: Sources of Revenues for Yukon heritage institutions

Source	*Amount ($)*	*Per cent*
Admissions	381,754	19.8%
Sales	243,068	12.6%
Memberships	10,149	0.5%
Rentals & Services	84,355	4.4%
Cash Donations	40,755	2.1%
YTG grants	658,793	34.2%
Other Yukon Grants	185,212	9.6%
Outside Grants	249,348	13.0%
Other	140,673	7.3%
Total	1,925,108	100.0%

Admission fees are also fairly important, accounting for about 20 per cent of revenues, as are gift shop sales at close to 13% of revenues. Yukon heritage institutions also obtain revenue through the rental of facilities, cash donations, and a small amount from memberships. “Other” revenue sources include fundraising activities, newsletters, and interest earned.

5 Tourism and the Heritage Industry

The 1999 Visitor Exit Survey (VES) shows that 61% of tourists mention visiting museums, interpretation centres and historic sites as an activity they undertook while in the Yukon. This was the third most important activity after visiting natural attractions and shopping. Adventure travellers are even more likely to visit heritage institutions. About 71% of adventure travellers visit museums, interpretation centres and historic sites.

However, these percentages are not very useful, as it is not clear what the denominator in the percentage calculation is. It could be all tourists or only those who answered the question. If it is only those who chose to respond, the VES results do not give that figure and the percentage is therefore meaningless. If it is all tourists, the survey estimates that there were 232,776 visitors to the Yukon in 1999. Sixty one per cent of 232,000 yields an annual museum and interpretation centre attendance of 141,520. However, the total attendance at the 13 Yukon heritage institutions where attendance is known or estimated is only 108,000 (see Table 10 below). Given that the measured attendance includes attendance by locals as well as by tourists who may visit more than one institution, the number calculated from the VES appears to be too large.

Regardless of the precise percentage, visiting museums and other heritage institutions is an important part of tourists' experience in the Yukon, as it is in most other jurisdictions. With very few exceptions, museums and other heritage institutions are rarely the sole – or even primary – reason for tourists to choose a particular destination for their trip. Instead, heritage institutions form part of the overall attractiveness of a community to tourists. From the perspective of estimate economic impacts, heritage institutions increase tourists' length of stay in a community and induce them to spend more money.

5.1 Attendance & admission revenue

The 2001 attendance figures for the Yukon's heritage institutions and the admissions revenue received are shown in Table 10 below.

Table 10: Attendance & admission revenues: 2001

Institution	2001 Attendance	2001 Admissions ($)
MacBride Museum	15,000	56,845
Old Log Church Museum	2,822	5,594
Transportation Museum	12,517	27,189
Kluane Museum	9,897	21,049
Dawson City Museum	16,919	60,601
George Johnston Museum	5,000	13,264
Keno City Mining Museum	2,000 (est.)	4,645
Beringia Centre	22,554	62,524
Faro Interpretative Centre	-	-
Tr'ondëk Hwëch'in Cultural Centre	2,764	12,280
Teslin Tlingit Heritage Centre	3,000 (est.)	6,091
Northern Lights Centre	12,000 (est.)	113,592
Binet House	1,175 (est.)	2,702
YHMA	1,026	1,470
YTG Museum Program	-	-
Total attendance	**106,674**	**$381,754**

Note: Teslin Tlingit Heritage Centre charges admission by donation. Total donations are given as admissions. TTHC attendance estimate based on assumed average donation of $2.00.
Note: Northern Lights Centre attendance estimate based on assumed $10.00 admission fee for

the lights show admissions and $5.00 per person for movies shown during winter months.
Note: Binet House attendance estimate based on the Keno City Mining Museum ratio of admissions to attendance figures.

No firm data exists on the proportion of Yukoners versus tourists in the attendance figures but some Yukon museums and other heritage institutions have done occasional surveys to estimate how many attendees are local. For the export analysis in Section 4.1.2, the assumption that 75% of admission fees in Whitehorse heritage institutions and 85% of fees in the communities are paid by non-Yukon tourists is used. In the local area impact calculations in Section 7, the assumption made is that 100% of museum attendees are non-local (i.e., they may be either Yukoners from other communities or non-Yukoners).

5.2 Tourist spending and the heritage industry

In estimating the impact of heritage institutions on the Yukon's economy, it is necessary to consider the impact that the heritage industry has on tourism. As noted above, a museum or other heritage institution is rarely a destination for tourists in and of itself. Instead, it can be a part of a mosaic of attractions in a community, or a welcome activity for visitors in town for some other reason, or a reason to stop in a small community en route to somewhere else, or any number of other variations. Direct spending by tourists at heritage institutions is clearly an injection in the Yukon economy. The direct spending includes admission fees, donations and gift shop sales. Table 3 on page 9 above, presents these direct tourist spending numbers for the institutions included in this study.

When estimating what proportion of tourist ancillary spending (i.e., in addition to what is spent in admissions and in a museum gift shop) in a particular community can be legitimately be attributed to a heritage institution, a myriad of factors must be considered. These include the role that the particular institution plays in its community's tourism industry, the community's location, other tourist attractions, etc.

There is little or no data on most of the factors to be considered. It is therefore especially important to be careful in making the assumptions necessary to estimate tourist spending induced by heritage institutions. Two basic assumptions have been made in estimating these ancillary impacts:

1) Tourist length of stay is increased by one hour when they visit a museum or other heritage centre;
2) Tourist spending is proportional to their length of stay (with varying proportions for different types of expenditures).

The estimates done in the Community impact section below are based on these assumptions. Table 6 on page 12 above summarizes the results of the community impact calculations. The following Table 11 summarizes the tourism spending calculations.

