

## 7.14 Socio-Economic Conditions

This section provides a description of baseline socio-economic conditions in the project and assesses project and cumulative socio-economic effects on the Yukon and communities most affected by the project.

### 7.14.1 Scope of Assessment

This section presents baseline social and economic profiles for the four communities most likely affected by Yukon Zinc's proposed Wolverine project. The structure of this section follows the outline suggested in Section 2.4.2 "Social, Economic and Cultural Conditions" of *the Information Guidelines for the Preparation of an Environmental Assessment Report for Yukon Zinc Corporation's Proposed Wolverine Project*, prepared by the Development Assessment Branch and dated 07 March, 2005.

The affected communities include Ross River and Faro, as well as less directly, Watson Lake and Whitehorse, all in the Yukon (Figure 7.14-1). Stewart British Columbia will be affected by the passage of concentrate trucks, but consideration of these effects is outside the scope of this analysis. Nevertheless, the assessment of the effects of concentrate haul on Yukon communities will generally apply to Stewart.

### Figure 7.14-1 Socio-Economic Assessment Communities of Interest (Vol. 2)

#### ***Issues and Selection of Valued Socio-Economic Components***

Typically, the primary socio-economic concerns of local residents deal with improvements to their quality of life through the creation of jobs, long-term employment training and educational opportunities, business opportunities and improved community well being. Residents feel that such improvements must come with negligible loss to the land and resources that have sustained the communities over time.

In discussions with local residents, representatives of YZC have heard numerous comments that have lead to the identification of the following Valued Socio-economic Components (VSCs) used in this assessment:

- Employment Opportunities – although the economy of the Yukon has been improving of late, Yukon residents have expressed the need for stable employment opportunities for Yukon First Nations, youth and residents in general.
- Contract and Business Opportunities – the benefits associated with supplying goods and services to the project are of interest to Yukon residents generally and to local (Ross River) contractors and businesses.
- Community Health - although it is recognized that mining workers will stay at a camp and not burden local facilities, people have expressed the concern that limited facilities may be more stretched as a consequence of pressure from mine workers.
- Traffic Interruption/Safety – Yukon residents have many years experience with the traffic consequences of the Faro concentrate haul to Skagway. They have raised questions about the purposed concentrate haul to Stewart BC.

- Maintenance of the Traditional Way of Life – First Nations have expressed the concern that the project will provide opportunities for members to rely increasingly on the wage economy to the detriment of the maintenance of the traditional way of life.

**Table 7.14-1 Vegetation Valued Ecosystem and Cultural Components (VECCs)**

Vegetation VECC	Rationale for Selection	Linkage to EA Report Guidelines or Other Regulatory Drivers	Baseline Data for EA
Employment Opportunities	<ul style="list-style-type: none"> <li>• Potential for project impacts</li> <li>• Information for project planning to optimize project benefit to local population</li> </ul>	<ul style="list-style-type: none"> <li>• Section 3.3.4.6 (page 30)</li> </ul>	<ul style="list-style-type: none"> <li>• YTG Statistics</li> <li>• Statistics Canada</li> </ul>
Contract and Business Opportunities	<ul style="list-style-type: none"> <li>• Potential for project impacts</li> <li>• Information for project planning to optimize project benefit to local population</li> </ul>	<ul style="list-style-type: none"> <li>• Section 3.3.4.6 (page 30)</li> </ul>	<ul style="list-style-type: none"> <li>• YTG Statistics</li> <li>• Statistics Canada</li> </ul>
Community Health	<ul style="list-style-type: none"> <li>• Potential for project impacts</li> <li>• Information for project planning to minimize impacts on local population</li> </ul>	<ul style="list-style-type: none"> <li>• Section 8.3.4.6 (page 30) Information Guideline Yukon Executive Council</li> </ul>	<ul style="list-style-type: none"> <li>• YTG information</li> </ul>
Traffic Interruption	<ul style="list-style-type: none"> <li>• Potential for project impacts</li> <li>• Identified issue related to other mining projects in Yukon</li> <li>• Information for project planning to minimize impacts on local population</li> </ul>	<ul style="list-style-type: none"> <li>• Section 3.3.4.6 (page 30)</li> </ul>	<ul style="list-style-type: none"> <li>• Company information</li> </ul>
Effects on Traditional Way of Life	<ul style="list-style-type: none"> <li>• Potential for project impacts</li> <li>• Information for project planning to minimize impacts on local population</li> </ul>	<ul style="list-style-type: none"> <li>• Section 3.3.4.6 and 3.3.9 (page 30 and 31)</li> </ul>	<ul style="list-style-type: none"> <li>• SEPA</li> <li>• Traditional knowledge study</li> </ul>

### ***Temporal Boundaries***

The timeframe for the project assessment encompasses the period represented by the characterization of baseline conditions (2005) through project construction, operations and closure.

It is planned that construction will begin in August of 2006, with production of concentrate to commence in October of 2007. The production rate is planned to be 456, 250 tonnes/year (tpa). It is estimated that production will continue at this rate through 2019, with total concentrate shipments planned to be 5.4 million tonnes.

### ***Spatial Boundaries***

The assessment is based on the proposed project activities including supply of labour and materials and the transport of concentrate from the mine to tide water.

The spatial boundary for the assessment of the project economic effects is primarily the Yukon Territory. Links are made to specific economic effects in the communities of interest where possible. The spatial boundary for the socio- community effects is

primarily the areas of direct project effects on community life; that is, the communities of interest and the transportation corridor for concentrate haul.

The cumulative effects assessment looks at other current or anticipated projects in Yukon and Western Canada.

## **7.14.2 Baseline Conditions**

### **7.14.2.1 Methods**

#### ***Data Sources and Limitations***

We have attempted to maximize the use of available data. Economic and social data on small rural communities is sparse. Of particular importance is the Census, which is conducted every five years and contains information on a number of important economic and social indicators. Economic data available includes information on population, education, labour force, employment and unemployment, income, occupational information, and employment by industry. The censuses also have a number of different social indicators including religion, age and sex distribution, education, family composition and housing.

#### ***Census Data***

Starting in 1971, Statistics Canada began publishing community profiles. At first, profiles were only available for communities over 5,000 people, but beginning in 1981 profiles have been done on all communities. However, hardly any economic data is published for communities with fewer than 200 people to protect the confidentiality of Census respondents.

There is another source of population information for Yukon communities. The Yukon Bureau of Statistics keeps track of the number of people with Health Care cards with addresses in each community. Available population data goes back to 1974 for some communities. The Health Care population data differs from the Census. The Census is often considered to be an underestimate, as was shown recently by a revision of population data that resulted in the Yukon government getting \$25 million more in transfers from the federal government because of an undercount in the 1996 Census. However, the Health Care population numbers are acknowledged to be an over count. It can take up to a year before someone moving out of the Yukon is removed from the Health Care roll, while people moving to the Yukon normally register after three months.

Another major difference is that the Census only counts people residing within community or municipal boundaries, while the Yukon Bureau of Statistics counts people who may live in the outskirts outside the boundaries but who have a postal address in the community.

#### ***Income Tax Data***

Another useful source of information is the Canada Customs and Revenue Agency which publishes income tax statistics for every community in Canada. However, for small communities both the Census and the income tax data are not complete to protect people's confidentiality.

### *Data on Business and Tourism*

Data on businesses is even more limited. The only source of information on small Yukon communities is the Yukon Business Survey done periodically by the Yukon Bureau of Statistics. But even then, the available data is limited to protect the unintentional revealing of confidential business data. Historical data is practically non-existent. The Census is again useful in giving the number of people employed in each industry and in different occupational groups.

The various Visitor Exit Surveys (1989, 1994, 1999) conducted by the Yukon Bureau of Statistics and commissioned and published by the Yukon Department of Tourism provide some information on tourism in the Campbell region.

These formal data have been supplemented and complemented with more qualitative information about the communities. Based on a set of community profiles compiled by the Yukon Chamber of Commerce, the qualitative information is intended to provide a more holistic sense of the baseline socio-economic conditions of the study area.

The report presents each qualitative profile, first, and follows with more quantitative data, community by community. Thus the next section provides a community review of Ross River followed by quantitative information on Ross River. Similar packages of information follow for Faro, Watson Lake and finally Whitehorse.

#### **7.14.2.2 Ross River**

##### ***Community Profile***

Ross River is the home of the Ross River Dena Council. Ross River lies 360 km northeast of Whitehorse near the junction of the Robert Campbell Highway and the Canol Road. The area around Ross River is well known for its hunting and fishing resources.



Originally, First Nations people used the site as a seasonal camp and gathering place. In the early 1900s, prospecting and mining increased in the area, and a trading post was established nearby in 1903. In the early 1940s, the American army built the Canol Pipeline, from Norman Wells in the Northwest Territories to Whitehorse, and the accompanying Canol Road opened the Ross River area to overland traffic. Government offices were established in Ross River after the Second World War. In 1962, Ross River was relocated to its current site close to the Robert Campbell Highway, on the Pelly River.

##### ***Population***

In 2003, the population of Ross River was 335. This was the lowest it has been for at least ten years, after rising to 435 in 1997.

Ross River Dena Council and its members, make up just over 80% of the total population of the community. This compares with a 23% representation of First Nations people in the overall Yukon population.

There was relatively little movement into Ross River during the five years from 1996-2001. In 2001, almost 80% of those living in Ross River had lived there for at least the previous five years. Movement from outside of the Yukon into Ross River over this time period, at about 10% of residents, was lower than seen for the Yukon as a whole (16%).

Ross River has proportionately more children and older people living in the community than is the pattern across the Yukon. The youngest age group, those 14 years of age or younger, make up 26% of the population in Ross River. This compares to the 20% average for the Yukon. Just over 8% of the population is over 65 years of age, a little higher than the Yukon-wide proportion of 7%. Young people aged 15-24 years of age make up almost 13% of the Ross River population, just a little lower than the 14% Yukon-wide average. The working age population, those aged between 25 and 64 years, is proportionately far smaller in Ross River than for the Yukon overall. This reflects some movement of adults out of the community in search of employment. About 48% of the people in Ross River are female, a smaller proportion than the 50% female representation in the total Yukon population.

### ***First Nations***

The people of the Ross River Dena Council are known as the Kaska and their language is part of the Athapaskan language family. The Ross River Dena Council is affiliated with the Kaska Tribal Council and has close ties to the Kaska in northern British Columbia and to the Liard First Nation. In 2004, the population of the Ross River Dena Council was 436. About 100 members live outside the community.

Prior to contact with Europeans, the Kaska lived a semi-nomadic lifestyle, following game and harvesting resources from the land and water. The moiety structure of Wolf and Crow was established as their social system, and laws were embedded into the traditional justice and laws of the culture.

Today the Kaska people of the Ross River Dena Council are working toward settlement of their land claims and self-government agreements with the federal and territorial governments.

The Ross River Dena Council and its members have been working towards the healing of their people after the effects of mission schools, the loss of identity, and the upheaval of their culture due to massive change over the last 100 years, much like most of Yukon's First Nations people. The Ross River Dena people revived a unique style of drumming and singing; the Ross River Drummers now travel all over the Yukon to perform. Ross River was and remains an important site for stick gambling. Many First Nations from all areas of the Yukon travel there annually to participate.

### ***Future Prospects and Developments***

Mining continues to hold some long-term potential for economic development in the Ross River/Faro region. Faro lies at the northwest end of a strongly mineralized area that curves southeast towards Watson Lake. It passes through deposits bearing some of the famous names in Yukon base-metal mining. The Finlayson Lake district in southeastern Yukon is seen as having potential, and several companies are carrying out exploration work there. Ross River will likely benefit if current interest is justified. The Liard First Nation's agreement with the Kudze Kayah mine on hiring First Nations people should also have some impact in the Ross River area, if that mine starts up. The Ross River Dena Council owns and operates a general store in the community and has signed agreements

with mining companies related to development. Since there is a great need for long-term jobs in Ross River, the council is looking for other economic development opportunities.

Tourism is also a means of diversifying the local economy and providing employment for local people. While Ross River is off the beaten path of overseas tourists, there are opportunities to develop more tourism based on hunting, fishing, and adventure activities.

There are emerging occupations in Ross River in local administration and community development, which require financial, administrative, and planning skills. Tourism development will emphasize small business operations in fields like outfitting and guiding as well as accommodation and food services.

### ***Community Services***

Education from kindergarten to Grade 10 is available at Ross River School. Students can complete Grade 12 in Watson Lake, Faro, or Whitehorse.

Post-secondary education is provided through the Ross River Community Campus of Yukon College. The college campus offers academic upgrading, youth employment training programs, introduction to trades courses, business and office administration, and traditional cultural skills. A fully-equipped computer lab is connected to the internet and offers distance education opportunities.

Health care is provided through the community health centre, daily from Monday to Friday. A treatment clinic is held in the mornings and community health programs in the afternoons. The health centre also provides 24-hour emergency service.

The Ross River Dena Council offers social services to its members, including counseling, social assistance, adult care, and recreation services. The First Nation also has a Community Education Liaison Coordinator and provides native courtworker services. Health and Social Services provides a resident social worker in Ross River.

The RCMP detachment is three strong, one corporal and two constables, one of whom must be a First Nations person. Justice of the Peace, native courtworkers, and probation officer services are provided locally.

Firefighting service is provided by a volunteer force. There is also a volunteer ambulance crew and a volunteer search-and-rescue group. Other volunteer groups active in Ross River include a Youth Justice Committee, school and campus councils, and an inter-agency resource team.

Mail is trucked in and out of Ross River postal outlet three times a week and banking services are available for three and a half hours a day, four days a week. They are located at the Ross River Dena Council Office.

There is a community library, St. Michael's Roman Catholic church and two retail outlets in Ross River.

A variety of small businesses provide services ranging from construction to accounting to outfitting for hunters. In addition, business services for mining exploration include line-cutting and equipment rental.

### ***Services for Businesses***

Internet access is available at the Community Campus of Yukon College or the public library.

Although all businesses and government agencies have photocopiers and fax machines, there is no public facility for these services.

Year-round accommodation is available at the only hotel in the community. Its services include a restaurant, bar, laundromat, showers, gas and diesel, tire repairs, small equipment rental, and aviation fuel. As well there are bed and breakfast facilities that operate in the summer only.

### ***Cost of Living***

A separate cost of living survey is not available for Ross River. Faro, the nearest community, shows prices that, in general, are about 8% above those in Whitehorse. It is very likely, therefore, that it will cost at least 8% more to purchase goods in Ross River than in Whitehorse.

The 2001 Census reported 130 occupied private dwellings in Ross River. In 2004 the Ross River Dena Council reported that it administered 114 buildings, approximately 101 of which were residential units. For owner-occupied housing, with two to three bedrooms, Census information shows an average value of \$89,000 in Ross River in 2001. That same year, rented accommodation cost an average of \$570 a month.

### ***Living in the Community***

Ross River is rich in Kaska culture and tradition. The community holds an annual Culture Exchange, a week-long celebration that attracts people from across Canada and Alaska.

Ross River is situated in the centre of a vast and beautiful area. For those who love the outdoors, this is the place to visit. Everything is at their back door: snowmobiling, skiing, snowboarding, rock climbing, fishing, hunting, hiking, or enjoying the wildlife. It is a wonderful place to come closer to nature.

Recreational facilities in Ross River include a skating rink, a curling rink and a recreation hall.

There are many historical sites and people in the area who are authorities on local history. Ross River is rich in traditional knowledge, and this knowledge is shared and passed from generation to generation. The community has a long history of both First Nations people and non-First Nations people working collaboratively on projects of mutual interest and benefit.

Life in small communities provides tranquility and privacy that is often impossible to achieve in larger centres. The relaxed atmosphere of the community and people who live here make it a welcoming place.

### ***Community Demographics***

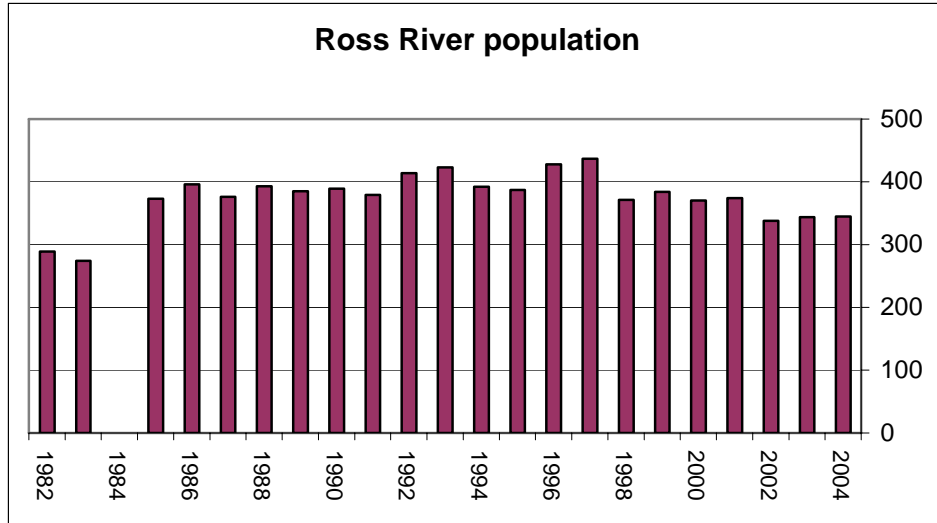
Census Canada has estimated the population of Ross River at 335. More recent data available from the Yukon Bureau of Statistics shows a population of 345 in December of 2004. Figure 7.14-2 below shows the estimated population of Ross River in December of each year from 1982 to 2004 (with the exception of 1984 for which no data is available).

#### ***Population Growth/decline***

Ross River's population appears to have been fairly steady at around 400 people from the mid-1980s to the mid-1990s but has declined somewhat since.

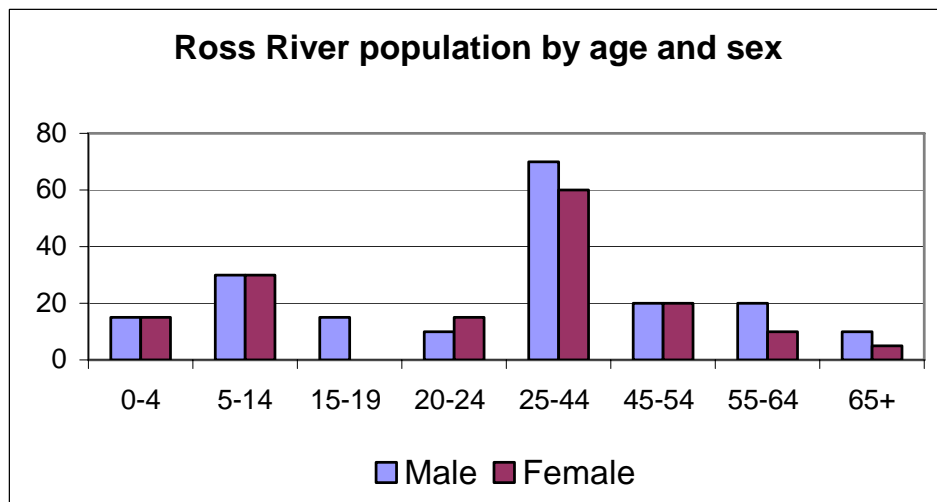
*Age and Sex Distribution*

Figure 7.14-3 below shows the distribution of Ross River’s population by age group and sex as determined in the 2001 Census. There are very few people in their late teens and early 20s — the community is predominantly made up of middle-aged and older adults and some children. Overall there are more men in Ross River than women.



**Source:** Yukon Bureau of Statistics

**Figure 7.14-2 Ross River Population, 1982-2004, Health Care Data**



**Source:** Statistics Canada, 2001 Census

**Figure 7.14-3 Ross River Population by Age and Sex, Census 2001**



*Ethnicity*

Over 80% of the residents of Ross River identified themselves as aboriginal in the 2001 Census (see Table 7.14-2 below). Only 11% identified themselves as being immigrants to Canada. The Census found that approximately 23% of the Yukon's respondents identified themselves as aboriginal and approximately 3% said they were born outside of Canada.

**Table 7.14-2 Aboriginal and Immigrant Population, Ross River, Census 2001**

	<b>No. of people</b>	<b>% of population</b>
Aboriginal	270	81%
Immigrants	10	3%
<b>Total population</b>	<b>335</b>	<b>100%</b>

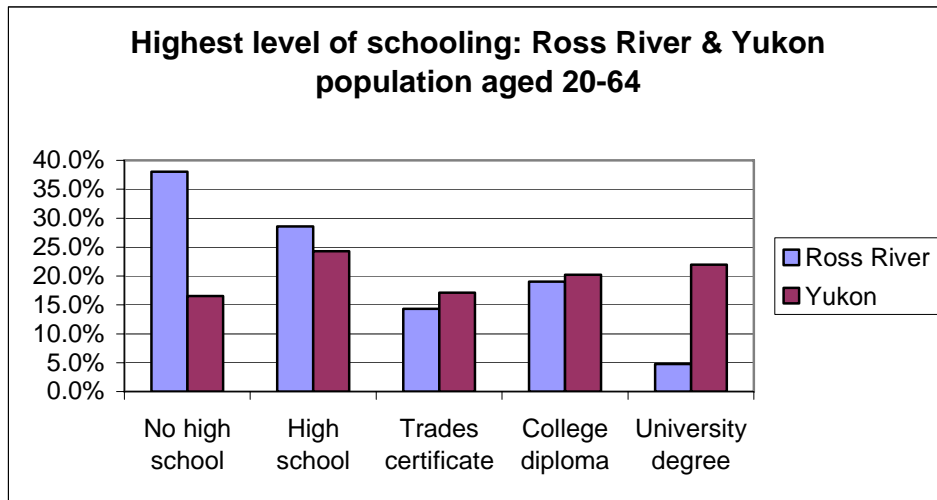
**Source:** Statistics Canada, 2001 Census

*Education*

The 2001 Census showed that almost 45% of Ross River people over 20 years of age had taken some non-university post-secondary or college education or training. A further 11% reported they had some university education, with 6% having completed university degrees. Just over 30% listed secondary school (grades 9 and above) as their highest level of education, and 17% responded that their highest level of education was Grade 9 and under.

The highest level of schooling attained by Ross River residents aged between 20 and 64 years is compared to the Yukon average in Figure 7.14-4 below. Generally, adults in Ross River tend to be less schooled than the average for the Yukon as a whole. More than 38% of Ross River adults have not yet completed high school, compared to the Yukon average of 16.5% adults. And there are proportionally far fewer people with university degrees in Ross River than the Yukon average.

