

BRITISH COLUMBIA HYDRO AND POWER AUTHORITY

## HAT CREEK PROJECT

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B.C. HYDRO &  
POWER AUTHORITY

HAT CREEK  
SOCIO-ECONOMIC STUDIES  
VOLUME 1

INVENTORY & PROJECTIONS  
OF REGIONAL SOCIAL &  
ECONOMIC CONDITIONS

by:  
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URBAN SYSTEMS LIMITED

June 1978

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## 1. INTRODUCTION

### 1.1 TERMS OF REFERENCE

#### a) Employment

##### (i) New Direct Employment

List number of new direct positions created by:

- A. Open-pit mine during - construction phase  
- operating phase
- B. thermal plant during - construction phase  
- operating phase

Identify in cooperation with B.C. Hydro the union, trade and professional conditions related to hiring, education, training and experience requirements.

Discuss seasonality of employment.

##### (ii) New, Indirect and Induced Employment

- A. List employment in social, cultural, education, health facilities.

Number of employees by category

Education

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\* To be provided by B.C. Hydro's design consultants

Community and regional recreation facilities and services.

Medical and health facilities and services.

Cultural facilities and services.

Court and judicial services.

Fire and police protection.

8. List employment in auxiliary (support) industrial and service economic activity.

Employment derived from company and employee purchases of goods and services in the area.

(iii) Discuss Labour Force Under Following:

Effect on unemployed and underemployed labour pool of local communities, region and province (special attention should be paid to groups such as women, high school dropouts, etc., who have particular problems finding work). Identify ways of utilizing this pool.

Effect on regional out-migration and school dropout rates.

Effect on local area labour supply for ranching, sawmills, etc., of new high wage employment opportunities.

Recruitment programs:

Existing training programs which can be utilized locally, regionally and provincially to meet employment needs.

New training programs required.

(iv) Transition Strategies

Identify type of employment possibilities in the region that might utilize the skills of the construction work force after project completion.

Determine degree of compatibility of construction work force skills with requirements in primary, secondary manufacturing and service sectors.

Discuss strategies for transition from construction to alternative employment possibilities.

b) Income

Estimate total personal income generated by the project over the anticipated lifetime:

Construction phase

Operation phase

Distribution of income (wages, employee spending, company purchases) (by community, in the region and province) with typical patterns shown by type of trade.

Effect of income distribution.

Disparities between traditional wage levels in the region and wages associated with employment on the thermal project; and the anticipated effect of these disparities, including possible inflationary impacts on consumer goods and services in the region.

c) Population Impacts

Estimate population totals of existing and/or new communities with and without project - distinguish between population generated from direct (thermal project) and indirect (service) employment.

Discuss age-sex characteristics of total population.

Discuss household types anticipated (family size).

Estimate dependent population:

Number of persons brought into area as a result of their spouses' employment.

Number of children (approximate age, e.g., preschool, elementary school, secondary school)

Predict socio-cultural characteristics of in-coming population, e.g., ethnic background and educational level.

d) Social Adjustment Considerations

Note: some of these are listed under employment.

(i) Social Impact

Discuss social problems which may arise based on comparable situation, e.g., mental health, crime, drug abuse, alcoholism and marital breakdown; indicate the factors contributing to these problems and outline proposed approach.

(ii) Community Integration

Discuss predicted areas of conflict between newcomers and existing population (based on experiences in other such developments) and proposals for resolving. Include an assessment of the factors involved in integrating the construction work force into the existing communities as an alternative to building a large construction camp.

(iii) Consider community attitudes to the project with special attention being given to the local ranching community in the valley.

e) Local Government Impact

Appraise expected increase in tax revenue by local governments, regional districts and school districts by year for a ten-year period, with and without the project.

Describe expected increase in local, regional and school district expenses (capital and operating) by year for a ten-year period, with and without the project.

Describe the current and anticipated financial circumstances (with and without the project) of local governments, regional districts and school districts with respect to mill rate, debenture debt, allowable debt.

Discuss need for transfer payments to local government and/or private agencies to overcome project-induced budgetary shortfalls.

Discuss impact on local government structure and boundaries.

f) Housing Development

List aggregate housing requirements for:

Power project-related employees and dependents.

Service employees and dependents.

Discuss type, tenure and cost to householder of housing:

Breakdown according to rental versus owner/occupied, and single family, multi-family and "mobile" units.

Estimate the capacity of the existing housing market to meet housing requirements. Include the ability of the local construction sector to meet increases in housing demand, and source of shortfall housing, i.e., prefabs.

Forecast anticipated effect of project on local housing prices and rents.

Discuss capability of various groups in community to afford increased housing costs, if any.

Discuss the availability of mortgage funding and application requirements. Analyze the ability of labour force, from both thermal project and service sectors, to afford proposed housing.

Propose alternative programs for meeting housing requirements. What forms of subsidy, if any, will be necessary? Discuss anticipated investment in housing construction industry in the surrounding communities.

g) Services

(i) Education

Estimate number of school-age children expected from thermal project households and service households.

Discuss required expansion in existing school facilities.

(ii) Community and Regional Recreational Facilities and Services

List existing facilities and show patterns of use (pressures).

Discuss change in type and amount of recreational activity related to new populations.

Consider financial capability of local communities to provide expanded facilities.

(iii) Commercial Services

Anticipate type and amount of expected commercial expenditures of population as indicated by experiences of other thermal project employees, personal income and availability of goods and services in community and region.

Consider which commercial services will likely be added to the commercial mix due to enlarged local payroll. The impact on commercial services should consider regional implications, e.g., impact on facilities provided in Kamloops.

(iv) Medical and Health Facilities and Services

Discuss adequacy of present facilities.

Estimate required expansion based on population projections and past experience of thermal project households.

(v) Cultural Facilities and Social Services

Consider the expected demand for entertainment and cultural facilities such as restaurants, theatres, arts and crafts, churches, child care centres (relate this to consideration of age structure of population, and projection of women in the workforce with children requiring child care).

Estimate the need for social and counselling services (social workers, marital counselling, foster homes and transition houses, women's centres, alcoholism and drug treatment, and community resource board services).

(vi) Communication Facilities and Services

List existing media and communication facilities and impact of new populations on demand.

(vii) Court and Judicial Services

Discuss the amount and type of demand for these services.

(viii) Fire and Police Protection

Show incremental demand for these services.

Discuss the levels of service that would be desirable.



(ix) Support Industrial Activities

Estimate equipment sales and services to thermal project and related population.

h) Settlement Pattern and Land Requirements

How can the project workforce and dependents be most effectively and desirably accommodated in terms of economic, social, environmental and planning factors, e.g., in existing communities or in a new community?

Consideration should be given to the long-term development of the Hat Creek coal field.

Should a particular type of population distribution be encouraged?

i) Community Land

Examine requirements for land for residential, commercial, industrial, institutional and other uses.

Survey availability of land in various communities and any problems with respect to access, servicing and price.

j) Community Infrastructure

(i) Sewage Disposal

Discuss adequacy of existing sewage systems.

Estimate predicted demand on existing sewage disposal systems and for new (expanded) systems; collection, disposal.

Consider impact on the environment and cost.

(ii) Water System

Judge adequacy of existing water systems.

Assess predicted demand on existing water systems and for new (expanded) water systems resulting from thermal project population source and cost considerations.

(iii) Utilities

Assess capability for expansion of electric, telephone and gas services.

k) Regional Infrastructure

(i) Transportation

Discuss need for additional transportation facilities for community and local services.

Discuss location, function and construction and maintenance responsibility.

Consider safety, aesthetics, ecology, noise and pollution aspects as well as engineering and economic aspects.

(ii) Utilities

Comment on adequacy of existing utilities in region:

Gas lines and supply

Electrical system

Petroleum supply and distribution system

Compute expansion of existing transportation network which will be required (safety, pollution and noise factors to be included)

Investigate new types of transportation network which will be required (safety, pollution and noise factors to be included).

Investigate new types of transportation services which may be required or desired, e.g., transit service between thermal project and residential communities.

1) Impacts on Native Indian Community\*

(i) Population

Provide the following population data on the various reserves in the study area:

Determine the number of people on each reserve (past, present and future forecast - use 10-year interval).

Identify the age-gender distribution

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\* Information on the Native Indian Community is expected to be available from the Upper Hat Creek Indian Communications Committee Impact Study as funded by Indian and Northern Affairs.

Determine the personal and family income levels - compare generally with the rest of the study.

Assess the use of public services by Native Indian community: schools, recreation facilities, health and other social services.

Describe life-style of existing community and indicate probable future trends or developments, with and without the Hat Creek project.

(ii) Employment

Determine the number and percent of Native Indian population in the workforce.

Determine the number and percent employed and unemployed.

Describe past and present types of employment and forecast future trends and opportunities, with and without the Hat Creek project.

Assess the potential of Native Indians to obtain employment on the project - construction and operation phases.

Determine the qualifications and skills of the Native Indians in relation to project workforce requirements.

Define special counselling and training programs needed by Native Indians to benefit from project employment opportunities.

Identify employment opportunities in services or functions ancillary to project, e.g., local retail and service employment, tourist facility (camp and picnic grounds).

(iii) Native Indian Land, Water and Air

Describe the effect of improved, or new, site access requirements, if any, on Native Indian Reserves.

Assess the impact of increased traffic through Native Indian Reserves.

Assess the effects of air and noise pollution.

Assess the effect of possible deterioration in water quality.

Define any impact on Native Indian Reserves when the project is completed.

Investigate means for avoiding, mitigating and compensating for negative project impacts, and enhancing positive impacts.

(iv) Other Native Indian Concerns

Define the effects of the project on present Native Indian hunting, fishing and traditional burial grounds.

Report on means to ensure Native Indian input and involvement as the project develops and affects them.

Describe the effects of the project in terms of local and regional population changes on the existing Native Indian lifestyles.

## 1.2 SCOPE AND PURPOSE

The purpose of this study is to identify and assess potential regional, social and economic impacts likely to occur as a result of the proposed Hat Creek thermal generating project. The proposed project is to be located in the vicinity of the Hat Creek Valley, approximately 18 kilometers west of the town of Cache Creek.

An appropriate geographic area has been defined for analysis and is termed the Hat Creek region. Within the region a further sub-area has been defined containing rural and village populations likely to experience the most significant project impacts. This subregion is termed the local study area throughout the report.

The region is populated by Indian and non-Indian people, both of whom are likely to be impacted by the project.

Indians in the study area reside both on and off Reserves. Off-Reserve Indians are included in the statistical base throughout this report and, for the most part, it is not possible to statistically identify them among the other groups in the population. On-Reserve Indians, however, often can be identified.

In order to include the Reserve Indians and their off-Reserve Band members in this impact-identification research process, a number of attempts were made by B.C. Hydro and the Band representatives to develop a mutually agreeable research outline and approach. This goal, however, was not achieved.

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• See Section 3.0 for these definitions

Due to these difficulties, it has not been possible to synchronize the overall research effort to provide an integrated report assessing impacts on Indian and non-Indian people. The following report, therefore, does not address the potential project impacts on Reserve Indians in the local area. For a description of the project implications for these people, and the conditions under which the research was undertaken, the reader is referred to the Indian study under separate cover.\*

The following impact assessment examines all project components; mine, thermal plant and offsite facilities. Temporally, the report includes the construction, operating and, to a limited extent, decommissioning phases. The construction phase is expected to begin in 1978 and decommissioning will occur about the year 2022.

The impact assessment is carried out within the overall principles of benefit-cost analysis and is expected to constitute the Regional Account of the Hat Creek Benefit-Cost Analysis. Impacts are assessed in both quantitative and qualitative terms. Where possible, a monetary measurement criterion has been utilized but the overall assessment of impacts has not been constrained by the limitations of this single criterion. Impacts have been identified by examining social and economic conditions without and with the project, in order to separate project associated changes from changes that would have occurred even if the project were not developed.

This report is submitted in three volumes: an inventory volume, including projections of future conditions without the project; an impact volume; and an appendices volume.

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\* Strong Hall and Associates Ltd., and Bob Ward Management Services "Hat Creek Environmental Studies: Preliminary Inventory and Impact Identification of Local Indian Population", B.C. Hydro and Power Authority, March, 1978.

1.3 STUDY PERSONNEL

a) Strong Hall and Associates Ltd.

Barry Hall  
Ian Mellor

b) Cornerstone Planning Group Limited

Richard Roberts  
Anna Walkey  
Barbara Lindsay

c) Urban Systems Ltd.

Gordon Peterson  
Terry McQuillan



## 2. MATERIALS AND METHODS

### 2.1 POPULATION

The population section describes historical trends and current characteristics of the regional and local populations. Future population is then projected without the project.

To determine the characteristics of the existing population and identify historical growth trends, Statistics Canada 1966, 1971, and 1976 Census data were used. For detailed socio-cultural characteristics, the 1971 Census was relied on heavily as it provided the only detailed Census data necessary for the purposes of the study. A supplementary information source, the Kamloops Humanity Employment Strategy, was used where applicable. Although their study boundaries were those of the total Thompson-Nicola Regional District, they are close enough to the Hat Creek regional boundaries to provide useable information.

Population projections for the local study area were developed using a model which links future population to future employment creation associated with individual projects and the employment multiplier. The model's structure, assumptions and data input, are discussed in Appendix A.

Future project-specific employment was estimated from several sources:

1. Mining companies with interests in the copper deposits of the Highland Valley.
2. The economic analysis and forecasting branch of Canada Manpower in Kamloops.
3. Round-table discussion with regional and community representatives of business and government.
4. The IPA Task Force's Central Region report.

Future population growth for the residual portion of the wider study area was derived by extrapolation from historic trend data based on an assessment of the area's future growth prospects.

An economic growth scenario developed by the consultants was discussed in a round-table meeting with business and government representatives from the region.

Population projections prepared by B.C. Telephone Company, B.C. Research, the IPA Task Force and Canada Manpower were reviewed with regard to methodology and assumptions prior to developing the forecasts presented in this report.

Settlement patterns among the future in-migrant populations to the local study area were developed largely on the basis of distance and travel time from the proposed source of their employment. Details of the settlement proportions for projects expected to occur in the Highland Valley are presented in Appendix A.

The characteristics of the anticipated incoming workforce, without the project, were determined based on the residents in a number of resource related communities in Canada. The communities of Sparwood and Mackenzie in B.C. and Grande Cache in Alberta were selected as surrogate communities for the purposes of this project. Statistics Canada, 1971 Census data for these three communities were reviewed and a selected profile for the potential population entering the study area communities was generated. These data were compared to the characteristics of the existing residents in the local study area to determine differences between the existing and incoming population, without the project.

## 2.2 LABOUR FORCE AND EMPLOYMENT

This section describes current employment, unemployment and labour force conditions, and examines the existing characteristics of appropriate training programs within and outside the region.

Current labour force characteristics were determined from 1971 Census and Canada Manpower data. Unemployment conditions were assessed using Canada Manpower and Unemployment Insurance Commission data and interviews with appropriate government officials.

Labour force projections for the total study region without the project, excluding the local area, were derived by applying a labour force/population ratio to the projections of population previously discussed. Factors influencing the labour force/population relationship and the particular assumptions made regarding this ratio for the purposes of our projections are discussed in Appendix C. No quantitative projections of unemployment were undertaken.

The employment projection technique used for the local study area is based on the identification of specific industrial developments considered likely to occur over the next 15 years. The employment associated with these developments was determined and a multiplier was applied to these data to determine total employment. The details of this methodology appear in Appendices A and B.

The objective of the training section is to determine the appropriateness and capacity of local, regional, and provincial training programs to meet the needs of the existing and anticipated workforces in the study area. All existing pre-apprenticeship and apprenticeship programs were identified and reviewed with the appropriate agencies responsible for their administration. The program type, prerequisites, duration, capacity, and location were assessed to determine their ability to meet the training requirements in the study area. In addition to these programs, other special training, certification and on the job training programs were reviewed and assessed for their applicability

to the employment opportunities in the study area and the region.

B.C. Hydro training staff were interviewed regarding their in-house training programs, the applicability of existing outside training programs and Hydro's requirements for the pre-apprenticeship, apprenticeship, special, and certification programs.

In addition, interviews were held with the major construction unions that have jurisdiction in the study area to determine hiring and recruiting practices as well as training requirements. They also identified specific programs which were compulsory for their membership.

The employment opportunities without the project were then reviewed to determine if the existing training programs could meet the training needs to 1990, whether the existing programs could be supplemented, or whether new programs would likely be provided.

### 2.3 INCOME

The growth and distribution of personal and household income are determined for the region in this section. Special tabulations of 1971 Census data were the primary data source for this analysis.

Income projections for the local study area were developed by applying an income multiplier to the payroll associated with direct employment expansion identified in section 3.3 f). A detailed discussion of the methodology used to determine the income multiplier is presented in Appendix B.

Future income in the total region was projected by multiplying projected population by projected per capita income, based on an analysis of historical trends and assumptions regarding factors affecting future per capita income.

## 2.4 HOUSING

In evaluating the housing market in the primary study area, a separate analysis has been carried out for each of the municipalities under consideration in the following manner:

### a) Housing Stock Inventory

An inventory of the existing housing stock has been carried out by an on-site count of the number of dwelling units of various types. The counts were performed in September and October of 1976.

### b) Current Market Conditions

Information on vacancy rates, levels of construction activity, and housing prices was gathered in the latter part of 1976 and the early part of 1977.

#### (i) Vacancy rates

Local real estate agencies have been consulted to determine the number of units for sale. In the case of rental apartments and mobile home parks, the individual businesses have been consulted to determine the number of vacant units available for rent.

#### (ii) Residential Construction Activity

Sources which have been consulted to obtain information on construction activity include the municipal offices to obtain building permit information, and the local building contractors to obtain information on current and planned building projects.

(iii) Local Construction Industry

Output capabilities of the local construction industry have been determined in consultation with the building contractors in Ashcroft and Cache Creek (there are no contractors in Clinton). The output capabilities of outside contractors, primarily from Kamloops, have not been evaluated, even though it is very probable that outside contractors would be involved in housing projects in the primary study area if the demand warranted.

(iv) Prices of Housing

The primary source on housing prices has been the local real estate industry. Information has been obtained on both the land component and structure component of housing prices.

c) Projected Demand Factors

The demand for housing can be expressed in terms of two main variables:

- the number of dwelling units demanded.
- the mix of various housing types.

(i) Number of Dwelling Units Demanded

The primary variable affecting the number of additional dwelling units which would be demanded is the number of incremental households expected to locate in the primary study area. The rate of household formation would, in turn, be dependent upon the rate of population increase projected for the primary study area. The population figures used are those projected as part of the evaluation of the economic growth potential of the area.

(ii) Housing Mix Projections

The demands for various types of housing units would be dependent upon a number of variables, including:

- demographic characteristics of the households demanding housing - e.g. age, marital status, number of children per household, etc.
- lifestyle preferences
- the ability of prospective consumers to pay for housing. This, in turn, would be dependent upon the incomes of the households demanding housing.

In addition to weighing the relative importance of each of these variables, empirical evidence from other sources has also been taken into consideration:

- existing housing mix in the communities under consideration
- housing mix in other communities (e.g. new towns), where the demand patterns are expected to be similar to those of the incremental populations moving into the local study area.



## 2.5 SERVICES

The objective of the Services section is to establish the level and adequacy of existing service delivery systems in the study area communities and to determine the changes in the service system expected to occur without the project. To collect the required data, an inventory of the existing services was conducted in the Hat Creek study area in the fall of 1976. A letter of introduction was mailed to all service representatives in Ashcroft, Cache Creek, and Clinton explaining study information needs and requesting an interview with them. Interviews were conducted in communities with each service contact individually. The services that were included in the inventory are education, health, recreation, community, cultural, corrections, courts, legal, police, fire, communication, and commercial services.

Information was collected for each service pertaining to the type and number of facilities in the community, their size, capacity, area services, and any special characteristics of the facility. The specific programs offered by the service were noted, as well as any particular target groups. The number of staff and levels of utilization were recorded wherever possible. The capital and operating costs, funding source, and administering agency were noted also. In addition to this basic information, the service representatives were questioned on how accessible their service was in terms of meeting the immediate needs of the community. They were asked whether their service had been affected by previous developments in the Highland Valley, and whether they expected any changes to their service over the next five years, given existing development trends. A copy of the letter of introduction and the data sheet used to collect the information during the interviews are included in Appendix D of this report.

The information collected during the inventory regarding the facilities, programs, staff, and users of the existing services in the study area is presented in Section 3.5.

Government service standards for 1976 have been documented in

Section 3.5 for use as guidelines in estimating the impact of the proposed Hat Creek project on community services in the study area. Those standards relate to the staffing and facility requirements and, where applicable, to the associated costs of providing the services and are based on information obtained from the various government departments and service agencies responsible for the services in the study area.

Service demands and delivery changes without the project were then developed based on the population projections to 1990, the inventory of existing services, standards for those services, policies of the service delivery agencies and the present and expected future characteristics of the people living in the study area. These changes provided the projected level and timing of services to 1990.

Resident reactions to the accessibility and adequacy of existing community services were obtained in the Hat Creek and Area Resident Survey conducted in the study area in March, 1977. An overview of the objectives and methodology of that survey is presented in Section 2.10. The results of that survey are documented in Chapters 3 and 4.

## 2.6 COMMUNITY LAND

An evaluation of community land has been carried out separately for each of the communities under consideration in the following manner:

### a) Existing Land Use

A field survey of each of the communities has been carried out to map the existing land use according to type of land use and location.

### b) Constraints to Development

In each community, certain sectors have been identified which cannot be developed for urban use because of one or several constraints to development, including steep topography, flood prone areas and the Agricultural Land Reserve. An additional constraint which does not necessarily preclude development but regulates the manner in which development takes place is the Controlled Access Highways Act and policies thereto imposed by the Ministry of Highways and Public Works.

#### (i) Steep Topography

For the purpose of this evaluation, lands with slopes in excess of 25% have been considered undevelopable. It is physically possible to develop in more steeply sloping areas, but the costs of development rise significantly as the steepness increases.

#### (ii) Flood Prone Areas

Areas subject to flooding (200 year plus 2 foot flood level) as defined by the Ministry of the Environment have been designated as undevelopable.

(iii) Agricultural Land Reserve

Lands with agricultural capability have been designated by the B.C. Land Commission as Agricultural Land Reserve (A.L.R.). Changes in land use within the A.L.R. are subject to approval by the Land Commission. Although the Land Commission has not stated categorically what its policy would be with respect to exclusions of land from the A.L.R. in the primary study area, it has been assumed that areas with soils capabilities of Class 1 or Class 2 would not be permitted to be developed. It has also been assumed that properties in or adjacent to communities with lower soils capabilities, Class 3 or lower, would be made available for urban development if the need could be justified in terms of demand, non-availability of non-A.L.R. land, and servicing considerations.

c) Availability of Developable Land

The amount of vacant developable land with no major constraints to development has been mapped. Each area has been evaluated (without the benefit of a detailed planning analysis) in terms of its suitability for various uses - residential, commercial, industrial and public uses. Acreages of vacant land suitable for various uses have then been calculated and recorded.

d) Land Ownership Patterns

Land ownership patterns have been mapped, using information obtained from Land Registry records. In Ashcroft, an important land ownership consideration is the Indian Reserve adjacent to the municipal boundaries. Since there is no element of control by any level of local government over Reserve Lands, and since the Indian Bands' policies with respect to development of these properties are not known, the development potential of the Reserve Lands has not been taken into consideration.

e) Space Requirements

Space requirements for new development have been derived by attributing a density factor (units per acre) to the projected unit demand for the various housing types as presented in the Housing Sector evaluation. The density factors were based on standard planning criteria for various types of housing.

Space requirements for commercial, industrial, and public uses have been significantly more difficult to project, since there is not a direct relationship between population and these types of development (particularly industrial) as in the case with residential uses. Furthermore, in the case of commercial developments, space requirements could be accommodated either by redevelopment in the existing downtown core, or by creation of a shopping center in an outlying area. Because of these difficulties, space projections for commercial, industrial and public uses have been somewhat arbitrary in nature.

## 2.7 COMMUNITY INFRASTRUCTURE

Community infrastructure refers to "hardware" services such as water, sewer, roads, storm drainage, sidewalks, street lighting and solid waste disposal. The major emphasis of the analysis carried out in each community has been on water and sewer systems, the evaluation of which has been based on the qualitative and quantitative criteria outlined in Appendix F, Section F.1, Criteria for Evaluating Water and Sewer Systems.

The approach used in evaluating the various servicing systems in each community is outlined as follows:

### a) Description of Existing System Components

Information on the existing system has been obtained by on-site visits to each of the communities and consultation with the respective public works superintendents. For water and sewer systems, maps illustrating existing system components have been prepared.

### b) Capabilities of Existing System

For each servicing system, again with emphasis on sewer and water systems, the servicing capabilities have been evaluated and expressed in terms of population equivalents. The servicing capabilities have been calculated using engineering evaluation criteria for each component of the various systems.

c) System Improvements Required

Using engineering criteria, improvements to servicing systems required to adequately service population increases to various population threshold levels have been determined. It should be noted that population threshold levels have been used, thereby reflecting the fact that increases to system capabilities are "lumpy" rather than highly "divisible". For this reason, servicing requirements presented are tied to population threshold levels rather than specific population levels projected in other sections of the report.

## 2.8 REGIONAL INFRASTRUCTURE

The elements of regional infrastructure identified for assessment include regional highways and utilities (i.e., electricity, gas and telephone).

The arteries of the regional highway system, potentially affected by the proposed Hat Creek development, were identified and assessed in terms of historical traffic volumes. Department of Highways data and special reports served as the only available data sources and provided limited information on the nature and volume of traffic in the vicinity of the proposed project.

Estimates of future traffic volume without the project were undertaken, using trend analysis and Department of Highways projections where appropriate.

Current capacity and expected future demands on the area's utilities were discussed with officials of each utility in the light of the study's estimated future industrial and population growth.



## 2.9 LOCAL AND REGIONAL GOVERNMENT

In this evaluation, the three types of local government agencies responsible for providing local government services in the primary study area have been considered, including:

Village Municipalities

Regional Districts

School Districts

The local governmental analysis consists of two main components:

### Functions and Responsibilities

This section consists of a description of the functions and responsibilities of municipalities, regional districts and school districts.

### Financing and Budgeting - Village Municipalities

The primary purpose of the financial analysis is to determine the financial capability of the village municipalities to provide the services required to adequately serve the projected population levels. The approach which has been used in this evaluation is outlined as follows:

#### a) Municipal Expenditures

- (i) Historical trends in municipal expenditures have been reviewed and recorded, using municipal financial statements as the primary source of information.

- (ii) Water, Sewer, and Garbage Expenditures - For water, sewer and garbage services, a trend of expenditures has been projected, taking into consideration the existing system capabilities and the identified improvements required to accommodate future population increases.

b) Municipal Revenues

- (i) Historical trends in municipal revenues from all sources have been reviewed and recorded, using municipal financial statements as the primary source of information.
- (ii) Sources of revenue - revenues have been classified into two basic categories - non-property tax revenues, and property tax revenues.
- (iii) Projection of non-property tax revenues to the year 1990, on a biannual basis. Separate projections have been made for each major non-property tax revenue source, including:
  - Grants
    - grants in lieu of taxes
    - revenue sharing grant from Provincial Government
    - conditional transfers from Provincial Government
  - From own sources
    - licences and permits
    - rentals
    - return on investment
    - penalties and interest
    - other sales of services
    - miscellaneous revenues

User fee and frontage tax revenues from water, sewer and garbage utilities have not been included in these projections - since it has been assumed that each service would be self-sustaining.

In projecting sources of non-property tax revenue, a number of factors have been taken into consideration, including:

- Historical trends
- Population projections
- Government grants - it has been assumed that the government grant program in effect in 1977 would continue as the basis for calculating grants in the future. The new revenue sharing program introduced in 1978 has been used as a basis for projections.

Taking these factors into consideration, a trend of revenues from each source on a per capita basis has been projected. Similar to the expenditure projections, for each revenue source, the rationale as to whether revenues per capita are expected to increase, decrease, or remain the same, has been explained. All projections have been expressed in terms of constant 1976 dollars.