Table 11: Impact of Heritage Institutions on Tourist Spending

Type of spending	*Amount*
Admissions (direct)	$ 314,306
Gift Shop Sales (direct)	218,761
Ancillary/induced spending	277,844
Total	$ 810,911

These prudent assumptions may result in apparently disappointing impacts from induced tourist spending. But it is better to estimate legitimate and defensible – though modest – impacts than to bring the results into question through imprudent assumptions and inflated expectations of tourist spending.

6 Labour Market Impacts

6.1 Direct employment

According to the 2001 Census, 130 people were employed in the Heritage institution industry. About 30 of these were self-employed and the rest employees. A little more than half were women.

The Yukon museums and heritage institutions indicated that they employed 100 people in 2003, 21 full-time permanent employees and 79 part-time and/or seasonal workers. Heritage institutions were also asked to report their employment in person-years. The institutions provide about 39 person-years direct employment.

The Census numbers and the figures provided by museums correspond closely (about 100 employees) giving confidence in the magnitude of total direct employment. Heritage industry employment represents about 0.7% of the Yukon labour force. Total annual payroll is about $1.4 million representing 0.2% of total Yukon wages and salaries.

Table 12: Employment & wages

Institution	Employment (person-years)	Wages & salaries ($)
MacBride Museum	5.0	150,250
Old Log Church Museum	1.9	105,296
Transportation Museum	2.5	74,768
Kluane Museum	1.0	33,531
Dawson City Museum	5.8	164,144
George Johnston Museum	1.5	11,622
Keno City Mining Museum	0.5	7,736
Beringia Centre	5.1	198,576
Faro Interpretative Centre	1.5	26,916
Tr'ondëk Hwëch'in Cultural Centre	3.2	71,382
Teslin Tlingit Heritage Centre	3.1	120,805
Northern Lights Centre	3.2	125,790
Binet House	0.5	15,000
YHMA	1.5	56,749
YTG Museum Program	3.0	223,153
Total	**39.2**	**$1,385,719**

6.2 Employment in other industries

Indirect employment is employment in other industries resulting from museum and heritage institution spending. This is calculated using multipliers supplied by Statistics Canada's 1999 Interprovincial Input-Output model. Note that this excludes induced employment, i.e. employment generated as a result of museum employees spending their income.

Statistics Canada's Input-Output model indicates that each $1 million spending on heritage institutions generates 16.7 person-years of direct and indirect employment in the Yukon and a total of 19.5 direct and indirect person-years of employment across Canada. With $3 million in spending, this means that about 50 person-years of employment were generated in the Yukon. Given that heritage institutions indicated

that they were directly responsible for close to 40 person-years, another 10 person-years of employment were created in other industries. Yukon museums and heritage institutions also created an additional 8.5 person-years of employment in other provinces and territories.

From the Local Area Impact Model used to calculate impacts on the various communities, however, total impact on employment – direct, indirect, and induced – is in the range of 94 person-years of employment. Given that the Local Area Impact Model is generic for any community of a given population while the Interprovincial input-output model is specific to the Yukon, the estimate of approximately 50 person-years of employment is likely to be closer to the actual figure.

7 Community Level Impacts

Economic impacts on small communities are notoriously difficult to measure accurately. Small populations mean that shifts in the background level of economic activity or employment within the community can substantially alter the impacts being measured. Many of the Yukon's small communities, for example, can show dramatic increases in employment when a school or similar construction project is underway. In this case the employment impact of a museum would appear to be considerably smaller than it would normally be.

Small communities also tend to suffer from large economic leakages as money that flows into the community flows quickly out again. There are fewer choices for spending and many necessary goods and services (e.g. new vehicles, insurance) are simply not available locally.

7.1 The Local Area Impact Model

Informetrica Limited of Ottawa developed the local area impact model used in this study for the Ontario Arts Council in 1997. It has been used in various forms for different applications since, including analysing the expected impact of an Alaska Highway pipeline on Whitehorse and Haines Junction.

Informetrica Limited has released their model into the public domain, allowing its use for this project.

7.1.1 Data requirements

The data requirements for the local area impact model (LAIM) on this project are as follows:

Income:
- GDP for local area. (Calculated using total personal income from all sources plus self-employment deductions for capital cost allowances if available).

Expenditures:
- Total property taxes collected by the municipality (where applicable).
- Total wages and salaries paid by the museum(s) in the community.
- Other museum(s) spending in the community (not incl. wages and salaries, taxes, insurance costs, depreciation, and amortization).

Employment:
- Weekly local wages and salaries per full time equivalent (FTE) job
- Number of paid hours of employment by the museum(s).
- Including consultant/contract employment

Population and Tourists:
- Number of visitors (attributable to the museum) and their average daily expenditure.
- Local population.

Data used in the LAIM come from the latest available – 1999 – Canada Customs and Revenue Agency data on incomes in each community. More recent income tax data by community is not yet available from the Canada Customs and Revenue Agency and this data is essential for the model to work with a reasonable level of accuracy. Where possible, the 1999 data has been checked against the less detailed data available from the 2001 Census to look for any major changes. Data on earnings from the 2001 Census is used to calculate local average weekly earnings. The detailed tourism data is also the most recent available (from the 1999 Visitor Exit Survey). The data used in the Local Area Impact Model is presented following the economic impact results for each community.

For small Yukon communities, some of the required data is not readily available. Where no data exists estimates are provided with an explanation on how they were arrived at.

7.1.2 Estimating induced tourist expenditures

Estimating how much of visitor spending in a community is attributable to a local heritage institution is difficult. The key is to estimate what induced spending by tourists – whether on food, accommodation, transportation or other – would likely *not* have occurred in the absence of the institution in the community. It is important to be prudent in these estimates to ensure a credible impact assessment.

Note that induced tourist expenditure means spending *in addition* to whatever tourists spend for admission or in the museum gift shop. The impact of the direct spending on admissions or in the museum shop is already captured in the expenditures of the museum or heritage institution itself; i.e. revenues become expenditures.