However, about 19% of Ross River adults have a college diploma or certificate, almost identical to the approximately 20% of Yukon adults as a whole.



**Source:** Statistics Canada, 2001 Census

**Figure 7.14-4 Highest Level of Schooling, Ross River and Yukon Population Aged 20-64, Census 2001**

### ***The Economy***

Although the area is rich in minerals, Ross River's economy has not benefited much in terms of mining jobs. With the slump in mining activity in the Yukon over the past several years, mining is not seen as any support for the local economy.

Construction provided 11% of total employment in 2001, reflecting a strong investment picture at the start of the 2000's.

Government services including Yukon territorial departments, federal, municipal, and First Nation administration provide the largest share of employment in Ross River. They employ some 40% of all workers.

Accommodation, food services, recreation and arts all provide jobs in the Ross River community. Some of these jobs are linked to the provision of services for mining exploration, but the major demand for services comes from local people, business visitors and tourism. Wilderness guiding provides some employment. Hunting, in particular, extends the typical summer tourist season into the fall.

Other industry sectors, such as agriculture, logging, finance and other services, involve too few people to show measurable employment.

Some Ross River residents identify trapping as their main area of work. In addition, many people in Ross River practice subsistence economic activities, supplying themselves with much of their food through hunting and fishing.

### ***Work***

Seventy-six percent of Ross River adults are active in the labour market, just below the 81% involvement in the labour market across the Yukon. Unemployment is significantly higher in Ross River than the average for the Yukon. In the 2001 Census, 37% of the

workforce said they were unemployed whereas the Territory-wide unemployment rate was 12%.

In Ross River, young people aged 15-24 are less likely to be working or looking for work than are youth in the Yukon as a whole. About 63% of Ross River youth said they were in the formal labour market. Even when young adults were involved in the labour market in 2001, they had little chance of finding employment. The Ross River youth unemployment rate in 2001 stood at 60%.

People are somewhat less likely to work full-time, full year in Ross River than in the Yukon overall. Almost 32% of work was reported as full-time, full year, compared to 46% Yukon-wide.

Self-employment is somewhat lower than average in Ross River. It accounted for just under 9% of total work activity, compared to 13% across the Yukon.

Average employment income in Ross River as reported in the 2001 Census was almost \$20,000 compared to \$31,500 for the Yukon. For those with full-time, full year work, average earnings were almost \$33,000, still below the \$44,600 earned Yukon-wide. The main fields of work in Ross River are sales and service occupations as well as teaching and social services. Management, business, and administration fields provide a smaller share of employment than they do on average across the Yukon.

Employment in construction and other trades continued to be important work areas for Ross River in 2001 with several construction projects under way. The proportion of the workforce in the primary and processing occupations is lower at this time, however, with the closure of the Faro mine. The amount of mining exploration has also continued to drop drastically into 2004, limiting jobs in these fields.

### *Major Industries*

Government appears to be the main economic base of Ross River. The different levels of government employ 40% of the labour force.

As Table 7.14-4 below shows, mining employment was negligible in 2001. Although the operation of the Faro mine seems to have had an impact on Ross River judging by the population figures presented in Figure 7.14-4 above, direct employment in the mining industry has been small. The various Censuses showed, respectively, 10 people employed in mining in 1981, 15 in 1991 and 10 in 1996.

There are no separate tourism statistics for Ross River. The community is part of the "Campbell" tourist region, which also includes Faro, Carmacks and Pelly Crossing. Visitor statistics for all Yukon tourist regions are shown in Table 7.14-3 below with the affected regions shown in bold. Note that totals do not add up because many tourists visit more than one region.

The Campbell region accounts for only a small portion of tourist visits and spending in the Yukon. Visitor spending in 1999 in the Campbell region accounted for only 2.5% of total visitor spending in the territory.

**Table 7.14-3 Number of Visitors and Tourist Spending, Yukon Tourist Regions, 1994 and 1999 Visitor Exit Surveys**

Tourist Region	Number of visitors		1999 visitor spending
	1994	1999	
<b>Campbell</b>	<b>13,821</b>	<b>30,835</b>	<b>\$1,576,850</b>
Carcross/ Southern Lakes	44,061	52,533	\$3,808,236
Klondike	58,020	78,280	\$13,768,159
Kluane	100,496	92,516	\$6,363,557
North Yukon	4,455	7,336	\$581,124
Silver Trail	7,290	14,022	\$1,803,394
Teslin	46,209	45,730	\$1,767,453
<b>Watson Lake</b>	<b>70,960</b>	<b>63,520</b>	<b>\$4,553,635</b>
<b>Whitehorse</b>	<b>131,273</b>	<b>144,575</b>	<b>\$28,455,634</b>
<b>Total</b>	<b>206,800</b>	<b>232,766</b>	<b>\$62,678,042</b>

**Source:** Yukon Department of Tourism and Culture, *1999 Visitor Exit Survey*, <http://www.tirc.gov.yk.ca/surveys/ves99.html>

*Employment by Industry*

Employment categorized by industry in Ross River is compared to the Yukon as a whole in Table 7.14-4 below. Note that the small numbers in Ross River coupled with Statistics Canada's system of random rounding in order to protect confidentiality makes it possible to draw only the broadest conclusions from the data presented.

It appears that Ross River is even more heavily dependent on employment in public administration — with nearly 40% of employees working in the field — than the Yukon as a whole (approximately 21%). Employment in construction also appears stronger in Ross River than the Yukon average.

**Table 7.14-4 Employment by 1997 North American Industry Classification System, Ross River and the Yukon, Census 2001**

	Ross River		Yukon	
	Number	%	Number	%
Total labour force 15 years and over by industry	190		17,950	
Industry – Not applicable	15	7.9%	280	1.6%
All industries	175	92.1%	17,665	98.4%
Agriculture, forestry, fishing and hunting	10	5.3%	285	1.6%
Mining and oil and gas extraction	0	0.0%	430	2.4%
Utilities	0	0.0%	145	0.8%
Construction	30	15.8%	1,400	7.8%
Manufacturing	0	0.0%	380	2.1%
Wholesale trade	0	0.0%	330	1.8%
Retail trade	10	5.3%	1,940	10.8%
Transportation and warehousing	0	0.0%	770	4.3%
Information and cultural industries	0	0.0%	700	3.9%
Finance and insurance	0	0.0%	365	2.0%

**Table 7.14-4 Employment by 1997 North American Industry Classification System, Ross River and the Yukon, Census 2001 (cont'd)**

	Ross River		Yukon	
	Number	%	Number	%
Real estate and rental and leasing	0	0.0%	195	1.1%
Professional, scientific and technical services	0	0.0%	740	4.1%
Management of companies and enterprises	0	0.0%	10	0.1%
Administrative and support services	10	5.3%	585	3.3%
Educational services	15	7.9%	1,180	6.6%
Healthcare and social assistance	15	7.9%	1,590	8.9%
Arts, entertainment and recreation	0	0.0%	555	3.1%
Accommodation and food services	0	0.0%	1,600	8.9%
Other services (except public administration)	0	0.0%	720	4.0%
Public administration	75	39.5%	3,735	20.8%

**Source:** Statistics Canada, 2001 Census

### *Employment*

Employment, unemployment and labour force Table 7.14-5 below shows labour force statistics for Ross River and the employment, unemployment, and labour force participation rates for the Yukon for comparison.

**Table 7.14-5 Labour Force Statistics, Ross River and the Yukon, Census 2001**

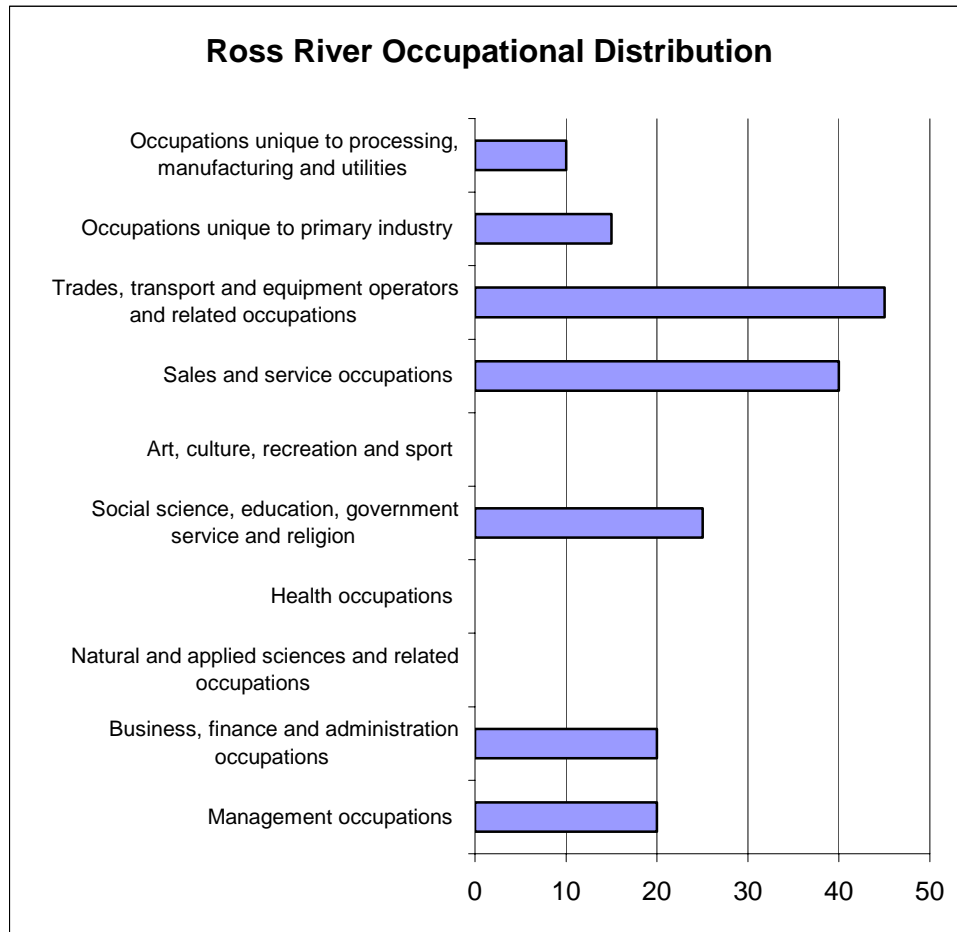
	Ross River	Yukon
Working age population (15 years and over)	250	
In the labour force	190	
Employed	120	
Employment rate	47.1%	70.6%
Unemployed	70	
Unemployment rate	36.8%	11.6%
Not in the labour force	60	
Participation rate	74.5%	79.8%

**Source:** Statistics Canada, 2001 Census

From Table 7.14-5 it is obvious that Ross River suffers from very low levels of employment and correspondingly high levels of unemployment. Ross River has a labour force participation rate that is comparable to the Yukon's however, indicating that it is a lack of jobs rather than a lack of willingness to work that plagues the community.

### *Employment by Occupation*

Figure 7.14-5 below shows what types of occupations are most prevalent in Ross River. The most common jobs are in the trades and in transportation occupational cluster, which includes most construction workers, equipment operators and truck drivers. Sales and service occupations include those working in the retail sector, daycare workers, restaurant and hotel workers and others.



**Source:** Statistics Canada, 2001 Census

**Figure 7.14-5 Occupational Distribution of Employment, Ross River, Census 2001**

*Income*

Average and median incomes are fairly low in Ross River. Average employment earnings in 2000 were just under \$20,000 compared to \$31,500 for the Yukon. The same discrepancy is reflected in median incomes and in household and family incomes.

**Table 7.14-6 Average and Median Incomes, Ross River, 2000**

	<b>Ross River</b>	<b>Yukon</b>
Average earnings (all persons with earnings)	\$19,997	\$31,526
Average earnings (worked full year, full time)	\$32,978	\$44,605
Median total income of persons 15 years +	\$13,600	\$26,488
Median family income	\$25,920	\$63,490
Median household income	\$26,816	\$51,930

**Source:** Statistics Canada, 2001 Census

*Personal Income Distribution*

Table 7.14-7 below compares the distribution of individual incomes in Ross River with the Yukon as a whole over a range of annual incomes.

**Table 7.14-7 Income Distribution by Income Range, Ross River and Yukon, 2000 Tax Year**

Income range	Ross River % of returns	Yukon % of returns
Under \$1,000	9.1%	3.9%
\$1,000 to \$5,000	13.6%	6.7%
\$5,000 to \$10,000	13.6%	9.5%
\$10,000 to \$15,000	13.6%	11.5%
\$15,000 to \$20,000	9.1%	9.1%
\$20,000 to \$25,000	13.6%	7.4%
\$25,000 to \$30,000	9.1%	6.7%
\$30,000 to \$40,000	13.6%	12.0%
\$40,000 to \$50,000	0.0%	10.4%
\$50,000 and up	9.1%	22.9%
Total	100.0%	100.0%

**Source:** Canada Revenue Agency, *Income Statistics*, 2000 Tax year

From Table 7.14-7 it is clear that incomes in Ross River are generally far lower than in the Yukon overall. Fewer than 10% of tax filers in the community reported an income of \$40,000 or more compared to more than 33% in the Yukon. On the other end of the range, 50% of all tax filers in Ross River reported an income of less than \$15,000, compared with only 31% of Yukoners.

*Taxable Income*

Table 7.14-8 below shows the relative importance of different sources of income to individuals in Ross River compared to the Yukon average. Ross River is very close to the rest of the Yukon in the relative importance of most of the income categories. The most obvious exception is investment income, which accounts for a far smaller part of individuals' incomes in Ross River than the Yukon average. On the other hand, income categorized as "Other" by the Canada Customs and Revenue Agency is relatively more important in Ross River than the Yukon as a whole. (Other income includes Employment Insurance (EI), disability income or benefits, training allowances, and child support payments). Tax-exempt income (mostly Social Assistance and Workers' compensation payments) are also somewhat more important in Ross River than the Yukon overall.

**Table 7.14-8 Income Distribution by Source of Income, Ross River and Yukon, 2000 Tax Year, Canada Customs and Revenue data**

Type of income	Ross River % of income	Yukon % of income
Employment	75.3%	77.8%
Pension	6.1%	5.5%
Investment	0.5%	4.8%
Self-employment	4.0%	3.9%

**Table 7.14-8 Income Distribution by Source of Income, Ross River and Yukon, 2000 Tax Year, Canada Customs and Revenue data (cont'd)**

Type of income	Ross River % of income	Yukon % of income
Other	11.0%	5.8%
Tax-exempt	3.1%	2.2%
Total	100.0%	100.0%

**Source:** Canada Revenue Agency, *Income Statistics*, 2000 Tax year

**7.14.2.3 Faro**

**Community Profile**

Faro is located in the Pelly River valley in the Anvil Mountains. The community lies just off the Robert Campbell Highway, 356 km northeast of Whitehorse. The Town of Faro was established in 1969 to service a major lead-zinc deposit 22 km away. The mine was a vital contributor to the territorial economy for many years.



The mine has had a checkered history of operation and ownership. As a result, Faro has had several trying years of declining population and difficult economic times. The mine is in receivership and is being monitored in preparation for reclamation; this employs 30-40 Faro residents from April to September. The community now supports a much smaller but more stable population and is developing as a tourism, arts and retirement community.

**Population**

The population of Faro has fluctuated wildly over the years, depending on the status of the mine. The population averaged 350 in 2003. Local people in Faro suggest the number is considerably higher, estimating the population at 650 in 2004. It is likely that some Faro residents do not live in the community permanently, but maintain an active presence there through part-time residence. This may explain the local sense that the population is larger than that given by the official reading for 2003.

Faro historically was a community of movers but by 2001 the population was more stable, with 75% of the population saying that they had lived in Faro since 1996. Close to 17% had come from outside the Yukon between 1996 and 2001 - only slightly higher than the close to 16% for the Yukon as a whole.

The Census showed an 18% representation of First Nations people in the community, a little lower than the Yukon-wide representation of 23%.

Faro's age distribution shows somewhat fewer young people, a consequence of people moving away when work at the mine ceased. In 2003, 17% of the population in Faro were under the age of 15 and a further 14% were aged 15-24 years. This compares with 20% and 14% Yukon-wide. There is also a slightly smaller proportion of people in the



25-44 age group, with 26% compared to the Yukon average of 31%. More people are found in the 45-64 age group. In Faro, 33% of the population is in this older working age group, compared to 29% Yukon wide. In 2003, those over 65 made up 10% of the Faro population in comparison to 7% for the Yukon.

**Table 7.14-9 Faro Population**

<b>Year</b>	<b>Population</b>
2003	355
2002	380
2001	373
2000	431
1999	577
1998	911
1997	1,226
1996	1,312
1995	823
1994	528
1993	940

### ***First Nations***

There is not resident First Nation community in the town of Faro. Faro is located within the traditional hunting and trapping area of the Kaska Dena people of Ross River, in an area that continues to be a prime moose-hunting spot. The Faro mine operated for several decades with continued involvement by the First Nations people of the region.

The community of Faro has worked together with the Ross River Dena Council on a number of issues, including the planning, building and ongoing maintenance of the Dena Cho Trail and mine site clean up. A contractor in Ross River carried out part of the mine site work, which included removal of scrap and derelict core shacks.

### ***Future Prospects and Developments***

It is clear that the Faro mine remains a very high-cost producer; despite higher commodity prices, plans to re-open the mine are not in the offing. If the mine does re-open, it is very likely that far fewer people will be employed there.

Since 1997, Faro has undertaken a number of initiatives to ensure that it remains vibrant and vital. These include establishment of a full nine-hole golf course, assisting the private sector with promoting housing sales, and resurrecting the annual Farrago Music Festival. In partnership with the community of Ross River, people in Faro planned and initiated the development of the Dena Cho Trail, an 80 km hiking route that links the two communities.

The town also constructed an aircraft fuelling facility that is accessible 24 hours a day. To develop mining tourism in the community, the town refurbished an ore-hauling truck and put it on display in the rest stop near the entrance to the community. The community is currently negotiating to move more mining equipment from the mine site to this location.

Other initiatives include Fannin sheep viewing sites and cabin; new bed and breakfast accommodations; a new hotel and restaurants and a catering service. Additional visitor services include development of The Faro Arboretum, the Fingers wildlife viewing site, a multi-use trail network, and the Campbell Region Interpretive Centre, with permanent exhibits on wildlife, geology, history and mining.

These economic opportunities have been co-promoted with the tourism attractions and facilities along the Robert Campbell Highway. The town is building a boat launch to encourage recreational canoeists paddling down the Pelly River to stop over in Faro. People gather every spring to view Sandhill crane and Fannin sheep.

In part due to these successful initiatives, Faro residents are optimistic about economic opportunities and growth for the community in the future. Ultimately, the size of the population in the next five years will depend on the community's efforts to diversify and expand its economic base and to encourage more people to make Faro their home.

The mainstay of Faro's economy is its core of small businesses that provide services to the community and its visitors. These include a grocery store, hardware store, hotel, restaurants, delicatessen, gas station and convenience/gift store, as well as furnace-service and construction companies. Faro also has two realtors, a crafts supplies provider, a cleaning supplies distributor, and a satellite dish provider, in addition to tourism operators and outfitters. Several artists have also chosen to live in Faro.

Home-based businesses are becoming a more important part of the local economy, and include everything from bed and breakfast operations to a taxidermy shop and a pickle-making operation. While in many cases these businesses are not the operators' sole source of income, they are increasingly significant to the economic vitality of the community.

Ongoing environmental and clean-up work at the mine provides a significant economic contribution to the economy of the community. This work may increase in the future, which would yield additional economic benefits (e.g., jobs).

The Town of Faro is focusing on tourism for possible economic growth. The community's proximity to wildlife viewing and wilderness provides opportunities for jobs and accommodation services related to hiking, canoe trips, cross-country and back-country skiing, snowmobiling, fly-in fishing and hunting.

A growing emphasis on wilderness tourism activities in Faro has led to the development of hiking trails, multi-use trails (such as the Dena Cho Trail), gold-panning activities, canoeing and other potential Pelly River initiatives, fly-in fishing operations, hunting, wildlife viewing (Fannin sheep, bears, birds and salmon) and cross-country skiing. All of these offer the potential for employment and revenue. The town offers good community facilities for visitors, and it encourages and supports new tourist ventures built on emerging adventure and wilderness activities.

Events such as the Farrago Music Festival and the Ice Worm Squirm Winter Carnival have brought economic and social benefits to the community over the past several years. The community considers these types of events valuable marketing events for Faro and continues to support them.

Co-marketing Faro with the Robert Campbell Highway's tourism potential (including its wildlife viewing opportunities) could generate significant economic benefits for Faro. Although much of the marketing material has already been developed, Faro continues to develop products to promote the community and the region.

Faro also serves as the home base for a number of families that have a family member working outside the community. These people chose to keep Faro their home because of their love for the community and the surrounding region. Their incomes contribute to the local economy.

### ***Community Services***

Because Faro established a wide variety of community and recreational facilities when the mine was in operation, there is a high level of services and well-developed community and recreational infrastructure. A good housing stock, along with extensive community services, can help support economic growth.

Education from kindergarten to Grade 12 is available at Del Van Gorder School. Post-secondary education is provided through Yukon College's Faro Campus, which opened in 1988. The Faro Campus offers both full-time and part-time programs, ranging from academic upgrading to computer studies, early childhood development, office management, employment skills and locally developed programs relevant to community economic development.

Health care is provided through the Faro Nursing Station, which is staffed by community nurses who function as nurse practitioners in collaboration with a doctor. The clinic is open Monday to Friday, except on statutory holidays. Emergency care is available 24-hours a day. A doctor based in Faro also provides services to Ross River and Carmacks.

The Yukon government's Department of Health and Social Services provides a full range of counseling services in Faro. There is an RCMP detachment in Faro. Probation services are provided out of Whitehorse. Territorial Agent services are provided from the Yukon Liquor Corporation facilities in Faro. These services include providing information and forms, accepting various applications, and issuing licenses and permits. Canada Post has a full-service postal outlet in Faro. Local dial-up and high-speed Internet access is available in the community.