- (iv) Property tax revenues - the amount of revenue which would have to be obtained from property taxes has been determined by calculating the difference between projected expenditures and projected revenues from non-property tax sources.

c) Property Assessment Levels and Tax Rates

Property tax mill rates required to generate the required property

tax revenues have been derived as follows:

$$\text{tax mill rate} = \frac{\text{required property tax revenue}}{\text{property assessments}}$$

As such, in order to calculate the tax mill rate, a projection of property assessments is required. In projecting property assessment levels, the following approach has been used:

- It has been assumed that assessments would continue to be evaluated on a restricted value basis as was in effect in 1977. Changes to actual value assessment rolls as provided for in the 1978 Assessment Amendment Act have not been taken into consideration.
- The existing mix of assessments attributable to residential, commercial and other uses has been taken into consideration. In general terms, it has been assumed that the residential component of the total assessment base would increase in direct proportion to population increases. Changes in the commercial component have been considered in terms of the proportion of commercial development expected to serve local users as opposed to non-local users. For example, in Cache Creek the proportion of the assessment base attributable to the commercial sector would gradually decrease as population increased, whereas in Ashcroft, the proportion would likely remain approximately the same. This could be attributed to the fact that the commercial component of the assessment base in Cache Creek is at present exceptionally high due to the high proportion of commercial establishments serving non-local consumers.
- All calculations have been expressed in constant 1976 dollars.

## 2.10 SOCIAL ENVIRONMENT

The objectives of the section on the Social Environment are to describe the social characteristics and social concerns of the local residents and determine their reaction to potential growth in the study area. To assess these aspects, it was necessary to understand the existing situation within the overall study area and the individual communities. This understanding was accomplished through a survey research approach. Data gathering involved the utilization of a number of specific methods:

### a) A Review of Literature on Comparable Project Experiences

Ten comparable projects, located in Canada, the United States, and New Zealand, were reviewed. Aspects included in the analogies were: community size and growth rates, power groups, community cohesion, social problems, social benefits, economic concerns, occupational structure, and attitudes to the resource developments. The output of this study is in Chapter 4.10.

### b) A Survey of Newspapers in the Study Area

Several newspapers, both in the study area and the lower mainland, were reviewed from September, 1976 to June, 1977. Items containing references to the Hat Creek project and other related topics were organized into two categories, a summary of major social concerns in the area and a chronological record of events during the time period. The summary of the newspaper survey is presented in Appendix I.

### c) An Initial Interview Schedule with Ranchers in the Valley

This schedule involved interviews with all ranchers and other residents in the Hat Creek Valley. These initial interviews were undertaken in an attempt to obtain information on the characteristics of the ranching community and its initial attitudes to the proposed development.

d) An Interview Schedule with Key Persons in the Study Area Communities

Key community representatives and officials of the various service delivery agencies in the study area communities were interviewed to determine the existing level of services as well as the social attributes and problems in the study area. These responses are incorporated in Sections 3.5, Services and 3.10, Social Environment. The interview format and list of respondents can be found in Appendix H.

e) A Community Education/Information Exchange Program

At the outset of the study, it was determined that an important component of the Social Environment would be a community development program to provide information to residents of the study area communities as well as act as a forum for the exchange of information between the client and the communities. The consultants worked closely with the Community Relations Department of B.C. Hydro and Power Authority to assist the department in establishing such a program. A committee approach was proposed to provide the desired information flow and two committee structures were explored: a Planning Committee and a Community Committee. The structures of the committees are detailed in Appendix H. The Thompson Nicola Regional District, in December 1976, implemented a Regional Board Advisory Committee similar to the aforementioned Planning Committee. This advisory committee has been involved in reviewing potential effects of the proposed Hat Creek project, especially as they relate to the physical development of the study area communities. The Community Committee was not initiated at that time as it was felt that such a committee should be initiated by the communities in the area rather than by the developer.

f) A Field Survey of a Sample of Residents in the Study Area

The objective of the field survey was to contact a sample of residents throughout the study area communities. The communities of Ashcroft,

Cache Creek, Clinton, Lillooet and the surrounding rural areas included a representative sample of residents. A total survey of residents in the Hat Creek Valley, the prime impact area, was completed to obtain input from all residents who may be directly affected by the project. The survey methodology, a description of the field procedures, and copies of the field instruments are outlined in Appendix H.

The approach to information collection for this section through survey research and community input was considered in the light of recent work in the field of social impact assessment and the definition of quality of life in small towns.

Information needs were defined by combining the study objectives with the development of appropriate social indicators or attributes for the study area. These social indicators were chosen and examined to portray the characteristics of the social environment that may be impacted should the proposed project be developed. This social profiling is discussed in Section 3.10, Social Environment. Possible project impacts are described in Section 4.10.

### 3. RESOURCE INVENTORY: THE REGION WITHOUT THE PROJECT

#### a) Definition of the Hat Creek Region

The definition of an appropriate study area for regional impact analysis necessitates an assessment of the geographical extent of the socio-economic effects of the proposed project. The nature of the project, the objective of the research, the available data, the regional setting, and the costs of collecting and processing the data, determine the specific regional boundaries selected in a given instance.

The Hat Creek project is expected to impact people in the Hat Creek Valley and in nearby communities and rural area. Impacts will occur as a result of resource use changes, labour demands, spending patterns and population in-migration. In addition, however, these people have income and service connections with populations of other near or distant geographic areas. The communities near the Hat Creek project have strong linkages to Kamloops. Kamloops has developed as a supply and service area for the central area of the province, providing both consumer and industrial goods and services. This community will provide a significant portion of the project's construction labour force and possibly industrial supplies. The project's impact, therefore, extends beyond the effects on the local population.

A preliminary definition of the Hat Creek region has been provided by B. C. Hydro. It states that the region is bounded on the north by an east-west line through 100 Mile House, on the south by an east-west line drawn through a point 8 miles south of Lytton, on the west by a north-south line through the west end of Seton Lake, and on the east by a north-south line through the eastern boundary of Kamloops.

This proposed definition of the study region has been modified by Strong Hall and Associates Ltd. by moving the northern boundary



south to an east-west line through 70 Mile House, thus eliminating 100 Mile House from the analysis. This community is unlikely to receive significant impacts from the project. Furthermore, 100 Mile House does not belong to the same Census division as other communities considered in this analysis and thus its inclusion in the study would have severely complicated data gathering. Hereafter, this area is referred to as the Hat Creek region, the study region, or simply the region. The region is shown in Figure 3.1.

In addition, a second area has been defined as a subset of the region within which the majority of the potential land use and population induced project impacts will occur. This area is bounded by 70 Mile House to the north, Lillooet to the west, an east-west line 20 miles south of Ashcroft in the south and Walhachin in the east, and is termed the local study area or the local area. It is illustrated in Figure 3.2.

b) Historical Perspective

The Hat Creek region experienced its first European settlement in 1857, with the discovery of gold along the Fraser River. By 1860, thousands of miners were at work in various parts of the Interior. As prospects diminished along the bars and creeks between Yale and Lillooet, the miners moved up the Fraser to the Cariboo area.

During this period, the Royal Engineers began surveying for the establishment of new communities and transportation routes. The Harrison and Cariboo Trails, running south and north of Lillooet, were the first routes developed. As commerce and traffic grew to serve the expanding needs of the gold fields, communities along the Cariboo Trail became centers for the provision of services and agricultural products, and prospered until the decline of gold mining activity in the late 1860s.

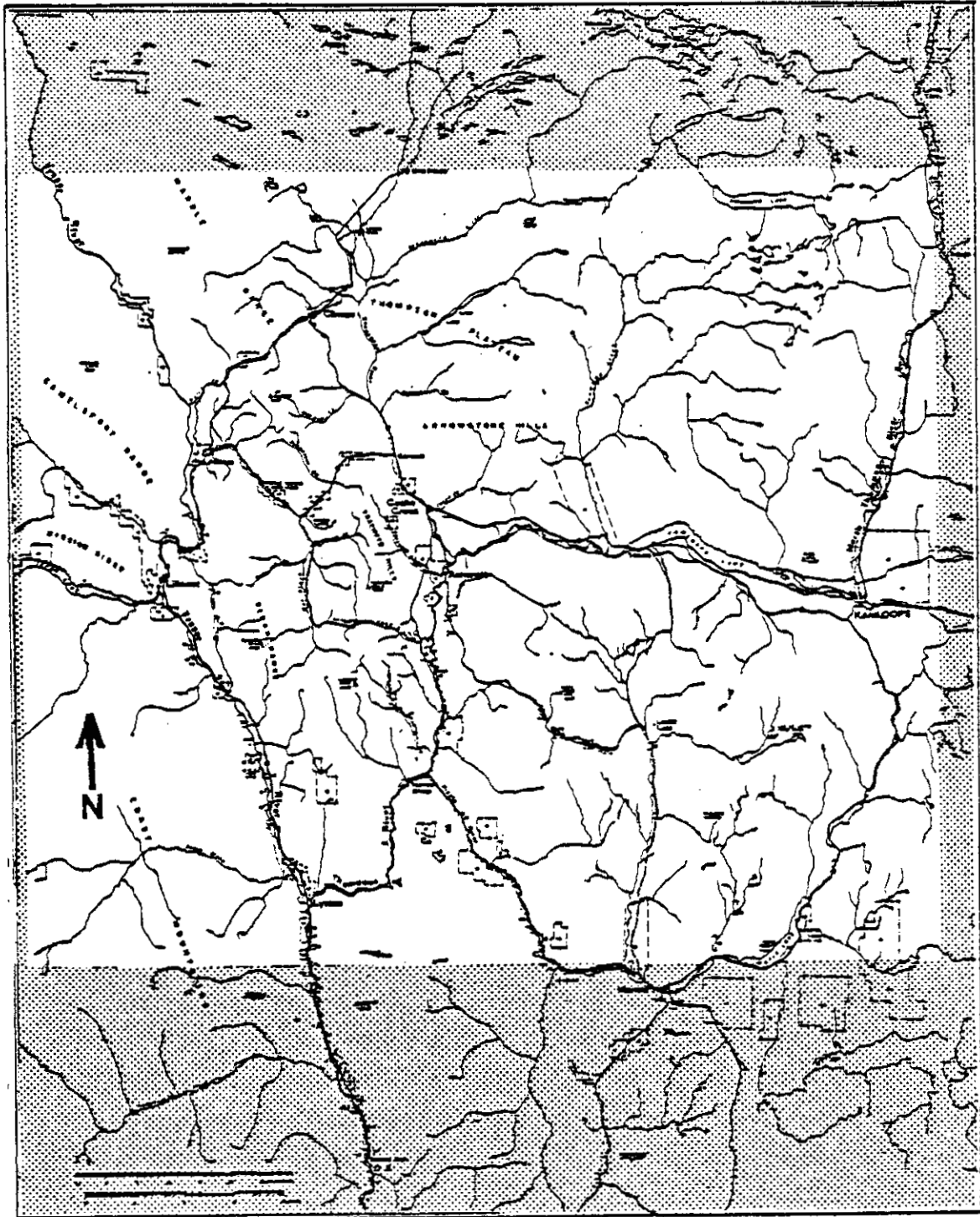


FIGURE 3.1 HAT CREEK REGION

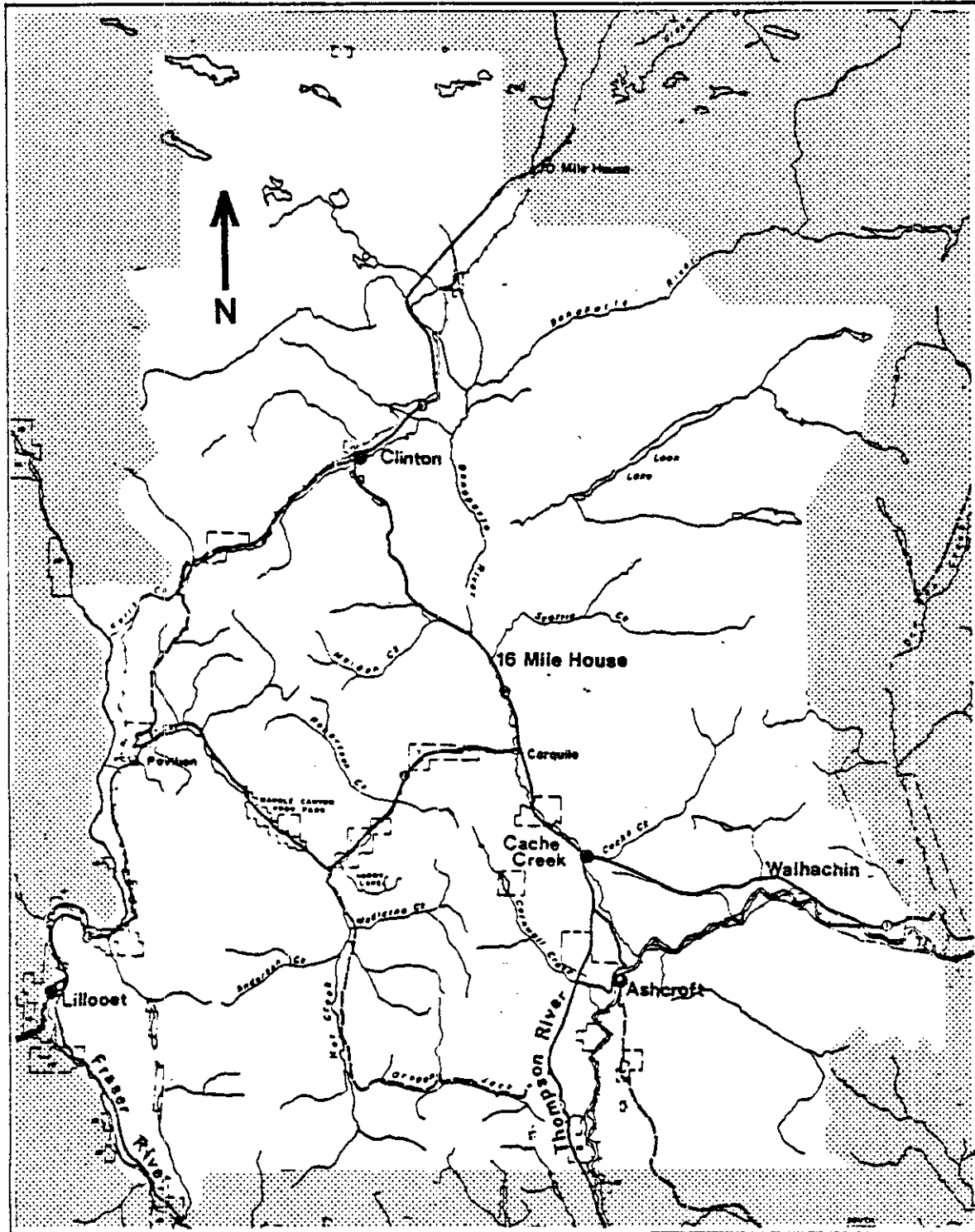


FIGURE 3.2 LOCAL STUDY AREA

The first permanent European settlers in the Interior were farmers and ranchers, closely followed by merchants and tradesmen. Large numbers of miners, discouraged by the trend to capital-intensive mining methods, also decided to settle. By 1870, the Hat Creek Valley, Pemberton Valley, Kamloops and the Nicola District were permanently settled and ranchers had established coastal markets for their cattle. To the present, cattle ranching has remained the leading source of farm revenue in the region.

When railroad construction began in the 1880s, economic activity surpassed the previous levels set during the gold rush days. The famous British Columbia Express Company (Barnard's Express) moved its headquarters to Ashcroft from Yale when the Canyon road was destroyed during railway construction. This company later became one of British Columbia's major transportation firms, and Ashcroft developed as a transportation crossroads for the Cariboo area and Northern British Columbia, a status it maintained until the development of the Pacific Great Eastern Railway in 1918.

During the period 1880-1918, three railroads were built through the region, greatly altering the pattern of settlement and commercial activity, and increasing the region's economic potential.

From 1907 on, the introduction of the automobile led to extensive road construction in addition to the railway activity. Ranching expanded to meet the needs of large construction forces, while logging activity grew in response to the demands for railway ties and construction requirements of the growing population.

The rail line from Spences Bridge to Merritt was constructed to exploit the coal resources of the Nicola Valley. The mines operated from 1906 to 1963, producing 2.7 million tons of coal and adding substantially to the economy of Merritt. The Bridge River area was the center of mining activity for many years; the two richest gold mines, the Pioneer and the Bralorne, were in

continuous production from 1925 to 1971.

Prior to World War I, two major attempts were made to diversify the agricultural economy: large acreages in the vicinity of Big Bar Creek were seeded to grain crops; and an irrigated fruit and vegetable operation was undertaken at Walhachin. Both efforts failed.

Between the first and second World Wars, the Ashcroft and Lillooet areas became known for their production of tomatoes and potatoes. However, by the end of the 1940s, a field labour shortage, import competition, and high cattle prices had virtually eliminated truck farming in favour of ranching. Recently, there has been renewed interest in growing potatoes and other vegetables in the Ashcroft and Merritt areas, but output is relatively small.

The recent regional development history is discussed in the following section and is combined with an overview of current social and economic conditions in the communities most likely to experience impacts from the proposed project.

c) Current Regional Overview

(i) The Total Region

The Hat Creek region lies in the rain shadow of the Coastal mountains, providing it with a basically arid climate and significant seasonal temperature variations, depending on air flows from either the Pacific Coast or the more frigid Arctic regions.

Resource exploitation has continued to be the mainstay of the regional economy and has strongly influenced the nature of its development and the character of its population growth. Economic growth has been rapid during most of the post-war period. Only recently has this trend begun to moderate.

The forest resource, a dominant sector in the regional economy, has been a major factor in this growth trend. Expansions in the annual allowable cut over the last 25 years have resulted in an almost fully committed resource under current management practices. Recent government policies have resulted in structural changes within the industry which have eliminated many small mills and concentrated production in a few large mills. Lumber, veneer and plywood are manufactured at various locations within the region, but pulp is manufactured only at Kamloops.

Although the mineral wealth of the region has been mined intermittently for more than 100 years, rising metal prices and new mining technology prompted a strong interest in the development of large porphyry copper deposits during the 1960s and early 1970s. The major mineralization is centered in the Highland Valley, 50 miles southwest of Kamloops.

The Craigmont Mine began concentrate shipments in 1961, followed shortly thereafter by Bethlehem Copper in 1963. Development of the Lornex Mine in 1972 prompted the establishment of the new Village of Logan Lake.

Improvements to the regional highway network during the 1950s contributed substantially to economic growth. The most important impetus in this respect resulted from the opening of the Rogers Pass section of the Trans-Canada Highway, which brought increased volumes of tourist and commercial traffic through the heart of the region.

Cattle ranching continues to be an important contributor to the regional economic and social structure, but its recent contribution to regional growth has been limited.

The region's climate and recreational resources have become an increasingly important aspect of the economic and social life of its residents. These amenities have helped to encourage the settlement

of a permanent population, attracted large numbers of tourists, and become an important part of the "Interior lifestyle". Arid climate, plentiful fish and wildlife, as well as the natural features of land and water resources, permit a wide variety of recreational pursuits. Tourist expenditures provide a considerable share of regional income, but also introduce a high degree of seasonality into certain local economies.

Income levels in the region are slightly lower than the provincial average. A large proportion of households are in the middle income categories, with noticeably few earning less than \$5,000 in 1970. Like many resource areas, the region attracts a high proportion of young families.

Kamloops is the commercial and public service center for the region. The city, with a current population of 60,000, has grown from a small rail junction to the major distribution and service center in the south-central portion of the province. Major department stores and food chains are represented in Kamloops, along with specialty stores, boutiques, and entertainment facilities. Major industrial wholesale lines are distributed. Specialist medical facilities, institutions of higher education, continuing education and vocational schools, along with corporate and government branch offices, financial services and professional services, are available to the regional population. The city offers many attractions and is readily accessible to a population in excess of 100,000 persons. Consequently, it is patronized extensively by residents of its trading and service areas, including the population of the Hat Creek region.

The governmental administrative structure operating in the region includes individual municipal and city administrations, as well as regional districts. The region is mainly within the jurisdiction of the Thompson-Nicola Regional District (TNRD), but extends into the

Squamish-Lillooet Regional District (SLRD) in the west. The Districts' major responsibilities include building regulations, the delivery of services (library, hospitals, refuse disposal), firearms regulation, planning and land use control.

Each municipal center and electoral area has an elected representative on the Regional Board. In order to maintain a voting strength in proportion to population, a weighted voting system is used, giving Kamloops 19 of the total 37 voting units.

Within the Hat Creek region, the local study area (shown in Figure 3.2) elects five members to the Thompson-Nicola Regional Board and one member to the Squamish-Lillooet Board. Difficulties exist between the administrations of the municipalities, and the TNRD. It has been suggested that the Regional District fails to consult the municipalities on land use matters adjacent to their boundaries, municipalities are receiving little return for their monetary contributions to the TNRD for planning, and the Regional District structure either tends to put too much power in the hands of local directors or enables directors with no interest in sub-regional issues to make decisions affecting those issues.

At the present time, neither Regional District with jurisdiction in the area has developed a regional land use plan. However, a regional planning program has been started by the TNRD.

In addition to inter-community administrative relationships, the communities of the local study area have strong commercial, public service and social linkages with Kamloops and among themselves. These communities will be discussed individually in the following section.



(ii) Hat Creek Valley

The Hat Creek Valley lies among the hills in the eastern extremities of the Coastal Range, midway between the Fraser and Thompson Rivers. The weather is dry and temperatures extreme, but in spite of hot summer days, the Valley's elevation results in generally cool evenings.

Hat Creek itself flows in a north/south direction through the heart of the Valley; a gentle and meandering course in the southern part of the Valley, turning sharply at the north end to flow into the Bonaparte River.

The land and water resources of the Upper Hat Creek Valley support domestic cattle as well as a diversity of wildlife. Cattle graze the rolling woodland hills and open grasslands, and about 2% of the Valley land area, mainly along the creek bottom, is cultivated for hay production. Recreationists utilize the Valley resources for hunting, fishing, and a number of non-consumptive activities.

The Valley is home to a small ranching community of about 30 to 40 persons, a number of whom can trace their ancestry to the original European settlers of the 1860s. One of the oldest ranches in the Interior is located in the Valley. Most of the population are land owners, combining deeded land with Crown leases to support their rural agricultural lifestyle. Others, with equally long family ties to the Valley, earn their basic livelihood as ranch employees.

Ranching is not the only economic activity of Valley residents. Some supplement their income with construction work in the area or service employment in Ashcroft, Cache Creek, Kamloops and the Lower Mainland. Income levels are not high, relative to the surrounding communities, but an economic criterion is not a major reason

for settlement in the Valley. The majority of the residents have a strong commitment to a rural lifestyle and an equally strong commitment to the Valley. This orientation is common among rural residents in the local area and is in contrast to that expressed by residents of the nearby incorporated communities, where economic opportunities have been a major factor in settlement decisions and would be a prime determinant of future decisions to relocate. Although personal differences exist among Valley residents, there also exists a strong sense of community cohesion and identity arising out of a common feeling of belonging in the Valley.

This attachment is apparent in spite of residents having lived with the uncertainties of possible coal developments for many years. These uncertainties are felt by some residents to have contributed to a lack of interest, on the part of some children, in extending family ranching traditions in the Valley. Also, a few ranch operators have refrained from maintenance and capital expenditures on their properties, the full benefits of which would only accrue over long time horizons.

Valley residents generally favour moderate growth in the local area in order to increase the diversity of commercial and public services available to them. Residents have easy access to the local services of Ashcroft and Cache Creek, as well as the regional services of Kamloops. This access, however, also results in their having to endure increasing encroachments by the area's outdoor recreationists.

Without the Hat Creek project, it is likely that the Valley population would remain at about its current level. Many of the present families would remain in the Valley and ranching operations would likely expand marginally, through intensified management.

(iii) Cache Creek

The Village of Cache Creek was incorporated in 1967 with a population of 675 persons. It experienced rapid growth during the late 1960s and early 1970s, but has recently stabilized at a level of about 1,050 persons.

The village has evolved as a highway service center in response to the demands of rapidly growing highway traffic. The community is located at the junction of the Trans-Canada highway and Highway No. 97, the main east/west and north/south arteries of the provincial highway network. This service function is not only the mainstay of Cache Creek's economic base, but it is also responsible for the physical layout, visual characteristics and much of the social character of the village.

The dominant physical feature of the community is the strip of service-oriented commercial establishments along the provincial highways. There is no well defined central business district concentrating establishments to serve the needs of the local population. Shopping facilities for the local population are minimal and consumer purchases are largely made in Ashcroft and Kamloops.

The provision of food, accommodation and automotive services to tourist and commercial traffic provides the essential economic foundation on which the community has been built. In addition, activities associated with the provision of goods and services to the area's mining and forest industries, supplemented by the establishment of branch offices for intra-provincial transport companies, utilities, and government departments, constitute the remainder of the village's economic base.

The nature of the economic base results in substantial seasonal employment variations. However, this variability provides

non-union, part-time employment opportunities for the area's female and student populations. It also results in per capita and household income levels below the provincial average. The middle income class is dominant in the community, with a relatively low percentage of households earning less than \$5,000 or more than \$15,000, in 1970 terms. The proportion of total community income arising from entrepreneurial activities is high and it is this socio-economic group that dominates the socio-political fabric of the community.

Although residents of Cache Creek are primarily young families, there is also a relatively large number of singles. Most of the adult population is in the prime working age, between 20 and 45 years.

The residents exhibit strong, positive attitudes towards their community. In spite of the fact that almost 40% of the population has resided in Cache Creek for less than five years, there appears to be a strong sense of community identity and solidarity. Residents are optimistic about the growth prospects of the village and this is reflected in their attitudes toward planning future community infrastructure and services. Existing community and social services are minimal, and residents have to rely largely on Ashcroft or Kamloops. Although efforts are being made to encourage the location of some provincial services in the community, little has been done to fill service voids through volunteer operated social programs.

The community's water system is deficient, but an upgrading program is in the planning stages. Local roads are generally adequate for the existing population and the sewer system is capable of accommodating considerable population increases. Land is available for population expansion and pending boundary extensions will tend to further this supply. A community plan is presently being prepared which will include the upgrading of existing zoning and subdivision control bylaws, and the preparation of a development cost charge bylaw. The

village administration is relatively wealthy, due to its high commercial assessment, giving it flexibility in financing future expansion of infrastructure and service facilities.

The economic, demographic and locational characteristics of Cache Creek contribute to a number of social problems. The high number of transients moving through the area require considerable police surveillance. There is a relatively high incidence of alcohol-related offences occurring in the community, and juvenile problems are increasing. It is reported that the relatively high affluence among youth in the area, due to the ready availability of part-time work, the lack of entertainment or recreation facilities, are contributing factors to the juvenile problem.

The lack of community recreation and entertainment facilities is recognized by most residents. In response to this need, a wide variety of community activities is sponsored annually and are well attended. In-house entertaining is popular, and there is a high level of business-related socializing. The high concentration of Cache Creek residents, both male and female, working in public service occupations within the community (in contrast to Ashcroft, where 30% of the labour force is employed in shift work 25 miles from the community), accentuates opportunities for social interaction and this, in turn, contributes to a strong community spirit.

Political relationships in the past between the councils of Cache Creek and Ashcroft do not indicate a high level of cooperation. There is evidence of antagonism which has been reflected in a number of unsuccessful attempts at joint programs and equipment sharing. The proximity of the communities, and their strong shopping and service linkages, would suggest that sharing of programs and facilities would be beneficial to both. However, the high degree of inter-community competition has prevented the realization of these benefits. Amalgamation of the two villages has been

suggested by Ashcroft council members, but until recently there has been a resistance on the part of Cache Creek members to pursue the concept. Recent evidence suggests some of these difficulties are being solved.

Without the Hat Creek project, the community will likely grow steadily, primarily by attracting populations associated with expected Highland Valley mining developments. The community will gradually reduce its dependence on highway traffic and expand its commercial base to more adequately serve the needs of its own population.

(iv) Ashcroft

The Village of Ashcroft was incorporated in 1952, but much of its current physical character dates from the completion of the Canadian Pacific Railway in 1885, and its subsequent role as a transshipment point and agricultural service center. Although recent fires have destroyed many of its older structures, some historic buildings are still standing.

The economic base of the village continues to include its service role for the national railways and the agricultural operations in its hinterland. However, more recently the activities have been dominated by its function as a local center for government services, its role as the major "bedroom" community for Bethlehem Copper, and its attractiveness as a shopping area for residents of Cache Creek, Clinton, the Hat Creek Valley, and the surrounding rural population.

The mining industry has provided the most recent growth stimulus, raising Ashcroft to its current population of about 2,030. Nearly one-third of its labour force is currently employed in this sector. Bethlehem Copper Corporation houses its employees in Ashcroft, and some residents are employed at the Lornex mine; both operating in the Highland Valley, 25 miles east of Ashcroft.

The importance of primary and transportation industry employment to the community is reflected in a relatively high proportion of union

employees and high household incomes. Ashcroft has the lowest proportion of households with incomes below \$5,000 and the highest proportion above \$15,000, in 1970 dollar terms, of any community in the local study area. In contrast to Cache Creek, most of the income is earned in wages rather than entrepreneurial activity, and seasonal variations in income are not as noticeable.