The 1999 Visitor Exit Survey provides information on the average spending per visitor per day for each area of the Yukon. It also breaks down the spending into a number of categories that are grouped into the following:

- transportation,
- accommodation,
- restaurants,
- shopping, souvenirs & other.

Estimating tourist expenditures begins with the attendance figures for each institution, if available. For some institutions no attendance figures are available and so the amount collected in admissions is used to estimate attendance. For communities with two or more institutions, different approaches are used to estimate tourist attendance and avoid double counting the same visitor who goes to more than one museum. There are no consistent records kept on what proportion of museum visitors are tourists as opposed to locals other than occasional surveys. The assumptions used in each community are specified in the community sections below.

Once the number of tourists visiting an institution has been established, a fraction of the average tourist daily expenditure within each of the spending categories is attributed to the institution. The fraction used varies from community to community. The starting point for choosing the fraction is to assume that the average visit to a museum is a little over one hour. The visit to a museum or heritage institution is therefore assumed to make the tourist stay approximately one hour longer in the community. We also assume that tourist spending for most things is proportional to their length of stay in a community. So by adding about an hour to the length of stay, the presence of a museum is responsible for 1/24, or approximately 5% of tourist expenditures in the community. However, length of stay has different impacts on different kinds of expenditures. For example, transportation expenditures such as fuel are not affected much by length of stay. On the other hand, expenditure on restaurant meals is largely dependent on length of stay.

The reasoning behind the choices made on how much tourist spending in each category to attribute to the heritage institution(s) is laid out in each of the community sections below. However, a general assumption used is that half of museum visitors will have a restaurant meal in the community, i.e. 1/6th or 17% of daily restaurant expenditures. In some instances, however, (e.g. Keno City) travel time to the community forces visitors to spend more on meals.

7.2 Burwash Landing

Burwash Landing is among the smallest of the Yukon's communities. It is, however, heavily used as a lunch stop by tour buses on the way to Alaska. After eating, the tourists have some time to stroll about and to visit the Kluane Natural History Museum. This explains, in part, attendance figures at the museum – 9,897 in 2001 – that are considerably higher than other small museums along the highway.

Unfortunately, the bus tours also present a problem when attempting to estimate how many visitors stopping – and how much of their spending in the community – can be attributed to the museum. Is the existence of the museum simply an added bonus for the bus tour companies and their customers or does it affect the decision on where to stop for lunch? And how many of the museum's visitors are independent travellers who only stop at Burwash (and perhaps have a meal or fuel up there because they are stopped) because they wish to visit the museum?

The 1999 Visitor Exit Survey estimates that the average spending per visitor in the Kluane Region is $40.00 per day, with transportation (e.g. fuel) making up 42%, accommodation 45%, restaurant meals 8%, and shopping, souvenirs etc. 5%.

In the tables below, total visitor expenditure attributable to the Kluane Natural History Museum is assumed to consist of 5% of daily transportation spending, 5% of accommodation spending, 17% of restaurant spending, and 5% of shopping spending by those 9,897 visiting the museum. The transportation spending is based on the assumption that a very small proportion of independent travellers will buy fuel locally because they stopped to visit the museum.

Table 13: Kluane Natural History Museum: impact on Burwash Landing GDP

	Direct & indirect effects ($)	Income multiplier	Direct, indirect, & induced effects ($)
Labour expenditure	33,531	1.04	34,872
Non-labour expenditure	4,050	1.04	4,212
Visitor expenditure	23,852	1.04	24,806
Gross contribution to local GDP			**$63,890**

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The Kluane Natural History Museum contributes approximately 5.7% of Burwash Landing's 1999 GDP of $1,117,000. The museum therefore, is a relatively important part of the community's economy.

Table 14: Kluane Natural History Museum: impact on Burwash Landing employment

	Direct & indirect effects ($)	Local employment coefficient	Direct, indirect, & induced effects (person-years)
Labour expenditure	33,531	0.035	1.18
Non-labour expenditure	4,050	0.040	0.16
Visitor expenditure	23,852	0.040	0.96
Gross employment contribution to local economy (person-years)			**2.3**

The Kluane Natural History Museum's employment impact is approximately 6.4% of the estimated 36 person-years of employment in the community. Again, the employment impacts point to the important role the museum plays in Burwash Landing's local economy.

7.2.1 Burwash Landing data

Local GDP:

- estimated at $1,117,000 through all declared income from 1999 tax year.
- capital cost allowance expenditures for self-employment have not been subtracted (as they should be) due to lack of data.

Employment:

- in the 1999 tax year, 50 people with Burwash addresses declared some employment income.
- in the 2001 Census, 45 locals declared themselves employed.
- we have used the 2001 Census data in the model.
- the data on how many of those employed are in full-time, year-round jobs and their average earnings has been suppressed by the Statistics Canada for confidentiality reasons.
- based on the average of all rural Yukon communities with data, we estimate that 20 of the 45 employed (44%) are in full-time, year-round jobs and 25 are either part-time or seasonal.

Average weekly earnings:

- to calculate the average weekly earnings of the local labour force we have used the average earnings of all rural Yukon communities with data in the 2001 Census.
- the average earnings for a full-time, year-round job in the rural Yukon are $39,002 annually.
- in order to avoid over-estimating impacts, we are assuming that all part-time or seasonal workers earn one half of full-time workers, or $19,501 annually.
- the overall average weekly earnings for Burwash are therefore estimated at $540.

Tourist spending:

- the 1999 Visitor Exit Survey estimates average tourist spending in the Kluane region to be approximately $40 per person per night. This figure is a trimmed average (eliminating both very high and very low spenders from the average).
- 39% of tourist spending is on transportation, 29% on accommodation, 14% on restaurants, and 18% on shopping and other spending.