Faro is served by an agency of the TD Canada Trust bank, located in the Discovery Store. Hours vary. An ATM is available at the store 24-hours a day, seven days a week. A lotteries machine is located inside the store. The Faro Library Board administers the payroll for the public librarian and provides guidance on ordering and purchasing books.

Faro's recreation centre has a gymnasium, seasonal swimming pool, seasonal four-sheet curling rink, squash court, youth lounge and weight room. The town maintains an indoor ice arena that is used for hockey games, figure skating, broomball and other activities during the winter. There are a number of community playgrounds throughout the community. Faro also has a community library.

Faro has a volunteer fire service, volunteer ambulance service and volunteer search-and-rescue service.

The Faro airport has a 4,000-foot (1,231-metre) gravel runway with lights. The airport is staffed seven days a week, provides flight plan filing (through Whitehorse Flight Services), and an aircraft refueling facility that is accessible 24 hours a day and allows for credit card payments. The airport is adjacent to Johnson Lake, which is used as a floatplane base (6000 ft/1846 m).

There are two churches in Faro. The Church of the Apostles holds Catholic and Protestant services and is run by a joint board. The Faro Bible Chapel holds services Sunday at 11 a.m.

Faro's grocery store is open daily with varying hours. The store also rents home videos and provides case-lot orders. There is also a catalogue mail order outlet and an agency of the TD Canada Trust bank.

There is a small hardware store, a gas station that also sells diesel and propane, a local animal shelter, run by a volunteer, that also has boarding and kennel facilities, a local gift, tobacco and convenience store, a restaurant located in the hotel, and a delicatessen and bakery, which provides restaurant services and a fine dining room is open for special occasions and catering.

Realty services are available in the community. Faro also has barber services available.

### ***Services for Business***

Faro houses five bed and breakfast establishments as well as one hotel with a restaurant. Some B&Bs also offer guided tours and hiking and canoeing packages.

Photocopying and faxing can be done at the Yukon College Campus, Town of Faro office, or the grocery store.

Internet and email access are available at the Public Library, the Yukon College Campus and the Campbell Region Interpretive Centre.

There is ample housing, office, and business space at this time.

The Town's municipal office is open for business licenses and information about Faro.

### ***Cost of Living***

Prices in Faro range from almost 22% above comparable prices in Whitehorse to more than 10% below Whitehorse prices. Overall, the cost of living in Faro is just over 8% higher than the Whitehorse cost of living.

The Census reported 110 occupied private dwellings in Faro in 2001; local sources estimate the number at 150. For owner-occupied housing in Faro, generally with three bedrooms, Census information gave an average value of \$40,507 in 2001. Rented accommodation cost an average of \$664 a month in 2001. Because of the decline in population over several years there is also considerable unused housing available in Faro.

### ***Living in the Community***

Faro offers opportunities for both summer and winter recreation. A lot of time has been spent creating hiking trails, an arboretum, and many wildlife/scenic-viewing stations. Fannin Sheep, which are particular to the region, can be studied from these stations.

The Farrago Committee works year-round planning and promoting the Farrago Music Festival. Other festivals hosted by the community include the Sleeping Bag Curling Bonspiel, the Ice Worm Squirm, and the Sandhill crane and Fannin sheep viewing festival

Local leisure activities include slo-pitch softball, squash, swimming in the seasonal pool, cross-country skiing, hockey, figure skating, curling, and a kids' athletics club. Faro also has a recreational nine-hole golf course. Access to gym and weight room is available at the recreation centre as well as the squash courts.

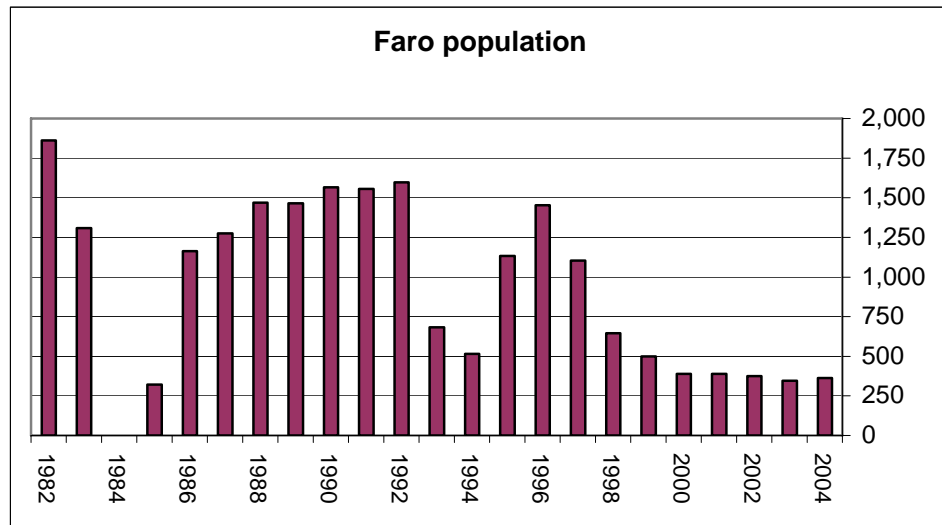
Johnson Lake and Fish Eye Lake provide space for outdoor recreation, including swimming, water-skiing, fishing, and boating. Johnson Lake also supports a float-plane base and canoe-rental facility

### ***Community Demographics***

The 2001 Census estimated the population of Faro at 315. More recent data available from the Yukon Bureau of Statistics shows a population of 363 in December of 2004. Figure 7.14-6 below shows the estimated population of Faro in December of each year from 1982-2004 (with the exception of 1984 for which no data is available).

### ***Population Changes***

The population of Faro has fluctuated wildly as the following figure shows, depending on the fortunes of the Faro lead-zinc mine. In 1982, when the mine was operating, population reached a peak of 1861 inhabitants. The population declined to 322 in 1985 and rose to 1598 in 1992 before mine closure. Population again declined considerably until the mine reopened in 1995, where it went up to 1453 in December 1996. Population steadily declined after that until 2004 when there was a small increase.

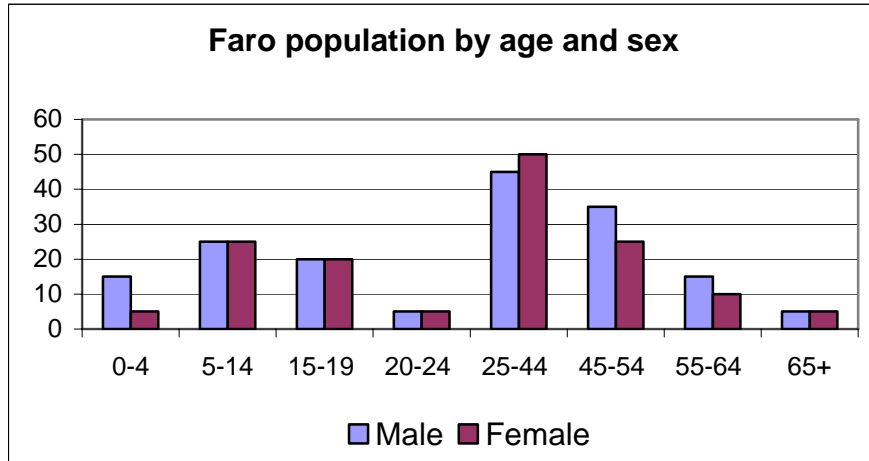


**Source:** Yukon Bureau of Statistics

**Figure 7.14-6 Faro Population, 1982-2004, Health Care Data**

### ***Age and Sex Distribution***

Figure 7.14-7 below shows the distribution of Faro's population by age group and sex as determined in the 2001 Census. As with most of the Yukon's rural communities, there are very few young adults living in Faro. It is very common for young adults to leave their smaller communities to either further their educations or to seek work or other experiences elsewhere. Overall, Faro's population appears to be reasonably balanced between men and women with men being in a slight majority.



**Source:** Statistics Canada, 2001 Census

**Figure 7.14-7 Faro Population by Age and Sex, Census 2001**

*Ethnicity*

As shown in Table 7.14-10 below, 17% of Faro’s inhabitants identified themselves and aboriginal in the 2001 Census. This is a lower proportion but close to the approximately 23% of respondents who identified themselves as aboriginal in the Yukon as a whole in 2001. Immigrants to Canada made up 11% of Faro’s inhabitants, mirroring the Yukon’s 10.6%.

**Table 7.14-10 Aboriginal and Immigrant Population, Faro, Census 2001**

	No. of people	% of population
Aboriginal	55	17%
Immigrants	35	11%
<b>Total population</b>	<b>315</b>	<b>100%</b>

**Source:** Statistics Canada, 2001 Census

*Education*

In 2001, a majority of people living in Faro reported that they either had secondary school education (21%) or had taken some non-university post-secondary or college education or training (almost 50%). A further 14% reported they had some university education; 10% have completed a university degree.

The Community Campus Committee at Yukon College works to support the local college staff and liaises with the Whitehorse campus.

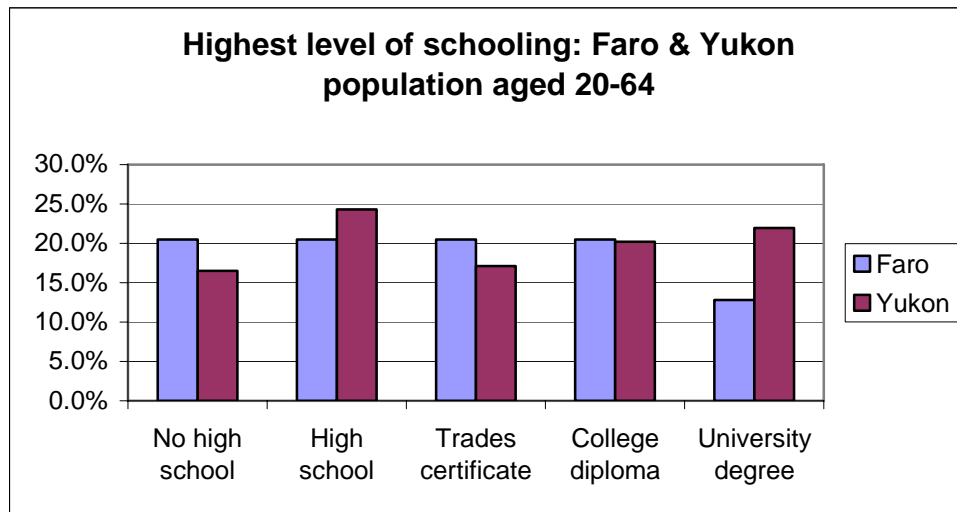
The Faro Training Trust Fund Committee accepts applications and approves funds for student training at the local college and for other individuals.

Enrolment at Del Van Gorder School declined from 242 students in May 1996 to 67 students in May 2002. While this is a significant falling-off, the rate of decline of the

school population has slowed. Over the past two years the school population has declined by only nine students to the current number of 53. Since 1998, the size of the graduating class has been reasonably constant.

The highest level of schooling attained by Faro residents aged between 20 and 64 years is compared to the Yukon average in Figure 7.14-8 below. Faro has a higher proportion of adults who have not completed high school than the Yukon average and the community has proportionally fewer adults with university degrees.

However, over 20% of Faro adults have a trades ticket, higher than the 17% Yukon average and the relative number of adults holding a college diploma or certificate is almost identical to the approximately 20% of Yukon adults as a whole.



**Source:** Statistics Canada, 2001 Census

**Figure 7.14-8 Highest Level of Schooling, Faro & Yukon Population Aged 20-64, Census 2001**

### ***The Economy***

The people of Faro are now focused on practical economic development opportunities to guide the community. Important issues include residential development, community facilities, recreation, the environment, infrastructure and social well being. Although Faro was created as a community to house workers and provide services to the Cyprus Anvil Mine, mining is no longer the base of the community's economy. In 1996, when the Anvil Range mine was still producing, well over 50% of the community's workforce was employed in mining. Other industries provided services to the mine, such as transportation of minerals or delivery of goods.

Faro also has community services, such as education, health, and government services. Still other service sectors, such as retail trade and accommodation and food services, although much smaller now than when the mine was in operation, support some employment. Faro benefits from the considerable infrastructure of housing and facilities that were put in place when the mine was operating.

Faro is in the process of making an economic transition from mining to new opportunities. It is likely that mining will contribute at some level to the economic future of Faro, through reclamation activities and mine clean-up. Mining tourism will also attract visitors to the town. These contributions will need to be complemented by other economic activities to ensure economic vitality.

Government, education, and health care employ a substantial number of people in Faro. Commercial activities provide retail services, accommodation, food, and other services to local people and visitors. Tourism is a small but growing component of economic activity in Faro, and is being actively encouraged to provide more economic support.

### *Work*

Over the past several years Faro has experienced certain characteristics typical of a mining town. People come to Faro for work. When there is no work, many move out. In 1996, when the mine was still operating, labour market participation was very high and unemployment was low. By 2001, with many people moving away, labour market participation of the remaining people had slipped a little, to just below the Yukon pattern. Unemployment had increased to almost 16%, compared with just less than 12% Yukon wide. The local impact of the loss of mining jobs - while significant - was reduced by the fact that many people left Faro when they no longer had work.

By 2003, only 36 people were claiming employment insurance. This number is down from the 200 seen in 1997 and 1998 just after the mine ceased operation.

The 2001 Census reported that young people in Faro (those in the 15-to-24 age group) were less likely to be in the labour force than youth Yukon-wide; and that they were experiencing difficulty in finding work locally. Youth in Faro had an unemployment rate more than double the average community unemployment rate in 2001. Information from the community indicates that the employment situation for young persons in Faro has improved since 2001, with more young people in the labour force and better access to jobs, both seasonal and year-round.

Since the mine closure the proportion of people working on a full-time, full year basis has dropped to 32%, compared to 46% Yukon-wide.

As of 2001 there was far less self-employment in Faro than in other parts of the Yukon: about 8% of Faro's total work activity, compared to the Yukon self-employment rate of 13%.

In 2001, average employment income in Faro was reported as \$23,200 - lower than the average earnings of \$31,500 for all workers in the Yukon as a whole. For those working full-time, full year, average earnings were close to \$38,000, compared to the Yukon wide figure of \$44,600. The 2001 occupational distribution of employment is now far closer to the patterns seen Yukon-wide.

Government - at the federal, territorial and municipal level - is the largest employer in the community. It encompasses the Town of Faro, Del Van Gorder School, the RCMP, nursing station, Social Services office, airport, Yukon Housing, Yukon Energy, Territorial Agent and Canada Post.

People in Faro are found in management, administrative, government, social services occupations in much the same proportion as they are generally in the Yukon. The proportion working in sales, service, arts and recreation are a little lower than the Yukon-wide proportions, and there is still more emphasis on primary industry occupations than



on average in the Yukon. The community of Faro is still in transition and moving away from being solely a mining town.

### *Major Industries*

Faro was created and built in the late 1960s and early 1970s as a mining town to service the Faro mine. Mining has been the mainstay of the town's economy and its fortunes have followed those of the mine. The town went in serious decline after closure of the mine in 1997 and has not yet recovered. It is interesting to note, however, that there are some jobs in the art and culture cluster, Faro has developed a recent reputation as a miniature artists' colony.

There are no separate tourism statistics for Faro. The community, like Ross River is part of the Campbell tourist region, which also includes Carmacks and Pelly Crossing. Visitor statistics for all Yukon tourist regions are shown in Table 7.14-3 above with the affected regions shown in bold.

Given that the entire Campbell region took in just 2.5% of tourist spending in the Yukon in 1999, tourism cannot be counted as a major industry in Faro. The community, however, does have an attractive visitor reception centre and is promoting itself as a wildlife viewing destination as well as a fun place to visit.

### *Employment by Industry*

Table 7.14-11 below lays out Faro's employment by industry. Note that the available data for Faro is not the more detailed classification seen for the other affected communities.

**Table 7.14-11 Employment by Industry, Faro and the Yukon**

	Faro		Yukon	
	Number	%	Number	%
Total – Experienced labour force	190		17,665	
Agriculture and other resource industries	30	15.8%	865	4.9%
Manufacturing and construction industries	15	7.9%	1,780	10.1%
Wholesale and retail trade	25	13.2%	2,275	12.9%
Finance and real estate	10	5.3%	565	3.2%
Health and education	25	13.2%	2,765	15.7%
Business services	15	7.9%	2,800	15.9%
Other services	75	39.5%	6,610	37.4%

**Source:** Statistics Canada, 2001 Census (It should be noted that with the Faro Mine currently closed, there was no mining employment reported in Faro)

The comparison between Faro and the Yukon in Table 7.14-11 shows the community reflecting the territory as a whole quite closely in employment by industry except in the much higher percentage of residents employed in agriculture and other resource industries.

### *Employment*

Employment, unemployment and labour force Table 7.14-12 below shows labour force statistics for Faro and the employment, unemployment, and labour force participation rates for the Yukon for comparison.

**Table 7.14-12 Labour Force Statistics, Faro, Census 2001**

	<b>Faro</b>	<b>Yukon</b>
Working age population (15 years and over)	250	
In the labour force	190	
Employed	160	
Employment rate	64.0%	70.6%
Unemployed	30	
Unemployment rate	15.8%	11.6%
Not in the labour force	60	
Participation rate	76.0%	79.8%

**Source:** Statistics Canada, 2001 Census

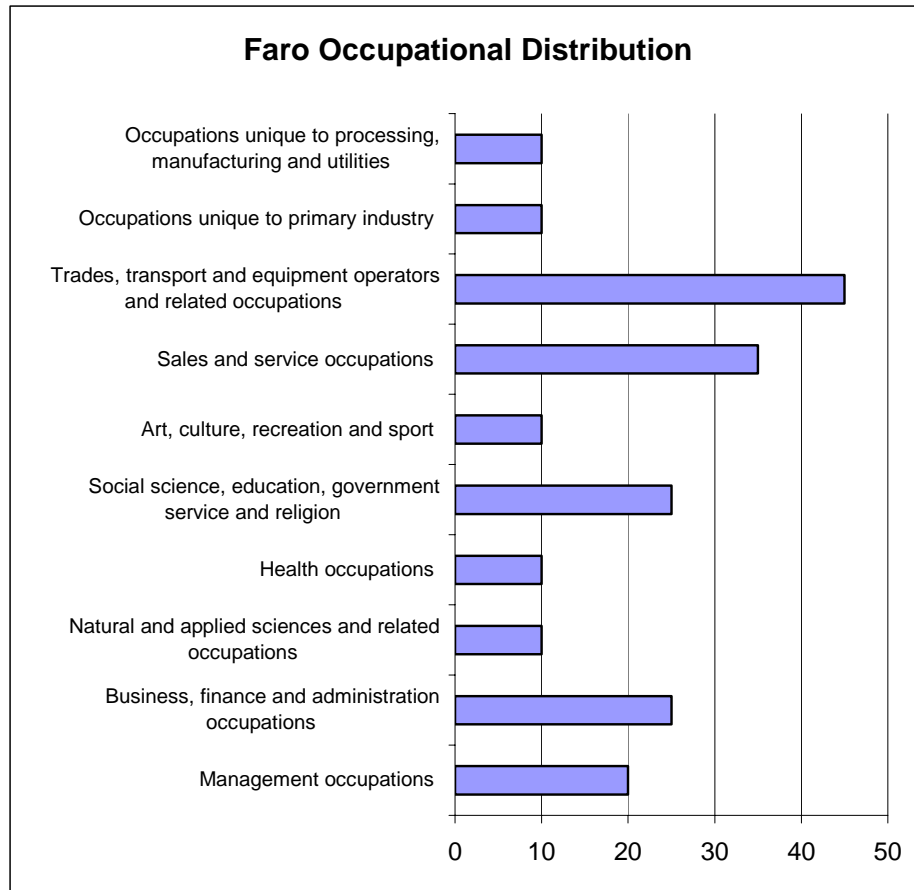
From Table 7.14-12 it appears that Faro — while having a somewhat lower employment rate, a somewhat higher unemployment rate and a somewhat lower labour force participation rate than the Yukon as a whole — is not suffering from an exceptionally poor labour market.

### *Employment by Occupation*

Figure 7.14-9 below shows what types of occupations that are most prevalent in Faro. The most common jobs are those in the trades and transportation occupational cluster, which includes most construction workers, equipment operators and truck drivers. Sales and service occupations include those working in the retail sector, daycare workers, restaurant and hotel workers and others.

### *Income*

While not as low as Ross River, average and median incomes are fairly low in Faro. Average employment earnings in 2000 were about \$23,000 compared to \$31,500 for the Yukon. The same discrepancy is reflected in median incomes and in household and family incomes.



**Source:** Statistics Canada, 2001 Census

**Figure 7.14-9 Occupational Distribution of Employment, Faro, Census 2001**

**Table 7.14-13 Average and Median Incomes, Faro, 2000**

	<b>Faro</b>	<b>Yukon</b>
Average earnings (all persons with earnings)	\$23,178	\$31,526
Average earnings (worked full year, full time)	\$37,971	\$44,605
Median total income of persons 15 years +	\$20,032	\$26,488
Median family income	\$49,664	\$63,490
Median household income	\$48,896	\$51,930

**Source:** Statistics Canada, 2001 Census

*Personal Income Distribution*

Table 7.14-14 below compares the distribution of individual incomes in Faro with the Yukon as a whole over a range of annual incomes.

**Table 7.14-14 Income Distribution by Income Range, Faro and Yukon, 2000 Tax Year**

Income range	Faro % of returns	Yukon % of returns
Under \$1,000	4.2%	3.9%
\$1,000 to \$5,000	8.3%	6.7%
\$5,000 to \$10,000	16.7%	9.5%
\$10,000 to \$15,000	12.5%	11.5%
\$15,000 to \$20,000	8.3%	9.1%
\$20,000 to \$25,000	12.5%	7.4%
\$25,000 to \$30,000	0.0%	6.7%
\$30,000 to \$40,000	12.5%	12.0%
\$40,000 to \$50,000	8.3%	10.4%
\$50,000 and up	16.7%	22.9%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>

It is clear from Table 7.14-14 that while Faro does not have many high-income earners (making \$50,000 and up), the town is not suffering from the same rates of very low incomes as in neighbouring Ross River. Over 60% of tax filers in Faro reported incomes over \$30,000 making the town better off than the Yukon as a whole (45% reporting \$30,000 or up) using this measure.