Due in large part to the influence of mining employment, Ashcroft has a high proportion of single males in the work force and has experienced substantial in- and out-migration. This migration pattern has involved a wide range of ethnic backgrounds. Although the population is concentrated in the 20 to 40 year age group, the village generally has a more even age distribution than other communities in the study area.

Among study area communities, Ashcroft has a high proportion of married residents. This characteristic differs from many mining communities and is probably the result of company recruiting practices, its central location, its desirable natural setting for family life, and its broader economic base.

The village is located 2 miles east of Highway No. 97 on the benches of the Thompson River Valley, and is physically divided by the river. Urban land use patterns are typical of small, older towns with a well established central business core surrounded by older residences. Newer residential developments are located in modern subdivisions which are separate from the original town center and older residential areas.

Ashcroft has recently completed an extensive upgrading of its sewer system, including a secondary treatment plant. Local roads are generally adequate for existing population levels, but deficiencies exist in the water system. Although a water upgrading study has been commissioned, no upgrading commitment has been undertaken.

The village is generally well serviced and provides a relatively wide array of social and community services for nearby urban and rural populations. Ashcroft houses the local Government Agent, Canada Manpower, the School District offices, and the regional hospital. Some of the community facilities, however, are old and in need of repair, and there is a lack of good entertainment services. The scarcity of entertainment facilities and recreation programs is considered a contributing factor to Ashcroft's juvenile problems, similar to those identified in Cache Creek.

Ashcroft has a relatively low assessment base and a relatively high mill rate. The new sewer system and arena, both of which suffer from excess capacity, have strained the municipal government's finances. There exists, therefore, a financial constraint to providing new or expanded community services. The village's interest in political amalgamation with Cache Creek can be traced, in part, to the potential benefits that would accrue from sharing the large commercial assessment base of Cache Creek.

The residents of Ashcroft have expressed a strong desire for population growth but, at the same time, would not like to lose the "flavour" of a small community. In contrast to Cache Creek, however, there does not appear to have been a dominant local group able to organize and unify the community towards the achievement of an accepted set of goals. Recent indications suggest this condition could be changing.

The social groupings of Ashcroft are more diversified than Cache Creek's and the business element is not as dominant. Although miners represent the largest group, categorized along occupational lines, they do not dominate community activities. To a great extent, the group is residentially separated from the merchants and government service populations, turnover is higher, and they tend to socialize together. Their lifestyle is influenced by shift work hours and their work takes them away from the community for much of the day.



Merchants and the local government have been in conflict over development priorities and approaches. Only recently, the Chamber of Commerce has re-emerged as a force in Ashcroft, and residents have elected a new Council.

The village has commissioned the development of a community plan. The focus is downtown rehabilitation and they are exploring the possibilities of establishing a Spanish/Mexican architectural theme in the design of future commercial and service facilities.

The future expansion of Ashcroft without the Hat Creek project is also dependent upon expected copper mining expansions in the Highland Valley. However, if world copper prices persist at their current low levels, not only will new developments be postponed, but Bethlehem could find its present operations uneconomic. This occurrence would result in a substantial decline in the population of Ashcroft.

(v) Clinton

Since its early beginnings in the mid-1800s, Clinton has serviced transients and travellers moving north and south through the British Columbia interior. Although steeped in the history of the Gold Rush, the village was not incorporated until 1963. One of the oldest museums in the province sits in the heart of the village. New motel, retail and service establishments, along the Cariboo Highway main street, are beginning to replace some of the older wood frame stores that give the village its visual character. The pleasant natural greenery of the hills surrounding the community is in contrast to the arid landscape of Ashcroft and Cache Creek.

Forestry, agriculture and highway services constitute the economic base of Clinton and the community's recent development problems can be directly related to the instability of these sectors. Highway traffic moving between the Lower Mainland the Northern British

Columbia was expanding rapidly during the late 1960s and early 1970s. Recent growth rates in traffic volumes have declined substantially.

The proliferation of small sawmills, which characterized post-war milling in the area, was rendered obsolete in the early 1970s by changes in provincial government forest policy. A new, larger mill was established but it did not completely fill the employment gap created by the demise of the smaller mills. Recent mill relocations have further aggravated the economic decline. A few retail and commercial establishments have been forced to close and many have excess capacity.

Population has declined from a 1966 level of 903 to a current level of 810 persons. Out-migration has occurred largely among the labour force in the 20 to 40 year age group, leaving a relatively even population age distribution in the community. Clinton consequently contains a larger proportion of elderly persons, most of whom have been resident since before incorporation, than other communities of the study area.

When compared with other urban centers in the local study area, Clinton contains an average percentage of households earning in excess of \$15,000, but reports the highest percentage of household incomes below \$5,000, in 1970 dollar terms. This income distribution, coupled with a high dependency rate, suggests that the Clinton population is the least wealthy of the communities under study.

There is a high reliance on government transfer payments and relatively high unemployment rates are reported. Some of the byproducts of unemployment are apparent in the incidence of family breakdown and alcohol-related problems. There appears to be a bitterness among Clinton residents over government policies that have contributed to the decline in its economic base, and government development promises that have not been fulfilled.

There is a strong desire among residents to promote growth in the community. Growth is desired to permit the diversification of retail and commercial services beyond their current minimal variety. Commercial expansion would help to reduce the outflow of consumer expenditures from the Village. Growth is desired to permit the better utilization of existing services, as well as the provision of new community services and recreation facilities to meet currently unsatisfied demands.

Clinton has a low assessment base, but it also has a low mill rate, permitting some financial flexibility in the planning of new facilities. The overall debt servicing capacity of the community, however, is low, and Council desires to maintain taxes at a moderate level.

The existing sewer system is adequate, but a study is currently underway to improve water supply capabilities. Over 100 acres of potentially developable Crown Land could be made available to the community for residential expansion. The Council has recently called for proposals to provide an overall community plan.

In spite of the depressed economic conditions under which Clinton is operating, and notwithstanding the unfulfilled development promises put forward by senior governments, local business and political leaders appear determined to mobilize the community towards attracting potential investors. However, few opportunities, other than a small lime quarry and cement clinker plant, appear likely in the foreseeable future without the Hat Creek project.

(vi) Lillooet

The Village of Lillooet, located on the banks of the Fraser River, is Mile 0 of the original Cariboo Wagon Road. The Wagon Road was inaugurated in 1859 and numerous Cariboo towns are still named for their mileage from Lillooet. As a result of the Gold Rush in the

1860s, Lillooet and Barkerville became the largest North American towns west of Chicago and north of San Francisco.

Although connected by road to the Pemberton Valley and the Cariboo Highway, the quality of these connectors and the rugged terrain leave Lillooet relatively isolated. This isolation has both positive and negative aspects for Lillooet. It has resulted in the need to locate a range of government services which might not have been located there had inter-community access been better. It has reduced the outflow of consumer expenditures that might normally be expected to occur in a community that size. Although shopping links to major centers do exist, in contrast to the other communities in the study area, Lillooet's ties are more towards the Lower Mainland than Kamloops. The commercial isolation of Lillooet results in a lack of local competition, and relatively high consumer prices. Residents are dissatisfied with the prices and diversity of retail goods, but convenient shopping options are limited. Occasional shopping excursions to the Lower Mainland, via B. C. Rail, are the most common means of overcoming these deficiencies.

The railway, forest industry, and a variety of government services, constitute the economic base of Lillooet. The base is fairly stable, but some seasonal variation exists in the forest industry. The establishment of the Evans Products Ltd. mill outside the town has contributed substantially to the recent growth in population, reaching a current level of 2,220 persons.

Average income levels in Lillooet are relatively low. A high proportion of households earned less than \$5,000 in 1970, and about the same proportion as Clinton earned more than \$15,000. The absence of a dominant primary industry and the high proportion of relatively low paying service occupations in the employment mix likely account for this condition.

Lillooet residents have generally lived in the community for many years and, although they are content with the natural scenery and recreational amenities of the area, they are dissatisfied with the level and quality of public and commercial services. In addition to the retail facilities previously mentioned, the quality of highways, radio and television reception, and community recreation facilities is also considered poor. Community infrastructure improvements are perceived to be necessary and there is a lack of upgraded housing. Planned housing expansion, in line with an expected government development, has recently been stalled.

The lack of recreational facilities and community programs, in conjunction with real and perceived geographical isolation, are contributing to an increase in juvenile problems and petty vandalism. Alcohol related offences are also relatively high.

These problems are being confronted by the population but they appear to face the typical difficulty of many small communities in British Columbia: inadequate assessment base to finance desired community services.

Lillooet does not have the resource base to stimulate further major population growth. Growth potential is tied to future government decisions at both the provincial and federal levels.

### 3.1 POPULATION

#### a) Growth and Characteristics

##### (i) Geographical Settlement

The overall population of the Hat Creek region has been growing at a rate of 4.2% during the last five years, reaching a level of 77,300 persons in 1976. Table 3.1.1 reveals that the rate of increase has declined somewhat, in comparison to the preceding five years, primarily as a result of downturns in the forest industry and highway traffic activity. The region has been one of the faster growing areas of the province during the last decade. However, its pace of growth appears to be moving more in line with that of the province as a whole during recent years.

TABLE 3.1.1  
POPULATION GROWTH HAT CREEK REGION AND LOCAL AREAS  
1966 TO 1976

	<u>1966</u>	<u>1971</u>	<u>Average Change Per Year</u>		<u>Average Change Per Year</u>	
			<u>%</u> <u>1966-1971</u>	<u>1976</u>	<u>%</u> <u>1971-1976</u>	
Ashcroft	1,154	1,916	10.6	2,030	1.2	
Cache Creek	674	1,013	8.5	1,050	.7	
Clinton	983	905	-1.7	810	-2.2	
Lillooet	1,379	1,514	1.9	2,220	8.0	
Rural	<u>1,200</u>	<u>70</u>	<u>3.3</u>	<u>1,390</u>	<u>1.1</u>	
LOCAL AREA	5,390	6,718	4.3	7,500	2.2	
OTHER REGIONAL COMMUNITIES *	43,110	56,082	5.4	69,800	4.5	
BRITISH COLUMBIA	1,873,674	2,184,621	3.1	2,466,608	2.5	

• Includes Kamloops, Lytton, Logan Lake and various rural communities.

SOURCE: Statistics Canada, Census, 1966, 1971 and 1976

Kamloops has been the major focal point of growth in the region, expanding very rapidly during the late 1960s and early 1970s, but slowing to a more moderate rate during recent years. The current population stands at 58,300 persons.

Kamloops' growth has been mainly a function of the level of forest and mineral exploitation in the surrounding hinterland. Wood based processing and first-stage manufacturing, industrial construction, and rail transport, represent a major part of the city's employment base. The area also supports a large beef ranching economy and, in addition to the major ranching enterprises, there are numerous small, often marginal, operations. Many ranchers within this 'marginal' sector supplement their income by hauling logs and working in construction.

Although primary industry development has been the basis of Kamloops' expansion, the tertiary and quaternary sectors have become the leading employment sectors, reflecting the accumulation of major administrative, educational, health, and trade functions by Kamloops. Thus, although the exchange and processing of natural resources still underpins much of the city's growth, the exchange and processing of information now generates most of the jobs. Kamloops is B.C.'s third largest city and the major distribution center for the region.

With the exception of Lillooet, the communities of the local study area have experienced similar temporal growth trends. During the 1960s, Ashcroft and Cache Creek shared in the rapid expansion taking place throughout the region. Cache Creek became an established service center for the rapidly expanding traffic volumes of the Trans Canada and Cariboo Highways. Ashcroft served as the dormitory community for the Bethlehem Mine and also continued to expand as a sub-regional trading center.

Since the early 1970s, both Ashcroft and Cache Creek entered a period of considerably slower growth than they had experienced between 1966 and 1971. The populations of the two communities increased by only 5.1% during the last five years. The sharply curtailed growth in traffic volumes on the Trans Canada Highway during recent years has

been the limiting factor in the case of Cache Creek. Ashcroft's growth was undoubtedly stunted by the decision of Lornex Mines to build an 'instant community' adjacent to the mine site when the company went into the Highland Valley. This community, Logan Lake, has a 1976 population of 1,354.

Clinton has been experiencing steady population declines since 1966 as a result of changes in the forest industry throughout the area. The introduction of a close utilization cutting policy resulted in the demise of small sawmills and the reduction in employment opportunities.\* In spite of government action effecting the establishment of a new mill in the area, the move has not been sufficient to maintain former employment and population levels. Recent announcements suggest that the exodus of mills from the Clinton area is continuing and further population declines could result.\*\*

In contrast, Lillooet has received the impetus of a large mill locating near the community during the early 1970s. As a result, the population grew from 1,514 in 1971 to a level of 2,220 in 1976. Since the establishment of the mill, little additional activity has been experienced.

The rural population has shown some expansion during the period, but this has been mainly around the fringes of the communities.

#### (ii) Migration Characteristics

The population of the Hat Creek region is relatively transitory. Immigration has been the primary labour supply source for maintaining the industrial and commercial expansion of the last decade.

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\* This policy specifies a minimum size of tree on which stumpage charges must be paid by the operator regardless of whether such trees are utilized. The intent of the policy is to encourage a more efficient use of the wood supply. The close utilization policy is generally considered to increase production costs and to encourage use of small diameter logs for pulp chips, thus favouring large scale, integrated enterprises.

\*\* The Pioneer, Ashcroft, August 17, 1977.



In 1971, about 43.5% of the regional population were in-migrants during the preceding five year period. Table 3.1.2 reveals that most persons were migrating from other areas of British Columbia. Inter-provincial migrants accounted for 24.8% of all in-migrants, mainly from the prairie provinces and Ontario.

TABLE 3.1.2  
MIGRATION STATUS OF REGIONAL AND LOCAL POPULATION  
1971

	<u>Hat Creek Region</u>	<u>Ashcroft</u>	<u>Cache Creek</u>	<u>Clinton</u>	<u>Lillooet</u>
	%	%	%	%	%
<u>Population*</u>					
Non-Migrant	56.5	44.1	46.3	66.5	61.1
Migrant	43.5	55.9	53.7	33.5	38.9
TOTAL	100.0	100.0	100.0	100.0	100.0
<u>Migrants</u>					
Within B.C.	57.6	68.5	70.9	83.0	68.5
Other Provinces	24.8	13.4	17.5	13.2	11.7
Outside Canada	8.8	8.2	5.3	1.9	13.5
Unspecified	8.8	9.9	6.3	1.9	6.3
TOTAL	100.0	100.0	100.0	100.0	100.0

\* Population 5 years of age and over.

SOURCE: Statistics Canada, User Summary Tapes, Census, 1971.  
Kamloops Community Employment Strategy,  
"Employment Profile", 1976.

Within the local study area, Ashcroft and Cache Creek have a very high proportion of recent in-migration residents, reflecting their rapid population increases during the 1960s. Clinton and Lillooet, more stable communities during that period, show a commensurately higher proportion of long-standing residents. Due to Lillooet's more recent growth, it can be expected that in-migrants now constitute a higher proportion of its population.

TABLE 3.1.3  
FORMER PLACE OF RESIDENCE  
OF LOCAL AREA POPULATION, 1976

<u>Former Residence</u>	<u>%</u>
Lower Mainland	35.6
Other Interior B.C.	34.1
Vancouver Island	5.6
Northern B.C.	4.1
Other Province	18.4
Other Country	<u>2.2</u>
TOTAL	100.0

SOURCE: Cornerstone Planning Group Ltd.,  
Hat Creek Resident Survey, 1976.

Among respondents reporting their former residential origin in the Hat Creek Resident Survey, the majority resided in either the Lower Mainland or other areas of Interior British Columbia. Over half of the population came from urban centers and about 30% from rural areas. Only 9% came from other small town environments.

TABLE 3.1.4  
FORMER AREA OF RESIDENCE OF  
LOCAL HAT CREEK POPULATION, 1976

<u>Former Area</u>	<u>%</u>
Urban	52.2
Rural	30.1
Suburban	8.5
Other Small Town	8.8
Unspecified	<u>0.4</u>
TOTAL	100.0

SOURCE: Cornerstone Planning Group Ltd.,  
Hat Creek Resident Survey, 1977.

The survey also indicated that over two-thirds of the local area's residents had lived in the area for more than five years, reflecting the low population growth since 1971 and, likely, the relatively low labour turnover at the Bethlehem and Lornex mines.

(iii) Age/Sex Distribution

Table 3.1.5 compares the male/female population distribution of the region and local area communities with the British Columbia population. The regional composition, largely as a result of the influence of Kamloops, is very similar to the province as a whole. However, with the exception of Cache Creek, the local communities contain a significant male bias.

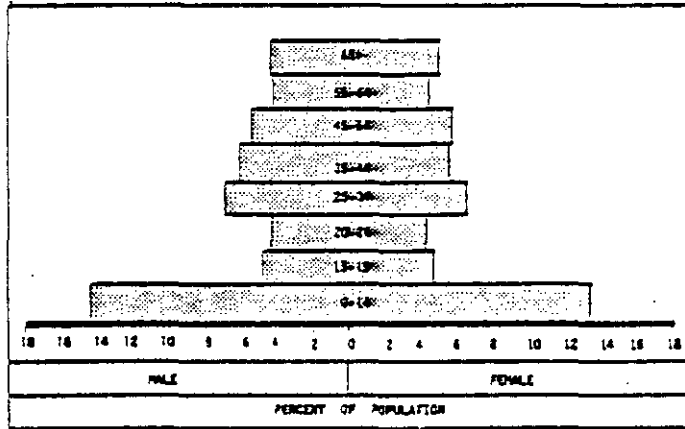
TABLE 3.1.5  
MALE/FEMALE POPULATION COMPOSITION,  
HAT CREEK REGION AND LOCAL AREA, 1971

	<u>Male</u>	<u>Female</u>
	<u>%</u>	<u>%</u>
Ashcroft	53.6	46.4
Cache Creek	50.9	49.1
Clinton	53.0	47.0
Lillooet	53.0	47.0
Rural	<u>55.4</u>	<u>44.6</u>
LOCAL AREA	53.4	46.6
Kamloops	51.3	48.7
HAT GREEK REGION	52.0	48.0
BRITISH COLUMBIA	51.2	48.8

SOURCE: Statistics Canada, User Summary Tapes, Census, 1971.

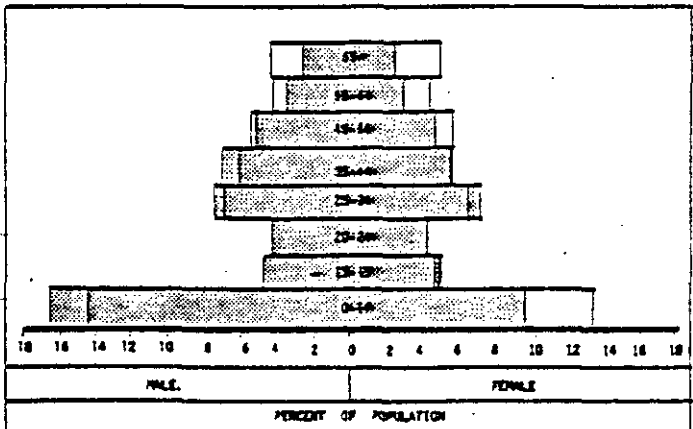
The population of the region is somewhat younger than the province as a whole. The following pyramids compare age/sex distributions for the region and selected communities within the province.

Figure 3.1.1



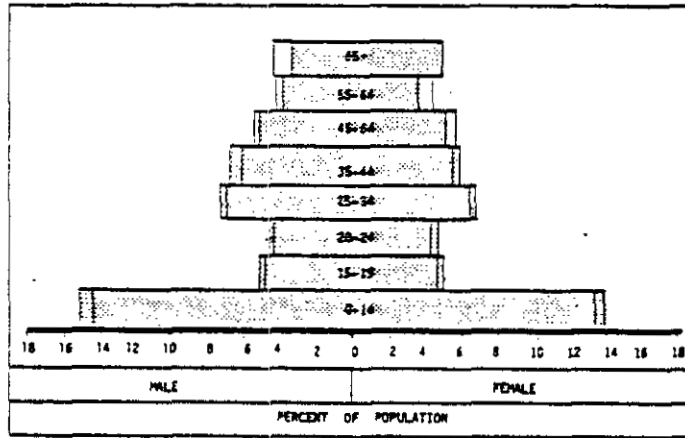
AGE/SEX DISTRIBUTION  
BRITISH COLUMBIA TOTAL

Figure 3.1.2



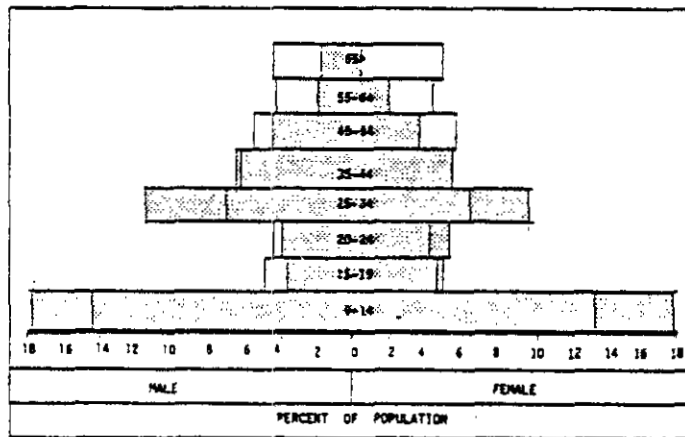
AGE/SEX DISTRIBUTION  
OVERALL REGION

Figure 3.1.3



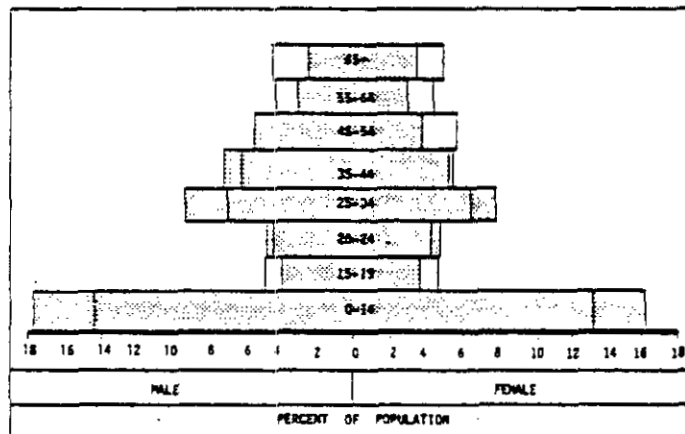
AGE/SEX DISTRIBUTION - KAMLOOPS

Figure 3.1.4



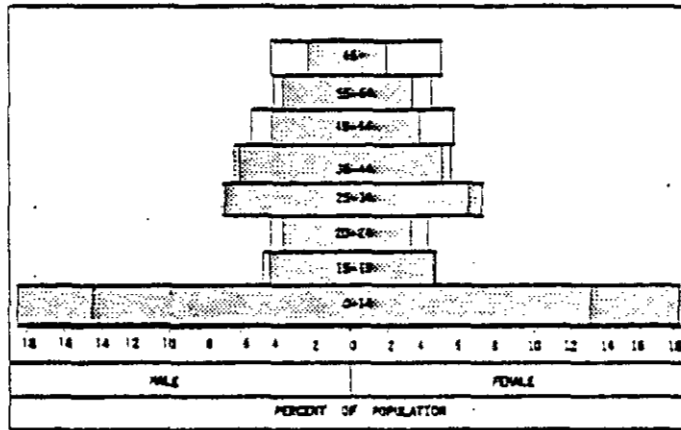
AGE/SEX DISTRIBUTION - CACHE CREEK

Figure 3.1.5



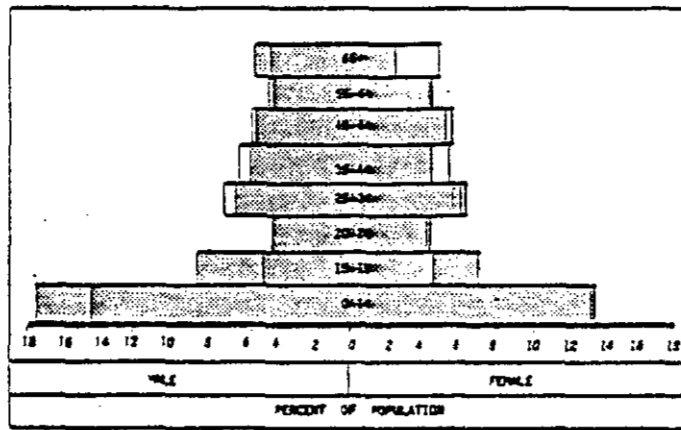
AGE/SEX DISTRIBUTION - ASHCROFT

Figure 3.1.6



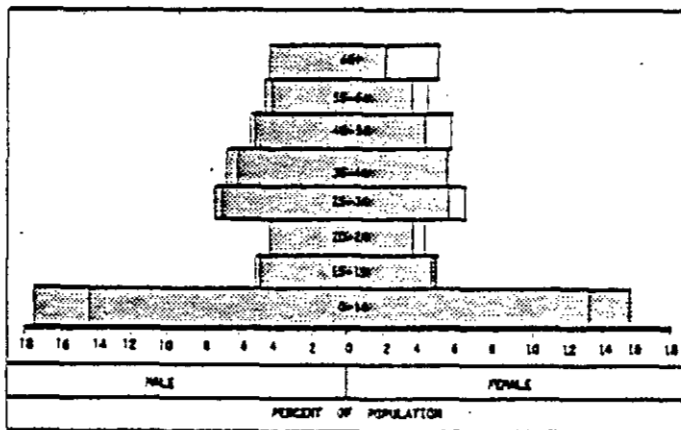
AGE/SEX DISTRIBUTION - CLINTON

Figure 3.1.7



AGE/SEX DISTRIBUTION - LILLOOET

Figure 3.1.8



AGE/SEX DISTRIBUTION - RURAL

Over two thirds of the regional population is below 34 years of age, compared to the provincial average of 59%. Also, the proportion of seniors in the region is only 4.9% compared to 9.4% in the overall province.

All communities contain a large male and female population in the 0 to 14 age grouping. Both Cache Creek and Ashcroft have a very biased population in this respect. A small percentage of the population of these two communities is over 35 years of age, in comparison with both the region and the province. Also, both communities show a significant portion of their populations in the 20 to 44 year age grouping - the prime employment years. The Cache Creek population is skewed noticeably in this age group. There are a large number of females in the 20 to 34 year age categories and a large number of males in the 25 to 34 year age category.

Lillooet has the profile most closely approximating that of the region and the province. The 65 or greater category, however, has an unusual skew with a greater proportion of males than females.

(iv) Family Composition

Consistent with the age structure of the local and regional populations, the number of children per family in all communities is higher than the provincial average. Table 3.1.6 shows the distribution of children per family in each of the main communities.

It is significant to note that Clinton and the rural areas, with the largest families, also have the lowest household income levels.

(See Section 3.2).

TABLE 3.1.6  
NUMBER OF CHILDREN PER FAMILY\*  
HAT CREEK REGION AND LOCAL AREA, 1971

	<u>No. of Children</u>						<u>Average No. Of Children Per Family</u>
	<u>0</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>4+</u>	
	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>	
Ashcroft	27.8	17.8	25.6	15.5	8.9	5.8	1.8
Cache Creek	27.7	19.2	21.3	19.2	8.5	6.3	1.8
Clinton	29.3	17.1	12.2	24.4	12.2	12.0	2.0
Lillooet	33.3	20.8	16.7	15.3	6.9	7.0	1.7
Rural	32.4	16.7	18.5	14.8	7.4	9.3	1.9
Kamloops	29.7	20.9	23.3	13.9	7.2	5.1	1.7
HAT CREEK REGION	26.9	19.8	22.7	15.5	8.4	6.7	1.8
BRITISH COLUMBIA	34.2	19.8	21.8	13.5	6.5	4.6	1.6

\* Totals may not add to 100% due to rounding.

SOURCE: Statistics Canada, Census, 1971.

(v) Household Composition

As would be expected from the family composition of the area, household sizes are larger in the region than the provincial average. Table 3.1.7 presents the distribution of households by size for selected communities, the region and British Columbia. Average household size throughout the Hat Creek region is 3.6 persons per household, compared to 3.2 persons in the province as a whole.

The individual communities within the local study area also indicate a similar pattern of larger household sizes. Ashcroft, Cache Creek and Clinton show significantly larger percentages of their populations with five and six individuals per household. Clinton has over double the proportion of households with more than six persons, than the provincial average.