7.3 Dawson City

The Dawson City Museum and the Tr'ondëk Hwëch'in Cultural Centre are the two heritage institutions of interest in Dawson City for this project. As with other Yukon communities with more than one heritage institution, the local area impacts are calculated for the combined expenditures of the institutions.

The Dawson City Museum has had attendance figures of between 15,000 and 17,000 over the past few years. The Tr'ondëk Hwëch'in Cultural Centre – a new institution – has attracted approximately 2,500 visitors annually in 2001 and 2002. For the purpose of calculating local impacts, it is assumed that a total of 16,000 tourists visit both institutions annually. However, Dawson City presents a particular challenge in deciding what percentage of visitor expenditure is reasonably attributable to these two heritage institutions. Dawson is a destination for visitors most of whom are interested in its history, but the attractions of the town are many faceted.

The 1999 Visitor Exit Survey estimates that the average spending per visitor in the Dawson City Region is $85.00 per day. Transportation (e.g. fuel) made up 31% of daily spending, accommodation 28%, restaurant meals 22%, and shopping, souvenirs etc. 19%.

In the tables below, total visitor expenditure attributable to the two institutions is assumed to consist of 5% of daily transportation spending, 5% of accommodation spending, 5% of restaurant spending, and 5% of shopping spending by the estimated 16,000 tourists visiting the institutions. The 5% figure is used in recognition that, although these two institutions are part of what attracts visitors to Dawson, they are only a small part.

On the other hand, these figures do not paint a complete picture of the impact of the Dawson City Museum's impact on the local economy. Dawson City's tourism industry is almost entirely dependent on the heritage value of the community. The museum played and continues to play an extremely important role in preserving that heritage. It is conceivable that without the museum's early efforts at preserving and publicizing the community's heritage, tourism would now be a much smaller part of Dawson's economy. So the numbers presented in Table 15 below only represent the direct and measurable impacts of the two heritage institutions and do not capture the synergies and long-term cumulative impact of the existence of the museum.

Table 15: Dawson City Museum & Tr'ondëk Hwëch'in Cultural Centre: impact on Dawson City GDP

	Direct & indirect effects ($)	Income multiplier	Direct, indirect, & induced effects ($)
Labour expenditure	235,526	1.04	244,947
Non-labour expenditure	70,057	1.04	72,859
Visitor expenditure	68,160	1.04	70,886
Gross contribution to local GDP			**$388,693**

The two institutions contribute approximately 1.1% of Dawson City's 1999 GDP of $35,095,000.

Table 16: Dawson City Museum & Tr'ondëk Hwëch'in Cultural Centre: impact on Dawson City employment

	Direct & indirect effects ($)	Local employment coefficient	Direct, indirect, & induced effects (person-years)
Labour expenditure	235,526	0.042	9.99
Non-labour expenditure	70,057	0.038	2.67
Visitor expenditure	68,160	0.038	2.60
Gross employment contribution to local economy (person-years)			**15.26**

The two institutions' employment impact is approximately 2.7% of the estimated (from 2001 Census) 557.5 person-years of employment in the community.

Table 17: Dawson City Museum & Tr'ondëk Hwëch'in Cultural Centre: impact on property taxes

Property tax per FTE job	$2,527
Employment impact	15.26
Impact on property taxes	**$38,562**

The two institutions' impact on property taxes is estimated to be approximately 2.7% of the $1,408,584 total collected in 1999.

7.3.1 Dawson City data

Local GDP:

- estimated at $35,095,000 through all declared income from 1999 tax year.
- capital cost allowance expenditures for self-employment have not been subtracted (as they should be) due to lack of data.

Employment:

- in the 1999 tax year, 960 people with Dawson City addresses declared some employment income.
- in the 2001 Census, 775 locals declared themselves employed.
- we have used the 2001 Census data in the model.
- 340 of the 775 employed hold full-time, year-round jobs while 435 are part-time or seasonal.

Average weekly earnings:

- the average earnings for a full-time, year-round job in Dawson is $41,038 annually.
- in order to avoid over-estimating impacts, we are assuming that all part-time or seasonal workers earn one half of full-time workers, or $20,519 annually.
- the overall average weekly earnings for Dawson are therefore estimated at $568.

Tourist spending:

- the 1999 Visitor Exit Survey estimates average tourist spending in the Klondike region to be approximately $85 per person per night. This figure is a trimmed average (eliminating both very high and very low spenders from the average).
- 31% of tourist spending was on transportation, 28% on accommodation, 22% on restaurants, and 19% on shopping and other spending.

Local property taxes:

- in 1999 Dawson City collected $1,408,584 in property taxes and grants in lieu.
- with an estimated 557.5 FTE jobs, $2,527 was collected per FTE.

7.4 Faro

The Campbell Region Interpretive Centre in Faro did not charge admission and did not keep a tally of how many visitors use the facility. It is highly likely that the Centre does play a role in keeping visitors in town at least a little longer than they might ordinarily stay and so increase its economic impact beyond its own expenditures in the community. However, without a starting point for calculating visitor numbers the impact of visitor expenditure is impossible to estimate. Visitor expenditures are therefore set equal to zero in the tables below.

Table 18: Campbell Region Interpretive Centre: impact on Faro GDP

	Direct & indirect effects ($)	Income multiplier	Direct, indirect, & induced effects ($)
Labour expenditure	24,203	1.04	25,171
Non-labour expenditure	911	1.04	947
Visitor expenditure	0	1.04	0
Gross contribution to local GDP			**$26,118**

.

The Interpretive Centre contributes approximately 0.4% of Faro's 1999 GDP of $6,637,000.