*Income by Source*

Table 7.14-15 below shows the relative importance of different sources of income to individuals in Faro compared to the Yukon average. Faro is very close to the rest of the Yukon in the relative importance of most of the income categories. The most obvious exception is self-employment income, which accounts for a far smaller part of individuals' incomes in Faro than the Yukon average. On the other hand, income categorized as "Other" by the Canada Customs and Revenue Agency is relatively more important in Faro than the Yukon as a whole. (Other income includes Employment Insurance (EI), disability income or benefits, training allowances, and child support payments). Tax-exempt income (mostly Social Assistance and Workers' compensation payments) are also somewhat more important in Faro than the Yukon overall.

**Table 7.14-15 Income Distribution by Source of Income, Faro and Yukon, 2000 Tax Year**

Type of income	Faro % of income	Yukon % of income
Employment	76.0%	77.8%
Pension	5.6%	5.5%
Investment	3.6%	4.8%
Self-employment	0.8%	3.9%
Other	9.2%	5.8%
Tax-exempt	4.8%	2.2%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>

#### 7.14.2.4 Watson Lake

##### ***Community Profile***

Most of the data on Watson Lake also incorporates the nearby First Nation settlement of Upper Liard, as the two communities are closely linked.

Watson Lake is often called “The Gateway to the Yukon.” The community is located in the southeastern corner of the Territory, just 14 km from where the Alaska Highway crosses the British Columbia border. Watson Lake is a key transportation hub. It sits at the junction of the Alaska Highway and the Robert Campbell Highway, which leads to central Yukon and the Northwest Territories; and the Stewart-Cassiar Highway, which leads into central British Columbia.



The community of Watson Lake consists of the town of Watson Lake and Upper Liard, and adjoining Liard First Nation settlement. A community was established at Watson Lake in 1939, when the Canadian government built a chain of airports across the North. The new community was a supply and accommodation centre for airport construction in 1941 and for the building of the key transportation, communication and distribution centre for mining and logging in southeast Yukon and northern British Columbia.

##### ***Population***

The population of the Watson Lake community averaged 1545 people in 2003, the lowest it has been in ten years. The population of the Watson Lake area has fluctuated over the past decade, from a high of just over 1800 in 1993 to the current low point. The Liard First Nation is an important segment of the population. The 2001 Census shows just over 36% of the community’s people identified themselves as First Nations people. This compares with 23% for the Yukon overall. In 2004 the population of the Liard First Nation was estimated to be 1009.

Watson Lake has had a slightly higher-than-average population movement from outside the Yukon. People who had moved from outside of the Yukon in the five years preceding the 2001 Census made up 18% of the Watson Lake population. The average for the Yukon as a whole was almost 16%. Most arrived from other provinces, with only a small number moving from outside Canada.

Information from the end of 2003 shows that the age structure of the Watson Lake population is very similar to that of the Yukon. Children aged 14 and under make up 22% of the total population. People over 65 comprise 6% of the community’s population, and young people aged 15-24 are 14%. Working-age adults, from 25 to 64 years, make up 60% of the population. On the other hand, the number of women in Watson Lake, about 48%, is below the overall Yukon average of 50%.

**Table 7.14-16 Watson Lake Population**

<b>Year</b>	<b>Population</b>
2003	1,545
2002	1,570
2001	1,617
2000	1,657
1999	1,615
1998	1,690
1997	1,796
1996	1,801
1995	1,775
1994	1,729
1993	1,827

***First Nations***

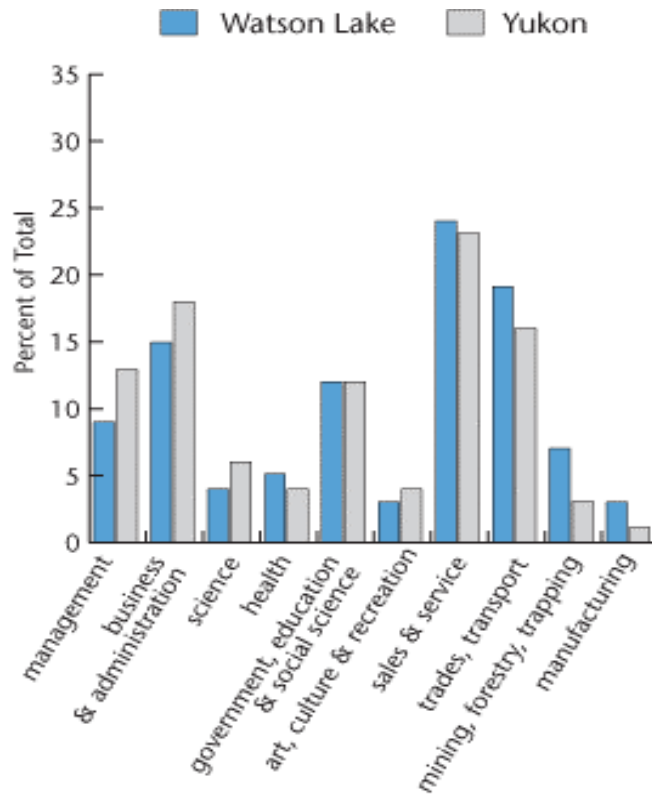
The Liard First Nation is a member of the Kaska Tribal Council. They are closely related to the Kaska Dena of Ross River. As with other Yukon First Nations groups, the Kaska traditionally hunted and gathered on the land for their livelihood. They traveled in extended family groups throughout their traditional territory, hunting, fishing, and gathering vegetation as the seasons permitted.

Kaska First Nations people first began experiencing contact with white fur traders as early as the 1820s and 30s. Kaska territory was also part of the route to the Klondike goldfields in 1897-98. The First Nations people of the area were the subjects of conversion to the Roman Catholic Church as missionaries entered the area in the 1920s. With the building of the Alaska Highway in 1942, Watson Lake and Upper Liard became more permanent residences for the Kaska people.

The Kaska people of the Liard First Nation are working toward settlement of their land claims and self-government agreements with the federal, provincial and territorial governments. Liard First Nations has also been involved in establishing unity with other Kaska groups in the region.

Occupations linked with primary industries provide almost 7% of employment, higher than the 3% average across the Yukon.

Since Watson Lake is a service community for the southeastern Yukon, there is a relatively high proportion of work in social service, government, education, and health care occupations.



**Figure 7.14-10 Employment Share by Occupation**

***Future prospects and developments***

The Watson Lake area has potential for economic gains from further forestry development and, possibly, the specialized manufacturing of wood products. Increased employment in this area hinges on completion of the Timber Harvesting Agreement. In May 2004, the Yukon government released the first blocks of timber for harvesting near Watson Lake.



Oil and gas exploration has started to increase in the southeastern Yukon; this will provide some additional employment, either directly or indirectly through services to exploration crews.

Tourism shows considerable growth potential for the Yukon. Tourism is mostly a summer industry, but efforts are underway to increase the number of winter tourists coming to Watson Lake.

There has been some mining activity on a small scale. Exploration of the southeastern Yukon has increased recently. The discovery of gemstones (emeralds and blue beryl) in the region has added excitement. Several companies continue exploration work for volcanogenic massive sulphide deposits of copper, silver, gold, lead and zinc in the Finlayson Lake District. Exploration work continues at the Kudz Ze Kayah and the Wolverine properties near Ross River but no production decision has been made. Gold

exploration has increased in the Hyland River area. The Sa Dena Hes Mine is on care and maintenance.

### ***Community Services***

Education from elementary to post-secondary is available in Watson Lake. Johnson Elementary School has a capacity of 300, and Watson Lake Secondary School has a capacity of 250.

Yukon College has a campus in a separate wing of the secondary school. The Campus provides the community with courses in academic upgrading, computer skills and first aid. It also provides job-related training in the areas of entry-level trades, office administration, accounting, and early childhood education. The campus is used as a meeting place for many groups and organizations and is equipped with video-conferencing capabilities.

Health care is provided through the Parhelion Medical Clinic and the Watson Lake Hospital. The clinic is staffed with three full-time physicians and has a pharmacy. The hospital has a full-time Nurse in Charge and seven nurses. Public Health services, including home care nursing, are run out of the hospital. Dental services are provided by a visiting dentist from Whitehorse.

Police services are provided by a nine-member RCMP detachment. Local volunteers provide firefighting and ambulance services.

Other community social services available in Watson Lake include two full-time social workers, a probation officer, a full-time resident counselor from Yukon Family Services, and a shelter for women and children. A part-time Housing Association person is responsible for Yukon Housing. Native courtworker services are provided through the Liard First Nation.

An airport is located 13 km north of the community. It has a runway capable of supporting a 737 aircraft. A charter fixed-wing and helicopter company are based in the community, offering passenger, freight, and courier services. A float-plane base is also located at the north end of Watson Lake (the lake) near the airport.

Watson Lake has many small retail outlets that provide services to the community. There are two grocery stores and two department stores, a hardware store that supplies building materials, a women's clothing store, a catalogue sales outlet, and an electronic sales outlet. As well there are bank services, five service stations, and two local companies supply heating oil. During the summer, seven hotels and motels are open. One of them closes during the winter. There are seven restaurants and fast-food establishments, six of which remain open year-round.

### ***Services for Businesses***

The four major hotels in Watson Lake offer fax and photocopying services to their customers. Three of these hotels remain open during the winter months. One hotel and one motel offer Internet access. Internet access can also be obtained through the library and Yukon College. The College has dedicated access while the library offers dial-up access only.

Meeting rooms are offered at the new Watson Lake Rec-Plex that can accommodate up to 500. Yukon College offers meeting rooms year-round as well as access to computers, fax,



photocopying, and audio-conferencing. The Northern Lights Centre's 110-seat theatre can be used for multimedia presentations and supports video-conferencing.

The Town of Watson Lake has a cabin available for small meetings, and the Signpost Seniors can host small to medium-sized meetings. Two of the local hotels have meeting rooms, but only one is open year-round.

### ***Cost of Living***

In general, Whitehorse has the lowest prices in the Yukon. Because Watson Lake is on the Alaska Highway, a major supply route from the south, some prices are actually a bit lower than Whitehorse. Other prices are substantially higher. On average, it costs almost 7% more to live in Watson Lake than in Whitehorse.

The 2001 Census showed 360 private dwellings in the Town of Watson Lake, excluding the First Nation settlement. Houses in the Town of Watson Lake were estimated as having an average value of \$106,000 in 2001 and averaged two to three bedrooms. Although the 2001 Census showed that people renting homes paid an average of \$667 per month, a survey conducted regularly by the Yukon government reports that rental accommodation in the community costs an average of \$575.

An additional 100-120 private dwellings were counted in the First Nations settlements of Upper Liard, Two Mile, and Two and One-half Mile by the Yukon Region First Nations Profiles of 1998. About 80% of the First Nations homes were reported as administered by the Liard First Nation, with most of the remaining 20% owned by the householders.

### ***Living in the Community***

Watson Lake is a very active community. Its recreational facilities surpass anything in southern communities of the same size. It has a heated swimming pool for summer use, tennis courts, waterslide, skateboard park, golf course, and a ski hill with 10 runs, two T-bars and night skiing. There are 96 km of multipurpose trails around the town. The numerous parks include Wye Lake Park in the city centre; Lucky Lake, just outside of town; and the Sign Post Forest, a major tourist attraction.



A new recreation complex was completed by 2000. It houses a three-lane bowling alley, hockey arena and curling rink with artificial ice, a weight room, squash courts, saunas and showers, meeting rooms, and a community hall capable of seating 500 people. The community has more than 75 organizations, which provide activities and services to its citizens from preschoolers to seniors. Watson Lake also has two daycare facilities.

A new town administration office houses the Watson Lake Public Library collection and the community's Toy Lending Library, as well as the building inspector, council chambers and town administration offices.

The Northern Lights Centre is a tourist attraction in the summer and is used for movies, laser shows, presentations, and an animation school in winter. And even in the long days of summer it is possible to enjoy the Aurora Borealis - or at least a high-tech representation of them - at the theatre.

Watson Lake is renowned for its Sign Post Forest, a collection of signs from all over the world. It is said to be the largest collection of “stolen” property in the world. Each year tourists visiting the community leave behind a small memory of themselves by placing a sign from their hometown in the forest. A collection of equipment used in the building of the Alaska Highway is also located in the park.

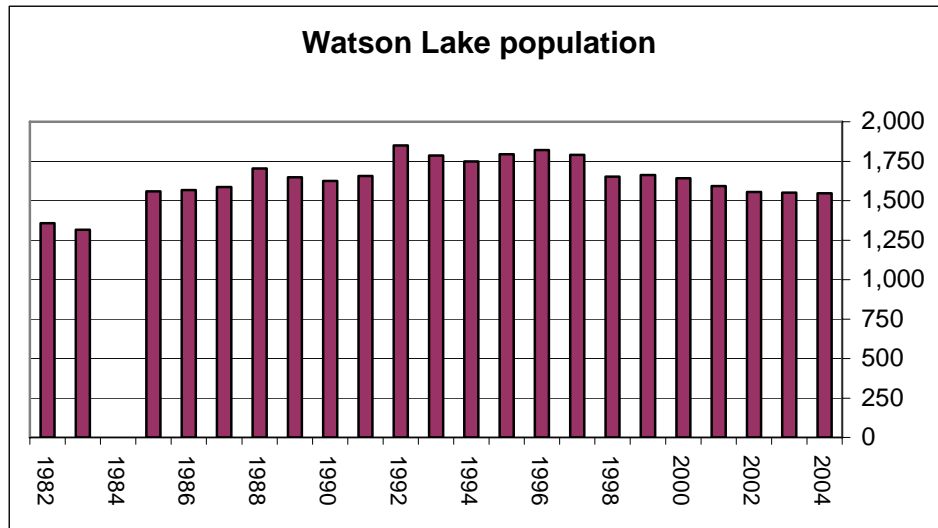
The Department of Tourism and Culture operates the Visitor Reception Centre (VRC). An audio-visual presentation, shown in the 60-seat theatre, brings to life the hardships and adventure of the building of the Alaska Highway. The VRC is open from mid-May to mid-September.

### **Community Demographics**

The 2001 Census estimated the population of Watson Lake (including Upper Liard) at 1070. More recent data available from the Yukon Bureau of Statistics shows a population of 1547 in December of 2004. The Yukon Bureau of Statistics figure is considerably higher as it includes people with a Watson Lake postal address who may not live within the municipal boundaries. The Census only counted people within the municipal boundaries of the Town of Watson Lake or the settlement of Upper Liard.

#### *Population Growth/Decline*

Figure 7.14-11 below shows the estimated population of Watson Lake in December of each year from 1982 to 2004 (with the exception of 1984 for which no data is available). Watson Lake’s population has declined somewhat from its peak in the 1990s, but the number of inhabitants has not fallen below 1,500 since 1985.



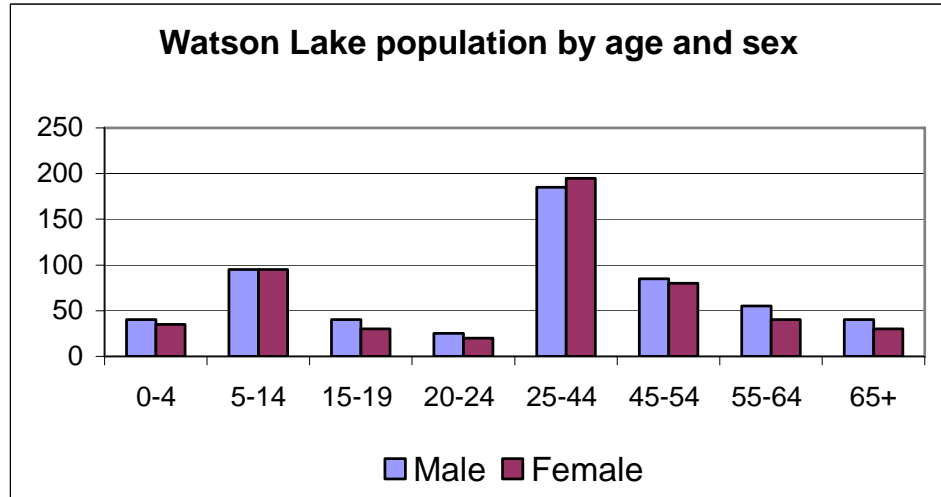
**Source:** Yukon Bureau of Statistics

**Figure 7.14-11 Watson Lake Population, 1982-2004, Health Care Data**

#### *Age and Sex Distribution*

Figure 7.14-12 below shows the distribution of Watson Lake’s population by age group and sex as determined in the 2001 Census. As with most of the Yukon’s rural

communities, there are very few young adults living in Watson Lake. It is very common for young adults to leave their smaller communities to either further their education or to seek work or other experiences elsewhere. Overall, the town's population appears to be reasonably balanced between men and women with men being in a slight majority.



**Source:** Statistics Canada, 2001 Census

**Figure 7.14-12 Watson Lake Population by Age and Sex, 2001 Census Data**

*Ethnicity*

As shown in Table 7.14-17 below, 36% of Watson Lake's inhabitants identified themselves as aboriginal in the 2001 Census. This is a higher proportion than the approximately 23% of respondents who identified themselves as aboriginal in the Yukon as a whole in 2001. Immigrants to Canada made up only 6% of the town's inhabitants, about half of the Yukon's 11%.

**Table 7.14-17 Aboriginal and Immigrant Population, Watson Lake, Census 2001**

	No. of people	% of population
Aboriginal	385	36%
Immigrants	65	6%
<b>Total population</b>	<b>1,070</b>	<b>100%</b>

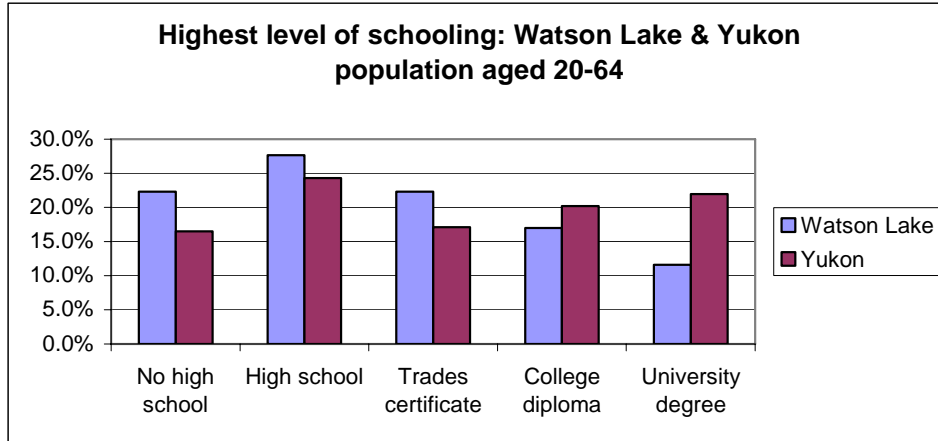
**Source:** Statistics Canada, 2001 Census

*Education*

In the 2001 Census, almost 50% of Watson Lake area people over 20 years of age reported having taken some non-university post-secondary education or training. A further 15% reported they had some university education; 8% had completed university degrees. Another 31% said secondary school (grades 9 and above) was their highest level of education, and just 4% said their highest level of education was less than Grade 9.

The highest level of schooling attained by Watson Lake residents aged between 20 and 64 years is compared to the Yukon average in Figure 7.14-13 below. Watson Lake has a higher proportion of adults who have not yet completed high school than the Yukon average and the community has proportionally far fewer adults with university degrees.

However, over 22% of Watson Lake adults have a trades ticket, considerably higher than the 17% Yukon average.



**Source:** Statistics Canada, 2001 Census

**Figure 7.14-13 Highest Level of Schooling, Watson Lake & Yukon, Population Aged 20-64, Census 2001**

### ***The Economy***

Watson Lake is the regional service and business centre for the southeastern Yukon, and has a diversified economy. Primary industries provide some support for the local economy. This includes some forestry, and energy exploration provides economic activity. Business travel and commercial transportation, linked to resource exploration and to Watson Lake’s role as a transportation hub, are also important. Tourism, despite slower activity since September 11, 2001, has been increasing in importance to Watson Lake.



The government services sector is a major source of employment, providing 17% of employment. The trade sector and the accommodation and food services sector provide employment for about 15% of the work force, significantly higher than the Yukon-wide share of 9%. Construction provides a further 9% of total employment, a little above the Yukon average. Construction employment varies from year to year, depending on the number and type of projects.

Since Watson Lake provides community services to the surrounding area, the share of employment in health and education services is fairly close to the overall Yukon pattern.

### *Work*

Census results showed that 80% of the Watson Lake population over the age of 15 were in the labour force in 2001. Unemployment for the town of Watson Lake was about 13% in 1996. The First Nation settlements showed significantly higher unemployment rates: about 30% or more. Records for employment insurance showed an average of 104 people claiming payments in 2003, up a little from the year before.

For young adults (15-24 years of age), 60% are active in the labour market. This is somewhat lower than the overall Yukon participation rate of 68% for this age group. About 17% of young people reported being unemployed in 2001.

The share of full-time, full year work in Watson Lake was virtually the same as for the Yukon as a whole, 45 and 46% respectively.

The average employment income for all workers in Watson Lake, as reported in the 2001 Census, was close to \$26,600, compared to the Yukon average of just over \$31,500. For those working on a full-time, full year basis, average earnings in Watson Lake were just over \$34,000. Income information for the local Liard First Nation settlements was not reported in the Census.

About 10% of those who work in the Watson Lake area reported that their main work is through self-employment. This is a little lower than the 13% share for the Yukon.

The largest occupational fields in Watson Lake are sales and service occupations, construction and other trades, transport, and equipment operation. They provide a somewhat larger share of employment in the Watson Lake area than they do in the Territory as a whole. Other significant employment fields are business and administration and management occupations, although such employment is a little lower than the Yukon-wide proportion.

### *Major Industries*

Watson Lake has a relatively diversified economy. It is the centre of the Yukon's small and unstable forestry industry. That industry has been depressed in recent years, but it has created a number of booms in the past and a number of sawmills have been operational. It is relatively close to the producing gas fields of the southeastern Yukon and could become a service centre for the natural gas industry. Also, the town has served as a service centre for a number of mines including the defunct Cassiar asbestos mine in British Columbia, and the Cantung tungsten mine at the Yukon-Northwest Territories border. The Sa Dena Hes mine north of Watson Lake is on care and maintenance (operations ceased in Dec 1992 due to low metal prices)

Tourism is also relatively important, as the town serves as a stopover point for travelers along the Alaska Highway. Table 7.14-3 above shows that there were 63,000 visitors in the region who spent \$4.5 million in 1999.