TABLE 3.1.7  
DISTRIBUTION OF HOUSEHOLDS BY SIZE\*  
HAT CREEK REGION AND LOCAL AREA, 1971

	<u>No. of Persons</u>							<u>Average Persons Per Household</u>
	<u>1</u> <u>%</u>	<u>2</u> <u>%</u>	<u>3</u> <u>%</u>	<u>4</u> <u>%</u>	<u>5</u> <u>%</u>	<u>6</u> <u>%</u>	<u>6+</u> <u>%</u>	
Ashcroft	12.3	23.6	15.1	19.8	16.0	8.5	4.7	3.5
Cache Creek	12.2	25.0	15.8	19.3	15.8	7.0	3.7	3.5
Clinton	14.0	28.0	12.0	12.0	16.0	10.0	8.0	3.6
Lillooet	17.6	27.4	15.3	12.1	13.2	6.6	7.7	3.3
Rural	18.7	27.3	12.2	15.1	11.5	7.2	7.1	3.4
Kamloops	15.1	26.0	16.7	18.1	12.2	6.7	5.3	3.3
HAT CREEK REGION	12.4	23.5	16.2	18.9	13.7	7.9	7.2	3.6
BRITISH COLUMBIA	17.2	28.4	15.9	17.0	10.9	5.8	4.8	3.2

\* Totals may not add to 100% due to rounding.

SOURCE: Statistics Canada, Census, 1971.

When compared with the province, all communities within the study area indicate substantially fewer households with only one person. Nearly one-half (45.6%) of the households in the province have one or two persons, compared to only one-third of the households in the region.

(vi) Marital Status

In the overall region, approximately two-thirds of the population 15 years and over are married, 26.4% are single, and 6.9% are divorced, separated or widowed. These proportions compare very closely with the figures for British Columbia. Ashcroft and Clinton have a relatively high percentage of married persons. The rural areas support the highest proportion of singles, while Ashcroft and Cache Creek contain

a high proportion of divorced, separated or widowed persons. The causal factors for these conditions are unknown.

The Resident Survey, completed in 1977, suggests an increase in the proportion of married persons, since 1971, and a corresponding decline in both the other status groups. This could reflect a growing tendency by employers to encourage the employment, and consequently the immigration, of married persons.

TABLE 3.1.8  
MARITAL STATUS OF  
HAT CREEK REGION AND LOCAL AREA POPULATION, 1971

	<u>Single</u> %	<u>Married</u> %	<u>Other</u> %	<u>TOTAL</u> %
Ashcroft	22.8	70.1	7.1	100.0
Cache Creek	26.6	66.0	7.4	100.0
Clinton	23.5	72.8	3.7	100.0
Lillooet	23.3	69.8	6.2	100.0
Rural	28.0	66.4	5.2	100.0
Kamloops	26.8	67.4	5.8	100.0
HAT CREEK REGION	26.4	66.7	6.9	100.0
BRITISH COLUMBIA	25.6	68.7	5.7	100.0
<hr/>				
Hat Creek & Area Resident Survey*	21.0	74.4	4.6	100.0

\* Cornerstone Planning Group Limited  
Hat Creek and Area Resident Survey, 1977.

SOURCE: Statistics Canada, Census, 1971.

(vii) Education Levels

Table 3.1.9 outlines the educational background of the regional population. In general, educational achievement levels are lower in the region than in the province as a whole. A low proportion of the regional population has obtained Grade 12 or post secondary education, while a much higher proportion has not achieved Grade 8. Ashcroft and Cache Creek show an exceptionally high proportion of individuals achieving Grade 9 to Grade 11 levels, while the Clinton population shows a high percentage of persons with very low and very high educational achievement.

TABLE 3.1.9  
EDUCATIONAL LEVEL OF THE POPULATION  
(AGE 15 AND OVER)  
CURRENTLY NOT ATTENDING SCHOOL\*  
HAT CREEK REGION AND LOCAL AREA, 1971

	<u>Grade 8</u> <u>and Less</u> <u>%</u>	<u>Grades</u> <u>9 - 11</u> <u>%</u>	<u>Grade</u> <u>12</u> <u>%</u>	<u>Post</u> <u>Secondary</u> <u>%</u>	<u>Total</u> <u>%</u>
Ashcroft	24.9	40.8	21.5	13.0	100.0
Cache Creek	27.7	47.1	14.2	12.6	100.0
Clinton	34.4	35.5	15.6	15.7	100.0
Lillooet	30.4	36.1	21.5	11.5	100.0
Rural	36.0	33.0	21.6	10.1	100.0
Kamloops	26.7	35.7	22.7	14.9	100.0
HAT CREEK REGION	30.0	36.7	21.0	12.3	100.0
BRITISH COLUMBIA	26.2	33.2	24.1	16.5	100.0

- Totals may not add to 100% due to rounding.

SOURCE: Statistics Canada, Census, 1971.

A significant difference exists between the education achievements of males and females in the region. It is reported that, "on average, women are more likely than men to complete high school and even enter into post-secondary institutions such as regional college. Their average level of schooling is higher than that of men because of this. However, they are less likely to go on to university and even less likely to graduate. They are also under-represented in vocational training".\*

(viii) Ethnic Composition

Table 3.1.10 identifies the ethnic composition of the regional population:

TABLE 3.1.10  
ETHNIC COMPOSITION OF THE  
REGIONAL POPULATION, 1971

<u>Ethnic Grouping</u>	<u>%</u>
British Isles	54.4
German	9.6
French	5.4
Scandinavian	5.3
Native	4.1
Ukranian	3.3
Italian	3.1
Dutch	2.7
Indo-Pakistani	2.4
Polish	1.4
Japanese	1.2
Hungarian	0.8
Russian	0.7
Other	5.6
	<u>100.0</u>

SOURCE: Statistics Canada, Census, 1971.

Although the dominant cultural group is British, the remaining half of the population has highly diversified cultural ancestry.

b) Projected Population Without the Hat Creek Project

Population growth expected to occur in the local study area without the Hat Creek project has been determined utilizing the population model and assumptions described in Appendix A and is based on the employment projections in Table 3.3.18 of Section 3.3. For the remainder of the total Hat Creek Region, population was projected on the basis of historical trends, using other recent forecasts and expectations of future economic expansion as a basis for modifying trends.

(i) Local Study Area

The local study area has an estimated 1976 population of 7,500 persons. As a result of extensive in-migration in response to the economic developments expected to occur in the area during the next 15 years, local population is expected to grow to a level of 9,960 persons by 1990.

Table 3.1.11 delineates the geographical distribution of the incremental population among the communities of the area.

Ashcroft and Cache Creek will likely receive about 60% of the increment, due primarily to the mining related developments in the Highland Valley. Although the in-migrants associated with these developments are expected to reside in Logan Lake, Merritt and Kamloops as well, it is expected that about 20% to 25% will choose to reside in the Ashcroft/Cache Creek area.

Clinton and Lillooet could expand on the basis of resource and government oriented projects likely to occur in those areas. The unincorporated rural areas are not projected to grow significantly throughout the period. Although it is recognized that rural residential expansion

TABLE 3.1.11  
POPULATION PROJECTIONS WITHOUT HAT CREEK PROJECT  
LOCAL AREA DISTRIBUTION  
1976-1990

	Ashcroft	Cache Creek	Clinton	Lillooet	Unincorporated	TOTAL
1976 *	2,030	1,050	810	2,220	1,390**	7,500
1978	2,100	1,095	810	2,220	1,390	7,615
1980	2,455	1,205	810	2,220	1,390	8,080
1982	2,455	1,205	1,155	2,785	1,390	8,990
1984	2,455	1,205	1,155	2,785	1,390	8,990
1986	2,685	1,355	1,155	2,785	1,390	9,370
1988	2,860	1,475	1,155	2,785	1,390	9,665
1990	3,035	1,595	1,155	2,785	1,390	9,960

3.1 - 17

\* Statistics Canada, Census, 1976.

\*\* Estimated by Strong Hall & Associates Ltd.  
 Does not include Indian Reserves.

SOURCE: Strong Hall & Associates Ltd.

could occur at the expense of community expansion, it is not considered reasonable to estimate this long-term growth. Historically, over the long run, the rural population is at about the same level today as it was in 1941. Short run increases have been met with community boundary extensions, raising community population and reducing that of the un-organized areas. It is expected that this trend will continue.

The project-based forecasting technique employed results in block increases in community population. Caution must be exercised, however, in utilizing the forecast literally for community planning. In addition to the uncertainty surrounding future development projects in the area, the multiplier estimates of induced employment (and relatedly induced population) imply that increments to this portion of the population will occur in the same year as the project employment with which it is associated. In fact, pre-project speculation may result in service sector employment expansion prior to project commencement. On the other hand, induced employment creation often lags behind direct project employment since subsequent spending of direct income occurs over time rather than instantaneously. These effects will tend to spread the population expansion more evenly over time.

(ii) Total Hat Creek Region

In contrast to the project based forecasting approach used for the local study area, employment levels for the remaining areas of the Hat Creek region are projected based on extrapolations of historical trends in the context of expected future development patterns. Underlying the projected growth pattern is an awareness of the specific developments expected to occur over the next 15 years and an understanding of their employment creation potential. If, as assumed, the primary determinants of future population growth in the region relate to economic opportunity, this awareness is critical to an assessment of the reasonableness of the projections. However, given the size and diversity of the region, a projection approach based entirely upon the identification of specific employment opportunities would not provide an adequate projection.

The remaining areas of the total region report a current population of 68,900 persons, reflecting an average growth of 4.5% annually since 1971. Expansion during the last five years has been considerably below the previous five year period and recent projections by federal and provincial agencies suggest a further decline in the future rate of growth.\*

In the main these agencies have been forecasting one or more of the commonly identified aspects of growth: population, labour force, employment, and income. The following projections relied on this material in conjunction with personal interviews of government officials and private individuals involved in assessing the economic future of central British Columbia.

Kamloops is the dominant community of the remaining areas of the region, accounting for almost 85% of the population in 1976. Therefore, Kamloops will be projected separately from the remaining small communities and rural areas.

The future growth of Kamloops is likely to be dependent on the same elements that have been responsible for its historical growth pattern. There is little evidence that the city has reached the size and diversity that would suggest it is moving along a path of internally generated cumulative and self-sustaining growth. Rather, it appears that its growth will continue to be largely dependent on resource development in its hinterland and on developments which maximize its locational advantage as a transportation nexus.

One potential element in Kamloops' future that could alter this established pattern would be government decisions to meaningfully decentralize provincial and/or federal administrations. Although Kamloops currently accommodates a substantial public sector labour force, it is still very much a "branch office" community for both the public and private sectors.

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\* See Appendix C for details.



Administrative services that are being provided are either serving the resource developments of the area or the regional population. As such, administration expansion is constrained by the extent of regional development and population growth rather than being a prime generator of that growth.

Large companies with offices in Kamloops are expected to continue to maintain head offices in Vancouver. The provincial government, although supporting a general policy to promote balanced development among regions of British Columbia, has shown little inclination to utilize government decentralization as a tool for distributing this development. The efficiency costs of achieving regional development goals are, no doubt, too great at the current time and likely will remain so until the population of Kamloops is substantially greater in both relative and absolute terms.

The future development path for Kamloops is therefore expected to be founded upon similar elements to those which have defined its past growth.

The major resource developments expected to occur in the Kamloops' hinterland over the next 15 years include the substantially intensified development of the Highland Valley copper deposits, copper and uranium mining in the Clearwater area, modest expansion and diversification of wood processing facilities and possibly some expansion of the agricultural sector, through increasing the area of irrigated agriculture in the Thompson River benchlands. In addition, the completion of the Afton Copper Mine and Smelter and the possible development of a second copper processing facility in the Highland Valley would provide impetus to Kamloops' growth.

Manufacturing opportunities, beyond wood processing, appear to be limited due to transportation rate structures and market constraints. It is expected that most manufacturing development would relate to machining and light engineering for the industrial developments of the hinterland.

The transportation sector is not expected to be a major source of growth. Airport expansion is expected to occur and the establishment of a unit train servicing depot is a possibility. Additional employment will also arise from the growth in rail traffic associated with East Kootenay coal developments. None of these developments is expected to be a major employment generator.

Kamloops is an important residential sector for the province's highly mobile industrial construction work force. During the 1960s and early 1970s, the community reached a size which attracted workers arriving in the Interior to work on the construction of pulp mills, hydroelectric dams and mines. A considerable number of families established their residence in Kamloops at the termination of these projects. During the recent years of high construction industry unemployment, many of these families have moved to Alberta. However, as work commences on Highland Valley mines and other Central B. C. developments, it is expected that many of these individuals will return and an additional group of construction workers will be attracted to the city.

The main source of future growth in Kamloops will be in the tertiary sectors of the economy. Cariboo College is planning to double its capacity over the next 10 years and could become a degree granting institution with university status. A federal penitentiary is being built, court facilities are being expanded and the city is being promoted as a convention center. These types of activities, combined with service expansions to meet the needs of hinterland resource developments and populations, will provide the basis for Kamloops' continued growth. Even in terms of the retail and service sector, however, the effect of population growth in Kamloops' regional trading area will likely have less impact on the city in the future than has been the case in the past. The smaller resource communities are reaching population levels which permit supermarkets, community shopping malls, and a greater diversity of retail establishments. Consequently, their historical dependence on the retail facilities of Kamloops is lessening.

All indications point towards a lower rate of future population growth

in Kamloops than has been the case in the recent past. Given the magnitude and type of developments that are expected to take place, long-term growth in the order of 3.0% would appear reasonable for the foreseeable future. Under this assumption, Kamloops' population would grow from its 1976 level of 58,300 persons to about 86,900 persons by 1990.

The remaining areas of the total Hat Creek region include Merritt, Logan Lake, Lytton and rural communities east of Ashcroft and Cache Creek. The growth potential of these areas is essentially tied to expansions in the agriculture, mining and forest industries as well as the growth in highway traffic. The major impetus will come from the previously mentioned mining developments in the Highland Valley. These are expected to provide the basis for expansion in Logan Lake during the 1980s and will also be significant stabilizers for Merritt. The expected closure of Craigmont Mines in 1979 will result in some emigration from Merritt. However, Highland Valley growth will permit the majority of the population to retain its residence. Recent provincial government announcements schedule construction of the Coquihalla Highway over the next five to ten years. This route will provide further growth impetus to Merritt, while reducing potential expansion in the Lytton and Cache Creek areas. Future growth in Lytton is not expected to be significant. With this type of development potential, long-term population growth in the order of 1.5% annually for the other communities of the Hat Creek region would appear reasonable. This growth would raise current population levels from 11,500 to about 14,800 persons by 1990.

Projected population growth in the total Hat Creek region is shown in Table 3.1.12. It is expected that the region's population will increase from 77,300 persons in 1976 to 111,700 persons by 1990, without the influence of the Hat Creek project, representing an average increase of 2.5% annually.

TABLE 3.1.12  
PROJECTED POPULATION WITHOUT THE PROJECT\*  
HAT CREEK REGION  
1976-1990

	<u>Local Area</u>	<u>Kamloops</u>	<u>Other Regional Communities</u>	<u>Total Region*</u>
1976	7,500	58,300	11,500	77,300
1978	7,615	61,900	11,900	81,400
1980	8,080	65,500	12,300	85,900
1982	8,990	69,200	12,800	91,000
1984	8,990	73,400	13,300	95,700
1986	9,370	77,600	13,800	100,800
1988	9,665	82,300	14,300	106,300
1990	9,960	86,900	14,800	111,700

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\* Total population rounded to the nearest 100.

SOURCE: Strong Hall & Associates Ltd.

c) Characteristics of the Incoming Population

The incoming population, primarily due to the increased mining and related processing activities in the Highland Valley, will have characteristics similar to those of a number of typical resource communities in Canada. This will be true of both the direct and indirect work forces related to the mining activities as well as the induced or service population. For this reason, three resource communities have been chosen and representative characteristics chosen from the comparison of these three communities; Grande Cache, Alberta, as well as Sparwood and Mackenzie in British Columbia.

The incoming population will be relatively young, with over 33% under 15 years of age and nearly 50% between the ages of 20 and 45. As the work force becomes more established, the number of people over 35 will likely increase, but, in the initial years, only 3% will be in this age group, while 1% will be 65 years of age or older. The expected age characteristics are shown in Table 3.1.13.

TABLE 3.1.13  
AGE CHARACTERISTICS

	<u>0-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-34</u>	<u>35-44</u>	<u>45-54</u>	<u>55-64</u>	<u>65+</u>
	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>
Sparwood	35.0	8.0	10.7	17.1	12.4	7.5	5.2	4.2
Mackenzie	38.3	7.1	12.7	22.5	11.1	5.8	2.3	0.2
Grande Cache	40.3	7.9	12.6	20.9	12.0	4.5	1.2	0.6
Expected Character- istics	38.0	8.0	12.0	20.0	12.0	6.0	3.0	1.0

Totals may not add to 100% due to rounding

SOURCE: Statistics Canada, Census, 1971  
Cornerstone Planning Group Limited.

Tables 3.1.14 to 3.1.17 identify the marital status, family and household characteristics expected.

TABLE 3.1.14  
MARITAL STATUS (15 YEARS AND OVER) \*

	<u>Single</u>	<u>Married</u>	<u>Other</u>	<u>TOTAL</u>
	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>
Sparwood	23.0	69.0	7.3	100.0
Mackenzie	20.6	74.6	4.8	100.0
Grande Cache	19.3	76.7	3.4	100.0
<hr/>				
Expected Characteristics	23.0	73.0	3.0	100.0

\* Totals may not add to 100% due to rounding

SOURCE: Statistics Canada, Census, 1971.  
Cornerstone Planning Group Limited.

Almost 75% of the incoming population 15 years and over are likely to be married. Approximately one-quarter of the families will be young couples with no children but, on an average, there will be two children per family. Most families with children will have two or three, although there will likely be more with one than with three. Relatively few families will have more than three children, and the average family is expected to have 3.8 persons.

TABLE 3.1.15  
NUMBER OF CHILDREN PER FAMILY

	<u>0</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>4+</u>	Average No. Of Children Per Family
	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>	
Sparwood	25.4	21.0	24.6	15.9	8.0	6.0	2.0
Mackenzie	20.8	22.6	26.5	17.9	7.5	4.7	2.0
Grande Cache	17.6	26.5	27.4	16.8	7.1	4.5	2.0
Expected Character- istics	25.0	22.0	26.0	16.0	7.0	4.0	2.0

\* Totals may not add to 100% due to rounding

SOURCE: Statistics Canada, Census, 1971  
Cornerstone Planning Group Limited

TABLE 3.1.16  
NUMBER OF PERSONS PER FAMILY\*

	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>6+</u>	Average Number
	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>	
Sparwood	25.4	21.0	23.9	15.9	8.0	5.9	3.8
Mackenzie	21.7	21.7	26.4	17.0	7.5	5.7	3.9
Grande Cache	18.1	25.0	25.9	17.2	8.6	5.2	3.9
Expected Character- istics	22.0	22.0	25.0	18.0	8.0	5.0	3.8

\* Totals may not add to 100% due to rounding

SOURCE: Statistics Canada, Census, 1971  
Cornerstone Planning Group Limited

About 37% of households formed will contain only one or two persons.  
The average household size is expected to be 3.4 persons.

TABLE 3.1.17  
HOUSEHOLD SIZE\*

	<u>1</u> <u>%</u>	<u>2</u> <u>%</u>	<u>3</u> <u>%</u>	<u>4</u> <u>%</u>	<u>5</u> <u>%</u>	<u>6</u> <u>%</u>	<u>6+</u> <u>%</u>	<u>Average No. of Persons Per Household</u>
Sparwood	16.6	23.4	14.3	20.0	13.0	8.0	4.4	3.4
Mackenzie	5.4	18.9	18.0	24.3	17.1	8.1	8.2	3.9
Grande Cache	1.7	15.0	22.5	24.2	17.4	11.7	6.7	4.0
Expected Character- istics	16.0	21.0	17.0	18.0	15.0	8.0	5.0	3.4

\* Totals may not add to 100% due to rounding

SOURCE: Statistics Canada, Census, 1971  
Cornerstone Planning Group Limited.

Table 3.1.18 outlines expected education characteristics. About 30% of people 15 years and over, not attending school, will have no more than a Grade 8 education, and an additional 41% will not have graduated from high school. About 3% of the population group will have a university degree.



TABLE 3.1.18  
EDUCATION LEVEL  
(AGE 15 AND OVER NOT ATTENDING SCHOOL)\*

	<u>Grade 8 and Less</u>	<u>Grades 9 - 11</u>	<u>Grade 12</u>	<u>Post- Secondary</u>	<u>TOTAL</u>
	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>
Sparwood	30.3	40.3	19.0	10.0	100.0
Mackenzie	22.9	43.8	20.3	13.0	100.0
Grande Cache	25.5	42.9	22.7	9.0	100.0
Expected Character- istics	30.0	41.0	19.0	10.0	100.0

Totals may not add to 100% due to rounding.

SOURCE: Statistics Canada, Census, 1971  
 Cornerstone Planning Group Limited

The above population characteristics will have implications for and provide guidance to the provision of housing and community services in the receiving communities.

### 3.2 LABOUR FORCE AND EMPLOYMENT

#### a) Growth and Characteristics

The Hat Creek region experienced relatively rapid growth during the 1960s and early 1970s. Recent declines in the rate of growth in economic activity in the region have been reflected in a lower rate of labour force growth. The region's labour force has been growing at an average rate of 6.5% over the decade, reaching an estimated level of 33,600 persons in 1976. Changes in male and female labour force are shown in Table 3.2.1.

TABLE 3.2.1  
TOTAL LABOUR FORCE  
HAT CREEK REGION  
1966-1976

	<u>Local Study Area</u>				<u>Total Hat Creek Region</u>			
	<u>Male</u>	<u>Female</u>	<u>Total</u>	<u>% Increase</u>	<u>Male</u>	<u>Female</u>	<u>Total</u>	<u>% Increase</u>
1966	n/a	n/a	2,100	-	n/a	n/a	17,800	-
1971	2,083	912	2,995	7.36	18,608	8,737	27,345	8.97
1976	2,340	1,110	3,450	2.87	22,345	11,255	33,600	4.21

n/a - as used here means "not available".

SOURCE: Canada Manpower, Kamloops Branch, unofficial estimates.  
Statistics Canada, User Summary Tapes, Census, 1971.  
Strong Hall & Associates Ltd. estimates, 1966 and 1976.

Employment expansion during the 1960s and early 1970s covered a broad front of forestry, mining, transportation, government and service industries. Rapid in-migration provided the bulk of the labour force for these developments but, in spite of this inflow, employment growth

has generally exceeded labour force increases. Unemployment rates have generally been one or two percentage points below that experienced for the province as a whole.\*

The rate of employment generation in the region has been relatively slow during the past three to four years and the pace of recent historical net in-migration has subsided. Although the area's labour force is still expanding faster than that of the province, a greater proportion of the employment opportunities is being filled by regional resident new entrants to the labour force. Since the bulk of the new jobs have been in the relatively unskilled service sectors, the demands for personnel have been filled to a greater extent from within the region than has been the case in the past.

The local study area contains an estimated 1976 labour force of 3,450 persons, representing an average growth over the past 10 years of 5.1% annually. Although the pace of growth in the area during the past decade has been somewhat lower than in the overall region, the pattern of strong growth during the 1960s, declining over the last few years, has been similar.

The industrial composition of the regional labour force is compared with total British Columbia in Table 3.2.2. The region's labour force is concentrated in the areas of mining, construction, transportation and services. The Highland Valley and Merritt areas contribute the majority of mining industry opportunities with the large copper mines currently in operation. Although the Craigmont Mine at Merritt is expected to cease operation in the near future, further developments in the Highland Valley and at the Afton Mines property, just outside Kamloops, will ensure the continued importance of mining to the region's industrial employment base.

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\* Canada Manpower, Kamloops Branch, 1976, personal discussion.

TABLE 3.2.2  
PERCENTAGE LABOUR FORCE BY INDUSTRY,  
HAT CREEK STUDY REGION  
1971

	<u>Local Hat Creek Area*</u>	<u>Total Hat Creek Region**</u>	<u>Total British Columbia</u>
	<u>%</u>	<u>%</u>	<u>%</u>
Agriculture	5.1	2.6	2.5
Forestry	3.4	2.9	3.0
Fishing	0	0	.5
Mining and Quarrying	11.5	4.7	1.6
Manufacturing	9.1	11.5	16.1
Construction	7.0	11.1	7.0
Transportation, Communica- tion and Utilities	10.5	12.0	9.5
Trade	9.8	13.7	16.2
Finance, Insurance and Real Estate	3.3	3.4	4.6
Community, Business and Personal Services	25.2	24.1	24.8
Public Administration	3.6	5.4	6.3
Unspecified	11.5	8.6	7.9
TOTAL	100.0%	100.0%	100.0%

\* Previously defined.

\*\* Previously defined.

SOURCE: Statistics Canada, User Summary Tapes, Census, 1971.

The contribution of Kamloops is particularly reflected in the sizeable construction, transportation and service industries. Kamloops is the transportation center of the Southern Interior, servicing both national railways and maintaining important air and truck operations. The city has also become a popular residential center for some of the trades in the provincial industrial construction labour force. At the present time, about 15% of the city's construction workers are employed outside the province, but most continue to maintain permanent residence in Kamloops.\*

Although the trade and service facilities play an important role in the employment structure of a number of the communities in the region, Kamloops is the only center with a population base sufficient to provide a reasonably diversified retail sector and attract major branch administrative services of government and private industry.

The manufacturing sector in the region, while a significant employer, is a substantially smaller contributor to overall regional employment than it is in the province as a whole. Manufacturing that does exist is heavily dominated by wood processing in which the economics of production require proximity between the resource and the processing facility. Further diversification of manufacturing opportunities in the region is constrained by its distance from major markets, associated transportation costs and the availability of skilled labour.

The industrial composition of the local study area demonstrates an extremely heavy reliance on primary industry and the servicing of highway traffic. About 20% of the industrial labour force is occupied in the primary sector compared to slightly less than 10% in the overall Hat Creek region. Community business and personal services represent the largest employment group and, within this sector, food and accommodation employment is dominant.

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\* Canada Manpower, Kamloops Branch, 1976, personal discussion.

TABLE 3.2.3

LABOUR FORCE BY INDUSTRY,  
LOCAL HAT CREEK AREA  
1971

	Ashcroft	Cache Creek	Clinton	Lillooet	Unorganized	Total Local Area
Agriculture	0	0	0	5	145	150
Forestry	5	5	30	35	25	100
Fishing	0	0	0	0	0	0
Mining and Quarrying	265	35	5	10	20	335
Manufacturing	45	15	60	95	50	265
Construction	85	55	10	35	20	205
Transportation and Utilities	40	40	60	125	40	305
Trade	75	75	55	50	30	285
Finance, Insurance and Real Estate	40	10	5	15	25	95
Community Business and Personal Services	165	180	90	180	115	730
Public Administration	20	15	15	30	25	105
Unspecified	110	40	30	55	100	335
<b>TOTAL</b>	<b>850</b>	<b>470</b>	<b>360</b>	<b>635</b>	<b>595</b>	<b>2,910</b>

SOURCE: Statistics Canada, User Summary Tapes, Census, 1971.

The nature and extent of resource development and service employment varies among the communities of the area. Logging and sawmilling activity is oriented towards Clinton and Lillooet. The former community is heavily dependent upon sawmill employment and, although government initiatives resulted in a new mill being constructed in 1974, this has not been sufficient to restore employment to its pre-1970 level. Recent announcements indicate that this source of employment could be further eroded in the near future.

The Evans Products Co. Ltd. mill at Lillooet occupies about 20% of that community's labour force. However, B. C. Rail and Department of Highways crews are also major employers providing a more balanced economic base than exists in Clinton.

Mining has been a major contributor to the growth of the area, particularly in Ashcroft and Cache Creek. Bethlehem and Lornex mines have a combined labour force of about 1,050 persons. Bethlehem company residences have been established in Ashcroft and the village houses about 265 employees. Although the new community of Logan Lake was established in 1971 to accommodate Lornex employees, about 70 Lornex workers reside in Ashcroft and Cache Creek.

Mining developments have contributed indirectly to the area's economy through their purchases of local services. A highly proficient machine shop in Cache Creek and bulk oil facilities in Ashcroft are significant beneficiaries of mining activity.

Cattle ranching is the primary economic activity of the rural residents in the local study area. Whereas agriculture employs only 2.5% of the regional and provincial labour force, it accounts for 5.1% of the local area labour force. About 145 persons are engaged in ranching locally, mostly on a permanent basis.