Table 19: Campbell Region Interpretive Centre: impact on Faro employment

	Direct & indirect effects ($)	Local employment coefficient	Direct, indirect, & induced effects (person-years)
Labour expenditure	24,203	0.069	1.66
Non-labour expenditure	911	0.042	0.04
Visitor expenditure	0	0	0
Gross employment contribution to local economy (person-years)			**1.70**

The Faro Interpretive Centre's employment impact is approximately 1.5% of the estimated (from 2001 Census) 112.5 person-years of employment in the community.

Table 20: Campbell Region Interpretive Centre: impact on property taxes

Property tax per FTE job	$5,414
Employment impact	1.70
Impact on property taxes	**$9,204**

The Centre's impact on property taxes is estimated to be approximately 1.5% of the $609,000 total collected in 1999.

7.4.1 Faro Data

Local GDP:
- estimated at $6,637,000 through all declared income from 1999 tax year.
- capital cost allowance expenditures for self-employment have not been subtracted (as they should be) due to lack of data.

Employment:
- in the 1999 tax year, 190 people with Faro addresses declared some employment income.
- in the 2001 Census, 160 locals declared themselves employed.
- we have used the 2001 Census data in the model.
- 65 of the 160 employed hold full-time, year-round jobs while 95 are part-time or seasonal.

Average weekly earnings:
- the average earnings for a full-time, year-round job in Faro is $37,971 annually.
- in order to avoid over-estimating impacts, we are assuming that all part-time or seasonal workers earn one half of full-time workers, or $18,986 annually.
- the overall average weekly earnings for Faro are therefore estimated at $513.

Tourist spending:
- the 1999 Visitor Exit Survey estimates average tourist spending in the Campbell region to be approximately $31 per person per night. This figure is a trimmed average (eliminating both very high and very low spenders from the average).
- 59% of spending was on transportation, 12% on accommodation, 19% on restaurants, and 10% on shopping and other spending.

Local property taxes:
- in 1999 Faro collected $609,029 in property taxes and grants in lieu.
- with an estimated 112.5 FTE jobs, $5,414 was collected per FTE.

7.5 Mayo & Keno City

The Silver Trail region has two heritage institutions, the Keno City Mining Museum in Keno and Binet House in Mayo. As with other Yukon communities with more than one heritage institution, the local area impacts are calculated for the combined expenditures of the institutions. Because Keno in so small (20 inhabitants according to the 2001 Census) there is no data available for it as a separate community either in the Census or in the Canada Customs and Revenue Agency data. Therefore Mayo will be used as the proxy for the Mayo/Keno/Elsa area for calculating the economic impacts. In any case, income earned by the 20 residents of Keno City is not likely to make a material difference to the overall economy of the region.

There appear to be no attendance figures for Binet House, but the Keno City Mining Museum has reported attendance in the 3,000 to 3,500 range for a number of years. Counts of visitors based on the guest book at the Keno City Mining Museum indicate that fewer than 2,000 people visit the museum. We estimated attendance at the Binet House to be 1,175 based on the Keno City Mining Museum ratio of admission revenues to attendance figures. For the purpose of calculating local impacts, it is assumed that a total of 2,000 tourists visit both institutions annually in keeping with the prudent assumption principle. This implies that most visitors going to the Binet House also go to the Mining Museum.

The 1999 Visitor Exit Survey estimated that the average spending per visitor in the Silver Trail Region was $106.00 per day, the highest average of any Yukon region. Transportation (e.g. fuel) made up 42% of that, accommodation only 1%, restaurant meals 34%, and shopping, souvenirs etc. a hefty 23%.

The Mayo/Keno area is different from any other in the Yukon in that it is at the end of a dead-end road. Visitors who come to the area are not simply passing through to somewhere else. It is also considered highly likely that the area's two heritage institutions play a significant role in attracting visitors. For these reasons, the Keno Museum and Binet House are attributed a considerably higher proportion of visitor expenditures than other heritage institutions in the Yukon. In the tables below, total visitor expenditure attributable to the two institutions is assumed to consist of 25% of daily transportation spending, 25% of accommodation spending, 33% of restaurant spending, and 95% of shopping spending (because there is almost nowhere else to shop except for the museum gift shops) by the estimated 2,000 tourists visiting the institutions.

Table 21: Keno Museum & Binet House: impact on Mayo GDP

	Direct & indirect effects ($)	Income multiplier	Direct, indirect, & induced effects ($)
Labour expenditure	22,736	1.04	23,645
Non-labour expenditure	16,063	1.04	16,706
Visitor expenditure	85,636	1.04	89,061
Gross contribution to local GDP			**$129,412**

The two institutions contribute approximately 1.6% of Mayo's 1999 GDP of $8,278,000.

Table 22: Keno Museum & Binet House: impact on Mayo employment

	Direct &	Local	Direct, indirect,

	indirect effects ($)	employment coefficient	& induced effects (person-years)
Labour expenditure	22,736	0.049	1.12
Non-labour expenditure	16,063	0.039	0.62
Visitor expenditure	85,636	0.039	3.34
Gross employment contribution to local economy (person-years)			**5.1**

The two institutions' employment impact is approximately 4.1% of the estimated (from 2001 Census) 125 person-years of employment in the community. This substantial impact is largely due to the estimated role played by the institutions in attracting visitors to the region.

Table 23: Keno Museum & Binet House: impact on property taxes

Property tax per FTE job	$1,550
Employment impact	5.1
Impact on property taxes	**$7,905**

The two institutions' impact on property taxes is estimated to be approximately 4.1% of the $193,781 total collected in 1999.

7.5.1 Mayo & Keno City data

Local GDP:

- estimated at $8,278,000 through all declared income from 1999 tax year.
- capital cost allowance expenditures for self-employment have not been subtracted (as they should be) due to lack of data.