### *Employment by Industry*

Like other Yukon communities, the most important employing industries are those related to government (Education, Health and social assistance, Public Administration). However, Watson Lake has a higher proportion of people employed in renewable resource industries, mainly forestry. The accommodation and food service sector also employs a relatively high number of people, reflecting the importance of tourism to the town's economy.

**Table 7.14-18 Employment by 1997 North American Industry Classification System, Watson Lake and the Yukon**

	Watson Lake		Yukon	
	Number	Percent	Number	Percent
Total labour force 15 years and over by industry	630		17,950	
Industry – Not applicable	10	1.6%	280	1.6%
All industries	610	96.8%	17,665	98.4%
Agriculture, forestry, fishing and hunting	35	5.6%	285	1.6%
Mining and oil and gas extraction	20	3.2%	430	2.4%
Utilities	0	0.0%	145	0.8%
Construction	60	9.5%	1,400	7.8%
Manufacturing	15	2.4%	380	2.1%
Wholesale trade	10	1.6%	330	1.8%
Retail trade	55	8.7%	1,940	10.8%
Transportation and warehousing	40	6.3%	770	4.3%
Information and cultural industries	15	2.4%	700	3.9%
Finance and insurance	0	0.0%	365	2.0%
Real estate and rental and leasing	0	0.0%	195	1.1%
Professional, scientific and technical services	0	0.0%	740	4.1%
Management of companies and enterprises	0	0.0%	10	0.1%
Administrative and support services	20	3.2%	585	3.3%
Educational services	50	7.9%	1,180	6.6%
Healthcare and social assistance	65	10.3%	1,590	8.9%
Arts, entertainment and recreation	10	1.6%	555	3.1%
Accommodation and food services	90	14.3%	1,600	8.9%
Other services (except public administration)	15	2.4%	720	4.0%
Public administration	105	16.7%	3,735	20.8%

**Source:** Statistics Canada, 2001 Census

### *Employment, Unemployment and Labour Force*

Table 7.14-19 below shows labour force statistics for Watson Lake and the employment, unemployment, and labour force participation rates for the Yukon for comparison.

From Table 7.14-19 it appears that Watson Lake has a fairly high unemployment rate and a somewhat lower labour force participation rate than the Yukon as a whole. The lower employment rate is a result of the higher employment rate rather than a low participation rate.

### *Employment by Occupation*

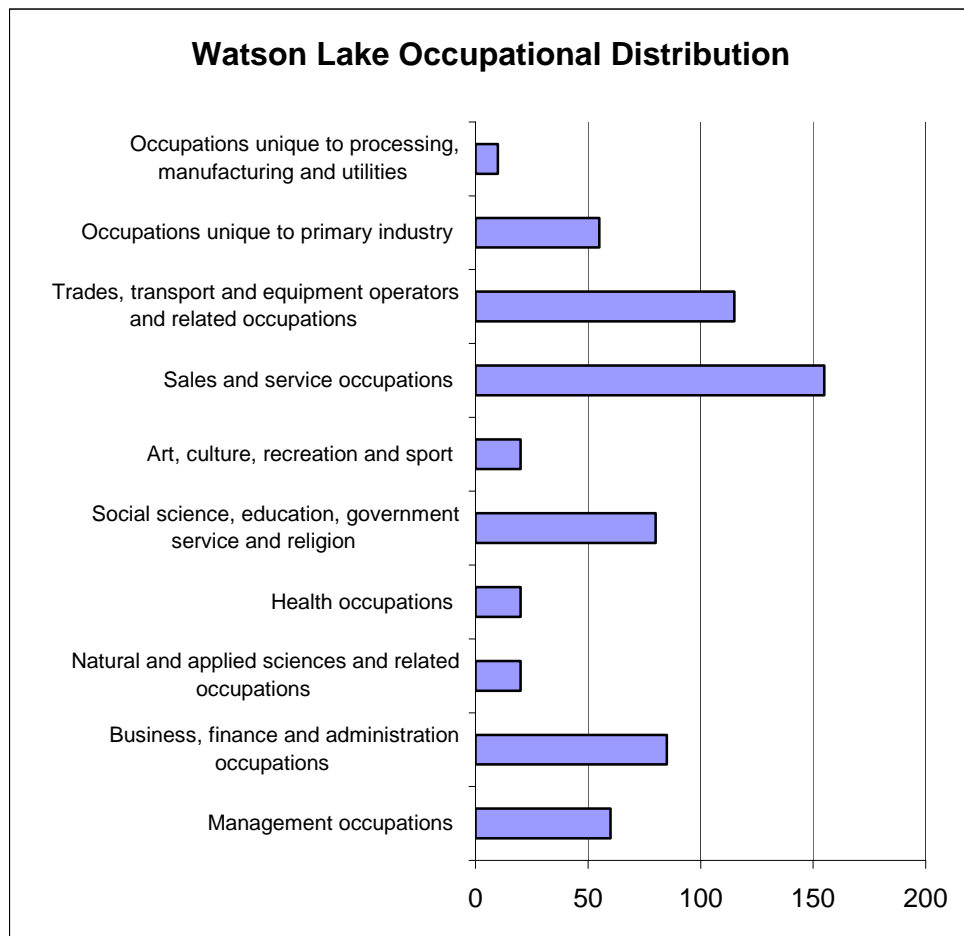
Figure 7.14-14 below shows what types of occupations are most prevalent in Watson Lake. The most common jobs are those in the sales and service occupations, which include those working in the retail sector, daycare workers, restaurant and hotel workers and others. In part, this likely reflects the town's role as a popular stopping point for tourists and other travelers on the Alaska Highway.

Jobs in the trades and transportation occupational cluster (which includes most construction workers, equipment operators and truck drivers) are the next most common in Watson Lake.

**Table 7.14-19 Labour Force Statistics, Watson Lake, 2001**

	Watson Lake	Yukon
Working age population (15 years and over)	810	
In the labour force	630	
Employed	530	
Employment rate	66.2%	70.6%
Unemployed	100	
Unemployment rate	15.9%	11.6%
Not in the labour force	180	
Participation rate	78.8%	79.8%

**Source:** Statistics Canada, 2001 Census



**Source:** Statistics Canada, 2001 Census

**Figure 7.14-14 Occupational Distribution of Employment, Watson Lake, Census 2001**

*Income*

Average and median incomes are fairly low in Watson Lake compared to the rest of the Yukon. Average employment earnings in 2000 were just under \$25,000 compared to \$31,500 for the Yukon. The same discrepancy is reflected in median incomes and in household and family incomes.

**Table 7.14-20 Average and Median Incomes, Watson Lake, 2000**

	<b>Watson Lake</b>	<b>Yukon</b>
Average earnings (all persons with earnings)	\$24,938	\$31,526
Average earnings (worked full year, full time)	\$33,600	\$44,605
Median total income of persons 15 years +	\$22,251	\$26,488
Median family income	\$42,368	\$63,490
Median household income	\$37,248	\$51,930

**Source:** Statistics Canada, 2001 Census

*Personal Income Distribution*

Table 7.14-21 below compares the distribution of individual incomes in Watson Lake with the Yukon as a whole over a range of annual incomes.

Table 7.14-21 shows that Watson Lake has relatively more people in the lower income ranges and fewer in the higher incomes (over \$40,000). However, the town is not suffering from the same rates of very low incomes as Ross River, but incomes are lower than Faro's.

**Table 7.14-21 Income Distribution by Income Range, Watson Lake and Yukon, 2000 Tax Year**

<b>Income range</b>	<b>Watson Lake % of returns</b>	<b>Yukon % of returns</b>
Under \$1,000	9.3%	3.9%
\$1,000 to \$5,000	8.2%	6.7%
\$5,000 to \$10,000	10.3%	9.5%
\$10,000 to \$15,000	13.4%	11.5%
\$15,000 to \$20,000	8.2%	9.1%
\$20,000 to \$25,000	8.2%	7.4%
\$25,000 to \$30,000	6.2%	6.7%
\$30,000 to \$40,000	12.4%	12.0%
\$40,000 to \$50,000	7.2%	10.4%
\$50,000 and up	16.5%	22.9%
Total	100.0%	100.0%

*Income by Source*

Table 7.14-22 below shows the relative importance of different sources of income to individuals in Watson Lake compared to the Yukon average. Watson Lake, like Faro, is very close to the rest of the Yukon in the relative importance of most of the income categories. The exceptions are self-employment income, which accounts for a far smaller



part of individuals' incomes in Watson lake than the Yukon average, and income categorized as "Other" by the Canada Customs and Revenue Agency is relatively more important than in the Yukon as a whole. (Other income includes Employment Insurance (EI), disability income or benefits, training allowances, and child support payments). Tax-exempt income (mostly Social Assistance and Workers' compensation payments) are also somewhat more important in Watson Lake than the Yukon overall.

**Table 7.14-22 Income Distribution by Source of Income, Watson Lake and Yukon, 2000 Tax Year**

Type of income	Watson Lake % of income	Yukon % of income
Employment	78.2%	77.8%
Pension	5.6%	5.5%
Investment	5.0%	4.8%
Self-employment	1.6%	3.9%
Other	6.9%	5.8%
Tax-exempt	2.7%	2.2%
Total	100.0%	100.0%

**7.14.2.5 Whitehorse**

***Community Profile***

Set in the wide valley of the Yukon River, Whitehorse is the capital of the Yukon and by far its largest community. Close to 70% of the total Yukon population lives in the community of Whitehorse; this includes the City of Whitehorse, Mount Lorne, Ibez Valley, Marsh Lake and surrounding areas. The city lies within the shared traditional territory of the Kwanlin Dun First Nation (KDFN) and the Ta'an Kwach'an Council (TKC).



Historically, First Nations used the area around Whitehorse for food gathering and as a meeting place. The settlement of Whitehorse developed during the Klondike Gold Rush as a transportation hub; Whitehorse was the head of navigable waters on the Yukon River and an important stop on the journey to the gold fields. Once the White Pass & Yukon Route Railway linked Whitehorse with the Alaskan port of Skagway, Whitehorse became the centre of transportation into and out of the Territory. Since the Klondike Gold Rush era, Whitehorse has experienced a series of population booms and busts, mainly linked to mining and highway construction. In 1953 the Yukon government moved the capital to Whitehorse from Dawson City.

Whitehorse is now a contemporary city and the government and business centre for the Yukon. The Yukon government headquarters and several federal government and self-governing First Nations offices are located there. The Council of Yukon First Nations also has its headquarters in Whitehorse. Most major Yukon businesses, utility companies and services operate out of the city.

Government activity provides considerable economic stability to the Whitehorse area. Tourism is also a major source of economic growth for the city. Tourists often visit as they pass through, either along the Alaska Highway or by flying into the Whitehorse airport.

The city has many big-city amenities: cinemas, stores, restaurants and espresso bars, cultural events and public entertainment, indoor arenas and swimming pool, and commuter bus service. Many of these facilities are not available in other Yukon communities. In fact, many are not available in a southern Canadian city of comparable size. The difference is Whitehorse's position as capital, and as service centre for all of the Yukon and parts of northwestern British Columbia and Southeast Alaska.

### ***Population***

In 2003, the population of the community of Whitehorse averaged 22,213, close to the previous year's level of 22,192. The Whitehorse population increased in the early 1990s, reaching over 23,000 in the mid-1990s before declining a little in the past few years. Some of the population shifts seen in the 1990s were in reaction to the opening and closing of the lead-zinc mine at Faro, although other economic activity supports the majority of the population in the community.

Whitehorse has a stable population base. The 2001 Census reported that approximately 79% of people living in the Whitehorse area had been living there in 1996. About 16% of those people living in Whitehorse in 2001 had moved from outside the Yukon, mainly from other provinces and some from other countries.

First Nations people make up close to 16% of the total Whitehorse-area population. This compares with First Nations representation of close to 45% for the rest of the Yukon. The Kwanlin Dun First Nation and the Ta'an Kwach'an Council both have their homes in the Whitehorse area. Other First Nations people, from other communities in the Yukon as well as outside the Territory, make up a large part of the First Nations population in the community.

Since Whitehorse makes up such a large share of the overall Yukon population and thus influences territorial numbers, it has a very similar age distribution to the Yukon as a whole. Slightly more of the population is in the 15-to-24 age group, reflecting the fact that Whitehorse is an education centre and a place where young people come looking for work. There is also a slight difference between Whitehorse and the rest of the Yukon in the proportion of older people in the population: 6% of the Whitehorse-area population is 65 years of age or older, compared to 8% of the population in the rest of the Yukon.

At the end of 2003, 51% of the Whitehorse population was female, a little higher than the 50% figure for the Yukon as a whole.

**Table 7.14-23 Whitehorse Population**

Year	Population
2003	22,213
2002	22,192
2001	22,476
2000	22,738
1999	22,917
1998	23,406
1997	24,018
1996	23,611
1995	23,012
1994	22,854
1993	23,110

***First Nations***

The Kwanlin Dun First Nation, based in the McIntyre subdivision of Whitehorse, has cultural affiliations with the Northern and Southern Tutchone as well as with the Tagish from Marsh Lake but is also an amalgamation of many Yukon First Nation culture groups. In 2004 the registered population as reported by the Kwanlin Dun First Nation was 949.



The Ta'an Kwach'an Council are affiliated with the Southern Tutchone Tribal Council and has members who are Southern Tutchone and Tagish. The traditional territory of the Ta'an is located around the Lake Laberge area. In 2004 the Ta'an Kwach'an Council reported a population of 432 registered members.

The First Nations people of the Whitehorse region enjoyed a nomadic way of life and traveled extensively throughout the area following big game, fishing, and trapping. Archaeological evidence at Canyon City shows that First Nation people have occupied that area for thousands of years. Many Kwanlin Dun and Ta'an Kwach'an First Nations people worked for the steamboats that navigated the Yukon River up to Dawson City. The two First Nations in the area of what is now Whitehorse were grouped together as the Whitehorse Indian Band. The Ta'an Kwach'an Council separated from the Kwanlin Dun First Nation in September of 1998.

The Ta'an Kwach'an Council signed their land claims and self-government agreements on January 13, 2002. The agreements came into effect in April 2002. Kwanlin Dun First Nation signed their land claims and self-government agreements on February 19, 2005. Their agreements came into effect on April 1 that year.

### ***Future Prospects and Developments***

The economy in Whitehorse is sustained to a large extent by government activities, and employment in various government sectors provides long-term jobs and good incomes.

Whitehorse tends to have more stable work and lower unemployment than elsewhere in the Yukon. Nevertheless, there is still a need for economic growth and job growth. The drive for diversification in the Whitehorse economy comes from a young workforce, high unemployment for both young people and First Nations people, and an effort to reduce the dependence on the mining industry because of its cyclical nature.

Tourism is one area that has shown considerable growth in the Yukon over the long term. Although the number of tourists declined from 2002-2003, tourism is still an important part of the Whitehorse economy. The longer-term growth of tourism in the Yukon and Whitehorse is reflected not only in the numbers of tourists coming for traditional summer tourism but also in the types of activities available. Many tourism activities emphasize the adventure and wilderness potential of the Yukon and the tourism season is extended by winter tourism activities. Although the number of tourists coming from the United States was down a little in the past two years, tourism from the U.S. remains the largest single source for Whitehorse and the Yukon. Increasing numbers of tourists are coming to the Yukon from Europe and other parts of the world. This provides more potential for job growth in Whitehorse as the transportation and service centre for Yukon-wide tourism.

Mining still has the potential to be a major influence on the economic health of the Yukon and Whitehorse. There are mines at various stages of development in the Yukon, but all are waiting for higher prices. Exploration activity has increased in the past two years particularly for gold and base metals. The Yukon is generally considered under-explored for most minerals. Yukon mines developed to date have tended to be high cost and, therefore, vulnerable when mineral prices decline. Mining recovery and growth would certainly boost the Whitehorse economy.

Yukon First Nations have been increasing their economic development activities. In addition to the many individual First Nations people who own and operate small businesses, First Nations consortiums have invested in businesses as diverse as major hotels, office buildings, and a window-manufacturing company. Members of the Yukon First Nations Tourism Association emphasize tourism as a source of economic and job growth and a number of First Nations tourism businesses operate out of Whitehorse. These include retail, arts and crafts, outfitting and adventure, and air or helicopter services.

The Yukon Government has encouraged the development of a film industry, largely based in Whitehorse. Training and support for northern productions come from several sources. At a wider level, new communications technology allows a relatively remote centre like Whitehorse to develop economic activities that rely on the skills and knowledge of the workforce rather than on physical location. Northern Native Broadcasting operates a radio station in Whitehorse, produces television documentaries and makes custom videos for clients. The cultural labour force, which employs almost as many people as health care occupations, is a growth area in the Yukon economy.

### ***Community Services***

Education from elementary to post-secondary is available in Whitehorse. There are ten elementary schools, including one with a French immersion program, three secondary

schools, and a K-12 French first-language school. The community also has a number of daycare centres and family day homes and a few schools offer after-school care programs. The Child Development Centre offers services for pre-school children with special needs.

Ayamdigut Campus, the largest campus of Yukon College, is located in Whitehorse. It offers a range of programs including university transfer, apprenticeship, career and employment, preparation, and continuing education. In addition, cooperative arrangements with other institutions allow students to obtain baccalaureate degrees in social work and education, and master's degrees in public administration and education. Using a variety of distance education technologies, including videoconferencing, courses are available throughout the Yukon.

The campus features a lecture theatre and many classrooms, laboratories, computer labs, on-campus residences and a childcare centre. Yukon College has an academic library with 33,000 book titles, as well as periodicals, videos, audiocassettes, CD-ROMS and online databases. The library is available to the public for an annual fee. It has reciprocal sharing agreements with the Yukon's other libraries, as well as an inter-library loan system that extends outside the Yukon.

The Northern Research Institute, housed at Ayamdigut, serves to promote and coordinate research in the Yukon. Many instructors at the college are also active researchers in a variety of fields. Yukon College is also a member of the University of the Arctic, an international network of higher-education institutions around the circumpolar north.

A full range of health care services is available in Whitehorse. Whitehorse General hospital has about 50 beds and a staff of approximately 111 nurses. The hospital offers a full range of services including medical, surgical, maternity, diagnostic imaging, laboratory and chemotherapy care. There is a First Nations Health Program in place in the hospital, with a mandate to ensure that health care provided to First Nations people is culturally sensitive. More than 60 physicians (including specialists) have practices in Whitehorse, and a further 98 (including locums) are licensed in the Yukon. The latter group, many of them specialists, provides itinerant services in Whitehorse. Dental services are readily available, as is a full-time ambulance service. There are also three extended-care facilities, seniors' housing and a senior citizens' centre.

The Yukon Family Services Association and the Yukon Housing Corporation provide services from their main offices in Whitehorse, and the Yukon Government Health and Social Services department provides a range of services in the Whitehorse area. A women's transition house, Kaushee's Place, provides emergency shelter as well as longer-term housing assistance and counseling services.

The Yukon and federal government departments have their main offices in Whitehorse and provide a full range of individual and business services.

The RCMP Yukon headquarters is located in Whitehorse. It is staffed with approximately 40 officers, including an inspector and First Nation community constables. An aircraft section of the RCMP, based at Whitehorse, has one aircraft. The RCMP also has a satellite office in McIntyre subdivision. Whitehorse is also the location of the Territory's main correctional centre, a secure facility for young offenders, and a halfway house.

The City of Whitehorse has a fire department with a chief, 20 full-time staff, and approximately 30 volunteer firefighters. There are two fire halls in the city. A 911 service is available in Whitehorse and surrounding areas for emergency police, fire, and ambulance responses.

As well there are postal, internet, library and banking services available in Whitehorse.

Whitehorse Transit provides public bus transportation, including a Handi-Bus service. Several taxi companies operate in Whitehorse and an electric trolley provides transportation along much of the Whitehorse riverfront in the spring and summer months.

All-weather highways connect Whitehorse to all Yukon communities except Old Crow. Whitehorse is also linked to Alaska and southern Canada by the Alaska Highway and the Stewart/Cassiar Highway. There is road access to the Alaskan ports of Skagway and Haines. The Dempster Highway provides access to the Mackenzie Delta area of the Northwest Territories.

Whitehorse International Airport has three paved runways and is maintained year-round; it is a Canada Customs port of entry. Daily scheduled jet services, along with extra seasonal services, connect Whitehorse directly to southern Canadian cities. Float-plane facilities are available at Schwatka Lake.



Regular freight service is provided by truck between Whitehorse and southern centres, and several local carriers provide freight service within the Territory.

Whitehorse offers a wide variety of recreation facilities, including ice arenas, outdoor skating rinks, a curling rink, cross-country and downhill ski facilities, a dog mushing track, a bowling alley, a stock car racing track, cinemas, golf courses, and a ski chalet and cross-country ski trails, some of which are lighted for night skiing. The city also has a squash club, two fitness clubs, biathlon/rifle and pistol ranges, and equestrian show grounds. In addition, Whitehorse has soccer fields, tennis courts, outdoor basketball courts, baseball diamonds, and many parks and playgrounds. As host of the 2007 Canada Winter Games, Whitehorse is upgrading many of its recreational facilities and building a multiple function recreational complex complete with Olympic sized and NHL sized hockey rinks, indoor soccer pitches, and fitness, childcare, multipurpose, meeting and lounge areas. The Yukon River is popular with canoe and kayak enthusiasts. Hiking and cycling trails link most parts of the city and offer access to surrounding wilderness areas.

The city's cultural facilities include the Yukon Arts Centre, which houses a modern theatre/concert hall and an art gallery. The Guild Hall is a smaller theatre combined with a dance studio. Yukon artists and craftspeople are displayed in public government buildings, in public and private galleries and in commercial establishments throughout the city. The Yukon's history and prehistory are displayed at the MacBride Museum, the Yukon Transportation Museum, the Beringia Interpretive Centre, the S.S. Klondike National Historic Site, the Log Church and other heritage sites.

Whitehorse has an active retail sector, with several major chain stores as well as many locally-owned businesses. The majority of retail activity is centered in the city's downtown.

Whitehorse has one indoor mall and one department store, several smaller indoor and strip malls, and numerous individual stores. Whitehorse retail outlets offer a wide range of products comparable to that found in any Canadian city.