The major non-primary resource contributor to the area's employment is the servicing of tourist and commercial highway traffic. Cache Creek is almost totally dependent on this sector. In 1971, 30%

of the village's labour force was occupied in the restaurant and accommodation trade. These industries also comprise a major, although less critical, component of the Clinton economy.

Labour turnover problems in the region's resource sector appear to be minimal, in sharp contrast to the more isolated parts of the Interior. For example, annual turnover rates at Lornex and Bethlehem are reported to be in the 20% to 30% range; relatively low for the B. C. mining industry. The high proportion of married employees in forestry and mining industries and the reasonable level of social amenities in the region appear to keep the turnover rate down. There is, however, a high rate of turnover in the service sector for those jobs that are low paying, seasonal, and typically filled by young females. Whether this group is a transient component of the region's population is not clear. In Cache Creek, for example, there are reportedly few transient service employees, whereas in Kamloops this category is significantly larger. Employee transfers by government and branch offices of private corporations contribute significantly to turnover. Despite these turnover problems, labour supply bottlenecks, in general, appear to be minimal since the region is able to attract a sufficiently large flow of job seekers to avoid this constraint.

Most of the supply difficulties occur in the skilled trades required by the resource industries. Heavy duty mechanics, electricians, millwrights, welders, and instrument men are generally in short supply. Although this is an important problem in the region, it is by no means unique to this area.

The age distribution of the regional labour force suggests a pattern fairly typical of resource hinterland areas. Table 3.2.4 indicates that 72.2% of the regional labour force is under 44 years of age, compared to 67.2% for the province as a whole. The youthful bias occurs mainly in the 25-44 year age category, a factor which tends to be reinforced by in-migration. Kamloops has a significantly high proportion of participants in the 15-24 year age group, reflecting the ability of the city to attract and retain its young people in the



labour force. Most of the employment opportunities for youth occur in the city's trade and service sectors.

TABLE 3.2.4  
LABOUR FORCE BY AGE CATEGORY  
HAT CREEK REGION  
1971

	15-24	25-44	45-65	65+
	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>
Local Area:				
Ashcroft	20.3	46.3	29.4	4.0
Cache Creek	29.5	50.5	16.8	3.2
Clinton	21.0	46.0	29.0	4.0
Lillooet	22.0	44.7	28.8	4.5
Rural	28.2	42.6	27.2	2.0
LOCAL AREA	23.8	45.8	26.8	3.6
Kamloops	27.4	43.5	27.2	1.9
Other rural and urban communities	25.3	49.5	23.3	1.9
HAT CREEK REGION	26.2	46.0	25.7	2.1
BRITISH COLUMBIA	25.3	41.9	30.0	2.8

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SOURCE: Statistics Canada, User Summary Tapes, Census, 1971.

In comparison to the total region, the local study area contains a somewhat older labour force. As with the total region, there is relatively high representation in the 25-44 year age group. However, there is also a large number of persons in the over 65 age category while the 15-24 age group has relatively low representation. The

significance of small proprietorships in the urban communities tends to maintain opportunities for older people to remain in the labour force. On the other hand, the population age structure and the lack of employment opportunities for youth, with the exception of the Cache Creek service sector and the rural agricultural sector, probably account for the low representation in the youngest age category.

Labour force participation refers to the percentage of the labour force forms of the population 15 years and over. The overall rate of participation in the Hat Creek region was 61.8% in 1971, compared to 59.0% for the province as a whole. Table 3.2.5 indicates that both male and female participation is relatively high in the region.

TABLE 3.2.5  
MALE AND FEMALE LABOUR FORCE PARTICIPATION  
HAT CREEK REGION  
1971

	<u>Male</u>	<u>Female</u>	<u>Total</u>
	<u>%</u>	<u>%</u>	<u>%</u>
Ashcroft	92.1	43.0	70.0
Cache Creek	92.4	54.8	74.2
Clinton	82.0	50.0	67.2
Lillooet	86.7	42.3	65.4
Rural	<u>80.9</u>	<u>39.0</u>	<u>62.6</u>
LOCAL AREA	87.2	44.7	67.6
Kamloops	81.6	47.6	64.9
Other rural and urban communities	77.0	33.1	56.7
HAT CREEK REGION	80.2	41.6	61.8
BRITISH COLUMBIA	77.5	40.4	59.0

SOURCE: Statistics Canada, Census, 1971.

The local study area exhibits even higher participation than the overall region in both male and female categories. Ashcroft and Cache Creek have extremely high male participation, while Clinton and Cache Creek show unusually high female participation.

The resource industries, with the exception of agriculture, have been strongly oriented towards employment positions traditionally filled by males. Women have tended to occupy the poorer paying positions in the service sector. It is a well established secular trend that female participation has been traditionally dependent on employment growth in the tertiary sector and this sector has been particularly dynamic in the growth of Kamloops and Cache Creek. Involvement in non-traditional occupations, however, is relatively limited. (See Table 3.2.6.)

TABLE 3.2.6  
PERCENTAGE DISTRIBUTION OF LABOUR FORCE, BY SEX  
HAT CREEK REGION  
1971

	<u>Male</u>	<u>Female</u>
	<u>%</u>	<u>%</u>
Industrial Group		
Agriculture	77.2	22.8
Forestry	93.3	6.7
Mining	97.0	3.0
TOTAL PRIMARY	90.2	9.8
TOTAL SECONDARY MANUFACTURING	90.8	9.2
Construction	98.7	1.3
Trade	87.3	12.7
Transportation & Communication	63.2	36.8
Finance	51.7	48.3
Community & Business Services	37.2	62.8
Administration	73.1	26.9
Unclassified	62.0	38.0
TOTAL TERTIARY	62.9	37.1

SOURCE: Statistics Canada, Census, 1971.

The incidence of marriage tends to significantly lower female participation in the labour force. Table 3.2.7 demonstrates a substantial difference between married and single female economic involvement. This fact is not unique to the region and is generally considered to result from a combination of the preference for non-employment among married women, a lack of suitable employment opportunities, insufficient day care facilities, and a lack of appropriate job skills. Female participation is highest in the 20 to 24 year age group, while peak male participation occurs between 34 and 44 years.\*

TABLE 3.2.7  
LABOUR FORCE PARTICIPATION RATES  
ACCORDING TO MARITAL STATUS  
HAT CREEK REGION, 1971

	<u>Single</u>	<u>Married</u>	<u>Total</u>
Population 15 to 64 years	<u>%</u>	<u>%</u>	<u>%</u>
Male	65.4	94.4	84.8
Female	<u>51.1</u>	<u>38.7</u>	<u>42.6</u>
TOTAL - BOTH SEXES	59.9	66.5	64.8

SOURCE: Kamloops Community Employment Strategy,  
Employment Profiles, 1976.  
Data from Canada Census, 1971.

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• Statistics Canada, Census, 1971.

Women participating in the labour force generally have achieved higher education levels than males, which may be the result of their staying in school longer in response to limited job opportunities. Although many of these women were in-migrants to the region, there is evidence that the situation is continuing since the high school dropout rate among females in the region is substantially below that of males. A large number of highly educated women in the region do not participate in the labour force. The most recent available data indicate that about 30% of women not in the labour force have a university degree.\*

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\* Statistics Canada, Census, 1971

b) Construction Labour Supply

The resident construction labour force in the region is estimated at about 3,750 persons in 1976. Table 3.2.8 presents the most recent available estimates of construction labour supply by trade.

TABLE 3.2.8  
ESTIMATED SUPPLY OF CONSTRUCTION LABOUR BY TRADE,  
HAT CREEK REGION, 1977

<u>Trade</u>	<u>Union</u>	<u>Non-Union</u>	<u>Total</u>
Labourers	550	500	1,050
Equipment Operators	500	200	700
Iron Workers	15	5	20
Carpenters	400	400	800
Electrical Workers	450	50	500
Plumbers and Pipefitters	125	25	150
Cement Masons	10	5	15
Welders	100	50	150
Boilermakers	15	-	15
Bricklayers	30	20	50
Painters	20	50	70
Heavy Duty Mechanics	75	-	75
Office and Technical Workers	75	-	75
Machinists and Millwrights	25	-	25
Others*	40	15	55
TOTAL	2,430	1,320	3,750

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\* Includes: Teamsters, culinary workers, sheet metal workers, heat and frost workers.

SOURCE: Canada Manpower, Kamloops Branch.

Strong Hall & Associates Ltd. from personal interviews with union representatives.

Almost 65% of the regional construction work force is unionized and over 75% of these members are employed in four trade categories: general labourers, equipment operators, carpenters and electrical workers. All of these trades are represented by unions having regional dispatch jurisdiction for projects in the central part of the province.

For the most part the unionized construction workers are highly mobile and it is estimated that about 500 members are currently working in Fort McMurray, Alberta. However the construction phase of the tar sands project is nearing completion and it is expected that much of this work force will be returning to the Kamloops area over the next year.

The non-unionized construction labour force is less mobile and is primarily occupied in local housing and commercial construction. It is unlikely that a significant number of this group would be able to join the union ranks in the near future due to the current and probable future high unemployment conditions existing in construction unions throughout the province.

The local study area has a resident construction labour force of about 250 persons. Of this total, union officials estimate there are about 140 construction trade union members. Table 3.2.9 indicates that the vast majority are members of the Carpenters, Operating Engineers and Labourers' Unions.

TABLE 3.2.9

ESTIMATED SUPPLY OF UNIONIZED  
CONSTRUCTION WORKERS BY TRADE,  
LOCAL STUDY AREA, 1977

Labourers	40
Operating Engineers	40
Carpenters	35
Teamsters	15
Plumbers and Pipefitters	5
Electrical Workers	5
TOTAL	<u>140</u>

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SOURCE: Interviews with construction union officials.

The skill categories of the remaining 110 construction workers are unknown, however, it is likely that they are primarily in the semi-skilled trades as reflected by the non-union labour force for the overall region. Local employment opportunities are mainly in road building, housing and commercial construction. Specialized trade requirements in these construction activities usually require imported labour from Kamloops.



c) Unemployment

(i) Rates and Characteristics of the Unemployed

With the exception of the past few years, employment growth in the region has consistently exceeded labour force growth. Relatively low rates of unemployment have coexisted, with shortages in certain skilled occupations. In contrast to the more remote regions of the province, general labour shortages have not been a critical problem in the region as a whole. In part, this is due to the fact that Kamloops exerts a significant degree of amenity attraction and that the majority of jobs created in the region during the past decade have been in the relatively unskilled service trades.

Unemployment rates in the region are reported to be generally one to two percentage points below the seasonally adjusted provincial rates. The reasons for the apparently below average rate of unemployment in the region are complicated and can only be speculated in this study. Possible reasons include:

1. Kamloops is the province's third most important administrative center and the employment base related to administrative functions serves to dampen employment fluctuations associated with cyclical instability. The majority of the province's hinterland is not similarly insulated from cyclical effects.
2. Mining employment in the region exhibits considerable stability, reflecting the economics of large-scale open-pit mining which dictates that, despite price fluctuations, full production be maintained to minimize high fixed cost.

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\* Unemployment rates are not published for small areas or regions on a regular basis. They are estimated internally by Canada Manpower but are not considered accurate due to the difficulties of estimating the labour force component. All estimates of regional unemployment rates in this section must therefore be considered tentative.

3. The forest industry's plant in the Southern Interior is probably more modern, on average, than is the case in other parts of the province. Thus, unit costs of production may be lower, enabling production to be maintained at higher levels during periods of slack markets.
4. A portion of the region's forestry work force appears to combine forestry employment with employment in agriculture, construction and service industries. In most other parts of the province, similar supplementary employment opportunities are probably less abundant.
5. The region's unemployed youth tend to out-migrate in search of employment. Also, the region appears not to attract a large number of unemployed transients willing to take up long-term residence for speculative employment prospects.
6. The region is reported to experience a below average incidence of strikes.\*

The number of unemployed persons in the total Hat Creek region claiming Unemployment Insurance benefits as of April 28, 1977 is shown in Table 3.2.10. It would appear that the female labour force is experiencing proportionately higher rates of unemployment than males. They constitute about 33.0% of the regional labour force, while comprising 37.6% of the unemployed.\*\* Unemployment is highest in the traditional female occupations of sales, service and clerical. Over 79% of the unemployed females participate in these occupational categories while they occupy only 61% of the total female labour force.\*\*\*

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\* Canada Manpower, Kamloops Branch, 1976, personal discussions.

\*\* See Table 3.2.1.

\*\*\* Statistics Canada, User Summary Tapes, Census, 1971.

TABLE 3.2.10

HAT CREEK REGION RESIDENTS RECEIVING U.I.C.

BENEFITS BY OCCUPATION, APRIL 28, 1977

<u>Industry</u>	<u>Local Area*</u>			<u>Total Region**</u>		
	<u>Male</u>	<u>Female</u>	<u>Total</u>	<u>Male</u>	<u>Female</u>	<u>Total</u>
Teaching	2	3	5	9	45	54
Medicine and Health	0	7	7	23	125	148
Clerical	6	49	55	91	682	773
Sales	4	14	18	131	235	366
Service	19	68	87	195	470	665
Agriculture and Forestry	57	4	61	345	30	375
Mining	10	0	10	78	1	79
Processing	34	4	38	456	58	514
Construction	37	0	37	992	10	1,002
Transportation	25	2	27	252	16	268
Other	29	9	38	354	91	445
TOTAL	223	160	383	2,926	1,763	4,689

Regional unemployment in the male labour force is highest in the construction and primary industries. Over 48% of the male UIC claimants are occupied in these industries. There are about 990 unemployed male construction workers in the region, representing over 26% of the construction labour force. The persistently high construction

\* About 3% of recipients are unemployed for sickness or medical reasons and are not seeking employment.

\*\* About 5% of recipients are unemployed for sickness or medical reasons and are not seeking employment.

SOURCE: Unemployment Insurance Commission, 1977.

unemployment rates over the past few years have prompted a large number of construction workers to seek work in Alberta. Many have retained their residential base in the Kamloops area, but a growing number are emigrating from the region.

Unemployment rates, as reflected by UIC data, are highest among the youth of the region. Nearly 25% of male UIC claimants are between the ages of 20 and 24, while this group accounts for only 14% of the labour force. Females generally experience a disproportionately high level of unemployment.

In the Hat Creek area, there were 370 persons unemployed as of April 28, 1977, representing about 10% of the local labour force. Unemployment rates in the area tend to be below those in Kamloops, due primarily to the absence of any significant transient unemployed group in this area.

Table 3.2.10 indicates that a similar unemployment pattern by industry, to that previously discussed for the region, exists in the local area. More than 80% of the unemployed females are occupied in the clerical, sales, and service occupations, while about 45% of the unemployed males are occupied in the construction and primary industries. The lack of clerical opportunities tends to encourage the emigration of young females from the area.

In the Kamloops CMC, Canada Manpower registrants as of June 1975 indicated that, while the under 25 year age group for both sexes accounted for about 25% of the regional labour force, it contained

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\* The 1977 UIC data are not directly comparable to the 1971 labour force data. Although the proportional representation of these age groups in the labour force has increased since 1971, the incidence of unemployment among this group is still disproportionately high. Unemployment Insurance Commission, 1977.

nearly 50% of the total unemployed.\* In addition, Table 3.2.11 indicates that nearly 50% of the unemployed are single.

The Kamloops unemployed are relatively well educated. Almost 50% of Canada Manpower registrants have received 12 years or more of schooling. In addition, 18% had undergone further vocational training and/or had journeyman status.

Unlike Kamloops, there exists no general pool of skilled tradesmen in the local area, with the possible exception of carpenters. A group of relatively unskilled persons, however, does exist for work in the mines, construction and logging operations. Most of the unemployed males in the area would be a part of this group.

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\* Kamloops Community Employment Strategy,  
Employment Profile, 1976.

TABLE 3.2.11

CHARACTERISTICS OF UNEMPLOYED PERSONS  
REGISTERED AT CMC OFFICE, KAMLOOPS

JUNE 1975

<u>Sex</u>	<u>%</u>
Male	61.5
Female	<u>38.5</u>
	100.0
<u>Age</u>	
15-19	14.7
20-24	31.4
25-34	27.0
35-44	15.0
45-54	7.7
55-64	3.2
65+	<u>1.0</u>
	100.0
<u>Marital Status</u>	
Married	42.5
Single	49.3
Other	<u>8.2</u>
	100.0
<u>Education</u>	
Less than Grade 9	8.9
Less than Grade 11	43.4
Less than Grade 13	34.2
Some Post-Secondary	10.2
University Degree	<u>3.3</u>
	100.0
<u>Length of Unemployment</u>	
Still have job	2.3
Less than 1 month	15.8
Less than 2 months	55.6
Less than 5 months	13.1
More than 6 months	<u>13.2</u>
	100.0
<u>Duration of Previous Employment</u>	
Less than 1 month	2.9
Less than 3 months	27.6
Less than 12 months	41.9
More than 12 months	<u>27.6</u>
	100.0

SOURCE: Kamloops Community Employment Strategy,  
Employment Profile, 1976.

(ii) Seasonal, Cyclical and Structural Aspects of Unemployment

Unemployment can be generally analyzed in terms of three major aspects: seasonal, cyclical and structural. Seasonal unemployment is evident in both the regional and local economies. An indication of the magnitude of its importance is provided by Table 3.2.12. The regional economy's direct and indirect dependence on forestry, agriculture, construction and tourism activity is the prime cause of this instability and each of these sectors is of varying importance in different local areas within the region. The rural population in the local study area exhibits the highest seasonality reflecting the importance of forestry, agriculture and tourism in their economic activity. Ashcroft appears to have the most stable employment base in the area while Cache Creek and Clinton exhibit relatively high seasonal variation due to their dependence on highway traffic.

In addition to the economic causes of seasonal unemployment, a portion of the labour force may prefer to work only at certain times of the year. There is no evidence to suggest, however, that this factor assumes greater proportions within the study region than in the province as a whole.

Seasonality is generally more evident in the female than the male labour force, reflecting both the high proportion of women occupied in the tourist oriented service trades and their greater interest in part time work.

The structural character of the regional economy also makes it vulnerable to cyclical disturbances. Construction cycles and related fluctuations in lumber demand result in significant variations in regional employment levels. The mining industry, although continually faced with widely fluctuating metal prices, experiences less employment

variation than forestry. The economies of large-scale open-pit mining dictate that the operation be maintained at levels approaching full capacity in spite of short term fluctuations in revenues.

TABLE 3.2.12  
PERCENTAGE OF EXPERIENCED LABOUR FORCE  
WORKING LESS THAN 40 WEEKS PER YEAR  
HAT CREEK REGION, 1971

	<u>Male</u> <u>%</u>	<u>Female</u> <u>%</u>
Ashcroft	19.2	37.5
Cache Creek	23.3	42.9
Clinton	24.5	45.0
Lillooet	28.2	28.6
Rural	<u>35.0</u>	<u>53.8</u>
	25.7	40.6
Kamloops	27.1	39.3
Other rural & urban communities	26.6	44.3
HAT CREEK REGION	26.8	41.0
BRITISH COLUMBIA	26.6	37.2

SOURCE: Statistics Canada, Census, 1971.

Throughout the region, structural unemployment is also evident, (i.e., unemployment related to technological change, inadequate educational attainment, lack of appropriate skills and various socio/cultural characteristics which result in employment supply/demand gaps). As a result of these factors it is common to have substantial unemployment and substantial job vacancies occurring at the same time.



Clinton provides an example of a community that has recently suffered the effects of structural unemployment resulting from technological change. The community's employment base, which consisted of a large number of small sawmills, was undermined by the integration and concentration of sawmilling activity brought about by the provincial close utilization timber harvesting policy.\* In spite of the subsequent development of a large new mill in the area, emigration occurred and the population declined.

Unemployment as a result of inadequate educational and vocational skills is also reported to be an important factor in the unemployment situation in the area.\*\*

(iii) Specific Unemployment Concerns

In assessing the regional and local employment structure, a number of specific issues involving those people not currently in the labour force, are considered worthy of further attention. Several groups have been identified as subject to chronic employment problems. These groups include women, those who have left high school, and underemployed persons. They will be discussed in the following sections.

A. Women

Section 3.2. (a) identified that only 41.6% of the women in the region participated in the labour force during 1971, compared to 80.2% of men. In British Columbia as a whole, the growth in female participation has been increasing much more rapidly than for males over the last 15 years. Between 1961 and 1976 female participation increased from 27.0% to 45.7% compared to an increase from 76.6% to 77.7% for men over the same period.\*\*\* It is apparent that the rate

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• See page 3.1 - 3.

\*\* Canada Manpower, Ashcroft Branch, personal discussions.

\*\*\* Statistics Canada, Labour Force, #71-001, 1975 & 1976.

of change in male participation has essentially stabilized and although the female rate will, no doubt, tend towards stabilization at some level, the historical trend gives no indication that this is yet occurring.

It is a well recognized social phenomenon that women are beginning to place a greater emphasis on developing careers and maintaining activity in the labour force through their child bearing years and beyond. Adjustments are occurring both in the attitudes of some employers and the attitudes of society at large in accepting the desires of women to pursue employment goals commensurate with their ambitions and capabilities, as well as providing the social institutions necessary to permit the combining of family and employment goals.

Women in the Hat Creek region constitute a large potential labour pool. Approximately 65% of the women not currently in the labour force have previous work experience.\* This experience, however, is not necessarily relevant to their current aspirations or to the types of jobs available in the region. A detailed study of skills, aspirations and job projections would be required to adequately assess this potential labour supply.

A recent study for the Manpower Subcommittee on Northeast Coal Development examined the interest of women and the problems they face in entering the non-traditional employment market.\*\* The identified problems include:

*"A combination of lack of real opportunity, due to mismatched work requirements and personal qualifications, and a lack of complementary social services have effectively reduced the labour force attachment of women ... indicates that the untapped potential of the Northeast labour force is concentrated in women."\*\*\**

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• Kamloops Community Employment Strategy, Community Profile, 1976.

\*\* Manpower Subcommittee on Northeast Coal Development, "Women in Mining", p. 107.

\*\*\* Ibid., p. 107.

Several reasons have been postulated by the Manpower Subcommittee for the low levels of women in the non-traditional mining jobs. The first is that few women have previously acquired mining training or skills and, therefore, are not eligible for other than the lowest skill jobs. The Subcommittee goes on to say that there are few women in the more skilled apprenticeship programs, especially electricians, machinists or millwrights. Mining officials indicate that women's backgrounds are not appropriate or are unrelated to the work situation in mining. The study indicates that personal bias plays heavily on the recruitment of women. They state:

*"Other problems mentioned by company representatives relate more overtly to the traditional sex-segregation of occupations and appear to reflect personal biases against women in certain positions on the basis of their sex."\**

Some of the major findings of this study are of special interest regarding the introduction of a more significant number of women into the work force for the proposed Hat Creek project. These are:

*"The percentage of women non-traditional workers in the total labour force of most mining operations in British Columbia is lower than it was two years ago. Women are not an important part of the mining labour force in the province. Most companies do not have women non-traditional workers on their payroll and even where they are hired, women comprise less than 10% of the total hourly work force.*

*Most women non-traditional mining workers hold positions that require a low level of training. They are conspicuous by their absence in the more skilled, better-paying trades jobs.*

*Despite certain initial difficulties on the job, most women enjoy their work and many intend to stay in the mining industry.*

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\* Manpower Subcommittee on Northeast Coal Development, "Women in Mining", p. 107.

*The money incentive is the single most important motivating force for women in non-traditional mining positions.*

*Child care is perceived as one of the most essential community services in resource communities.*

*Most companies do not have special procedures for promoting the hiring of women in non-traditional positions.*

*A significant number of women presently living in resource communities are interested in non-traditional positions.*

*Most mining companies that do hire women in non-traditional positions think that women have lower absenteeism and turn-over rates than men. There is, however, a lack of supporting evidence to document that claim.*

*Women and mine management representatives acknowledge that the most active resistance to women workers lies at the lower supervisory levels. However, resistance to women also exists at the hiring level and this appears to take the form of an unofficial quota.*

*Although companies are required by law to establish facilities for women workers, the cost of adding new facilities or the re-distribution of old ones is a major rationale for not hiring significant numbers of women workers."\**

It should be noted, however, that the number of women in the overall labour force is steadily rising. The Kamloops Community Employment Strategy report indicated that:

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\* Manpower Subcommittee on Northeast Coal Development, "Women in Mining", p. 107.

*"The additional financial demands placed on today's society play a part in the course of action, however, the increasing number of women receiving higher education, the steady decline in birth rates, a greater desire on the part of married women to enter or re-enter the labour force, and the higher rate of single parents are also some of the factors contributing to this modern day change of pace."\**

#### B. High School Students

The problems of employment for school leavers center on their lack of employment experience and possibly their attitudes towards work. The regional population is generally younger than in other areas of the province, particularly in Kamloops and Cache Creek. The Kamloops Community Employment Strategy study notes the following:

*"The number of young people alone merits a specialized emphasis on job creation. Although studies by the Secretary of State show that the work ethic among younger people is not dead, it does show that attitudes regarding leisure time, selection of jobs and less emphasis on career may be having an impact on the younger members of the work force."\*\**

This extensive group, age 15-19, represents approximately 10% of the regional population and, therefore, should be developed as a potential source of labour and as an investment in the future of the region. This group also must be looked at in terms of the problems which can result if they "drop out" of the education system before completion to take up employment. This may have the effect of limiting the employment options that these school leavers may have in the future.

Using 1974-1975 enrolment figures for the school district, several trends are indicated. The drop-out rate increases substantially from Grade 9 on as people reach 16 years of age and can legally leave the

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\* Kamloops Community Employment Strategy, Community Profile, p. K-20.

\*\* Ibid., p. K-16.

school system. The retention rate is .81 by grades 11 to 12 which indicates that almost one in every four students leaves the school system before graduating. Table 3.2.13 indicates the retention rates in the region and the study area by grade achieved in school.

TABLE 3.2.13  
RETENTION RATES FOR SECONDARY SCHOOLS  
JUNE - SEPTEMBER 1975

	<u>Overall*</u> <u>Region</u>	<u>Local**</u> <u>Area</u>
Grades 8 to 9	1.02	1.05
Grades 9 to 10	.97	.90
Grades 10 to 11	.85	.74
Grades 11 to 12	.81	.81

• School Districts No. 24, 26, 30 and 31.

\*\* School District No. 24.

NOTE: Retention rates measure the end of period enrolment level as a portion of the start-of-period level, any variation from 1.0 being basically a function of population increase (increasing rate) and drop-out factor (decreasing rate).

SOURCE: Kamloops Community Employment Strategy, Community Profile, 1976.

A review of Canada Manpower training files undertaken by KCES indicates that those leaving school prior to graduation encounter a high incidence of unemployment because of their lack of experience or marketable skills. UIC and CMC records indicate that a relatively high percentage of the unemployed under 25 years of age have less than a grade 10 education. The lack of education inhibits these young persons from taking up employment on specific trades or occupations, as they do not have the prerequisites to qualify for formal skill training or apprenticeship programs. The combination of the need for both

educational upgrading and then apprenticeship training often presents a substantial barrier. Hence, the individual often does not upgrade his education or skill levels and, therefore, cannot partake in the more skilled labour force.

The resident survey of the study area found that when leaving high school, one-fifth (21.9%) of the students said that they anticipated going on to college. Approximately the same number (18.7%) indicated a desire to attend vocational school or other career training programs and approximately one-third (31.3%) anticipated working in the area immediately on leaving school. Only 10% indicated that they would look for work elsewhere. During 1977, about 125 students graduated from grade 12 within the local study area and a further 70 left school during the school year.

The two groups of students of most direct concern for future employment are those taking vocational training or those intending to work in the area. These groups represent nearly one-half of the students completing their education in the local school system. Table 3.2.14 details these figures.

TABLE 3.2.14  
STUDENT INTERESTS ON COMPLETING SCHOOL  
IN THE LOCAL AREA

	<u>%</u>
Work in area	31.5
Work elsewhere	9.4
College/university	22.0
Vocational training	15.3
Other training	3.0
Getting married	3.1
Other	<u>15.7</u>
	100.0

SOURCE: Cornerstone Planning Group Limited, Hat Creek and Area Resident Survey, 1977.

### C. Underemployment

Underemployment has been defined as, "*the number of people working less than a normal work week - in some sense - and seeking additional work.*"\* However, it is a concept which has been used to describe a number of additional conditions. One of these is the condition in which individuals are involved in productive activities for which they are overqualified.\*\* Both of these are relevant to employment conditions in the Hat Creek region.

The key to the relevancy of the first condition as an undesirable state of being is the requirement that individuals be seeking additional work. Some economic structures permit workers to participate in economic activity on a seasonal or part-time basis and as long as they are working the amount of time desired it must be considered a positive rather than negative quality of the economic structure.