Employment:

- in the 1999 tax year, 250 people with Mayo addresses declared some employment income.
- in the 2001 Census, 185 locals declared themselves employed.
- we have used the 2001 Census data in the model.
- 65 of the 185 employed hold full-time, year-round jobs while 120 are part-time or seasonal.

Average weekly earnings:

- the average earnings for a full-time, year-round job in Mayo is $43,284 annually.
- in order to avoid over-estimating impacts, we are assuming that all part-time or seasonal workers earn one half of full-time workers, or $21,642 annually.
- the overall average weekly earnings for Mayo are therefore estimated at $562.

Tourist spending:

- the 1999 Visitor Exit Survey estimates average tourist spending in the Silver Trail region to be approximately $106 per person per night. This figure is a trimmed average (eliminating both very high and very low spenders from the average).

- 42% of tourist spending was on transportation, 1% on accommodation, 34% on restaurants, and 23% on shopping and other spending.

Local property taxes:

- in 1999 Mayo collected $193,781 in property taxes and grants in lieu.
- with an estimated 125 FTE jobs, $1,550 was collected per FTE.

7.6 Teslin

Teslin has two heritage institutions, the George Johnston Museum and the Teslin Tlingit Heritage Centre. As with other Yukon communities with more than one heritage institution, the local area impacts are calculated for the combined expenditures of the institutions.

The Teslin Tlingit Heritage Centre does not keep attendance figures and admission is by donation. Based on approximately $6,000 in donations and the assumption that most people will donate $2.00, the Centre's attendance is estimated to be 3,000. The George Johnston Museum shows admission numbers in the 5,000 range for 7 years up to 2001 and then an abrupt drop to approximately 2,800 in 2002. It is reasonable to infer that one reason for this drop is the opening of both the Teslin Tlingit Heritage Centre and the private Northern Wildlife Gallery in Teslin. It is assumed that some visitors to Teslin will visit only one of the institutions while others will visit both while they are in town. For the purposes of calculating local impacts, it is assumed that 3,500 tourists visit the two institutions annually.

The 1999 Visitor Exit Survey estimates that the average spending per visitor in the Teslin Region is $22.00 per day, the lowest average of any Yukon region. Transportation (e.g. fuel) makes up 61% of that, accommodation 6%, restaurant meals 23%, and shopping, souvenirs etc. 10%.

In the tables below, total visitor expenditure attributable to the two institutions is assumed to consist of 5% of daily transportation spending, 5% of accommodation spending, 17% of restaurant spending, and 40% of shopping spending by the estimated 3,500 tourists visiting the institutions.

Table 24: George Johnston Museum & Teslin Tlingit Heritage Centre: impact on Teslin GDP

	Direct & indirect effects ($)	Income multiplier	Direct, indirect, & induced effects ($)
Labour expenditure	132,427	1.04	137,724
Non-labour expenditure	78,628	1.04	81,773
Visitor expenditure	8,680	1.04	9,027
Gross contribution to local GDP			**$228,524**

The two heritage institutions combine to contribute approximately 3.2% of Teslin's 1999 GDP of $7,254,000.

Table 25: George Johnston Museum & Teslin Tlingit Heritage Centre: impact on Teslin employment

	Direct & indirect effects ($)	Local employment coefficient	Direct, indirect, & induced effects (person-years)
Labour expenditure	132,427	0.039	5.19
Non-labour expenditure	78,628	0.040	3.15
Visitor expenditure	8,680	0.040	0.35
Gross employment contribution to local economy (person-years)			**8.68**

The two institutions' employment impact is approximately 10.4% of the estimated (from 2001 Census) 83 person-years of employment in the community. This is the largest employment impact by heritage institutions on any community in the Yukon. The Teslin Tlingit Heritage Centre provides the bulk of this impact.

Table 26: George Johnston Museum & Teslin Tlingit Heritage Centre: impact on property taxes

Property tax per FTE job	$2,064
Employment impact	8.68
Impact on property taxes	**$17,916**

The two institutions' impact on property taxes is estimated to be approximately 10.4% of the $171,328 total collected in 1999.

7.6.1 Teslin data

Local GDP:
- estimated at $7,254,000 through all declared income from 1999 tax year.
- capital cost allowance expenditures for self-employment have not been subtracted (as they should be) due to lack of data.

Employment:
- in the 1999 tax year, 250 people with Teslin addresses declared some employment income.
- in the 2001 Census, 155 locals declared themselves employed.
- we have used the 2001 Census data in the model.
- the data on how many of those employed are in full-time, year-round jobs and their average earnings has been suppressed by Statistics Canada.
- based on the average of all rural Yukon communities with data, we estimate that 51 of the 115 employed (44%) are in full-time, year-round jobs and 64 are either part-time or seasonal.

Average weekly earnings:
- to calculate the average weekly earnings of the local labour force we have used the average earnings of all rural Yukon communities with data in the 2001 Census.
- the average earnings for a full-time, year-round job in the rural Yukon is $39,002 annually.
- in order to avoid over-estimating impacts, we are assuming that all part-time or seasonal workers earn one half of full-time workers, or $19,501 annually.
- the overall average weekly earnings for Teslin are therefore estimated at $540.

Tourist spending:
- the 1999 Visitor Exit Survey estimates average tourist spending in the Teslin region to be approximately $22 per person per night. This figure is a trimmed average (eliminating both very high and very low spenders from the average).
- 61% of tourist spending was on transportation, 6% on accommodation, 23% on restaurants, and 10% on shopping and other spending.

Local property taxes:
- in 1999 Teslin collected $171,328 in property taxes and grants in lieu.
- with an estimated 83 FTE jobs, $2,064 was collected per FTE.