Visitors to Whitehorse can choose from seven large hotels and more than 15 smaller motels and hotels. Most are open year round. More than 17 bed and breakfast establishments are located in and around the city. Some are operated seasonally; others

are open year round. Hostels, campgrounds and RV parks are also available in the city and the surrounding area.

Whitehorse has more than 50 restaurants serving a wide variety of foods. Many major chain restaurants are represented, in addition to locally-owned restaurants. These restaurants serve everything from fast food to various kinds of international cuisine. Specialty coffee is available, along with a wide array of food items and cooking styles. Most restaurants in Whitehorse are open throughout the year.

More than 12 service stations and fuel companies are located in Whitehorse, offering gasoline, propane and other automobile fuels, home heating fuels, and automotive repairs and servicing.

### ***Services for Business***

In addition to the variety of retail and food services and accommodation, Whitehorse offers a number of additional services to people visiting the city for business purposes. Most business services are available only on weekdays although a few are available on Saturdays and Sundays. Faxes can be sent and received at several different locations during regular business hours on weekdays. Some of these businesses also offer fax services on Saturdays. Several printing companies and retail stores provide photocopying services during regular weekday business hours.

The Whitehorse Public Library offers photocopying services on Saturdays and Sundays, as well as weekdays and evenings. Internet providers offer Internet and email access to the public on an hourly basis, as does the Whitehorse Public Library. Cell phone service is available within Whitehorse and some of the immediate outlying areas. Other business services in Whitehorse include printing companies, accounting firms, secretarial services, office supply stores, advertising and graphic design firms, and computer servicing outlets.

### ***Cost of Living***

The cost of living in Whitehorse is generally higher than in southern Canadian communities. It is lower on average, however, than the cost of living elsewhere in the Yukon or in communities in many parts of northern Canada. The accompanying table, which was taken from a survey done in 1997 but still reflects the current situation, gives an indication of Whitehorse prices in comparison with prices in Alberta and British Columbia. In general the rate of inflation in Whitehorse has regularly been lower over the past several years than it has been across Canada. From 2000 to 2003 the consumer price index in Whitehorse increased 2.0% or less each year while the Canadian consumer price index averaged increases of about 2.5% each year.

In 2003/04, real estate sales of over 400 properties showed housing prices in Whitehorse at an average of close to \$170,000. Prices ranged according to neighbourhood, from a low of about \$120,000 to a high of about \$191,000. The average rent, as measured by the Census in 2001, was \$716.

### ***Climate***

Average daytime temperature in Whitehorse reaches a maximum of -13.3°C in January, dropping to -22°C overnight. In July the daytime temperature reaches a maximum, on average, of 20.5°C, with overnight lows of 7.7°C. Whitehorse has a relatively dry climate. Annual precipitation over the past 30 years has averaged 267 mm, including 163 mm of rain and 145 cm of snow.

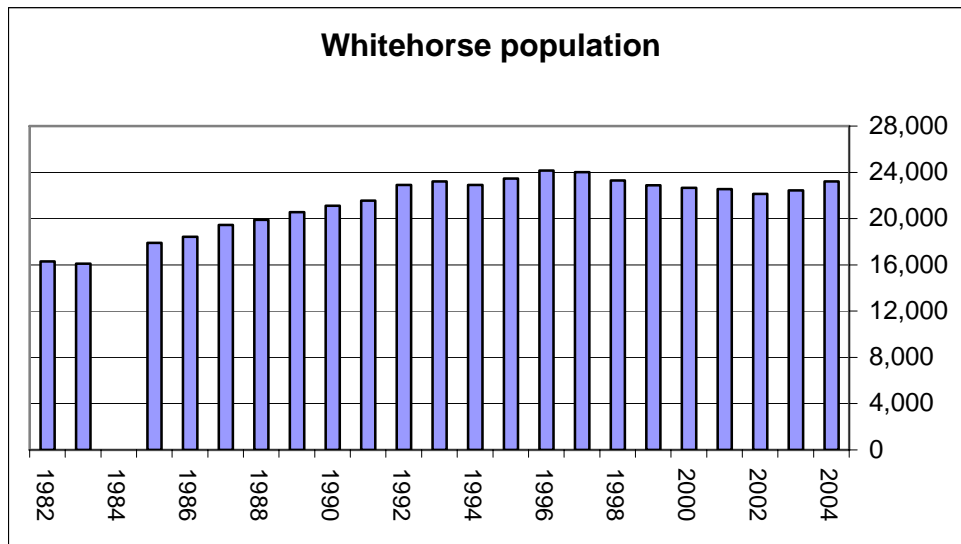
### **Community Demographics**

Whitehorse accounts for more than two-thirds of the Yukon's population and three quarters of its labour force, as well as a corresponding proportion of the economic activity.

The 2001 Census estimated the population of the Whitehorse Census Agglomeration at 21,260. Note that the Whitehorse Census Agglomeration includes not only the City of Whitehorse proper, but also the outlying hamlets and subdivisions that are part of the same economic unit as defined by Statistics Canada. More recent data available from the Yukon Bureau of Statistics shows a population of 23,205 in December of 2004.

#### *Population Growth/Decline*

Whitehorse's population follows the economic fortunes of the Yukon and reflects the openings and closings of the Faro mine. The population decline in the early 1980s, in 1994 and after 1997, as well as the increases in the late 1980s and early 1990s, in 1995 and 1996 are directly correlated with what happened in Faro. The exception is the increase in the last few years. This is most likely the result of massive increases in Yukon government spending, as little mineral-related activity occurred in the early 2000s until 2005 while tourism was relatively constant.



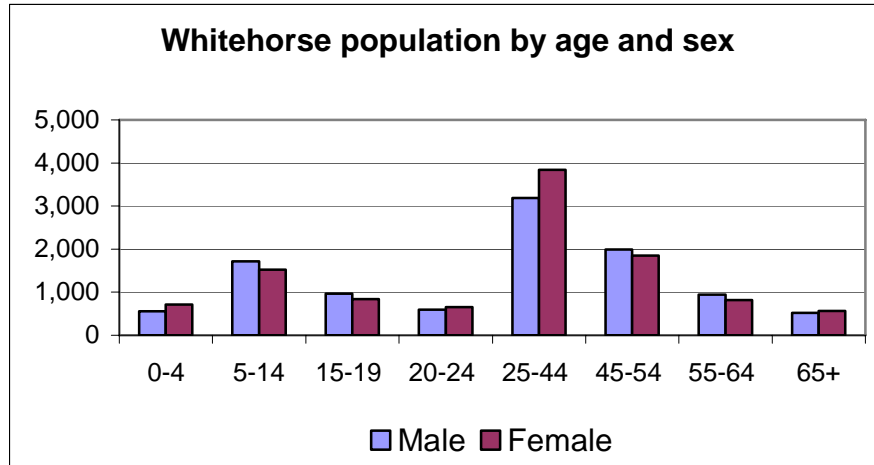
**Source:** Yukon Bureau of Statistics.

**Figure 7.14-15 Whitehorse Population, 1982-2004, Health Care Data**

#### *Age and Sex Distribution*

The age and sex distribution in Whitehorse reflects the importance of the baby-boom generation (35-54 years old). As well, the large number of women in the 25-44 age group reflects the importance of clerical and administrative jobs in government, where there is a large proportion of women.





**Source:** Statistics Canada, 2001 Census

**Figure 7.14-16 Whitehorse Population by Age and Sex, 2001 Census**

*Ethnicity*

As shown in Table 7.14-24 below, 16% of Whitehorse’s inhabitants identified themselves as aboriginal in the 2001 Census. This is a lower proportion than the approximately 23% of respondents who identified themselves as aboriginal in the Yukon as a whole in 2001. Immigrants to Canada made up 11% of the city’s inhabitants, the same proportion as in the Yukon.

**Table 7.14-24 Aboriginal and Immigrant Population, Whitehorse, Census 2001**

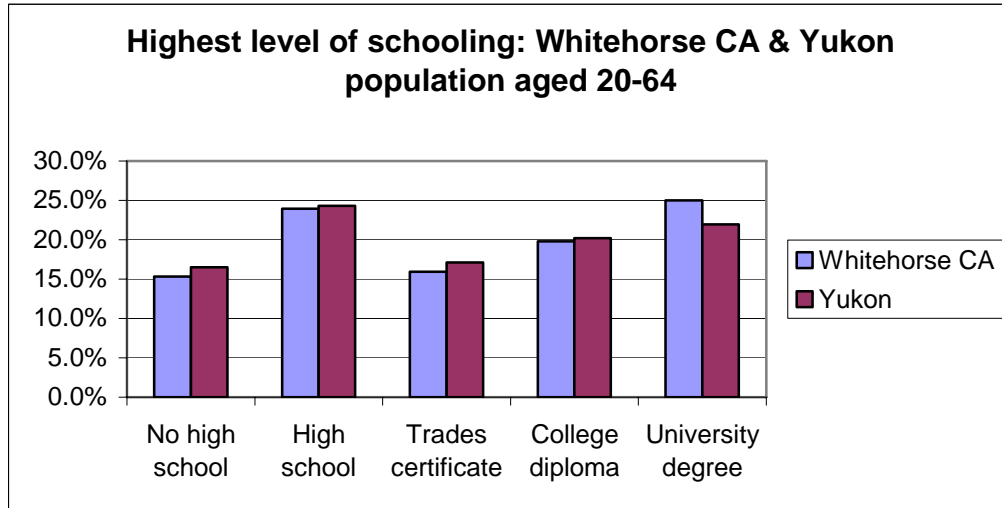
	No. of people	% of population
Aboriginal	3,310	16%
Immigrants	2,375	11%
<b>Total population</b>	<b>21,260</b>	<b>100%</b>

**Source:** Statistics Canada, 2001 Census

*Education*

The 2001 Census reported that 44% of Whitehorse people aged 20 or older had taken some non-university education or training after leaving school. About 30% had taken some university-level education. About three-quarters of these, or 20% of people aged 20 and over, had completed at least a bachelor-level degree. About 24% of the 20-plus population said their highest level of education was some secondary school (grades 9 and above). Just 4% reported completing Grade 9 or less.

Whitehorse has a very high proportion of people with university education, which serves to bring up the Yukon’s average. The Yukon has the second highest percentage of people with university education of all provinces and territories after British Columbia and the highest proportion of people with post-secondary qualifications or diplomas in Canada.



**Source:** Statistics Canada, 2001 Census

**Figure 7.14-17 Highest Level of Schooling, Whitehorse & Yukon, Population Aged 20-64, Census 2001**

### ***The Economy***

Whitehorse is the centre of government for the Yukon, and government activities provide support and stability to the community. Whitehorse also has a diversified business sector which serves the entire Territory. In common with many other countries and areas in Canada, tourism to the Yukon and Whitehorse slowed after 2001. Over the long term, however, tourism is growing in importance to the Whitehorse economy. The community benefits both directly, from visiting tourists, and by providing the transportation and business base for tourism activities elsewhere in the Yukon. The community's large and increasingly stable population, together with the growth of tourism, has encouraged the development of other service industries. Employment in Whitehorse amounts to 73% of the Yukon total.

Government is the major single source of economic activity in Whitehorse, and the government services sector accounts for 20% of total employment. Other significant factors in the economy are education services, with 7% of employment, and health and social services, with 10% of employment. Health service is concentrated in Whitehorse, while the share in education is close to that elsewhere in the Yukon. The city's role as business centre for the Yukon is reflected in the strength of various business-oriented services. Professional services, including technical areas, provided 5% of employment. Finance, insurance and real estate stood at almost 4%. Other key services provided out of Whitehorse for the Territory are various utilities. Information and cultural industries provide 5% of total employment in Whitehorse.

The Whitehorse economy still relies in part on the state of Yukon mining, and many of the businesses that provide services to the mining industry are headquartered in the city. There is some agriculture employment around the Whitehorse area.

The accommodation and food services sector accounts for 8% of total Whitehorse employment. Employment in retail and wholesale trade at 15% of the total is above the

proportion found elsewhere in the Territory. Whitehorse is the supply centre for most Yukon communities, and people tend to buy many products, especially big-ticket items, directly from Whitehorse.

Transportation is linked to business travel, tourism and other travel around the Yukon. It contributes about 4% of Whitehorse's total employment, about the same proportion as in the rest of the Yukon. Construction activity is variable, but in 2001 provided about 7% of employment in the Whitehorse area.

### *Work*

At the time of the 2001 Census, about 81% of Whitehorse people aged 15 years and over reported that they were involved in the labour market. This is slightly above the overall Yukon proportion of 80%. Unemployment was lower than elsewhere in the Yukon. At the time of the 2001 Census, unemployment in Whitehorse was estimated to be about 10%, compared to the Yukon-wide average of 12%. Unemployment was higher for men than for women: 12%, compared to about 8%.

Young people aged 15-24 are only slightly more likely to be active in the labour market in Whitehorse than in many other parts of the Yukon. About 69% of the age group in the Whitehorse area reported that they were in the labour market in 2001. Unemployment for young people in Whitehorse is about 20%, higher than for all other age groups.

On average in 2003, 1097 individuals in Whitehorse claimed employment insurance payments. This number is just over 60% of all claims in the Yukon, reflecting an employment situation that is slightly better than the Yukon average.

Whitehorse has far more full-time, full year work than elsewhere in the Yukon. The 2001 Census reported that almost 50% of workers living in Whitehorse said their work was full-time, full year. This compares with a Yukon average of 46%. Once the influence of Whitehorse is accounted for, only 36% of those living in the rest of the Yukon reported having full-time, full year work.

Self-employment in Whitehorse, at 13% of all employment, is close to the share elsewhere in the Yukon.

Average employment income for all workers living in Whitehorse was reported by the 2001 Census at \$33,830, higher than the Yukon average of \$31,500. For those working full-time, full year, average earnings in Whitehorse in 2001 came in at \$46,100, approximately 3% above the equivalent Yukon average, which was reported at about \$44,600 in 2001.

People living in Whitehorse work in many different occupations, and reflect the modern and diversified nature of the Whitehorse economy.

Sales and service occupations employ the largest share of the Whitehorse workforce. At the time of the 2001 Census, about 23% of employment in the community was in sales and service occupations, such as retail sales, cashiers, cooks, food service jobs and cleaners. This proportion is slightly below the rest of the Yukon.

Business and administrative occupations make up the community's second-largest employment field. About 20% of all employment in 2001 derived from this group, which includes occupations such as accountants, bookkeepers, and clerical workers. The high share of these occupations in the Whitehorse labour market reflects the city's position as the territorial centre for government and business activity.

Management occupations in Whitehorse provide almost 14% of total employment. A further 12% comes from the government, education, and social services field, which includes occupations such as teachers, social workers, lawyers, and policy and community service workers. The proportion is high because so much of the Territory's government, education and business activity occurs in Whitehorse.

Whitehorse is also the Yukon's major health centre, with a hospital and a full range of health practitioners. Health occupations make up almost 5% of employment. Science and technology occupations account for almost 7% of employment in Whitehorse, a higher proportion than elsewhere in the Yukon. These occupations include engineers, technicians, surveyors, and computer programmers.

Occupations in art, culture and recreation provide almost 4% of employment in Whitehorse, much the same share as elsewhere in the Yukon.

Occupations in the trades, transport, equipment operating, mining, forestry and other primary sectors make up a far smaller share of Whitehorse jobs.

### *Major Industries*

As the capital of the Yukon, the four levels of government are the most important sector in Whitehorse. As well, Whitehorse serves as the service centre for the other Yukon communities, and the different service industries are well represented. Tourism is not negligible either as Table 7.14-3 shows. Whitehorse receives more visitors and more tourism spending than any other region in the Yukon.

### *Employment by Industry*

For most industries, Whitehorse has a disproportionate share of the labour force as Table 7.14-25 shows. The exceptions are the resource industries and construction. In terms of relative importance, public administration is the most important industry, not surprisingly given that the city is the Territorial capital. Other important industries include retail trade and health care and social assistance. Resource-based industries are less important.

### *Employment, Unemployment and Labour Force*

Whitehorse has a lower unemployment rate, a higher participation rate and employment rate than other Yukon communities.

**Table 7.14-25 Employment by 1997 North American Industry Classification System, Whitehorse CA and the Yukon**

	Whitehorse CA			Yukon	
	Number	%	% of Yukon	Number	%
Total labour force 15 years + by industry	13,545		75%	17,950	
Industry - Not applicable	205	1.5%	73%	280	1.6%
All industries	13,340	98.5%	76%	17,665	98.4%
Agriculture, forestry, fishing and hunting	145	1.1%	51%	285	1.6%
Mining and oil and gas extraction	180	1.3%	42%	430	2.4%
Utilities	110	0.8%	76%	145	0.8%
Construction	890	6.6%	64%	1,400	7.8%
Manufacturing	295	2.2%	78%	380	2.1%
Wholesale trade	305	2.3%	92%	330	1.8%

**Table 7.14-25 Employment by 1997 North American Industry Classification System, Whitehorse CA and the Yukon (cont'd)**

	Whitehorse CA			Yukon	
	Number	%	% of Yukon	Number	%
Retail trade	1,635	12.1%	84%	1,940	10.8%
Transportation and warehousing	570	4.2%	74%	770	4.3%
Information and cultural industries	655	4.8%	94%	700	3.9%
Finance and insurance	340	2.5%	93%	365	2.0%
Real estate and rental and leasing	165	1.2%	85%	195	1.1%
Professional, scientific and technical services	635	4.7%	86%	740	4.1%
Administrative and support services	435	3.2%	74%	585	3.3%
Educational services	880	6.5%	75%	1,180	6.6%
Healthcare and social assistance	1,305	9.6%	82%	1,590	8.9%
Arts, entertainment and recreation	405	3.0%	73%	555	3.1%
Accommodation and food services	1,100	8.1%	69%	1,600	8.9%
Other services (except public administration)	595	4.4%	83%	720	4.0%
Public administration	2,705	20.0%	72%	3,735	20.8%

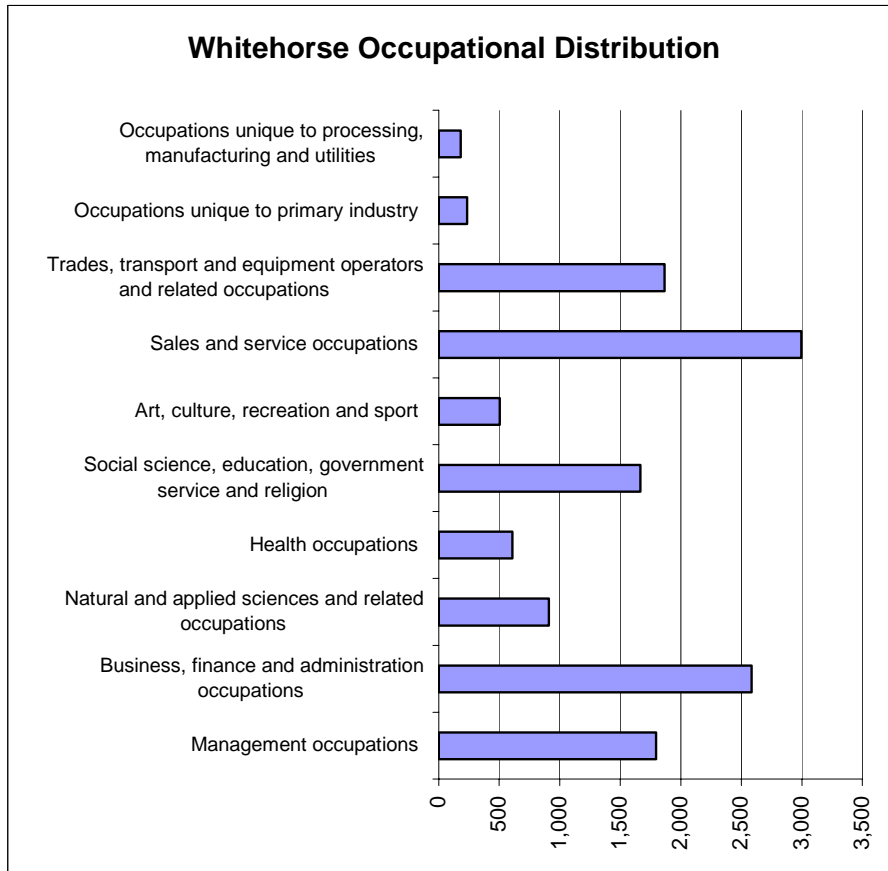
**Source:** Statistics Canada, 2001 Census

**Table 7.14-26 Labour Force Statistics, Whitehorse, 2001**

	Whitehorse	Yukon
Working age population (15 years and over)	16,770	
In the labour force	13,550	
Employed	12,165	
Employment rate	72.5%	70.6%
Unemployed	1,380	
Unemployment rate	10.2%	11.6%
Not in the labour force	3,220	
Participation rate	80.8%	79.8%

**Source:** Statistics Canada, 2001 Census

Figure 7.14-18 below shows what types of occupations are most prevalent in Whitehorse. Given the economic base of government, tourism and service centre, it is not surprising that the most important occupational groups are in Sales and service occupations and Business Finance and administration occupations. Other important occupational groups include trades and transport, management, and social science occupations.



**Source:** Statistics Canada, 2001 Census

**Figure 7.14-18 Occupational Distribution of Employment, Whitehorse, Census 2001**

*Income*

Whitehorse has the highest incomes of any community in the Yukon. Average employment earnings in 2000 were just under \$34,000 compared to \$31,500 for the Yukon. The same kind of difference is reflected in median incomes and in household and family incomes.

**Table 7.14-27 Average and Median Incomes, Whitehorse, 2000**

	<b>Whitehorse</b>	<b>Yukon</b>
Average earnings (all persons with earnings)	\$33,829	\$31,526
Average earnings (worked full year, full time)	\$46,116	\$44,605
Median total income of persons 15 years +	\$30,033	\$26,488
Median family income	\$70,016	\$63,490
Median household income	\$59,035	\$51,930

**Source:** Statistics Canada, 2001 Census

*Personal Income Distribution*

Table 7.14-28 below compares the distribution of individual incomes in Whitehorse with the Yukon as a whole over a range of annual incomes. That table shows that Whitehorse residents generally had higher incomes than other Yukon communities. Fewer people were in the lower income ranges and more in the higher ranges.