Within the Hat Creek region, underemployment no doubt exists. Some women, for example, who are willing to work full time are only able to find part-time employment or are only capable of part-time employment due to the absence of adequate child care facilities in the community. Also, there are relatively low skilled men in the area doing "odd job" or contracting work who are not fully occupied, are not registered as unemployed between jobs, and who are interested in more work. There are individuals seasonally active in a given economic sector who are intermittently active in other sectors during the off-season. Movements of individuals between agriculture, forestry and construction employment are the most likely.

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\* Higgins, B., "Economic Development, Principles, Problems and Policies", W.W. Norton and Company, New York, 1968, p. 25.

\*\* Underemployment is also used when referring to a condition in which productivity of labour approaches zero. Labour could be withdrawn from production with minimal effect on output.



The extensiveness of this phenomenon in the region is unknown. There is no meaningful information available on the extent or characteristics of this situation. Table 3.2.12 (page 3.2 - 23) provides an indication of the percentage of people working less than 40 weeks but it includes seasonal, part-time, and unemployed categories and provides no hint as to their desire to work more.

The existence of the second condition is also highly likely although no specific indicators can be constructed to determine its extent. The economic structure of the region creates mainly opportunities in the semi-skilled and lower skilled occupations. While continual vacancies exist in some skilled trade positions and opportunities exist for professional people, at the same time, the relative lack of depth and diversity of the economy results in individuals having to take employment in categories below their established skill level. It is likely that this condition exists more among females in the labour force than males.

d) Existing Training and Re-Training Programs

(i) Regional Training Programs Overview

For the purposes of this study, four types of training programs have been identified: on-the-job training; pre-apprenticeship programs; apprenticeship programs; and special programs. This range of programs is intended to prepare individuals for employment in the various construction and operating occupations in B. C. On-the-job training programs are usually provided by the employer as the most common method of training. While on-the-job training can be the most practical training vehicle available, and can be initiated with relatively little lead time, the training is usually designed to meet a specific skill need and may not provide usable training in other jobs or with other employers. Because of the diversity of on-the-job training, these programs will not be discussed further.

The majority of semi-skilled and skilled trades have apprenticeship programs which are a mixture of on-the-job training and institutional training. These skilled pre-apprenticeship, apprenticeship and special programs are sponsored jointly by the Ministries of Education and Labour, Government of British Columbia. Apprenticeship training is covered by the Apprenticeship and Tradesmens Qualification Act under the jurisdiction of the Ministry of Labour. The Act established designated trades and requires persons entering to take apprenticeships. It also specified the length of apprenticeship, content of the program, hours and wages, the form of contract, as well as the duties of the employer and the apprentice.

The institutional component of these programs is offered through the provincial community college system. The institutions that offer these programs and will be particularly applicable to this study are:

- Cariboo Community College, Kamloops
- Okanagan Community College, Kelowna
- British Columbia Vocational School, Burnaby (BCVS)
- British Columbia Institute of Technology, Burnaby (BCIT)
- British Columbia Mining School, Rossland

Both Cariboo and Okanagan Community Colleges offer the normal range of pre-apprenticeship and apprenticeship programs, while BCVS offers the specialized and equipment-intensive programs. BCIT offers programs with higher educational requirements and qualifications, such as technicians and supervisors. All underground and open-pit mining programs are offered through the B. C. Mining School at Rossland. These programs will be outlined in more detail in the following sections.

(ii) Apprenticeship and Pre-Apprenticeship Programs

Most programs require that an applicant be of school leaving age with grade 12 preferred. Some programs will accept grade 10 as the mandatory

minimum level of education, under special circumstances. B. C. Hydro, as well as most unions and employers, will accept people from 16 to 18 up to 35 years of age for the apprenticeship programs.

Once the applicant has chosen the trade, he must find an employer who will take the responsibility of training and providing on-the-job supervision. Upon reaching agreement, a three-month trial period of employment is undertaken. On successful completion, the apprentice is indentured either to the company or the union itself. The indenture period usually lasts between four and five years and the employee earns a steadily increasing salary over this time period. The individual is required to supplement this on-the-job training with four to six weeks of schooling annually at a community college. Figure 3.2.1 outlines the applicable apprenticeship programs and the requirements for each trade.

Recently, there has been a move to introduce applicants to apprenticeships through a one-year pre-apprenticeship program. Some unions, as well as the Ministry of Labour, now require that applicants take the pre-apprenticeship program to determine if they have interest and are qualified for the trade. This approach screens potential students and, to some extent, reduces the high costs of student dropout. Figure 3.2.2 indicates the requirements and locations for these pre-apprenticeship courses.

### (iii) Special Programs

Several special program offerings have recently been created. An employment orientation program for women has been established to provide an awareness of the working environment. It is also designed to build a level of confidence for women of any age who may be entering the labour force for the first time or returning after being out of the labour force. A basic training for skill development program has been established to upgrade individuals academically so that they may qualify for enrolment in special training programs. Training is offered at three levels: up to

FIGURE 3.2.1 APPRENTICESHIP PROGRAM REQUIREMENTS

Apprenticeship Program	Education Requirements			Starting Age	Indenture Startup	Indenture Period	Classroom Requirements
	Grade 12 Preferred	Grade 12 Minimum	Grade 10 Minimum		Commence (months)	Period (years)	Education per Year (weeks)
Refrigeration	X		X	16	3	5	6
Sheet Metal Work	X		X	16	3	4	6
Steamfitting/Pipefitting	X		X	16	3	4	6
Plumbing	X		X	16	3	4	6
Industrial Instrumentation	X		X	16	3	5	8
Electrical Trade		X		16	3	4	6-8
Masonry	X		X	16	3	4	4
Carpentry	X		X	16	3	4	4
Millwright	X		X	16	3	4	4
Machinist	X		X	16	3	4	5
Boiler Making (Erection)			X	16	*	3	4
Ironworking			X	16	*	3	4
Heavy Duty Mechanical	X		X	16	3	4	4
Mining Equipment Operator			X	18	N/A	N/A	N/A

\*Must attend 22 week training pre-apprenticeship program initially at BCVS, Burnaby. Classes commence in January and July each year.

FIGURE 3.2.2 PRE-APPRENTICESHIP PROGRAM REQUIREMENTS

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	General Education Requirements		Current H.S. Students			Location Offered			Tuition	Subsist. Allow.	Travel Allow.	Length (weeks)	Admittance Age
	Grade 12 Preferred	Grade 10 Minimum	Grade 12 Minimum	Grade 12 Preferred	Grade 10 Minimum	B or Other	K	O					
<u>Pre-Apprenticeship Courses</u>													
Automotive Mechanical Repair						X	X	X					
Benchwork & Joinery						X							
Boiler Maker (Erection)		X		X		X			Free	X	X	20	17
Bricklaying						X							
Carpentry	X			X	X	X	X	X	Free	X	X	20	16
Cooking													
Electricity	X		X			X			Free	X	X	30	16
Electronics						X							
Heavy Duty Mechanics	X		X		X	X	X	X	Free	X	X	30	16
Ironworker						X							
Machine Shop						X							
Millwright (Nelson Only)	X				X				Free	X	X	30	16
Steamfitting/Plumbing	X		X		X				Free	X	X	20	16
Sheet Metal Work						X							
Steel Fabrication						X							
Engineering Instrumentation/ Process Control Computer Tech.	X				X	VCC			\$25/mo.	X	No	1 wk.- 10 mos.	16

Location: B - Burnaby  
K - Kamloops  
O - Okanagan

grade 8; to grade 10; or to grade 12 equivalency.

Two recent program additions are offered at the British Columbia Mining School located at Rossland, B. C. The first is a program for Underground Mining and the second is for Mining Equipment Operators (open-pit). It is of interest that mining industry regulations do not allow entry into the work force until applicants reach the age of 18 years. Applicants are allowed to commence training at the age of 17, but must be in the company of experienced miners at the workface of open-pit mines, and are not allowed at the workface of underground mines until 18 years of age.

The Metalliferous Mines Regulation Act, as well as the Worker's Compensation Act, require a certification of fitness before entry into the work force, and then require an annual Certificate of Fitness. These two qualifications are requirements for all mining occupations.

These programs are not available within the study region. Rossland is the only provincial center at which they are offered. Because of the specialized characteristics of these two programs, the number of participants is limited. If there is excess demand, capacity is available to expand enrolment. The Ministry of Labour would have to be approached with a request to expand the program to meet a particular developer's needs.

Figure 3.2.3 indicates the requirements for these special program offerings.

FIGURE 3.2.3 SPECIAL PROGRAM REQUIREMENTS

	General Education Requirements		Current H.S. Students			Location Offered			Tuition	Subsist. Allow.	Travel Allow.	Length (weeks)	Admittance Age
	Grade 12 Preferred	Grade 10 Minimum	Grade 12 Minimum	Grade 12 Preferred	Grade 10 Minimum	B or Other	K	O					
<b>Special Courses</b>													
Mining Equipment Operator (open pit)		X		X		*			\$15/mo.	X	No	16	18
Underground Miner		X		X		*			\$15/mo.	X	No	17	18
Basic Training for Skill Development	no minimum					X	X	X	\$15/mo.	X	No	Varies	17
Employment Orientation for Women	no minimum					X			\$15/mo.	X	No	12	18

\*Located at Rossland  
 Location: B - Burnaby  
 K - Kamloops  
 O - Okanagan

(iv) Certification Programs

Two occupational categories not registered under the Apprenticeship and Tradesmens Qualification Act are stationary engineers and welders. While both are skilled trades, they are certified under the auspices of the Ministry of Public Works, Government of British Columbia. The stationary engineers are certified under the Boiler Inspection Act, while welders are certified under the Safety Engineering Services Branch of the Ministry of Public Works. Neither of these groups has its own union but rather become members of the union having jurisdiction with the particular employer with whom they are employed.

At present, the stationary engineers are required to undertake a one-year correspondence program. Individuals interested in power engineering are hired as helpers and can either take the correspondence program in advance or concurrently with this work. Once these requirements are met, they are certified by Public Works as a stationary engineer - 4th class. With on-the-job training in addition to the correspondence program, administered from the Southern Alberta Institute of Technology (SAIT) in Calgary, they can move up to the most rigorous category, stationary engineer - 1st class. As there is no single union, records do not indicate the overall number of stationary engineers in British Columbia. Estimates place the number at between 6,000 and 7,000, although all may not be doing work for which they are qualified. At present, there are 650 individuals taking the correspondence program from SAIT. Of these, 325 are taking the 4th class or qualifying program.

It has been estimated by the provincial Ministry of Public Works that, in Western Canada, there will be a need for a 40% increase in stationary engineers over the next five years. In an attempt to meet both current shortages as well as these growth estimates, two pilot programs, with 20 students each, have been started in Nanaimo and Fort St. John. Companies in the pulp and paper industry in Nanaimo and the oil and



gas industry in Fort St. John are hiring people selected for these pilot projects. Once on the job, the workers then commence the one-year correspondence program. It is hoped that through these and other pilot programs, the applicants will not have to come to the Lower Mainland as extensively as in the past. In discussions with representatives of the Ministry of Public Works, negotiations are currently underway to establish a formal apprenticeship program for stationary engineers. It is anticipated that the Ministry of Public Works would still operate the program and certify all stationary engineers.

(v) Other Mining and Related Training Programs

To date, there has been little need for training of either surface or underground miners in B.C. However, with the expansion of coal mining in the East Kootenays, Kaiser Industries at Sparwood, over the past two years, has begun to expand its own training and re-training programs.

At present, Kaiser sponsors six apprenticeship programs at its Sparwood site. They are:

- Automotive mechanical repair
- Electrical
- Heavy duty mechanics
- Millwright/pipefitters
- Welders
- Engineering instrumentation

Kaiser also offers the following training programs:

- Upgrading - a person with three years experience but no ticket can take the upgrading courses to complete his apprenticeship.

- Plant Maintenance Repairman - This is a very specialized one-year program to learn the servicing of special equipment and other vehicles. Completion of the program can be applied toward the apprenticeship programs.
- Operators - There are on-the-job training programs for almost all classes of equipment operators. This includes on-the-job, classroom training and written examinations. They vary from one week to six months, and most require at least one day every six months in a classroom situation.

(vi) . Kamloops Based Training Programs

At present, Cariboo College in Kamloops offers only three apprenticeship programs and four pre-apprenticeship programs on a regular basis. They are:

- Apprenticeship
  - Heavy Duty Mechanics - 3 sections of 16 students each
  - Carpentry - 2.5 sections of 16 students
  - Electrical - 4.5 sections of 16 students
- Pre-Apprenticeship
  - Automotive Repair - 32 students per year
  - Heavy Duty Mechanics - 32 students per year
  - Carpentry - 16 students per year
  - Electrical - 16 students per year

The electrical pre-apprenticeship program is a pilot program initiated this year. In discussion with Ministry of Labour representatives, it is estimated that the normal attrition rate is 2.5 people from each class section of 16.

(vii) Training Program Implementation

At present, the initiative for developing a training program is placed on the employer or the union. Either can make a formal request for an apprenticeship program to the Ministries of Labour and Education. If the program receives approval, it is placed under the auspices of the Ministry of Labour for its duration. The programs are financed by the Ministry and offered through the community colleges and vocational institutions in the province.

Canada Manpower has a number of programs to assist employers in initiating and developing their own training programs. The Canada Manpower Industrial Training Program (CMITP) provides financial assistance by subsidizing a portion of the trainees' wages during the early stages of employment. The degree of support depends on a number of factors, including employee status and qualifications. The compensation provided by the program can vary from 40% to 85% of the employee's salary. This program covers both on-the-job training as well as classroom training. In the case of a classroom situation, the cost of instruction can be reimbursed for up to 100%.

(viii) Training Summary

An extensive number of programs are available at both the regional and provincial level for the training of semi-skilled and skilled workers. They are offered primarily through the Apprenticeship program administered by the Ministry of Labour in cooperation with the Ministry of Education. Within the region, they are offered primarily through Cariboo College in Kamloops. Many of the apprenticeship programs, however, are offered only in the Lower Mainland, primarily through the B. C. Institute of Technology (BCIT) and Vancouver Vocational Institute (BVI). These courses are not available on a regional basis due to either limited demand or the capital intensive nature of the program. The demand is generally high for both the regional

and provincial programs, however, capacity is available for expansion or the provision of new programs if an increase in demand is demonstrated.

Demand for new or expanded programs can come only from two sources: the trade unions or a company needing trained employees. The request is reviewed by the Ministry of Labour and, if approved, the program is initiated through the Ministry of Labour. There are a number of special training courses, and funding sources are available to private companies through Canada Manpower. Both the Ministry of Labour and Canada Manpower are interested in working with the private sector to assist in meeting training needs.

Recently, there have been a number of innovative programs offered which are attempting to provide a means of incorporating more women and native Indians into skilled jobs in construction and operating work forces.

e) Projected Labour Force Without the Hat Creek Project

In order to assess the impacts of the Hat Creek project on the human resources and infrastructural elements of the region, it is first necessary to understand the future regional development pattern that is likely to occur without the influence of the project. This will permit a more accurate identification of project associated impacts and their separation from those actions that would have occurred even without the project.

The projections of future development patterns utilize two distinctly difference approaches: the first for the Hat Creek region; and the second for the local area. These are discussed in Section 2.2 and in Appendices B and C.

(i) Local Study Area

The projections of future local area labour force without the influence of the Hat Creek project are developed by assessing the basic growth sectors of the area's economy, identifying specific projects that are expected to occur in these sectors, determining employment associated with these projects, and estimating the indirect and induced employment generated by these projects.

(A) Industrial Development Potential

The major sectoral determinants of economic growth in the area have been forestry, agriculture, mining, transportation, and the servicing of highway traffic. It is expected that development in the foreseeable future will revolve around the mining sector.

The forest industry has historically been an important contributor to the economy of the local area and it is expected to continue to play an important role. However, future development patterns in the area are not expected to be significantly influenced by the forest sector. Most of the available annual allowable cut, under existing management practices, has been allocated, and there are no known plans for future processing expansion.

While the agricultural sector plays an important role in the area, it has been one of the least dynamic sectors in recent years. Limitations imposed by soils, climate, topography, water supply, transport costs and land-use conflicts, preclude development of the sector much beyond its current status. Some possibilities exist for expansion or horticultural production north of the area which could promote a vegetable bulk freezing plant in Cache Creek, or for expansion of feed lot operations, but both of these are dependent on significant government policy changes. Even if these policy changes occurred, their effects on total agricultural employment would be marginal.

The area's rail system contains the potential for expansion with the proposed B. C. Rail/C. N. Rail Connector between Ashcroft and Clinton. However, recent events surrounding this development suggest that it is unlikely to occur in the foreseeable future.

The servicing of highway traffic has been a fundamental growth component of the Cache Creek economy and is also highly important to Clinton. This growth has stabilized since 1971 in spite of continued growth in traffic. It is reported that some excess capacity still exists throughout most of the year in the food and accommodation sector of the Cache Creek economy.

It is expected that the volume of traffic will continue to grow over the next 15 years, but at a substantially lower rate than has occurred during the last decade. A critical determinant of future volumes in the area is the recently announced government decision to proceed with the construction of the Coquihalla Highway. The Coquihalla is intended to relieve future traffic pressures on the Fraser Canyon (Highway No. 1) and Hope Princeton (Highway No. 3) routes by providing reduced travel time between the Lower Mainland, Kamloops and points east on the Trans Canada Highway. In addition, it will provide the opportunity for a shorter tourist "loop" through the Southern Interior, combining with either the Fraser Canyon or Okanagan tourist areas.

Although this "loop" opportunity and the expected reduction in traffic on Highways No. 1 and No. 3 could provide the incentive for an increased number of total trips through the Southern Interior area, it is felt that the overall effect will be to lessen the existing pressure at the Cache Creek junction of Highways No. 1 and No. 97. As such, it provides an interim alternative to the construction of a Cache Creek by-pass for Highway No. 1.

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• Ministry of Highways, "The Coquihalla Route, Traffic Analysis - Addendum", Province of British Columbia, 1977.

Without the development of the Coquihalla, traffic growth on Highways No. 1 and No. 97 in the Cache Creek area is expected to grow at between 3.5% and 4.5% through the mid-1980s. With the Coquihalla, volumes are expected to return to levels occurring in the mid-1970s.\*

Given these expectations and the existing over-capacity in the food and accommodation sector of the communities servicing highway traffic, it is not expected that significant employment increases will be generated in the local study area to service traffic flows through the forecast period.

By far, the most significant potential for local employment growth over the next 20 years centers on mining developments in the Highland Valley. The extent and timing of the Highland Valley development hinges on the decisions of four mining companies: Bethlehem Copper Corporation; Cominco Ltd.; Lornex Mining Corporations Ltd.; and Teck Corporation. Their decisions, in turn, will be determined by expected world copper prices and government mineral policies. Both of these factors have been in considerable flux during the past five years, which introduces considerable uncertainty into the projections. However, in order to gain an understanding of the level and type of growth that might be expected in the local area without the Hat Creek project, a "most likely" development scenario has been constructed based on personal interviews with mining company and government representatives. Consequently, the expected development pattern to 1990 appears to be as follows:

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\* Ibid, Page 4.

1. The expansion of Bethlehem Copper's milling capacity from approximately 20,000 tons per day at present to 45,000 tons per day by 1979. Bethlehem's existing pit operation would be closed and the work force transferred to a joint Lake Zone-Valley Copper development. This would be the first stage of developing the Valley Copper ore body. The net employment increment associated with this expansion would be 180 positions.
2. Expansion of Lornex's existing 40,000 tons per day milling capacity by 1979 would create an additional 400 jobs.
3. Second-stage development of the Valley Copper deposit with construction of a 50,000 ton per day ore concentrator which could be operational by 1985. About 550 jobs would be associated with this development.
4. Construction of either a copper smelter or a copper processing plant (using hydrometallurgical technology) by Cominco during the late 1980's. The direct employment associated with a copper processing plant would be about 425 persons, whereas a smelter, which has a larger minimum economic plant size, would provide about 500 new jobs. However, the consideration of a location for a smelter is not restricted to the Highland Valley. Cominco is studying the feasibility of converting an existing iron and steel plant at its Kimberley complex to a copper smelter. An earlier proposal to establish a smelter at Clinton has been discarded and is no longer under active consideration.

It is assumed that a copper processing plant will be constructed in the Highland Valley during the period 1985-1990, creating 425 direct jobs.



5. The development of Teck Corporation's Highmont Mine property, estimated to mill about 25,000 tons per day. It is assumed the plant will be producing by 1990 and would employ about 425 persons.

At this time, the best estimate of total future direct employment associated with increased mining and processing activity in the Highland Valley is 2,400 new jobs by 1990. However, by 1979, Placer Development Corporation's Craigmont mine will have been exhausted, resulting in the loss of about 350 jobs. The impact of this closure will be largely confined to Merritt. It is expected that the majority of the Craigmont employees will be absorbed by the expansions of Lornex and Bethlehem, but some will, no doubt, transfer out of the area. The net regional employment increase associated with mining and processing in the study region is therefore reduced to about 2,050 jobs.

If all the employees at the Craigmont mine were absorbed by the other companies, it is unlikely that these individuals would relocate to Ashcroft/Cache Creek or Logan Lake from their existing residences in Merritt. The population inflow to Ashcroft/Cache Creek and Logan Lake from increased mining activity in the Highland Valley would thus be less than if all the Craigmont employees transferred out of the area as there would be less need for imported labour which, it could be assumed, would tend to gravitate towards those communities.

For the purposes of this forecast, it is assumed that 250 of the 350 employees at the Craigmont mine will be absorbed by Lornex and Bethlehem Copper, and that they will continue to reside at their present locations. It is further assumed that the remainder will transfer out of the region. For the balance of the mining jobs to be filled, that is, 2,150, it is assumed that Ashcroft and Cache Creek will accommodate 25% of the employees and the remainder will reside in Logan Lake, Kamloops and Merritt.

In addition to the direct operating jobs created, these projects will also involve considerable short-term construction employment. Table 3.2.15 illustrates the general level of construction manpower required. The large mining developments will require between 18 and 30 months for construction and will have an average labour force during that period of about 70% of their peak requirements.

The in-migrant construction labour force will be accommodated primarily in "single mens" camps in the Highland Valley although it can be expected that a small number may seek family facilities in the Ashcroft/Cache Creek, Logan Lake, Merritt and Kamloops areas.

A number of other projects are considered likely to occur in the local study area over the forecast period in addition to the Highland Valley and other mining related developments. These include:

1. A rock crushing plant located at Mackerby, providing 40 direct jobs. This plant commenced operations in 1977.
2. A federal penitentiary or other government project located at Lillooet with an in-service date of 1982. The facility could provide in the order of 200 direct jobs.
3. A lime quarry and cement plant at Clinton, expected to be in production by 1981, would provide 125 direct jobs.
4. Extension of the B. C. Hydro transmission network with the construction of two 500-kV transmission lines between the Kelly Lake and Nicola substations. These lines are expected to be constructed through the 1977 to 1988 period, with peak construction years occurring in 1981 and 1988. The expansion will require a minimal increase in operating staff but the construction labour force required during those peak years will be about 285 persons. The average annual labour requirement during the 11 construction years will approximate 115 persons.

TABLE 3.2.15

ECONOMIC DEVELOPMENT PROJECTS, 1976-90

Project	Location	In Service Year	Construction Labour Force Peak	Direct Operating Labour Force
1. Rock Crushing Plant	Ashcroft/MacAbee	1977	50	40
2. Columbia Lime	Clinton	1981	100	125
3. Bethlehem Lake Zone	Highland Valley	1979	1,050	180*
4. Lornex Expansion	Highland Valley	1979	1,600	400
5. Lillooet Prison	Lillooet	1982	150	200
6. Valley Copper Phase II	Highland Valley	1985	2,050	550
7. Copper Processing Plant	Highland Valley	1987	1,000-1,500	425
8. Highmont Mine	Highland Valley	1990	1,050	425
9. Kelly Lake/Nicola Transmission Line	Kelly Lake to Nicola	1988	285	-

\* In addition, 20 indirect jobs in equipment repair and maintenance and steel ball manufacturing have been assumed.

SOURCE : Strong Hall & Associates Ltd.

(B) Induced Employment Multipliers

In estimating the total future employment levels in the local study area expected without the Hat Creek project, the induced employment associated with these projects must also be included. Induced employment is created in the commercial sector by the spending of wages and salaries of the direct labour force (the construction and direct operating labour forces in Table 3.2.15), and in the public sector by the demands of these employees and their dependents for government services. Further rounds of induced public and commercial service employment are generated by the spending patterns of this initial round of induced employees. Induced employment effects are determined by the utilization of a suitable employment multiplier. The methodology for estimating this multiplier is discussed in Appendix B.

The resultant multipliers for communities within the local area are shown in Table 3.2.16.

TABLE 3.2.16

INDUCED EMPLOYMENT MULTIPLIERS  
SELECTED COMMUNITIES IN THE LOCAL STUDY AREA

	<u>Induced Employment Multiplier</u>
Ashcroft/Cache Creek	1.42
Lillooet	1.42
Clinton	1.35

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SOURCE: Strong Hall & Associates Ltd.

(C) Projected Local Labour Force

The total direct, indirect and induced employment increments expected to occur are shown in Table 3.2.17 by the community in which the employees are expected to settle.

TABLE 3.2.17  
TOTAL EMPLOYMENT INCREMENTS  
IN THE LOCAL STUDY AREA  
WITHOUT THE HAT CREEK PROJECT  
1976-1990

	<u>Ashcroft</u>	<u>Cache Creek</u>	<u>Clinton</u>	<u>Lillooet</u>
1976				
1977	35	20		
1978				
1979	175	60		
1980				
1981			170	
1982				285
1983				
1984				
1985	115	75		
1986				
1987	90	60		
1988				
1989				
1990	90	60		

- The methodology for determining the place of residence of individuals filling new employment positions is explained in Appendix A.

SOURCE: Strong Hall and Associates, Ltd.

Total labour force growth associated with this employment expansion is shown in Table 3.2.18.

TABLE 3.2.18

PROJECTED LABOUR FORCE  
IN THE LOCAL STUDY AREA  
WITHOUT THE HAT CREEK PROJECT

	<u>Local Area Labour Force</u>
1976	3,450
1978	3,505
1980	3,740
1982	4,195
1984	4,195
1986	4,385
1988	4,535
1990	4,685

SOURCE: Strong Hall & Associates Ltd.

Labour force in the local area is expected to increase from 3,450 persons in 1976 to 4,685 persons in 1990, representing an average annual growth of about 2.2%.

(11) Total Hat Creek Region

The labour force projections for the remaining areas of the Hat Creek region are determined utilizing historical trends and expected future changes in the relationship between population and labour force. Largely as a result of demographic characteristics and increases in female participation, the proportion of the population in the labour force has been increasing steadily over the past 15 years. This phenomenon is

not unique to the Hat Creek region, but is common to all of North America. These trends are expected to continue but at a somewhat slower rate of change.

The current labour force in the remaining areas of the region is estimated at 30,850 persons. During the past five years the labour force population percentage has increased from 42.0% to 44.2%. In Kamloops, a slightly higher proportion of the population is engaged in the labour force but the rate of change appears similar to the overall region.\* It is the future change of this relationship that is utilized for estimating future population.

In their recent study, B.C. Telephone forecast an increase in the labour force proportion to 48.5% by 1990, for the interior region of the province.\*\* Although their region is somewhat larger than the study region, their base data suggest a strong similarity in this particular relationship. Consequently, their projection assumptions have been applied to the residual area of the study region. Kamloops is expected to have 49.0% of its population in the labour force by 1990, while the smaller communities and rural areas will have somewhat less.

The resulting labour force projections are presented in Table 3.2.19.

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\* Kamloops Branch, Canada Manpower, Unpublished Statistics, 1976.

\*\* British Columbia Telephone Company, "B.C. Economic Environment", 1975.

TABLE 3.2.19

PROJECTED LABOUR FORCE IN THE TOTAL HAT CREEK REGION  
WITHOUT THE HAT CREEK PROJECT  
1976-1990

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	<u>Local Study Area</u>	<u>Kamloops</u>	<u>Other Regional Communities</u>	<u>Total Hat Creek Region</u>
1976	3,450	26,300	4,550	34,300
1978	3,505	28,150	4,760	36,410
1980	3,740	30,200	5,000	39,195
1982	4,195	32,300	5,255	41,715
1984	4,195	34,650	5,515	44,325
1986	4,385	37,100	5,800	47,245
1988	4,535	39,750	6,090	50,330
1990	4,685	42,600	6,400	53,635

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SOURCE: Strong Hall & Associates Ltd.

f) Implications of Without Project Employment and Labour Force Projections

The rate and nature of growth expected in the Hat Creek region, without the project, could have a number of structural implications for the regional economy. On a broader scale, the overall development of the provincial economy during the next decade could affect the availability of construction labour throughout the region. It is necessary to understand these aspects of future development before attempting to identify impacts on the regional economy that could be attributed to the Hat Creek project.