7.7 Watson Lake

Watson Lake is the hub of the south-east Yukon and acts as a natural stopping point for visitors driving the Alaska Highway. The Northern Lights Centre is a major attraction in the community; it has the highest take from admission fees of any of the Yukon's heritage institutions – almost double the admissions of the Beringia Centre and of the Dawson City Museum.

There are no figures for number of people admitted to the Centre. However, a total of $113,592.36 was collected in admission fees in 2002. Of the total, $105,547.78 was for the summer season shows and only $8,045.36 for movies shown in winter. To estimate the number of tourists who visit the Centre, the total admission fees collected – less the admission fees for movies in the winter – was divided by $10.00. The result was rounded down to an estimate of 10,000 tourists visiting the Centre annually.

The 1999 Visitor Exit Survey estimates that the average spending per visitor in the Watson Lake Region is $57.00 per day, with transportation (e.g. fuel) making up 57%, accommodation 20%, restaurant meals 14%, and shopping, souvenirs etc. 9%.

In the tables below, total visitor expenditure attributable to the Northern Lights Centre is assumed to consist of 5% of accommodation spending, 17% (1/6) of restaurant spending, and 5% of shopping spending by those 10,000 visiting the Centre. It is assumed none of the transportation spending can be attributed to the Centre, as most travellers would stop in Watson Lake for gas anyway. The Centre is assumed to occasionally inspire tourists to stop overnight, and to increase their shopping in the community. The largest effect is assumed to be in restaurant spending, given the likelihood that someone stopping to see the show is more likely to also have a meal in town.

Table 27: Northern Lights Centre: impact on Watson Lake GDP

	Direct & indirect effects ($)	Income multiplier	Direct, indirect, & induced effects ($)
Labour expenditure	125,790	1.04	130,822
Non-labour expenditure	30,798	1.04	31,614
Visitor expenditure	34,900	1.04	36,296
Gross contribution to local GDP			**$198,732**

The Northern Lights Centre contributes approximately 0.7 % of Watson Lake's 1999 GDP of $28,881,000.

Table 28: Northern Lights Centre: impact on Watson Lake employment

	Direct & indirect effects ($)	Local employment coefficient	Direct, indirect, & induced effects (person-years)
Labour expenditure	125,790	0.029	3.64
Non-labour expenditure	30,798	0.042	1.29
Visitor expenditure	34,900	0.042	1.48
Gross employment contribution to local economy (person-years)			**6.41**

The Northern Lights Centre's employment impact is approximately 1.8% of the estimated (from 2001 Census) 360 person-years of employment in the community.

Table 29: Northern Lights Centre: impact on property taxes

Property tax per FTE job	$2,853
Employment impact	6.41
Impact on property taxes	**$18,288**

The Centre's impact on property taxes is estimated to be approximately 1.8% of the $1,026,912 total collected in 1999.

7.7.1 Watson Lake data

Local GDP:

- estimated at $28,881,000 through all declared income from 1999 tax year.
- capital cost allowance expenditures for self-employment have not been subtracted (as they should be) due to lack of data.
- the current GDP may be substantially lower given the apparent steep decline in employment (see below).

Employment:

- in the 1999 tax year, 900 people with Watson Lake addresses declared some employment income.
- in the 2001 Census, only 465 locals declared themselves employed.
- we have used the 2001 Census data in the model.
- 255 of the 465 employed hold full-time, year-round jobs while 210 are part-time or seasonal.

Average weekly earnings:

- the average earnings for a full-time, year-round job in Watson Lake is $34,242 annually.
- in order to avoid over-estimating impacts, we are assuming that all part-time or seasonal workers earn one half of full-time workers, or $17,121 annually.
- the overall average weekly earnings for Watson Lake are therefore estimated at $510.

Tourist spending:

- the 1999 Visitor Exit Survey estimates average tourist spending in the Watson Lake region to be approximately $57 per person per night. This figure is a trimmed average (eliminating both very high and very low spenders from the average).
- 57% of spending was on transportation, 20% on accommodation, 14% on restaurants, and 9% on shopping and other spending.

Local property taxes:

- in 1999 Watson Lake collected $1,026,912 in property taxes and grants in lieu.

with an estimated 360 FTE jobs, $2,853 was collected per FTE.

7.8 Whitehorse

There are five heritage institutions of interest to this study in Whitehorse: MacBride Museum, Old Log Church Museum, Transportation Museum, the Yukon Historical and Museums Association, and the Beringia Centre. As with other Yukon communities with more than one heritage institution, the local area impacts are calculated for the combined expenditures of the institutions. It should be noted that the impacts in this section deal only with spending associated with the five local institutions and not the considerable spending by other Yukon heritage institutions in Whitehorse. Total spending impacts are captured under total Yukon impacts discussed in the Overall Economic Impacts section above.

Attendance at the five institutions varied from just over 1,000 at the YHMA to 22,500 at Beringia in 2001. Total recorded attendance in 2001 for all five was 53,919. For estimating visitor expenditure, it is assumed that 75% of attendees are tourists. It is further assumed that each tourist will visit two institutions on average. These assumptions result in an estimate of 20,200 tourists visiting the five institutions.

The 1999 Visitor Exit Survey estimates that the average spending per visitor in the Whitehorse Region is $56.00 per day. Transportation (e.g. fuel) makes up 25% of daily spending, accommodation 29%, restaurant meals 17%, and shopping, souvenirs etc. 29%.

In the tables below, total visitor expenditure attributable to the five institutions is assumed to consist of 5% of daily transportation spending, 5% of accommodation spending, 5% of restaurant spending, and 5% of shopping spending by the estimated 20,200 tourists visiting the institutions. The 5% figure is used in recognition that, although these five institutions are not a major part of what attracts visitors to Whitehorse. The major reason for stopping in Whitehorse is that it is a convenient stop for highway travellers, offering many facilities and is the point of entry for air travellers, etc. Whitehorse itself is not a major destination or tourist attraction in the way that Dawson City is. Never the less, museums and heritage institutions do result in longer stays by tourists.