**Table 7.14-28 Income Distribution by Income Range, Whitehorse and Yukon, 2000 Tax Year**

Income range	Whitehorse % of returns	Yukon % of returns
Under \$1,000	3.5%	3.9%
\$1,000 to \$5,000	6.0%	6.7%
\$5,000 to \$10,000	9.0%	9.5%
\$10,000 to \$15,000	10.6%	11.5%
\$15,000 to \$20,000	8.5%	9.1%
\$20,000 to \$25,000	7.1%	7.4%
\$25,000 to \$30,000	6.5%	6.7%
\$30,000 to \$40,000	12.0%	12.0%
\$40,000 to \$50,000	11.3%	10.4%
\$50,000 and up	25.4%	22.9%
Total	100.0%	100.0%

*Income by Source*

Income by source was very similar in Whitehorse than in the Yukon as a whole. The only notable difference was a slightly higher percentage of people reporting income from investments.

**Table 7.14-29 Income Distribution by Source of Income, Whitehorse and Yukon, 2000 Tax Year**

Type of income	Whitehorse % of income	Yukon % of income
Employment	78.2%	77.8%
Pension	5.3%	5.5%
Investment	4.9%	4.8%
Self-employment	4.3%	3.9%
Other	5.2%	5.8%
Tax-exempt	2.1%	2.2%
Total	100.0%	100.0%

It is planned that construction will begin in August of 2006 with mining to commence in October of 2007. The production rate is planned to be 456,250 tonnes/year (tpa). It is estimated that mining at 456,250 t/y will continue through 2019 with total mine production planned to be approximately 5.4 Mt.

### 7.14.3 Effects Assessment Methodology

#### ***Economic Impact Assessment***

The socio-economic assessment combines the quantitative tools of a conventional economic assessment with the more qualitative tools of socio-cultural effects assessment. Where appropriate, mitigation measures to optimize benefits and minimize adverse effects are identified.

An *economic impact assessment* is a standard economic tool designed to measure the total effect of an injection of funds into a local or regional economy. The assessment is a snapshot, measuring the impact of that injection. It cannot measure costs and benefits over time nor can it provide measures to judge whether an equivalent expenditure of government funds on something else would have generated more or less benefit. Economic impacts are usually classified as direct, indirect or induced. The findings of the economic assessment informed the assessment of project effects on the employment and contracting opportunity. Specific parameters and assumptions used for characterizing economic effects are detailed below:

- ***Direct impacts:*** The value-added increase in employment, local incomes and local GDP retained in the area, and tax receipts to all governments.
- ***Indirect impacts:*** The value-added increase in employment, local incomes and local GDP retained in the area, and tax receipts to all governments from local suppliers of goods and services to the project.
- ***Induced impacts:*** The increase in employment, local incomes, local GDP, and tax receipts from the spending and re-spending of all labour income generated by the original expenditure.

The calculation of all impacts requires the use of multipliers. The multipliers used to calculate direct and indirect impacts for this project come from Statistics Canada's 2000 Inter-provincial Open Input-Output model. Induced impacts were not calculated as Statistics Canada no longer includes these values in its models.

#### ***GDP***

There are three different ways to measure GDP, which, in theory, should produce the same result:

- ***Expenditure:*** adding up consumer spending, gross capital expenditures by private businesses and government, government direct spending on goods and services (not transfer payments such as social assistance, employment insurance or pensions) and net exports;
- ***Income:*** adding up everyone's wages and salaries, income from unincorporated businesses, corporation profits, interest income, and adjustments for depreciation and indirect taxes such as GST;
- ***Value added method:*** adding up all the value directly produced by each industry. Valued added is defined as the total sales of an industry minus what it buys from other industries.

Calculating direct impacts of the construction of the Yukon zinc project can be done in two ways. For the construction phase, mine construction is part of gross capital



expenditures, it can be added directly to the “expenditure” method. However, imports need to be subtracted from this figure to arrive at the direct impacts. In the operations phase, exports of concentrate are part of net exports, so they can also be added directly to GDP, but imports by the mine also need to be deducted.

### *Multipliers*

One can use multipliers which are based on an input-output economic model based on the value added method and provides multipliers calculating the different components of the “Income” method” for each industry. The model and multipliers used is Statistics Canada’s 2000 *Interprovincial Open Input-Output model*. Unfortunately, induced impacts are no longer available, as Statistics Canada no longer includes these in its models. While we might have estimated these, we did not want to overstate the effects of the spending. For an idea of the order of magnitude of induced impacts, the 1990 versions of the input-output model showed a total GDP multiplier (includes direct, indirect and induced effects) of 1.24 for “Road, highway & airstrip construction” and 1.077 for “Other Metal Mines”.

The 2000 Interprovincial Open Input-Output model only applies to the Yukon (and other provincial/territorial jurisdictions), but not to local communities. Other models exist to compute local economic impacts, but in the absence of knowledge about how much money and employment will be generated in each community, it is impossible to calculate impacts.

Multipliers for **direct** impacts of mine construction and of mine operation are kept confidential by Statistics Canada, because too few mines were in operation when the multipliers were calculated (2000). Nevertheless, direct impacts can be calculated using information from the mine plan. Indirect impacts in the Yukon and in Canada as a whole can readily be calculated using published multipliers. As well, overall multipliers for “Construction” and “Mining and Oil and Gas Extraction” can also be used.

### ***Socio-Cultural Effects Assessment***

The findings of the economic assessment provided the basis for predicting effects on community health and well being, including the potential for in-migration and out-migration, and effects on local health, law enforcement and social services. Information on project shifts, personnel transportation, etc. provided further information with which to interpret potential social and cultural effects of the project on local communities and associated effects on the community health and well being VSC. Information on haul frequency and scheduling and mitigation measures to address potential traffic and safety concerns were used to determine the potential effects on the traffic VSC.

On the basis of this analysis effects were characterized in accordance with the EA Report Guideline (Yukon ECO 2005), using the effects attributes defined in Table 7.14-46.

**Table 7.14-30 Socio-Economic Effects Attributes**

Attributes	Definition
<b>Magnitude</b>	
High	Major change from existing baseline conditions
Medium	Moderate change from local baseline conditions
Low	Minor change from local baseline conditions
<b>Spatial Extent</b>	
Regional	In NEBC
Local	In the vicinity of the mine, including the communities of Chetwynd and Tumbler Ridge and adjacent settlements and First Nations communities
<b>Duration</b>	
Short-term	Impact continues during construction only
Medium-term	Impact continues beyond construction
Long-term	Impact continues for the life of the project
<b>Frequency (during the Project Life)</b>	
Continuous	Impact occurs continuously during the project life
Frequent	Impact occurs several times during the project life
Infrequent	Impact occurs very occasionally during the project life
<b>Reversibility</b>	
Reversible	Impact can be reversed once the project activity ceases
Irreversible	Impact that cannot be reversed once the project activity ceases
<b>Likelihood of Occurrence</b>	
High	The likelihood of occurrence of the effect as predicted is high
Unknown	The likelihood of occurrence of the effect as predicted is unknown

#### *Determination of Effects Significance*

The significance of residual project and cumulative effects on socio-economic conditions was determined based on the nature and magnitude of the effects, the mitigation strategies that are available for reducing or eliminating adverse effects and optimizing positive effects and the resulting effect on community well being. A residual effect will be considered significant if it:

- raises strong concern among stakeholders
- results in substantial changes in the well being of affected populations or communities

Significant socio-economic effects could be either positive or adverse.

### **7.14.4 Project Effects**

#### **7.14.4.1 Construction**

It should be noted that the data presented and analyzed in this section are preliminary numbers based on a 2004 prefeasibility study, and are expected to change with completion of the feasibility study in progress.

**Regional Economic Effects**

Capital expenditures for the mine construction were estimated at between \$127 million and \$128 million as follows by Hatch Associates Limited (2004 prefeasibility study estimate):

**Table 7.14-31 Construction Expenditures (M\$ in CDN)**

Description	Construction Capital Cost	
	Ridge Access Road	Money Creek Access Road
<b>Direct Costs:</b>		
Site & General	\$17,580	\$18,173
Buildings & Services	\$21,681	\$21,700
Process Systems	\$28,377	\$28,377
Mine	\$14,442	\$14,442
<b>Total Direct Costs</b>	<b>\$82,080</b>	<b>\$82,692</b>
<b>Total Indirect Costs</b>	<b>\$28,348</b>	<b>\$28,519</b>
<b>Total Contingency</b>	<b>\$16,564</b>	<b>\$16,681</b>
<b>Total Capital Cost</b>	<b>\$126,992</b>	<b>\$127,892</b>

A construction camp with a capacity for handling 150 personnel will be required by August of 2006. It will be located near the project site, a few kilometers south of the main industrial complex. Construction of the concentrator, mine site buildings, power line, road and mine pre-production development is estimated to require over 540,000 person hours of employment during the August 2006 to October 2007 construction period. The required approximately 284 person years of construction employment will be sourced locally if possible. It should be noted that the Socio-Economic Participation Agreement with the Ross River Dena Council provides for job preference to Ross River Kaska, followed by other Kaska and Ross River residents. These preferences remain subject to persons qualifying for the jobs available.

On average, there will be 120 construction workers on-site throughout the construction period with peak at 150. Workers are planned to work 10 hours per day and 7 days per week with turnarounds as required by the schedule of construction activities. Project work shifts will operate with two week turnarounds.

Most economic impacts will result from the \$127 million capital spending on the construction of the mine and related facilities. Construction spending will affect Gross Domestic Product (GDP), employment, business revenues, and taxes. Multipliers for direct impacts of mining construction are kept confidential by Statistics Canada, but total direct and indirect impacts can readily be calculated using published multipliers. However, multipliers for the overall construction industry are available and used in this analysis. The estimated 2000 Yukon multipliers of construction expenditures on different components of GDP are presented below. The meaning of each multiplier is explained below in the relevant section. To use the multipliers, the initial amount of expenditure (\$127,000,000) is multiplied by the appropriate multiplier to arrive at the final impact.

**Table 7.14-32 Construction Expenditure Multipliers, Yukon, 2000**

	Direct Impact in the Yukon	Direct + Indirect Impact in the Yukon	Direct + Indirect Impact in Canada
Total GDP	0.34	0.45	0.78
Output	1.00	1.21	1.92
International Imports	0.11	n/a	0.21
Indirect taxes on products	0.00	0.01	0.01
Indirect taxes on production	0.00	0.01	0.02
Wages and salaries	0.23	0.29	0.46
Supplementary labour income	0.02	0.03	0.05
Mixed income	0.02	0.03	0.04
Other operating surplus	0.06	0.10	0.21
Employment (person-years per million \$)	5.93	7.97	12.48
Employment ratios (person-years per direct job)	1.00	1.34	2.11

It should be noted that the Statistics Canada employment multipliers are average figures for all construction and the mine planning exercise provides more accurate numbers on direct employment in this particular project. So rather than using the Statistics Canada indirect impact multipliers, the ratio of indirect to direct jobs is used to calculate indirect impacts on employment. Thus, the number of direct jobs is multiplied by the employment ratio to obtain indirect jobs.

Direct and indirect impacts on GDP are presented below. The initial \$127 million in construction expenditure will result in a total of \$154 million worth of purchases in the Yukon and \$244 million in Canada as a whole. Note that the “Output” amount double-counts many expenditures. For example, a construction contract would include fuel for heavy equipment. Both the total value of the contract and the value of fuel purchases are added up in the total output indirect impact measures.

**Table 7.14-33 Construction Impact on GDP**

	Direct Impact in the Yukon	Direct + Indirect Impact in the Yukon	Direct + Indirect Impact in Canada
Output	\$127,000,000	\$154,084,500	\$244,444,400
Total GDP	\$43,808,700	\$57,124,700	\$98,779,500
International imports	\$14,441,500	n/a	\$26,564,100

The GDP impacts are a better measure as it eliminates double counting and takes economic leakages into consideration, i.e., it subtracts the value of those goods and services that must be imported for the project. The direct impact in the Yukon of the construction of the mine is to directly increase the Yukon’s GDP by \$43.8 million. When purchases in the Yukon are accounted for, the territory’s GDP will be increased by \$57.1 million, while Canada’s GDP will increase by \$98.7 million. The Yukon’s GDP in 2003 was a little over \$1 billion or \$1,089,000,000. The \$57.1 million total (direct + indirect)

impact in the Yukon will therefore likely account for about 5.2% of GDP, which represents a substantial amount.

Note that the total impact on the Yukon's GDP is less than half of what the project will cost. This is largely due to the need to import many of the goods and services needed for the project. The input-output model only calculates international imports, estimated at \$14.4 million. Based on that number and the total direct+indirect impacts, imports from other parts of Canada will amount to about \$55.4 million

### **Government Revenues and Spending**

#### *Tax Revenues*

The input-output model allows calculating indirect taxes such as the GST and property taxes directly, but income taxes have to be estimated. The current lowest minimum marginal tax rate in the Yukon is 16% for federal personal income taxes and 7.04% for Yukon income tax. Note that some of the income tax revenues could go to First Nations governments if workers on the job live on Yukon First Nation settlement land. The tax rates can be applied to wages and salaries to yield an estimate of personal income taxes. Corporation income taxes are much more difficult to estimate and the model does not yield a useful number for corporation profits. The tax effects of the mine construction are summarized below.

**Table 7.14-34 Impacts on Taxes of Construction Expenditures, Yukon and Canada**

	<b>Direct Impact in the Yukon</b>	<b>Direct + Indirect Impact in the Yukon</b>	<b>Direct + Indirect Impact in Canada</b>
Indirect taxes on products	\$500,700	\$705,900	\$1,437,900
Indirect taxes on production	\$630,300	\$884,300	\$2,010,900
Federal income taxes	\$5,082,464	\$6,404,896	\$10,072,432
Yukon/FN/provincial income taxes	\$2,236,284	\$2,818,154	\$4,431,870
Total tax revenues	\$8,449,748	\$10,813,250	\$17,953,102

As Table 7.14-34 shows, overall, construction of the project is estimated to yield \$10.8 million in taxes to governments in the Yukon and about \$18 million in taxes to all governments in Canada.

#### *Government Spending*

Project construction workers will be housed at an on-site camp and therefore will place little or no pressure on the housing market, local health facilities, local education facilities, local social services or recreation facilities in the project vicinity.

Construction activities will place no pressure on local waste management facilities. A package sewage treatment plant will be provided for the construction camp and construction waste will be disposed of in a landfill near the tailings facility. Waste oils/lubricants will be disposed of by transferring the material to a recognized recycling plant. There are no chemicals or hazardous wastes associated with project construction.

There will be an increase of road use associated with the construction activities. Both Highway 4, Highway 6 and the Alaska Highway will experience some increased traffic periodically during construction but little or no public inconvenience is anticipated.

**Employment**

Job creation numbers can also be estimated from the multipliers presented above. Construction of the concentrator, mine site buildings, power line, road and mine preproduction is estimated to directly require 284 person-years over the 15-month construction period. Once employment generation in industries that supply goods and services to the contractors is factored in, the project will create an additional 98 person-years in the Yukon and an additional 216 person-years in other Canadian provinces or territories.

**Table 7.14-35 Employment Impacts of Construction Expenditures, Yukon and Canada**

	<b>Yukon Direct Impact</b>	<b>Yukon Direct + Indirect impact</b>	<b>Canada Direct + Indirect Impact</b>
Employment (person-years)	752.8	1,011.9	1,585.2
Wages and salaries	\$29,054,500	\$36,345,500	\$57,957,300
Supplementary labour income	\$2,905,800	\$3,637,300	\$6,020,900
Mixed income	\$2,710,900	\$3,685,100	\$4,995,400
Other operating surplus	\$8,149,300	\$12,204,600	\$26,987,200
	\$42,821,253	\$55,873,512	\$95,962,385

On average, there will be 120 construction workers on-site throughout the construction period with peak at 150. Workers are planned to work 10 hours per day and 7 days per week with turnarounds as required by the schedule of construction activities. Yukon Zinc will operate with two week turnarounds.

*Wages*

As Table 7.14-35 shows, total wages paid to on-site construction workers will amount to \$29 million dollars. If both on-site work as well as wages paid in supplier industries are accounted for the direct and indirect impact of construction related activities on Yukon is over \$36 million and on Canada is almost \$58 million. \$36.3 million in wages will be paid in the Yukon and close to \$58 million in Canada as a whole.

*Training plans*

There are no specific training plans developed for the construction of the project. It is anticipated that normal complements of apprentices will be used on the project. The Socio-Economic Participation Agreement (SEPA) provides opportunities for training.

*Labour availability*

While the Yukon and local communities have a reasonable complement of workers with the required skills, availability of skilled workers and contractors might be a problem because of potentially conflicting projects and high demand in all parts of western

Canada. A number of major projects could compete directly with the current one, including other mining developments, the Alaska Highway natural gas pipeline construction, a contemplated railroad from Canada to Alaska, and construction related to the Canada Winter games in Whitehorse in 2007. As well, many Yukon trades-people are currently working in the Fort McMurray area and other areas in Western Canada with strong oil and gas development.

### ***Contract and Business Opportunities***

YZC is committed to providing employment and business opportunities for local residents, including First Nations to the extent possible based on qualifications, quality of service, cost and capability to deliver in a timely manner. As indicated above, YZC will target as high a number as possible of the construction workforce from the local labour market. This will ensure local benefit will flow during construction.

A number of contracts will be let out for mine construction, including camp construction, camp services, road building, tailings pond construction and mine construction. In addition to the \$127 million capital costs, the mine construction will result in additional sales of \$27 million for Yukon businesses supplying goods and services to the companies involved in the mine construction. In the absence of current multipliers, it is difficult to estimate what business opportunities could be created by the expenditures of workers and contractors.

### ***Effects on Community Health and Well Being***

Construction is not expected to have any cost-of-living impacts in communities of interest. The population effect during construction of a project like this, with an on-site construction camp, is very small. Experience shows that construction workers do not relocate but tend to maintain their homes elsewhere and live in the on-site camp during their shift. As a result no excessive demands on local health, law enforcement or social services are expected.

Virtually all personnel movement will be by air.

### ***Effects on Traffic and Safety***

It is anticipated that supplies and equipment will be trucked to the project site using the Alaska Highway and Robert Campbell Highway. Some modest interruption of the traffic can be expected as large pieces of equipment move through. No effect on general highway safety is anticipated.

### ***Effects on Traditional Ways of Life***

No effects anticipated. However, opportunities for working on the construction site by local residents might reduce subsistence activities.

It should be noted that the data presented and analyzed in this section are preliminary numbers based on a 2004 prefeasibility study, and are expected to change with completion of the feasibility study in progress.

## **7.14.4.2 Operations**

The mine is slated for production start-up in October 2007 with an ore production rate of 456,250 tonnes annually with total ore production and processing of 5.4 million tonnes.

Annual expenditures associated with mine operations at full production were estimated in the Hatch pre-feasibility study to be C\$45 million (although recent feasibility level expenditure data show expenditures to be somewhat higher, \$47.4 million, the impact section carries through with consistent pre-feasibility numbers. The resultant economic impacts are thus understated by roughly 5%). A breakdown of these annual expenditures is contained in Table 7.14-36.

**Table 7.14-36 Average Annual Operating Expenditures**

	<b>Annual Expenditures</b>
Mining	14,787,000
Mining contingency	1,478,000
Processing	9,946,000
General & administration	5,662,000
Power generation	4,535,000
<b>SUBTOTAL</b>	<b>\$36,408,000</b>
Concentrate haul to Skagway	11,000,000
<b>TOTAL</b>	<b>\$47,408,000</b>

**Notes:** Derived from 2004 Hatch Pre-feasibility study. Based on production of 456,250 tonnes annually (note that concentrate haul costs are generally not included in OP costs; rather it is a sales cost and a deduction from Gross Revenues)

The \$36 million annual operating expenditures, and \$11 million in concentrate haulage costs, represent in total approximately \$13.1 million in labour costs and \$34.3 million in supplies and other expenses.

### ***Regional Economic Effects***

Economic impacts can be calculated using total expenditures on operations and maintenance and applying the requisite multipliers. The calculated impacts are average annual amounts over the planned mine life of 8 years rather than totals for the eight years.

Multipliers for direct impacts of mining are kept confidential by Statistics Canada, but overall multipliers for direct impacts of “Mining and oil gas extraction” can be used where data is not available from mine planning documents. Total direct and indirect impact multipliers are available for “Metal ore mining”. The estimated 2000 Yukon multipliers of mining expenditures on different components of GDP are presented below. The meaning of each multiplier is explained below in the relevant section. To use the multipliers, the annual operating expenditure including concentrate haulage costs (\$47,408,000) is multiplied by the appropriate multiplier to arrive at the final impact.

Direct and indirect impacts on GDP are presented below (Table 7.14-38). The annual; \$47,408,000 million in operating expenditure will result in a total of almost \$56 million worth of purchases in the Yukon and \$80 million in Canada as a whole. Note that the “Output” amount double-counts many expenditures.



**Table 7.14-37 Mining Expenditure Multipliers, Yukon, 2000**

	Mining and oil and gas extraction	Metal Ore Mining	
	Direct Impact in the Yukon	Direct + Indirect Impact in the Yukon	Direct + Indirect Impact in Canada
Total GDP	0.60	0.53	0.76
Output	1.00	1.20	1.69
International Imports	0.09	0.00	0.23
Indirect taxes on products	0.00	0.01	0.01
Indirect taxes on production	0.01	0.00	0.01
Wages and salaries	0.14	0.28	0.38
Supplementary labour income	0.02	0.04	0.05
Mixed income	0.00	0.01	0.02
Other operating surplus	0.42	0.20	0.29
Employment (person-years per million \$)	3.56	5.41	8.22
Employment ratios (person-years per direct job)	1.50	1.52	2.31

**Table 7.14-38 Mine Operation Impact on GDP**

	Direct Impact in the Yukon <sup>1</sup>	Direct + Indirect Impact in the Yukon <sup>2</sup>	Direct + Indirect Impact in Canada <sup>2</sup>
Output	\$47,408,000	\$56,889,600	\$80,119,520
Total GDP	\$28,444,800	\$25,126,240	\$36,030,080
International imports	\$4,266,720	n/a	\$10,903,840

**Notes:** <sup>1</sup> Based on “Mining and oil and gas extraction” multipliers  
<sup>2</sup> Based on “Metal ore mining” multipliers

The GDP impacts are a better measure as it eliminates double accounting and takes economic leakages into consideration, i.e., it subtracts the value of those goods and services that must be imported for the project. The direct impact in the Yukon of the construction of the mine is to directly increase the Yukon’s GDP by an annual average of \$25 million if purchases from Yukon suppliers are included. Canada’s GDP will increase by \$36 million on average every year the mine operates. The Yukon’s GDP in 2003 was a little over \$1 billion or \$1,089,000,000. The \$25.1 million total (direct+indirect) annual impact of the Wolverine Project in the Yukon will therefore likely account for about 2.3% of GDP, which is a significant amount.