(i) Seasonal and Cyclical Stability

Forestry, construction and tourism are the major sectors affected by seasonal unemployment. The prevailing level and pattern of seasonal unemployment in the region are not expected to undergo any significant changes during the forecast period. This implies no major shifts of labour to the sectors experiencing seasonal unemployment, no technological changes which would reduce seasonal unemployment, and, in the case of tourism, no development of a year-round tourist industry.

The vulnerability of an economy to cyclical employment fluctuations is generally highly correlated with heavy dependence on the production of primary exports. The study region's reliance on the forest industry has been a major factor in the deteriorating employment situation experienced during recent years. Until recently, layoffs were mainly concentrated in sawmilling and logging, but more recently, the market for pulp and paper has been extremely soft, prompting layoffs in the two Kamloops mills. Sawmilling is highly sensitive to changes in lumber prices, which fluctuate considerably, and is likely to represent a continuing source of imbalance in the region's economy. The level of mining activity in the region is not sensitive to short-term or cyclical variations in prices for primary metals over a wide range, given the high fixed costs of large-scale mining operations which demand that a constant output be maintained to minimize these costs.

The construction industry is peculiarly sensitive to changes in the general level of economic activity. It responds immediately to changes in investment, which is the most unstable component of aggregate demand, although public investment can serve to smooth out the wide swings in the level of construction employment. According to the scenario developed here, an upswing in both direct and induced construction employment should accompany mining investments in the Highland Valley during the late 1970s to early 1980s.

(ii) Unemployment Without the Project

Projecting regional unemployment levels is a hazardous exercise, given future uncertainty and the complex interplay of factors governing employment growth and labour force expansion. Rather than attempting any precise projections of unemployment in the study region, which would be spurious, we shall present a general discussion of how the present employment situation might change, based on the regional economic expansion scenarios developed in Section (i) above.

To summarize the existing unemployment situation in the study area: unemployment among males is concentrated in the forestry, construction and transportation sectors; unemployment among females is concentrated in sales, service and clerical categories; unemployment is disproportionately high among the younger members of the labour force; and women experience proportionately higher unemployment than males.

The level of future unemployment in the study area is closely tied to demand for the region's primary exports, basically forest products, copper, and to a lesser degree, tourism and recreation.

The timing of a recovery in export markets is highly uncertain creating further uncertainty as to when new investment and employment, particularly that contemplated for the Highland Valley, will be forthcoming. It is also uncertain whether Kamloops has the ability to attract a significant amount of economic activity which is independent of the exploitation of the region's natural resources.

It is assumed in the scenario for the region's future economic development that activity in the forest industry would return to its pre-recession level, but not increase, and that investment in the copper deposits of the Highland Valley would proceed during the the late 1970s and continue through the late 1980s. The derived demand would stimulate employment expansion in the dependent sectors

of the region's economy through the multiplier.

The scenario constructed here would imply a significant reduction in the level of unemployment in the region, during the late 1970s and early 1980s. There is, however, the question of the extent to which the new jobs envisaged will be filled by existing residents or by in-migrants. There is also the question concerning which segments of the existing pool of the region's unemployed will be drawn upon.

A significant portion of those presently unemployed in the region presumably will not be available for the projected new employment positions, since they will return to jobs in forestry, construction, transportation, etc., as these sectors recover. Others will lack the appropriate skills or certification for certain jobs, particularly trades in the mining sector. It is expected, however, that unemployment among existing residents of the region will be reduced significantly during the period in question, if the growth projections in our scenario are realized.

Placer's Craigmont Mine is projected to close at the end of this decade, with a loss of approximately 350 jobs. Some of these employees will be transferred to other Placer operations, others will seek work with a different employer outside of the region, and some will choose to remain in the region. Assuming that new mines are started in the Highland Valley at about the time of the Craigmont closure, however, it would seem reasonable to suppose that a substantial proportion of ex-Craigmont miners would seek and obtain employment in the new mines in the region. Thus, with projected mining developments in the region, any increase in the unemployed of the area due to the Craigmont closure should be avoided.

(iii) Construction Labour Supply

The potential supply of construction labour consists of employed and unemployed construction workers, plus employed and unemployed labour

which is mobile between construction and other industrial sectors (particularly mining and forestry),

Industrial and engineering construction labour is highly mobile. The ability of any particular project to attract construction workers is a function of the general level of construction activity; the duration of the project; the amenity attractiveness of the project's location; availability of overtime; and differences in wages.

Any projections of the future state of the construction industry are perilous due to the sector's extreme volatility. Manpower forecasting and planning for this sector are rather primitive, reflecting a multitude of data, methodological and institutional constraints. An attempt to determine in any precise way the future supply situation as it relates to construction labour connected with anticipated developments in the study region, would be a formidable undertaking since the degree of uncertainty surrounding the timing of possible projects in the study area and of possible competing projects is extremely high.

Given these complexities, all that is attempted here is a general survey of possible future industrial and engineering projects in Western Canada, and a broad assessment of factors affecting the future supply/demand situation regarding construction labour.

#### Metropolitan Vancouver and South Vancouver Island

Construction activity in the Vancouver metropolitan and South Vancouver Island areas is currently very slack and, with the possible exception of the Roberts Bank Port expansion, no major industrial and/or engineering projects are anticipated in the near future. It is likely that some unemployed construction workers resident in the Vancouver metropolitan area would seek employment in the study area if any of the Highland Valley mining projects were to proceed, since commuting home at the ~~weekend~~ would be possible.

### Northeast

A number of large-scale projects are contemplated for this region, specifically several coal mines and hydroelectric developments; more speculative developments include a sawmill and a pulp mill. Although governments have afforded high priority to stimulating economic developments in the northeast, there is considerable uncertainty surrounding the timing of coal projects in particular. If, however, development did proceed apace, the region could require up to 3,000 construction workers annually over the next decade. In a tight market for construction workers, the northeast would be at a disadvantage compared to the more 'amenity rich' areas of the province.

### Northwest, Mid-Coast and North Vancouver Island

Construction of large-scale port facilities at Prince Rupert, together with associated rail links and a pipeline from Kitimat to Edmonton, are possible in the next five to 10 years. The pipeline itself would not be competitive for labour with Highland Valley projects, but the construction of pumping stations and a tank farm, requiring an estimated 800 to 1,000 workers at peak, would be.

### Kootenay Region

Construction of two large hydro dams (Revelstoke and Seven-Mile) and transmission line projects are expected to exert a peak demand for 5,500 workers in 1979-1980. As these projects wind down during the early 1980s, some of this construction labour could be attracted to the study area. However, possible coal developments in the East Kootenay region could stem any exodus at that time.

### Central Interior Region

During the past 10 years or so, this region has been among the fastest growing in B.C. but, with the exception of possible mining

developments in the Highland Valley, B.C. Hydro's McGregor River Diversion, and a uranium mine near Clearwater, future prospects in the region appear to be fairly limited.

### Alberta

The Alberta Advanced Education and Manpower Planning Secretariat has prepared projections of construction activity in the province for the period 1976-1980. Alberta is expected to remain in a near full employment situation at least until the end of the decade if petroleum and additional tar sands/heavy oil plants (Syncrude, Gulf Oil and Imperial Oil) come on stream as projected. It is expected that shortages due to geographic, seasonal and occupational mix imperfections will exist, in particular for heavy duty mechanics, pressure welders, pipefitters, plumbers, electricians, millwrights, and insulators.

### Alaska Highway Pipeline

The Canadian portion of the Alaska Highway gas pipeline will be under construction during 1989-1983 in the Yukon. Labour demand on the B.C. and Alberta sections will peak at 4,540 in the summer of 1982 and at 2,695 in the summer of 1981 in the Yukon section. A major part of pipeline construction work force will be drawn from a highly specialized labour pool, however, it is expected that the pipeline will attract some construction labour from other projects as well as non-resident construction labour.

Although it is expected that a more competitive market for construction labour will prevail in B.C. during the late 1970s to early 1980s, it is not anticipated that the projects which would come on stream during that period will experience difficulties attracting construction labour.

Employment in the construction industry is highly sensitive to

cyclical disturbances and it is expected that 1977 will be one of the worst years on record for the B.C. construction industry; unemployment in some trades is currently around 40%. A major investment increase in Western Canada, towards the end of the decade and the early 1980s, could bring about significant construction labour supply shortages, however, the likelihood of such a "boom" is highly uncertain. It is expected that possible labour shortages would be concentrated in certain skilled trades, although the incidence of these shortages cannot be forecast with precision.

(iv) Training Implications

Based on the anticipated workforce that will be required in the study area, there are adequate training programs for most skill categories. Depending on particular training requests, potential tradesmen would likely have to take the programs offered either through Kamloops or Vancouver. The available programs can be expanded, through the addition of staff, to meet the potential increase in demand.

The initiating company or trade union has to demonstrate the need for the program, to the Ministry of Labour in order to receive the approval for its implementation. The approval for new programs will be dependent on unemployment levels within the applying trade union as well as the hiring and recruitment policies of the applicant company.

It may be desirable to see an expansion of the pilot projects to accommodate more underemployed, women, and native Indians in the various jobs that will become available in the study area. This may assist in reducing the current unemployment problems of those particular groups.

### 3.3 INCOME

#### a) Income Characteristics

##### (i) Total Income

Total income for the Hat Creek region is reported at \$177.2 million for 1970 and is estimated at \$453.7 million for 1976\*. The region receives about 2.9% of the total provincial income while accounting for 3.2% of the population. Regional per capita income is consequently 9.0% lower than the provincial average.

In the local study area, total income is reported at \$17.8 million for 1970 and is estimated at \$42.0 million for 1976\*\*. Although the structural character of income generation and distribution within the local area is substantially different from that of the region, the result in terms of per capita income is fairly similar. Per capita income levels are estimated at \$5,830 and \$5,604 for the region and the local area, respectively, in 1976.

Table 3.3.1 compares the major sources of income among the local study area, the total Hat Creek region, and the province as a whole. The data indicate that both the local area and the region generate a higher proportion of their income through employment than is the case provincially. Total government transfer payments are significantly lower even though Family Allowances, reflecting the more youthful age structure throughout the region, are higher.

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\* Reported by Statistics Canada, Census, 1971, and estimated for 1976 by Strong Hall & Associates Ltd.

\*\* Ibid.



TABLE 3.3.1  
 PERCENTAGE OF TOTAL INCOME BY SOURCE  
 LOCAL AREA AND HAT CREEK REGION  
 1970

	Local Area (%)	Total Region (%)	Total British Columbia (%)
Employment Income	39.9	89.8	85.0
Wages & Salaries	80.4	82.0	78.0
Non-Farm Self Employment	8.3	7.3	6.5
Farm Self Employment	1.2	.5	.5
Government Transfers	5.7	5.1	6.9
Retirement Pensions	.9	1.1	1.8
Investment Income	2.6	3.3	5.5
Other Income	<u>.9</u>	<u>.7</u>	<u>.8</u>
 TOTAL INCOME	 100.0	 100.0	 100.0

SOURCE: Statistics Canada, Data Dissemination Division, Census, 1971

Self employment income is significantly higher in the region, particularly in the local area. It is probable that this reflects the relatively low incidence of large provincial or national companies in the economies of these smaller areas. The relatively low investment income generated within the region could suggest a paucity of the availability of regional investment institutions.

(ii) Household Income

Average household income is shown in Table 3.3.2. The region's household income level is about 7% lower than the province as a whole, but this comparison conceals significant intra-regional variations. These variations are largely related to differences in economic structure within the region. The average household income in Kamloops was 104% of the regional average in 1970, reflecting the higher paying wage/salary structure of the pulp and paper, construction, community services (health/education), and administrative sectors, and the availability of employment opportunities for females to supplement household income.

TABLE 3.3.2  
AVERAGE HOUSEHOLD INCOME  
SELECTED COMMUNITIES AND AGGREGATES  
1970

	Average Household Income (\$)	Regional Average (%)
Ashcroft	10,347	100
Cache Creek	9,560	92
Clinton	8,425	81
Lillooet	8,745	84
Rural	7,053	68
LOCAL AREA	9,774	94
Kamloops*	10,851	104
Other Regional Communities & Rural Areas	10,339	99
HAT CREEK REGION	10,391	100
BRITISH COLUMBIA	11,088	107

\* Kamloops included Dufferin and Valleyview.

SOURCE: IPA Studies, Department of Economic Development, 1974

The local study area represents a relatively low household income pocket within the overall study region. Although levels in Ashcroft are well above the regional average, all other communities are below. Cache Creek has a household income level slightly below the regional average in spite of very high male and female participation rates. This, no doubt, reflects the high proportion of low wage trade and service occupations in the community. Clinton, Lillooet and the rural areas exhibit relatively low participation rates with a high proportion of low paying employment in their occupational mix. The discrepancies between rural and urban income levels may be less real than perceived. Individuals often choose to live in the rural areas for life style reasons and are quite prepared to sacrifice monetary income. In addition, cost of living differentials and income-in-kind considerations associated with the rural life style may suggest higher real income levels than are reflected in monetary criteria.

In order to obtain a clearer idea of the significance of these average income figures in terms of economic well-being, dependency rates are compared to average household income in Table 3.3.3. This indicator generally reveals an inverse relationship between the dependency rate and the level of income, that is, the lower income areas exhibit a higher dependency rate, suggesting that the real economic disparity between higher and lower income areas is greater than that indicated by the average income figure alone. This is particularly applicable to Clinton and Lillooet.

In addition, those communities which have below average household incomes generally exhibit a higher than average number of households with incomes below the arbitrarily defined poverty line of \$5,000. Clinton, Lillooet, and the local rural areas also reflect this situation. However, Kamloops, which had an average household income four percentage points above the regional average, also had a high proportion (21%) of households that received less than \$5,000 in 1970. It might be suggested that this group comprises a large number of single person households or recipients of transfer payments, in addition to the fact

TABLE 3.3.3

SELECTED INCOME INDICATORS  
LOCAL AREA AND HAT CREEK REGION  
1970/1971

	Average Household Income	Dependency Rate	Household Income Distribution Indicators	
	<u>\$</u>	<u>%</u>	<u>Below \$5,000</u>	<u>Above \$15,000</u>
			<u>%</u>	<u>%</u>
Ashcroft	10,347	63	11.9	12.8
Cache Creek	9,560	60	14.6	9.1
Clinton	8,425	70	28.0	10.0
Lillooet	8,745	69	26.4	9.9
Rural	7,053	62	28.7	6.6
LOCAL AREA	<u>9,774</u>	<u>65</u>	<u>21.2</u>	<u>9.9</u>
Kamloops	10,851	55	20.4	15.0
Other Regional Communities	10,339	64	20.4	12.8
HAT CREEK REGION	<u>10,391</u>	<u>60</u>	<u>20.5</u>	<u>13.6</u>
BRITISH COLUMBIA	<u>11,088</u>	<u>60</u>	<u>26.5</u>	<u>14.5</u>

SOURCE: Statistics Canada, User Summary Tapes, Census, 1971

that the city has been generating a large number of part-time or relatively low paying employment positions in the tertiary and quaternary sectors. It is interesting to note that, regionally, Kamloops also had the highest proportion of households in the over \$15,000 income category.

(iii) Industrial Earnings

The character and relative stage of development of the local study area in comparison to the region as a whole is typified by Table 3.3.4. The dominance of primary industry in the local area, although previously indicated in the labour force analysis, is revealed to be even more extreme when the effects of relative wage disparities among industries are taken into account.

TABLE 3.3.4  
EMPLOYMENT INCOME BY INDUSTRY,  
LOCAL AREA AND TOTAL HAT CREEK REGION  
1970

<u>Sector</u>	<u>Local Area</u>		<u>Total Region</u>	
	<u>Contribution</u> %	<u>Average</u> \$	<u>Contribution</u> %	<u>Average</u> \$
Agriculture	3.5	5,424	1.5	3,760
Forestry	4.4	6,451	3.1	6,277
Mines	17.6	8,477	6.2	7,940
Manufacturing	8.8	5,416	11.3	6,248
Construction	8.9	7,319	12.6	7,378
Transport and Utilities	12.9	6,764	13.7	7,146
Trade	9.0	5,202	14.2	4,853
Finance, Insurance & Real Estate	1.6	3,441	3.2	5,694
Community Services	21.7	4,641	22.1	4,678
Public Administration	3.9	5,443	5.6	6,208
Unspecified	<u>7.7</u>	<u>3,894</u>	<u>6.5</u>	<u>4,724</u>
TOTAL ALL INDUSTRIES	100.0	5,638	100.0	5,680

SOURCE: Statistics Canada, Data Dissemination Division, Census, 1971.

The primary sectors contribute more than one-quarter of the income generated in the local area while they account for slightly more than 10% of total regional income. The more balanced economy of the overall region is relatively strong in the manufacturing, construction, transportation and trade sectors. The influence of Kamloops in all of these sectors is readily apparent.

Average earning levels are generally highest in the mining, forestry and construction sectors. Although the forestry and construction industries pay somewhat higher wage rates than mining, their shorter average working year often results in lower annual income. It is interesting to note that the agricultural sector is not only more important to the local economy than to the region as a whole, it has higher average productivity.

Average weekly earnings in British Columbia by industry are shown in Table 3.3.5. Although similar data are not available for regions of the province, the industrial composite is available for comparison between Vancouver and Kamloops.

TABLE 3.3.5

AVERAGE WEEKLY EARNINGS,  
BRITISH COLUMBIA

	<u>September 1976</u>
	<u>\$</u>
Forestry	348.33
Mining	326.27
Manufacturing	298.32
Construction	389.22
Transportation	291.32
Trade	217.62
Finance, Insurance and Real Estate	219.40
Services	174.19
Industrial Composite	267.25

SOURCE: Statistics Canada #72-002, Employment Earnings  
and Hours, September, 1976

Table 3.3.6 indicates that average industrial earnings are 8.0% higher in Vancouver than in Kamloops, but the difference is steadily narrowing.

TABLE 3.3.6  
 AVERAGE WEEKLY INDUSTRIAL EARNINGS  
 KAMLOOPS AND VANCOUVER  
 1970-1976

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	<u>Kamloops</u>		<u>Vancouver</u>	
	<u>Average</u> <u>Earnings</u> <u>\$</u>	<u>Index</u>	<u>Average</u> <u>Earnings</u> <u>\$</u>	<u>Index</u>
1970	118.44	88.8	133.90	90.0
1971	133.38	100.0	148.86	100.0
1972	154.40	115.8	161.10	108.2
1973	162.11	121.5	174.47	117.2
1974	180.67	135.4	194.41	130.6
1975	203.86	152.8	224.00	150.5
1976	233.48	175.0	251.93	169.2

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SOURCE: Statistics Canada #72-002, Employment, Earnings and Hours, September, 1976



(iv) Income Distribution

The distribution of employment income in the local area, and the overall study region is compared to that for British Columbia in Table 3.3.7.

TABLE 3.3.7  
PERCENTAGE DISTRIBUTION OF EMPLOYMENT INCOME  
FOR INDIVIDUALS 15 YEARS AND OVER  
1970

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<u>Income Class</u> <u>\$</u>	<u>Local</u> <u>Hat Creek Area</u> <u>%</u>	<u>Total</u> <u>Hat Creek Region*</u> <u>%</u>	<u>Total</u> <u>British Columbia</u> <u>%</u>
0 Income	3.7	2.7	2.4
Under 3,000	30.8	32.6	32.4
3,000-5,999	21.5	22.6	23.5
6,000-9,999	30.0	28.8	28.2
Over 10,000	14.0	13.3	13.5

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\* Thompson Nicola Regional District is used as a proxy for the Region.

SOURCE: Statistics Canada, B. C. Profile Film, Census, 1971.

The distribution of employment income indicates that a slightly greater percentage of employed persons in the local area have incomes in the upper classes than is the case for the total region or the province as a whole. This would tend to reflect the dominance of the high-wage mining, forestry, construction, and transportation sectors in the local economy. The distribution pattern of employment income throughout the region is similar to the province as a whole.

In contrast to the apparent relative distribution of individual income, Table 3.3.3 shows a low percentage of households in the local area having household incomes in the upper income categories.\* Given the relatively high local male and female participation rates, this could be explained by the fact that married women constitute a relatively low proportion of the female labour force. Consequently, the local area has fewer two-income households than is the case for the region as a whole and the province.

b) Projected Income Levels Without Hat Creek Project

Income projections without the Hat Creek project are derived from the population and employment projections of Sections 3.1 and 3.3. The basis for future income forecasts in the local study area is the payroll of direct and indirect employees identified in Section 3.3 (f). Total employment income is then derived utilizing the induced income multipliers presented in Table 3.3.8. Total income for the remaining areas of the Hat Creek region is forecast on the basis of expectations regarding future growth in real income per capita. All estimates are made in terms of 1976 dollars.

The net increase in local area employment income, utilizing a project specific income multiplier approach, will comprise the following components:

- Total income earned by in-migrants.
- Total income earned by existing residents not previously in the local labour force.
- Total income earned by existing residents formerly employed less their former earnings.
- Total income earned by existing residents previously unemployed less their former transfer payment income.

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• See Page 3.3 - 5

The procedure for estimating these parameters is explained in detail in the Appendix A description of the employment and population model.

Average mining industry wage levels, the major industrial development activity expected without the Hat Creek project, are assumed at a 1976 level of \$17,000 per year.\* Average wages for the proposed Lillooet prison are assumed at \$14,000 per year.\*\* The income multipliers for each community used to determine induced income are shown in Table 3.3.8. The multiplier estimation model appears in Appendix B.

TABLE 3.3.8  
INDUCED INCOME MULTIPLIERS FOR LOCAL  
STUDY AREA

Ashcroft/Cache Creek	1.22
Clinton	1.18
Lillooet	1.28

SOURCE: Strong Hall & Associates Ltd.

In determining net employment income generation as a result of the identified industrial growth pattern, the main conceptual element that needs to be deducted from gross income is the former transfer payment receipts of previously unemployed locals.\*\*\* In other words, the transfer payment receipts of currently unemployed local workers represents income to the area. To the extent that any

\* See Table 3.3.5.

\*\* Based on the 1971 Census relationship between average government service wages and average industrial earnings inflated to 1976 dollars.

\*\*\* Job transfers are effectively "netted-out" in the employment model. See Appendix A.

unemployed individuals find employment, this income will be eliminated and replaced by their wage income. The difference represents the net income gain to the region.

Average annual Unemployment Insurance Commission (UIC) payments indicate the level of transfer payment receipts. These are reported to equal \$1,034 in 1976.\*

The total net income increase expected to occur in the local area without the project is shown in Table 3.3.9. Employment income is forecast to increase from an estimated current level of \$37.7 million to \$55.5 million in 1990. As shown in Table 3.3.1, employment income represented 89.8% of total regional income during 1970. Assuming this relationship generally holds throughout the forecast period, total local income is forecast to rise from \$42.0 million to \$61.8 million in 1990.

For the remaining areas of the Hat Creek region, income is forecast on the basis of expected growth in real income per capita. The population component of these forecasts is presented in Table 3.1.12.

Per capita income data are not available for the Hat Creek region over a time frame suitable for forecasting. Rather it is necessary to identify historical trends and future expectations on a provincial basis and determine their applicability to the region.

Real per capita income in British Columbia has been increasing at an average annual rate of 4.7% over the past decade. Most analysts are suggesting that future real provincial income growth will not approach historical rates and that this will be generally

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\* Unemployment Insurance Commission, April 1977.  
Due to the relatively small local involvement in relation to immigration for these developments, unemployment effects reduce gross regional income by only \$50,000 over the total forecast period.

true for Canada as a whole. The most comprehensive published provincial forecast, recently undertaken, projects a long-term growth in real provincial personal income per capita of 2.5% annually.\* The report suggests that, *"British Columbia's economic growth will slow throughout the study period. The growth in world demand for B.C. products will moderate because of slower economic growth in the industrialized nations and greater competition in B.C.'s markets"*.

The expected expansions of the Highland Valley mining industry and the Kamloops and Merritt service sectors will result in continued regional income growth, but in the absence of significant structural changes offering unique opportunities for female employment, and given the expected family structure of in-migrants, it is doubtful that the region will grow substantially faster than the province as a whole in per capita terms.

It is assumed that real per capita income will rise at an annual rate of 3.0% in the remaining areas of the Hat Creek region resulting in an increase from \$5,900 in 1976 to \$8,925 in 1990.

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• B.C. Telephone Company, "B.C. Economic Environment, 1975-1990", December, 1975.

Total income growth forecast throughout the overall region is shown in Table 3.3.9.

TABLE 3.3.9  
PROJECTED TOTAL INCOME WITHOUT THE PROJECT,  
HAT CREEK REGION  
1976-1990

	<u>Local Area</u> ( \$ million)	<u>Total Region</u> ( \$ million)
1976	42.0	453.8
1978	43.2	505.1
1980	47.0	563.8
1982	53.8	631.4
1984	53.8	701.9
1986	56.9	781.6
1988	59.4	872.0
1990	61.8	969.4

SOURCE: Strong Hall & Associates Ltd.

c) Implications of Without Project Income Projections

The preceding total income projections for the Hat Creek region have implications beyond simply the level of income growth. These are discussed in terms of possible income distribution and price inflation effects.

(i) Distributional Aspects of Income Growth

The income distributional implications of the forecast industrial development pattern can be viewed from at least four different perspectives. They include geographical distribution, allocations between existing residents and in-migrants, distribution among existing residents and changes in the overall percentage distribution

of income classes.

The distribution of income between males and females from forecasted economic developments is expected to conform to the prevailing pattern, in the absence of specific undertakings to provide women with access to higher paying jobs, principally those in the mining sector, or rapid secular changes in the re-definition of male/female employment roles. There is no indication at this time that such measures are being implemented by the mining industry, and the re-definition of employment roles is not statistically conspicuous, given the speed at which it is proceeding.

With the expansion of employment opportunities for both males and females in the region, there is likely some scope for an increase in the number of households with two income earners. However, the average individual income of females is expected to remain substantially below that for males since female employment is assumed to retain a significant part-time element and remain concentrated in the lower paying service occupations.

Major mineral developments expected to occur in the Highland Valley will tend to concentrate income growth in that area. Kamloops will benefit from the servicing of these developments, the consumption spending of the residents locating in the communities contiguous to the projects and from further expansion of its service sector to meet the needs of its growing population. Among the smaller communities, Logan Lake and, to a lesser extent, Ashcroft and Cache Creek will gain a greater share of the incremental regional income generated. Ashcroft could gain an even greater share if its expansion creates a commercial sector that could increase its trading area up to Clinton. Even though Kamloops could be detrimentally affected by retail establishment expansion in its hinterland, its increasing wholesale function and its internally generated expansion potential will be likely to result in a continuous growing concentration of income in that community. This relative increase, however, is expected to be quite slow.

The majority of the recipients of incremental income will continue to be in-migrants, responding to the employment opportunities created. Throughout the region as a whole, 50% to 65% of the incremental income will likely accrue to in-migrants. In the local study area, this figure would likely range between 75% and 85%. The majority of the in-migrants will have technical skills beyond those which are available in the region.

Among existing residents, the recipients of the incremental income generated will include the existing unemployed, individuals previously not in the labour force and individuals switching jobs to take advantage of opportunities providing them with greater 'total' income. The determination of precisely who will receive which jobs requires empirical studies beyond the scope of this report. However, it is reasonable to suggest that the currently unemployed and new labour market entrants, without specific training prior to their employment, will qualify for only the lower skilled industrial and service sector positions. The extent of job switching will depend upon such factors as comparative wage levels, overall fringe benefit packages, proximity to residence and possible institutional factors. It is unlikely that substantial job switching will occur as the working conditions for future mines will likely be similar to those for existing mines.

The percentage distribution of income by income class in the local study area is likely to alter significantly principally as a result of forecasted developments in the mining sector, which has a higher proportion of individuals earning more than \$15,000 per year (in 1970 dollars) than occurs at present. No significant expansion is expected in the forestry or agricultural sectors, which record lower average incomes than mining; and the expansion of the trade and service sectors, which have a predominance of low paying jobs, will be less than in the mining sector. Thus the proportion of middle and low income earners will contract all other things being equal.