Table 30: Five heritage institutions: impact on Whitehorse GDP

	Direct & indirect effects ($)	Income multiplier	Direct, indirect, & induced effects ($)
Labour expenditure	585,637	1.28	749,615
Non-labour expenditure	708,289	1.28	906,610
Visitor expenditure	56,616	1.28	72,468
Gross contribution to local GDP			**$1,728,694**

Note: Because Whitehorse is considerably larger than other Yukon communities, it has a larger income multiplier.

The five heritage institutions contribute approximately 0.3 % of Whitehorse's 1999 GDP of $534,290,000.

Table 31: Five heritage institutions: impact on Whitehorse employment

	Direct & indirect effects ($)	Local employment coefficient	Direct, indirect, & induced effects (person-years)
Labour expenditure	585,637	0.036	22.19
Non-labour expenditure	708,289	0.038	27.02
Visitor expenditure	56,616	0.038	2.16
Gross employment contribution to local economy (person-years)			**51.37**

The five institutions' employment impact is approximately 0.5% of the estimated (from 2001 Census) 9,595 person-years of employment in the community.

Table 32: Five heritage institutions: impact on property taxes

Property tax per FTE job	$1,678
Employment impact	51.8
Impact on property taxes	**$86,920**

The five institutions' impact on property taxes is estimated to be approximately 0.5% of the $16.1m total collected in 1999.

7.8.1 Whitehorse data

Local GDP:

- estimated at $534,290,000 through all declared income from 1999 tax year.
- capital cost allowance expenditures for self-employment have not been subtracted (as they should be) due to lack of data.

Employment:

- in the 1999 tax year, 12,930 people with Whitehorse addresses declared some employment income.
- in the 2001 Census (using the Whitehorse Agglomeration Area), 12,165 declared themselves employed.
- we have used the 2001 Census data in the model.
- 7,025 of the 12,165 employed hold full-time, year-round jobs while 5,140 are part-time or seasonal.

Average weekly earnings:

- the average earnings for a full-time, year-round job in Whitehorse is $46,116 annually (2001 Census).
- in order to avoid over-estimating impacts, we are assuming that all part-time or seasonal workers earn one half of full-time workers, or $23,058 annually.
- the overall average weekly earnings for Whitehorse are therefore estimated at $699.

Tourist spending:

- the 1999 Visitor Exit Survey estimates average tourist spending in the Whitehorse region to be approximately $56 per person per night. This figure is a trimmed average (eliminating both very high and very low spenders from the average).
- 25% of spending was on transportation, 29% on accommodation, 17% on restaurants, and 29% on shopping and other spending.

Local property taxes:

- in 1999 Whitehorse collected $16,104,879 in property taxes and grants in lieu.
- with an estimated 9,595 FTE jobs, $1,678 was collected per FTE.

7.9 Summary of local impacts

A summary of the local impacts – as calculated in the local area impact model – are presented in Table 33 below.

Table 33: Summary of local impact by community

Community	Total expenditures ($)	% of community GDP	Total employment impact (person-years)	% of community employment
Burwash Landing	$63,890	5.7%	2.30	6.4%
Dawson City	$388,693	1.1%	15.26	2.7%
Faro	$26,118	0.4%	1.70	1.5%
Mayo & Keno City	$129,412	1.6%	5.10	4.1%
Teslin	$228,524	3.2%	8.68	10.4%
Watson Lake	$198,732	0.7%	6.41	1.8%
Whitehorse	$1,728,694	0.3%	51.40	0.5%

In percentage terms, the Kluane Natural History Museum makes the greatest impact on GDP where it contributes 5.7% of local GDP. The Kluane Museum's percentage impact on employment is also substantial at 6.4%, but the George Johnston Museum and Teslin Tlingit Heritage Centre combine to account for more than 10% of employment in Teslin.

Not surprisingly, the lowest percentage impacts by heritage institutions are in Whitehorse, although that community has five institutions. The size of Whitehorse's economy and its large government sector considerably diminishes the relative importance of the heritage institutions.

The community impacts cannot simply be added up to estimate the total Yukon impact of the heritage institutions. The community level impacts look only at the spending of the community's own heritage institution(s) in the community and do not capture any cross-spending between Yukon communities. The largest impact of such cross-spending is felt in Whitehorse, but there is also spending by Whitehorse institutions in other communities for arts and crafts, for example.

Appendix A - Data Templates

Revenues										
Institution	**Admissions**	**Sales**	**Memberships**	**Rentals & Services**	**Cash Donations**	**YTG grants**	**Other Yukon Grants**	**Outside Grants**	**Other**	**Total**
MacBride Museum										$ -
Old Log Church Museum										
Transportation Museum										
Kluane Museum										
Dawson City Museum										
George Johnston Museum										
Keno City Mining Museum										
Beringia Centre										
Faro Interpretative Centre										
Tr'ondëk Hwëch'in Cultural Centre										
Teslin Tlingit Heritage Centre										
Northern Lights Centre										
Binet House										
YHMA										
YTG Museum Program Expenditures										
Total	$ -	$ -	$ -		$ -	$ -	$ -	$ -	$ -	$ -

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	Wages & Salaries	Full -time workers	Part-time workers	Total Person-Years	Volunteer Hours
MacBride Museum					
Old Log Church Museum					
Transportation Museum					
Kluane Museum					
Dawson City Museum					
George Johnston Museum					
Keno City Mining Museum					
Beringia Centre					
Faro Interpretative Centre					
Tr'ondëk Hwëch'in Cultural Centre					
Teslin Tlingit Heritage Centre					
Northern Lights Centre					
Binet House					
YHMA					
YTG Museum Program Expenditures					
Total	$ -				