Note that the total impact on the Yukon’s GDP is a little more than half of what the project will cost. This is largely due to the need to import many of the goods and services needed for the project.

## **Government Revenues and Spending**

### *Tax Revenues*

The project will generate additional revenues for the different levels of government. This includes indirect taxes such as the federal GST and municipal/territorial property taxes. As well, a number of direct taxes will be paid, including territorial/provincial, federal and potentially First Nations individual and corporation income taxes, as well as federal and territorial royalties.

The input-output model allows calculating indirect taxes such as the GST and property taxes directly, but income taxes and royalties have to be estimated. The current lowest minimum marginal tax rate in the Yukon is 16% for federal personal income taxes and 7.04% for Yukon income tax. Note that some of the income tax revenues could go to First Nations governments if mine employees live on Yukon First Nation settlement land. The tax rates can be applied to wages and salaries to yield an estimate of personal income taxes. Corporation income taxes are much more difficult to estimate and the model does not yield a useful number for corporation profits. The known tax effects of the mine operation are summarized below; based on the Hatch 2004 prefeasibility study.

### *Government Spending*

By creating jobs, the mine operation is likely to reduce spending on social assistance and Employment Insurance. However, depending on the effect on population, spending on other government programs such as health care and education could increase, depending on how many people end up migrating to the Yukon as a result of the mine. Given the proponent's commitment to employ as many local residents as possible, the effects are likely to be small, as the Yukon government is already providing services to the residents.

**Table 7.14-39 Impacts on Taxes of Mine Operation Expenditures, Yukon and Canada**

	<b>Direct Impact in the Yukon<sup>1</sup></b>	<b>Direct + Indirect Impact in the Yukon<sup>2</sup></b>	<b>Direct + Indirect Impact in Canada<sup>2</sup></b>
Indirect taxes on products	\$105,700	\$270,100	\$452,300
Indirect taxes on production	\$322,400	\$194,100	\$510,500
Federal individual income taxes	\$1,064,848	\$2,095,360	\$2,899,520
Yukon/FN/provincial income taxes	\$468,533	\$921,958	\$1,275,789
Federal corporation income taxes			
Yukon/provincial corporation income taxes			
Federal royalties			
Territorial royalties	\$12,000,000		
<b>Total tax revenues</b>	<b>\$13,961,481</b>	<b>\$3,481,518</b>	<b>\$5,138,109</b>

**Notes:** <sup>1</sup> Based on "Mining and oil and gas extraction" multipliers  
<sup>2</sup> Based on "Metal ore mining" multipliers

### ***Employment***

Approximately 191 employees will be required to operate and maintain the project. In addition, approximately 39 contract truckers and additional maintenance support workers will be required on a full-time equivalent basis. Approximately 104 staff will be on site at any one time.

Total payroll costs are estimated to be approximately \$12.5 million annually during operation. This estimate is likely to be lower rather than higher than the actual payroll once operations begin for a number of reasons. First, the base hourly rates for many of the positions appear to be on the low side given the current intense competition for skilled labour in the mining and other industries such as oil & gas and construction which tap into the same labour pool.

### ***Shift Schedules***

Current plans are that the mine will operate on an 11-hour shift basis, two shifts per day, seven days per week. The hour between shifts will be used to clear blast smoke from the mine. Given the two shifts per day schedule, the basic rotation for most workers will likely be two weeks in camp followed by two weeks out. This results in a total of 11.5 rotations per year with an average of 162 hours worked per rotation and a total of approximately 1800 hours worked per year. (Note that the 162 hours includes an allowance of 8 hours of unscheduled overtime per rotation).

However, it should be noted that the Mines Safety Regulations Section 17(1) stipulates that “No worker shall be scheduled to remain in an underground mine for more than eight hours in any consecutive twenty-four hours...” The proposed shift will require a variance, as per Section 17(4): “An employer at an underground mine may apply to the Director for an order exempting the employer from the provisions of subsection 17(1).”

Subsection 17(5) states the considerations that the Director will consider, which include the remoteness of the mine, the difficulty of access to the mine, and the consent of the workers. It is reasonable to assume that in this case, the variance will be granted.

The company desires this shift schedule for the following reasons:

- The cost of personnel transport will be too high for more regular rotations (like a traditional five days with weekends off, or four days on four days off).
- In remote sites, workers generally prefer longer days as opposed to excess idle time.
- This shift offers a reasonable family life to local workers, helping to maintain a stable and healthy workforce.
- A longer duration of stay at site (say four weeks on and two weeks off) would attract an experienced workforce from outside of the Yukon willing to commute long distances at personal cost.
- It is viewed as providing for a stable workforce with low turnover.

Thus, mine workers will be divided into four shifts. At any given time, two shifts will be on site (one working and one resting) and two shifts will be off-site on days off.

If, however, a variance to the Mines Safety Regulations is not granted, mine workers will be confined to an 8 hour work day and the rotation schedule would likely be altered to either a two weeks in one week out rotation or a four weeks in, two weeks out rotation.

### *Regional Employment*

In addition to the people directly employed by the operating mine, there will be employment created both through the mine's purchase of goods and services and through the spending of employees in their communities. The effect on employment of the mine's purchases is an indirect impact, while the re-spending of employee's wages and salaries is an induced impact.

YZC plans to directly employ 191 people on a full-time basis as outlined above. This is the operation's direct employment impact in the Yukon.

A further 39 full-time contract truckers and additional support workers have also been identified. These workers are part of the indirect employment impact of the mine. Ratios derived from Statistics Canada's Interprovincial Input-Output model show that a hard-rock mine in the Yukon will create 1.52 person years of direct and indirect employment in the territory for every direct job created.. With annual operating expenditures estimated at \$44.9 million, the mine will create a total of 290 person-years of employment annually directly and indirectly.

Direct and indirect employment impacts on the Yukon are summarized in the table below.

**Table 7.14-40 Direct and Indirect Employment**

	<b>Person-years employment</b>
Direct	191
Indirect (contract trucking)	39
Indirect — other	60
<b>TOTAL</b>	<b>290</b>

There will be some further employment impacts created through the spending of employee's wages and salaries, known as induced impacts. Unfortunately, Statistics Canada no longer provides the multipliers necessary to calculate these induced impacts.

The mine will also create jobs through its spending on equipment and supplies other areas of Canada. Statistics Canada's Yukon mine employment multiplier for Canada as a whole (including the Yukon) is 8.22 person-years per \$1.0 million in expenditures. The employment ratio presented in Table 7.14-37 estimates 2.31 person-years of employment created in Canada for every direct mine job. This indicates that Yukon Zinc's operations will create a total of 150 person-years of employment in other parts of Canada in addition to the 290 Yukon jobs.

**Table 7.14-41 Employment and Income Impacts of Operation Expenditures, Yukon and Canada**

	<b>Direct Impact in the Yukon<sup>1</sup></b>	<b>Direct + Indirect Impact in the Yukon</b>	<b>Direct + Indirect Impact in Canada</b>
Employment (person-years)	191	290.2	440.9
Wages and salaries	\$6,516,200	\$8,904,400	\$12,751,800
Supplementary labour income	\$737,700	\$989,100	\$1,392,000
Mixed income	\$139,100	\$315,000	\$558,800
Other operating surplus	\$19,091,000	\$20,210,800	\$23,052,000
Total	\$26,484,160	\$30,419,500	\$37,754,902

**Notes:** <sup>1</sup> of the 191 direct jobs created, many will flow outside the Yukon initially. As familiarity with Yukon grows it is anticipated that families will relocate to Yukon communities.

### *Local Employment*

It is the Company's desire to hire and train locally as much as possible, both for the positive impact on the local community, and to reduce turnover and transportation costs.

Yukon Zinc stated staffing policy is that preference will be given to qualified job applicants in the following priority:

1. members of the Ross River Kaska Dena
2. members of the Kaska Nation
3. non-aboriginal Ross River residents
4. Yukon residents
5. any other applicants

While this preferential hiring structure obviously gives advantages to local people, both First Nation and non-First Nation, and to Yukoners as a whole, the key factor is how many local and Yukon people will be considered qualified. As discussed in the section on labour availability below, it is unlikely that any qualified and experienced underground workers will be found in the Yukon at all. Similarly, the management, supervisory, and engineering positions are unlikely to be filled from the local labour pool given the lack of operating mines in the Yukon since the closure of Faro and Brewery Creek. And the skilled mechanical and electrical trades are also in very short supply. However, the mine will require a wide variety of employees, from clerks to apprentice electricians to truck drivers, that the region and the current Yukon labour pool is likely to supply more readily.

Unfortunately, there is no way of accurately estimating how many of the positions required to operate the Wolverine mine will be filled by residents of the local region or even by Yukoners as a whole.

### *Labour Availability*

The shortage of labour — and particularly skilled labour — required for mining projects has been an increasing concern for the industry throughout Canada. A number of factors are contributing to the general shortage:

1. There is very stiff competition for qualified people in a variety of trades and skills from the oil and gas and construction industries. The oil sands developments in northern Alberta in particular have been attracting many skilled workers.
2. The prolonged slump in the mining industry in the 1980s and 1990s led to many workers leaving the industry and to the cutback of the training of apprentices and other new entrants.
3. There has been increasing difficulty in both the mining and oil & gas industries finding people who have both the desire and the stamina to work in physically demanding jobs in sometimes harsh conditions.

Anecdotal evidence is strong that the Yukon has seen a substantial number of skilled and experienced workers in mining and related fields migrate to other jurisdictions to find work or to leave the industry altogether. And because there has been very little underground mining done in the Yukon for many years, qualified and experienced underground workers are likely very rare in the territory.

However, the Yukon retains the advantage of a relatively stable workforce — and particularly the First Nation workforce — that wishes to remain rooted in the territory.

### *Wages and Salaries*

A breakdown of employee wages and salaries by position is shown in the tables below.

Salaried positions range from an estimated base salary of \$150,000 annually for the mine site manager to \$33,000 annually for the liaison officer.

**Table 7.14-42 Breakdown of Salaries**

<b>Basis:</b>	<b>Description</b>	<b>Manpower</b>	<b>Base Salary CDN\$</b>
<b>Staff</b>			
	Mine Site Manager	1	\$150,000
	Secretary	1	\$36,000
	Personnel Superintendent	1	\$100,000
	Environmental Engineer	1	\$82,000
	Liaison Officer	2	\$33,000
	Purchasing Agent	1	\$82,000
	Buyer	1	\$66,000
	Warehouseman	4	\$51,000
	Safety and Training Officer	1	\$77,250
	First Aid	1	\$55,000
	Controller	1	\$51,000
	Payroll Clerk	1	\$51,000
	Accounting Clerk	1	\$51,000
<b>Surface Crew</b>			
	Lead Hand	1	\$77,250
	Surface Operator	3	\$55,000
<b>Mine Staff</b>			
	Mine Manager	1	\$90,000
	Shift Foreman	2	\$65,000
	Maintenance Foreman	1	\$60,000
	Chief Engineer	1	\$75,000
	Senior Engineer	1	\$60,000
	Geologist	2	\$55,000
	Surveyor	1	\$45,000
	Surveyor Helper	1	\$42,000
	Technician	1	\$42,000
	Sampler	2	\$40,000
<b>Mill Staff</b>			
	Mill Superintendent	1	\$97,290
	General Foreman	1	\$77,250
	Supervisors	3	\$66,519
	Metallurgist	1	\$79,560
	Mill Technician	1	\$41,818
	Environmental Technician	1	\$41,818
	Clerk	1	\$39,140
<b>Mill Maintenance &amp; Assay</b>			
	Maintenance Superintendent	1	\$85,000
	Heavy Equipment Supervisor	1	\$65,000
	Electrical Supervisor	1	\$65,000
	Plant Maintenance Supervisor	1	\$65,000
	Maintenance Engineer	1	\$61,000
	Planner	2	\$55,000
	Clerk	1	\$41,000
	Assayer	3	\$69,340

The estimated base hourly pay rate for the non-salaried positions is summed up in the table below. The base rates are all over \$20 per hour with the highest being the skilled trades positions.

**Table 7.14-43 Breakdown of Hourly Pay**

Description	Manpower	Base Pay Rate CDN\$/hour
Jumbo Operator	8	\$23.77
LHD Operator	8	\$23.77
Rockbolter	4	\$23.77
Ground Support	2	\$23.77
Shotcrete	2	\$23.77
Truck Driver	4	\$23.77
Truck Loader Operator	0	\$23.77
Blasting Crew	8	\$21.96
Utility Crew	8	\$20.08
Mechanics	16	\$25.56
Electrician	2	\$25.56
Backfill Underground Crew	6	\$20.08
Crusher Operator	4	\$24.09
Grinding Operator	4	\$24.09
Flotation Operator	4	\$24.09
Dewatering Operator	4	\$24.09
Reagents/Water Treatment Op.	4	\$24.09
Tailing/Concentrate Loadout Op.	4	\$22.69
Labourer	2	\$22.69
Bucker	2	\$22.69
Millwright	2	\$26.79
Machinist	2	\$26.79
Apprentice	2	\$22.79
Camp Maintenance	2	\$22.79
Instrument Mechanic	2	\$25.56
Electrician	2	\$25.56
Apprentice	2	\$20.08

It should be noted that, given the general difficulties faced by the mining and similar industries in finding sufficient skilled labour as noted above, the base pay rates shown may be understated. Higher pay is the most basic means of attracting workers in a tight labour market.

### *Training*

YZC's manpower projections call for a total of 4 labourers/trainees in the mine and 4 in the mill. On average, half of these labourer/trainees would be on site during each rotation.

Current manpower projections also include a total of 4 apprentice positions, two in the mechanical and two in the electrical trades. A total of \$30,000 per year has been allocated for expenditures on apprenticeship training in its operating costs estimates.



In addition, approximately \$190,000 in annual expenditures for training other than apprenticeships, including health and safety and first aid has been identified.

The Socio-economic Participation Agreement (SEPA) between the Ross River Dena Council and Yukon Zinc includes further training provisions for Ross River Dena citizens, including ongoing pre-employment training programs, and on-the-job training as required.

### ***Contracting and Business Opportunities***

As with any project of this kind, the opening and operation of the project will create a number of commercial opportunities both in the region and within the Yukon. The following goods and services will be required by YZC in its operation of the Wolverine mine and mill. While not exhaustive by any means, the following represent opportunities for both local and Yukon businesses:

1. trucking, both ore haul from mine to mill and concentrate haul to Skagway
2. air charter
3. camp operations including catering and janitorial
4. supply of fuel and lubricants
5. supply of parts
6. supply of other goods and services
7. road maintenance, snow removal and related activities
8. site security and road patrol

The Ross River Dena Council and its citizens are in a good position to benefit from a number of these business opportunities through existing Council corporations and other firms. The joint-venture firm Tu'lidini Corporation for example, currently supplies fuel to a number of mineral exploration ventures in the region, including Yukon Zinc's exploration effort. The Council owned grocery store in Ross River currently supplies food and other supplies to exploration camps and local firms routinely provide road clearing and related services.

### ***Effects on Community Health***

#### ***Cost of Living Impacts***

The project is expected to have no measurable impact on the cost of living for the Yukon as a whole. The size of the project, while not insignificant, is not large enough to impact the territorial inflation rate. It is also unlikely that the mine will cause any local increases in cost of living, in Ross River, for example. Because it will be a camp operation there will be no sudden demand for new housing and almost all of the mine's purchases will likely be made in Whitehorse or Outside where they will not affect local cost of living.

#### ***Migration***

Operations workers from the Yukon and elsewhere will be housed in the camp at the mine site. Thus initially it is not anticipated that many, if any, staff hired outside will relocate to the Yukon. As experience with the project grows, it can be anticipated that

workers may desire to obtain housing in Yukon communities and relocate to the Yukon. Likely communities with excess housing capacity and able to accept (and likely to recruit) relocating workers include both Faro and Whitehorse.

In summary, little population change is anticipated in the Yukon as a result of worker relocation to the project area. Accordingly no undue demands on existing health, law enforcement or social services are expected in the communities of interest

### ***Effects on Traffic/Safety***

Virtually all personnel movement will be by air.

It is currently planned that there will be 13 loads per day of concentrate hauled to tidewater. This will result in slightly more than one truck per hour, on average, passing any point on the haul route. This minor pressure is expected to pose little or no pressure on current traffic and traffic safety. The company is committed to the highest standards of safety and will closely watch the interaction of its trucks with other traffic with a view to enhance safety wherever possible.

### ***Effects on Traditional Lifestyle***

An operating mine can impact an area's subsistence economy in a number of ways. If the operation's footprint is large and/or is located directly in an area of exceptionally high wildlife values, then the mine's operations can directly reduce the number or quality of the wild resources that subsistence depends on. The project is not expected to create this form of negative impact during project operations (Section 7.10: Wildlife). At closure it is planned that the mine access road will remain in place. This will initially enhance access for hunting by Kaska or others. Initially there will be enhanced opportunity for subsistence hunting, but increased hunting could reduce regional moose populations which utilize the project area with a resulting adverse effect on subsistence hunting in the longer term (Section 7.11: Land Use and Tenure). Effects will depend on access management measures implemented at closure.

The subsistence economy can also be impacted through increases in employment created by the mine in the region. Increasing full-time employment in communities with high levels of under-employment and unemployment both reduces the economic need for subsistence activities and reduces the amount of time available for them. However, a work schedule that gives extended periods (e.g., two weeks) at home increases opportunities for subsistence activities. Based on the project turn around of two weeks, it is unlikely that it will have a large impact — positive or negative — on the region's subsistence economy.

#### **7.14.4.3 Closure**

Following final decommissioning of the mine all direct project effects on employment and business and contracting opportunities will cease.

Smaller rural communities in the Yukon, as elsewhere, frequently suffer from a too-narrow economic base and would benefit from greater economic diversification. The business and contracting opportunities arising from projects such as the Wolverine project can assist in diversifying small local economies not just for the period of operation but beyond.

One of the main means of extending the local benefits beyond the life of the project is the capacity building that occurs in the local communities. Capacity is built not just for individuals who improve their job skills and experience, but also for local businesses. The development of business skills and experience assists greatly in the economic diversification process and they are highly transferable to future projects and developments.

No changes in community health and well being, apart from the potential benefits of economic diversification, noted above, are expected at closure.

As the project is not expected to have any significant effects on fish and wildlife during its operational life, no residual effects on resource bases for traditional pursuits are expected at closure. As noted in Section 7.11: Land Use and Tenure, the project access road will remain at closure. This could enhance access for traditional use activities. While this could be seen as a positive effect initially, there is a risk that moose hunting in the project area could have a detrimental effect on populations and ultimately have an adverse effect on moose hunting for traditional purposes.

**7.14.4.4 Residual Project Effects and Significance**

Tables 7.14-45 and 7.14-46 summarize the socio-economic impacts of the construction and operations phases of the project.

**7.14.5 Mitigation Measures**

Table 7.14-44 summarizes potential effects and related mitigation measures

**7.14.6 Cumulative Effects and Significance**

Although there may be some difficulty recruiting workers to the project given the cumulative demand for workers in the western and northern Canada it is not anticipated that there will be any measureable cumulative effects on Socio-economic conditions.

**Table 7.14-44 Mitigation Measures for Socio-economic Effects**

<b>Potential Project Effect</b>	<b>Mitigation Measures</b>
Effects on local employment	<ul style="list-style-type: none"> <li>• local advertisement of opportunities</li> <li>• training programs</li> <li>• SEPA</li> </ul>
Effects on business and contracting opportunities	<ul style="list-style-type: none"> <li>• local advertisement of opportunities</li> <li>• SEPA</li> </ul>
Effects on community health	<ul style="list-style-type: none"> <li>• utilization of remote camp for all mine workers</li> </ul>
Effects on traffic/safety	<ul style="list-style-type: none"> <li>• driver education</li> <li>• compliance with all Yukon and BC traffic laws</li> </ul>
Effects on traditional lifestyle – increased access into project area for traditional activities	<ul style="list-style-type: none"> <li>• Refer to Section 7.11: Land Use and Tenure</li> </ul>
<b>Potential Cumulative Effect</b>	<b>Mitigation Measures</b>

#### **7.14.7 Monitoring and Follow-up**

Given the small size and relatively minor negative impacts of the project, no monitoring is recommended at this time.

**Table 7.14-45 Summary of Socio-Economic Impacts of the Wolverine Mine - Construction Phase**

VSC	Probability	Frequency	Magnitude	Spatial Extent	Duration	Reversibility	Impact
Traffic interruption/safety	Unlikely	Infrequent	Low	Local	Short Term	Reversible	Minor & Negative
Employment Opportunities	Certain	Continuous	High	Regional	Short Term	Reversible	Moderate & Positive
Contract & Business Opportunities	Certain	Continuous	Medium	Regional	Medium Term	Reversible	Moderate & Positive
Community Health	Moderate	Infrequent	Low	Regional	Short Term	Reversible	Minor
Maintenance of the traditional way of life	Unlikely	Infrequent	Low	Regional	Medium Term	Reversible	Minor

**Table 7.14-46 Summary of Socio-Economic Impacts of the Wolverine Mine – Operations Phase**

VSC	Probability	Frequency	Magnitude	Spatial Extent	Duration	Reversibility	Impact
Traffic interruption/safety	High	Continuous	high	Regional	Long Term	On-going (impact ends at closure and abandonment)	Medium to high & Negative
Employment Opportunities	Certain	Continuous	High	Regional	Long Term	On-going	Medium to high & Positive
Contract & Business Opportunities	Certain	Continuous	High	Regional	Long Term	On-going	Medium to high & Positive
Community Health	Medium	Continuous	Medium	Local	Long Term	Reversible (impact ends at closure and abandonment)	Minor
Maintenance of the traditional way of life	High	Continuous	Low	Regional	Long Term	On-going (impact ends at closure and abandonment)	Minor