A final aspect of structural change that is likely to occur in the local study area is the relative decline of self-employed individuals. Al-



though this decline does not necessarily infer a change in relative income status it is considered appropriate to discuss it at this point. Table 3.3.1 suggests that the self-employed entrepreneur, in many cases the so called 'family business', is more predominant in small communities than in large. The preponderance of national and regional retail chains has significantly affected the ability of the single-store small operator to compete in the retail sector. With the commercial expansion forecast in Ashcroft and Cache Creek, it is quite likely that some of the small operators will succumb to this competition.

(ii) Price Effects of Income Growth

The overall growth pattern forecast primarily involves a number of large capital intensive industrial projects. These will occur in and around a number of small communities and will generate fairly rapid and sizeable income and population induced economic shocks to these communities. Kamloops, due to its size and proximity, will, to a certain extent, act as a buffer in controlling the extent to which these shocks affect the price of goods and services. As an alternative trading center, it is expected that the city will be more effective in minimizing price effects on consumer goods and services than on land.

Large industrial developments inevitably attract speculation in land which provides an early artificial rise in the price of the commodity. The extent to which this will occur is partially dependent upon the degree to which population settlement and associated commercial expansion, related to the development, can be potentially dispersed among alternative settlement locations. The greater the potential dispersion, the lower would be the speculative pressure on land prices. In addition, however, the supply of serviced land among the communities, and the degree of concentration of ownership in the land will also affect the extent to which significant price effects could be expected. Generally, these price effects are short-term and will tend to stabilize until land prices in surrounding areas rise over time to meet them.

The opportunity for minimizing land price effects exists in the developments related to the Highland Valley. Five communities are located within 40 miles of the expected developments and among them could provide the residential alternative necessary to diffuse speculative price pressures. A highway network joins the developments to each of these communities but the links to Merritt and Ashcroft would require substantial improvement in order to reduce travel time, and to provide the inter-community competition required to effectively reduce speculative pressures.

### 3.4 HOUSING

A separate housing market analysis was carried out for each of the municipalities under consideration. All statistics presented are dated to the latter part of 1976 and the early part of 1977.

#### a) Ashcroft

##### (i) Housing Inventory

Single and two family homes	-	480 units	-	63%
Multi-family	-	180 units	-	24%
Mobile homes	-	105 units	-	13%
Total		<u>765 units</u>	-	<u>100%</u>

With a 1976 Census population of 2,005, the average household size is 2.62.

##### (ii) Current Market Conditions

###### A. Vacancy Rates

Vacancy rates have been very low. In February 1977, there were approximately 10 to 15 single family dwellings for sale, none of which was vacant. The vacancy rates for multi-family rental units have been virtually nil.

###### B. Residential Construction Activity

As of February 1977, there were approximately ten dwelling units on stream, with definite plans for another 10 to 15 units to be constructed in 1977. All units under construction or planned are single or two family units. Although no statistics are available, it is considered that the majority of homes planned or being built,

are being built on speculation. In the short run, a constraint to further construction is the fact that the supply of serviced lots is nearing depletion.

#### C. Output Capabilities of Local Construction Industry

Local builders and developers in Ashcroft and Cache Creek were contacted to determine their output capabilities at current staff levels. The three local companies estimated that they could build 100 to 120 dwelling units per year if the demand warranted. By increasing their staff levels, this output could be increased significantly.

It should be noted that if the demand for housing increased significantly, builders and developers from Kamloops would very likely move into the area, providing competition for the smaller local firms.

#### D. Prices of Housing

Vacant serviced lots have been marketing at prices in the order of \$10,000 to \$12,000. An average price for a typical 1,200 square foot three bedroom bungalow is \$47,000 to \$50,000.

#### E. Availability of Financing

Ashcroft and Cache Creek are served by three banks and a credit union capable of writing residential mortgages. At the present time, these institutions hold most of the residential mortgages in the communities.

The financial ability of the banks to meet mortgage demands at any point in time is largely dependent on current head office policies relating to lending restrictions. The greater the bank's lead time in preparing for unusually high demands the greater the likelihood that funds will be available.

In order to meet unusually high demands, the banks would need to expand their administrative staff and work closely with CMHC to process the applications efficiently. Representatives of these institutions felt confident that they could write in the order of \$15 to \$20 million per year in residential mortgages. This would result in a capability of 300 to 400 units per year. Requirements beyond that would likely be financed outside the local area.

(iii) Housing Demand Factors

The quantity and type of housing demanded will vary according to the following factors:

- Population increase
- Ability of prospective consumers to pay for housing
- Lifestyle preferences of prospective consumers

A. Population

Without the Hat Creek project, it is estimated that the incremental population of Ashcroft to 1990 will be approximately 970 persons.

B. Housing Mix

Since the majority of the new Ashcroft residents would be associated with copper mining in the Highland Valley, it is assumed that the average household size and income profile of new families, and the housing mix demanded would be similar to that found in the Village of Logan Lake.

The housing mix in Logan Lake is outlined as follows:

	<u>% of Total</u>	<u>Estimated Household Size</u>
Single family and duplex	54	3.6
Mobile homes	21	3.6
Townhouses	4	3.0
Apartments	21	2.1
Average		<u>3.25</u>

The housing mix assumed for the incremental population in Ashcroft is outlined as follows:

	<u>% of Total</u>	<u>Estimated Household Size</u>
Single family and duplex	55	3.6
Mobile homes	25	3.6
Apartments and townhouses	20	2.1
Average		<u>3.30</u>

The use of these household factors which are higher than the existing averages in Ashcroft, is consistent with the assumption that the majority of in-migrants will be working men with families.

#### C. Dwelling Units Required

With an estimated incremental population of 970 persons to 1990, the estimated number of additional dwelling units required is outlined as follows:

Single family and duplex	- 160 to 165 units
Mobile homes	- 70 to 75 units
Multi-family	- 55 to 60 units

b) Cache Creek

(i) Housing Inventory

Single and two family homes	- 170 units	- 50%
Multi-family	- 60 units	- 18%
Mobile homes	- 112 units	- 32%
Total	<u>342 units</u>	<u>100%</u>

With a current population of 1,040 the average household size is 3.04.

(ii) Current Market Conditions

A. Vacancy Rates

As in Ashcroft, vacancy rates in Cache Creek have been very low. As of February 1977, there were approximately ten housing units for sale, of which four recently constructed homes were vacant. The vacancy rate of multi-family rental units has also been virtually nil.

B. Residential Construction Activity

New residential construction activity is concentrated in the Battel Subdivision in East Cache Creek, in which five single family and three duplex units were under construction in March 1977. Construction plans for 1977 indicate that an additional 30 dwelling units will definitely be built. The majority of these units are being built on a speculative basis.

C. Output Capabilities of Local Construction Industry

As outlined in the Ashcroft analysis, local builders and developers undertake projects both in Cache Creek and Ashcroft. The estimated

output of the local companies operating at full capacity is 100 to 120 dwelling units per year.

D. Prices of Housing

Prices of serviced lots and housing in Cache Creek are very similar to those found in Ashcroft. Lot prices of \$10,000 to \$12,000 in Cache Creek and Ashcroft compare to prices of similar lots in Kamloops at \$15,000 to \$17,000. Construction costs are generally equivalent to those in Kamloops.

E. Availability of Financing

The comments on financing capabilities pertaining to Ashcroft are equally applicable to Cache Creek.

(iii) Housing Demand Factors

A. Population

Without the Hat Creek project, it is estimated that the incremental population of Cache Creek to 1990 will be approximately 580 persons.

B. Housing Mix

The approach used in projecting housing mix in Ashcroft is also used for Cache Creek. As such, the housing mix assumed for the incremental population is outlined as follows:

	<u>% of Total</u>	<u>Estimated Household Size</u>
Single family and duplex	55	3.6
Mobile homes	25	3.6
Apartments and townhouses	20	<u>2.1</u>
Average		3.30



C. Dwelling Units Required

With an estimated incremental population of 580 persons to 1990, the estimated number of additional dwelling units required is outlined as follows:

Single family and duplex	-	95 to 100 units
Mobile homes	-	40 to 45 units
Multi-family	-	35 to 40 units

c) Clinton

(i) Housing Inventory

Single and two family homes	-	220 units	-	78%
Multi-family	-	20 units	-	7%
Mobile homes	-	41 units	-	15%
Total		<u>281 units</u>		<u>100%</u>

With a current population of 806, the average household size is 2.87.

(ii) Current Market Conditions

A. Vacancy Rates

Vacancy rates in Clinton are somewhat higher than in Cache Creek or Ashcroft, although the recent establishment of a sawmill has resulted in a significant reduction in the vacancy rate. There were approximately ten dwelling units for sale as of February 1977. With 35 vacant serviced lots for sale, there is an ample supply of land for housing construction in the near future.

## B. Residential Construction Activity

Except for a brief flurry of construction activity in 1975, construction activity in recent years has been very slow. As of February 1977, there were no houses being constructed, and there was no evidence of any new units definitely planned for 1977. Two local building contractors have recently moved away because of a lack of construction activity.

## C. Prices of Housing

Prices of lots and housing are significantly lower than in Cache Creek or Ashcroft. Some serviced lots are selling at \$4,500, and a 1,200 square foot three bedroom bungalow would be priced at approximately \$35,000.

## D. Availability of Financing

Clinton is serviced by the Bank of Montreal. The constraints to residential financing discussed for Ashcroft are also relevant to Clinton. It is likely that 100 to 150 units could be financed locally in Clinton without serious bottlenecks.

### (iii) Housing Demand Factors

#### A. Population

Without the Hat Creek project, it is projected that Clinton's population will be stable until 1981, when it is anticipated that construction will commence on the Columbia Lime Plant. At that time, it is estimated that the population will increase by approximately 315 persons, following which the population is expected to stabilize until 1990.

B. Housing Mix

Because of the stable nature of the population and the existing housing mix, it is anticipated that of the new dwelling units required, a higher proportion will be single family dwellings than in Ashcroft or Cache Creek. The housing mix assumed for the incremental population is outlined as follows:

	<u>% of Total</u>	<u>Estimated Household Size</u>
Single family and duplex	65	3.6
Mobile homes	20	3.6
Multi-family	15	<u>2.1</u>
Average		3.40

C. Dwelling Units Required

With an estimated population increase of 315 persons to 1990, the number of additional housing units required is estimated as follows:

Single family and duplex	-	60 to 65 units
Mobile homes	-	15 to 20 units
Multi-family	-	10 to 15 units

d) Lillooet - Including Lillooet Riverside Improvement District

(i) Housing Inventory

Single and two family homes	-	490 units	-	68%
Multi-family	-	52 units	-	7%
Mobile homes	-	<u>175 units</u>	-	<u>25%</u>
Total		717 units		100%

With a current population of 2,185, the average household size is 3.05.

(ii) Current Market Conditions

A. Vacancy Rates

Vacancy rates have been low, both in single and multi-family dwellings. An estimated 20 to 25 dwelling units were for sale as of February 1977.

B. Residential Construction Activity

Approximately 20 to 30 dwelling units were under construction as of February 1977. No information is available regarding the number of additional planned units for 1977. With construction of the first phase of the Village's residential subdivision taking place in 1977, some additional housing construction can be expected in this area.

C. Prices of Housing

Prices for serviced lots range from \$10,000 to \$12,000. The typical 1,200 square foot three bedroom bungalow being used for comparative purposes would command a price of \$48,000 to \$55,000.

(iii) Housing Demand Factors

A. Population

The population projections indicate that Lillooet's population will be stable until 1979, when it is anticipated that a Federal project will likely come on stream. At that time, it is estimated that the population will increase by approximately 500 persons, following which the population is expected to stabilize until 1990.

B. Housing Mix

The housing mix to accommodate the incremental population is assumed to be similar to that projected for Clinton, and is outlined as follows:

	<u>% of Total</u>	<u>Estimated Household Size</u>	
Single family and duplex	65	3.6	
Mobile homes	20	3.6	
Multi-family	15	2.1	
Average			3.40

C. Dwelling Units Required

With an estimated population increase of 500 persons to 1990, the estimated number of additional dwelling units required is outlined as follows:

Single family and duplex	-	95 to 100 units
Mobile homes	-	25 to 30 units
Multi-family	-	20 to 25 units

### 3.5 SERVICES

#### a) Introduction

Information regarding the existing and projected level of public services without the Hat Creek project has been documented in this section of the report. Services offered by municipal, provincial, or federal governments that are located in the Hat Creek study area include education, health, recreation, social, cultural, corrections, court/judicial, legal, police, fire and communication service systems. The location of each of these services in the study area is shown on Table 3.5.1.

TABLE 3.5.1  
SUMMARY:  
LOCATION OF EXISTING SERVICES IN STUDY AREA

<u>Service System</u>	<u>Ashcroft</u>	<u>Cacne Creek</u>	<u>Clinton</u>
Elementary Education	X	X	X
Secondary Education	X		X
Continuing Education	X	X	X
Hospital	X		
Medical	X		X
Public Health	X		
Ambulance	X		X
Public Recreation (Parks, Pools, Indoor Activities)	X	X	X
Social (Day Care, Social Assistance)	X	X	X
Cultural (Museum, Library)	X	X	X
Corrections	X		
Court/Judicial	X		X
Legal	X	X	
Police	X		X
Fire	X	X	X
Communications (Post Office, Radio T.V.)	X	X	X

SOURCE: Cornerstone Planning Group Limited, Service Inventory of Hat Creek Study Area, 1976.

The services study area includes the Hat Creek Valley, Ashcroft, Cache Creek, Clinton, and the surrounding rural areas. As each service area boundary does vary, a description of individual service areas has been provided. Lillooet has not been included in the service study area as most of the service organizations located in the Hat Creek area do not include Lillooet in their service areas.

Each service is described in terms of the service area, the programs offered, the number of users, the facility, its size, capacity, location, and staff. It should be noted that this data was obtained in 1976. Current government standards for building and staff requirements, and capital and operating costs are documented. Based on those standards, and the population forecasts for the Hat Creek study area without the Hat Creek project, projections of service requirements consist of facility, staff, and land requirements, operating costs, and capital costs expected for each service system from 1977 to 1990. All costs are given in 1976 constant dollars. Detailed information regarding the existing services and projected requirements is provided in tables in Appendix D. A summary of that material is described below for each service system.

(b) Education

(i) Inventory of Existing and Proposed  
Education Services

The service study area is located within the boundaries of School District 30 (South Cariboo). This school district extends to 85 Mile House to the north, to Upper Loon Lake and Walhachin to the east, to Falls Creek and Jackass Mountain south of Lytton, and to the west to Big Bear Creek, Kelly Lake, Crown Lake and the Hat Creek Valley. It does not include Lillooet and Pavilion as these communities lie within School District 29. During the academic year 1976-77, School District 30 had a total of 11 schools in operation and had an enrollment of 2,137 students\*.

In 1976, the pupil/teacher ratio was 18.0 to 1 for School District 30, lower than the B. C. average of 19.0 to 1\*\*. The 1975 ratio for School District 30 was higher (18.9 to 1) because enrollment was greater than in 1976, while the number of teachers remained constant. A lower ratio has the advantage of allowing more individual interaction between teacher and pupil, but there is controversy as to what the best ratio is and whether it is the most critical factor affecting student performance.

Within the service study area, there were six schools in operation during the 1976-77 academic year with a total enrollment of 1,598 students.\*\*\*

The six schools located in Ashcroft, Cache Creek, and Clinton, form the basis for the following discussion. (See Table 3.5.2).

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\* School District No. 30, September, 1976.

\*\* British Columbia School Trustees Association. Analysis of 1976 School District Budgets. (No date).

\*\*\* School District 30, September, 1976.



TABLE 3.5.2

NUMBER OF ELEMENTARY AND SECONDARY STUDENTS AND TEACHERS  
IN SERVICE STUDY AREA, SEPTEMBER 30, 1976

	Enrollment	Teachers	Pupil/Teacher Ratio
Ashcroft Elementary	354	14	23.6
Coppervale Elementary	37	2	18.5
Cache Creek Elementary	313	15	19.6
Clinton Elementary	217	9	22.8
Ashcroft Secondary	573	30	19.1
David Stoddart Junior Secondary	104	8	13.0
TOTAL	1,598	78	Average: 19.7

SOURCE: School District 30, School Statistics, 1976

A. Elementary Education

Elementary school classes from kindergarten to Grade 7 are provided in schools in Ashcroft, Cache Creek and Clinton. Ashcroft Elementary was built in 1965 with additions in subsequent years. In September, 1976, there were 354 students enrolled in 19 classes, and the school was operating at close to its full capacity of 360 students<sup>\*</sup>. In 1976, there were 14 teachers at the school, giving it a pupil/teacher ratio of 25.3 to 1, the highest in the study area. The school has a large activity room and a library. Outdoor facilities consist of a soccer field, softball backstop and children's playground.

Coppervale Elementary is the oldest school facility in the study area, built over 20 years ago to serve as the secondary school in Ashcroft.

\* Student enrollment provided by School District 30.

It has recently been rebuilt and fireproofed and now operates as one of the two elementary schools in Ashcroft. There were 37 students in two classes at Coppervale in 1976 but the facility could accommodate an additional 83 students. It had two teachers in 1976 and a pupil/teacher ratio of 18.5 to 1. The school has a full-sized gymnasium with a stage, and a well equipped library. The school grounds include a playing field and children's playground. The libraries in the two Ashcroft elementary schools are well stocked, with a combined collection of 10,000 to 12,000 books.

Cache Creek Elementary School is a relatively new facility. The oldest portion of the facility was constructed six years ago and the newest portion four years ago. With a student population of 313 children in 15 classrooms, this school is operating under capacity, having space for an additional 24 students. It had a total of 15 teachers in 1976 and a pupil/teacher ratio of 20.8 to 1. The facility has a large activity room and a well-stocked library, with a collection of over 7,000 books. On the school site, there is a small building adjacent to the school that serves as a music room for band and choir practice. A soccer field, baseball backstop, undeveloped running track, play fields and children's play area also are located on the school grounds.

The elementary school in Clinton is approximately 10 years old. It had a school population of 217 students in 10 classrooms in 1976. The facility can accommodate 38 additional students. There were nine teachers on staff in 1976, and a pupil/teacher ratio of 24.1 to 1. The school has a gymnasium and a library. Outside facilities include a soccer field, baseball backstop, children's play area, and an ice rink.

In October of 1967, 847 students (including kindergarten students) were enrolled in the elementary schools in the study area<sup>\*</sup>. By

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• The 1967-76 student enrollments were provided by School District 30. The school capacities were provided by the Facilities Development Branch, Ministry of Education, Province of B. C., and are the net capacities for 1977 approved by the Ministry of Education for each school.

October of 1973, the total enrollment for those elementary schools had reached 1,170, a 38.1% increase. From 1974 to 1976, it decreased to 921 elementary students (15.9% decrease). This decrease in enrollment is a result of declining birthrate and minimal population growth in the study area over the past few years.

TABLE 3.5.3

HISTORICAL ENROLLMENT IN ELEMENTARY SCHOOLS  
IN SERVICE STUDY AREA

<u>Year</u>	<u>Elementary Enrollment</u>
1967	847
1968	954
1969	1,051
1970	1,081
1971	1,143
1972	1,151
1973	1,170
1974	1,095
1975	972
1976	921

SOURCE: School District 30,  
School Statistics, 1976.

At the time of inventory (September, 1976) there were no plans to change or add elementary school facilities in the study area. Ashcroft Elementary was the only elementary school operating at close to its full capacity at completion of the 1976-77 academic year. Coppervale Elementary had the largest excess capacity with space for an additional 83 students. Cache Creek Elementary could have accommodated an extra 24 students, and Clinton Elementary had room for an additional 38 students.

The schools were used extensively after school hours by students for extracurricular activities and by the community for recreational activities and continuing education courses. The activity rooms in the elementary schools were used by students after classes for games and team practices for district sports events. The libraries in these schools also were open for student use in the afternoons after school hours. School rooms were in use during the evenings for community group meetings such as Alcoholics Anonymous, the Boy Scouts, unions, minor hockey organization and TOPS.

Ashcroft Elementary and Coppervale Schools were used every evening by community recreation groups such as a basketball club, airplane club and floor hockey groups. Because of its gymnasium and stage, Coppervale Elementary also was used for overture concert society productions, travelling theatre troupe performances and Christmas concerts.

The activity room in Cache Creek Elementary School was booked solidly every night of the week for community recreation sports such as floor hockey, volleyball, basketball, and gymnastics. That school also brought theatrical groups, puppetry troupes and concert troupes to the community from Vancouver and Victoria.

#### 8. Secondary Education

In the study area, secondary school classes from Grade 8 to 12 are provided in Ashcroft, and Grade 8 to 10 in Clinton.

Ashcroft Secondary School, in its fourth year of operation in the 1976-77 academic year, had a student population of 573 in 26 classrooms. The school can accommodate 595 students and should have reached its

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\* The 1976 student enrollments were provided by School District 30. The school capacities were provided by the Ministry of Education, Province of B. C. and are the net capacities for 1977 approved by the Ministry of Education for each school.

full capacity by the 1977-78 school year<sup>\*</sup>. The school has a well equipped gymnasium; a multi-purpose room; cafeteria; woodwork, automotive and metal workshops; an art room with a kiln and six pottery wheels; and two home economics rooms. Outside, there is a soccer field, playing field, two tennis courts and a running track.

Ashcroft Secondary School has an active extra-curricular sports program that includes basketball, volleyball and soccer. School team sports appear to be more popular than intramural sports, perhaps because school teams have been successful in a number of regional finals over the past few years. The school is also used for community recreation clubs, such as basketball and badminton. The continuing education programs use the classrooms and multi-purpose room for evening courses.

David Stoddard Junior Secondary School in Clinton has an enrollment of 104 students in nine classes. The school can handle 121 more students. Included in the facility are a gymnasium with a stage, an industrial education room, a home economics room, a typing room, and a science room. Outside facilities consist of playing fields, a soccer field and baseball diamond. The libraries in the schools in Clinton have a total of 10,000 volumes in their collection of books.

The gymnasium in the Clinton secondary school is used four out of five nights a week by community groups, and after school hours for extra-curricular sports events. Continuing education classes were held at the school in previous years, but were cancelled in 1976 because of lack of demand.

In October of 1967, there were 293 secondary students enrolled in schools in the study area. This enrollment has been increasing by approximately 10% each year, reaching a total enrollment of 677 students in October of 1976. Unlike elementary enrollment, secondary

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\* The 1976 student enrollments were provided by School District 30. The school capacities were provided by the Ministry of Education, Province of B. C. and are the net categories for 1977 approved by the Ministry of Education for each school.

enrollment has increased continually over the past 10 years, primarily due to the increased birthrate of the late 1950's, and extensive immigration of young families during the 1960's, whose children are now of secondary school age.

TABLE 3.5.4  
HISTORICAL ENROLLMENT  
IN SECONDARY SCHOOLS IN STUDY AREA

<u>Year</u>	<u>Secondary Enrollment</u>
1967	293
1968	326
1969	373
1970	403
1971	483
1972	516
1973	555
1974	603
1975	651
1976	677

SOURCE: School District 30, School Statistics, 1976

As with the elementary schools, there were no plans to change or add any secondary school facilities in the study area\*. Ashcroft Secondary School had space for an additional 22 students and David Stoddart Junior Secondary School could accommodate an additional 121 students.

In general, students do not have to travel unnecessarily long distances to reach any of the schools in the region. The school board operates a total of 19 school buses throughout the district to bring children from the rural areas into the schools in the towns. The maximum distance travelled by any student is 30 miles, one way.

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\* School District 30, September, 1976

One secondary student from the Big Bar area boards in Clinton because it would be too great a distance to travel daily to his home. Another student who lives on the south side of Green Lake has to travel 15 miles from his home to get to the school bus. The children that are probably affected most by the travel time to school are the kindergarten and Grade 1 students who live in the Upper Hat Creek Valley. For these children, the travel time added to normal school hours does represent an extended day.

Local officials have suggested that some students have part-time jobs in the afternoons after school and on Saturdays. Typically, these jobs are in the motels, restaurants, and gas stations in Cache Creek. Because of this employment, many of the students do not have time to do school homework or to participate in extra-curricular school activities such as sports teams or recreation clubs. Another repercussion of this employment is that the working teenagers have a relatively high disposable income. Many of the students have cars that are more expensive than their teachers' or parents'. The student council of Ashcroft Secondary School raised \$20,000 in 1976-77 from the student population. This money was primarily used for physical education activities and equipment. For example, the student council purchased a bus to transport school teams to sports events. The school cafeteria is operated by the student council as well. It is estimated that the council will handle up to \$60,000 during the 1976-77 school year.\*

The breakdown for the 1976 budget for School District 30 is given below:\*\*

Total operating expenses	\$3,679,003
Total non-operating expenses	217,456
Total debt services and capital costs	720,779
Gross Total Budgeted Expenditures	\$4,617,238

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\* Principal, Ashcroft Secondary School, October, 1976

\*\* School District No. 30, September, 1976

School Districts in B. C. have two major sources of revenue: Local property taxation and provincial government grants. For School District 30, provincial grants cover 47.94% of the total net budget, and local assessments cover 52.06% of the net budget.

### C. Continuing Education

Cariboo College in Kamloops offers continuing education courses in the South Cariboo region. This region includes Ashcroft, Cache Creek, Clinton and Lytton. In the year ending June 30, 1977, a total of 42 courses was offered in the South Cariboo region, with a total enrollment of 446 people. This enrollment has varied slightly over the past few years with 492 people enrolled in 32 courses in 1975-76 classes and 457 people in 37 courses in 1974-75<sup>\*\*</sup>. Continuing education courses are provided in cooperation with School District 30, and use existing school facilities in Ashcroft, Cache Creek, Clinton and Lytton.

Courses are offered in crafts and hobbies such as batik, crocheting, knitting, sewing, quilting, yoga, chess, photography, in defensive driving and driver education; and in vocational courses such as bookkeeping, typing, welding, and meat cutting. Instructors are usually local residents and less frequently come from Kamloops to conduct a course. The courses offered each year depend on the interest in the community both for taking courses and for teaching the courses.

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• British Columbia School Trustees Association.  
The Analysis of 1976 School District Budgets.

\*\* Director of Continuing Education, Cariboo College,  
Kamloops, B. C. September, 1976.



(ii) Standards for Education Services System\*

A. Staffing Standards

The average pupil/teacher ratio for school districts in the province in 1976 was approximately 19.1 to 1.\*\* The number of teachers is based on the full-time equivalent of regular and part-time teachers employed as of October 31, 1976. Pupil enrollment represents total enrollment from kindergarten to Grade 12 in any district as of October 31, 1976. Kindergarten pupils are counted here as 0.5 of a regular full-time pupil. The Ministry of Education does not have standards for the provision of non-teaching staff such as janitorial or clerical workers.

B. Facilities and Land Requirements

The average enrollment, building size and acreage requirements for the different school types in B. C. are:

TABLE 3.5.5  
AVERAGE ENROLLMENT, BUILDING SIZE AND ACREAGE  
REQUIREMENTS FOR DIFFERENT SCHOOL TYPES IN B. C.

	<u>Elementary</u>	<u>Junior Secondary</u>	<u>Secondary</u>
Enrollment	330	750	1,000
Building Size (Square Feet)	26,200	61,400	90,000
Acreage	6	9	9

SOURCE: Administrative Services Branch, Ministry of Education,  
Province of B. C., 1976.

Information regarding standards for education services has been obtained from Resource Planning Unit, ELUC Secretariat, Province of B. C. Provincial Service Requirements and Costs for Proposed Community. Prepared for Townsite Sub-Committee, September 1976.

\*\* British Columbia School Trustees Association. Analysis of 1976 School District Budgets.

The average class size for elementary and secondary schools is 30 students, with 25 students per half-day kindergarten class, giving a maximum of 50 students in one kindergarten. Space requirements for general instruction space are calculated on the basis of 30 square feet per student in elementary schools and 27 square feet per student in secondary schools, not including special spaces such as gymnasiums, shops, or music rooms.

### C. Cost of Facilities

Basic school construction costs are \$43.00 per square foot for elementary schools and \$45.00 per square foot for secondary schools, in 1976 dollars. These figures do not include the costs of site development (including outdoor recreation facilities), fees and contingencies, septic fields or land.

School operating costs in B. C. (including salaries, and the costs of maintenance and services) were approximately \$1,490 per student during the 1975-76 academic year.

There are no standards available for Continuing Education services in B. C. Courses that are offered depend on the interest in the community for taking the courses and teaching the courses.

### (iii) Requirements for Education Services System Without the Project

#### A. Elementary Education

It is important to be able to predict future student enrollment in order to plan for the development of new schools and the number of teachers needed. These predictions can be calculated at the provincial level, at the school district level, or at the local area level. The local area level provides the most relevant information because even if enrollments are decreasing in the province and in a school district, they may be increasing in one area or one community because of local

variations in population characteristics or in-migration.

The graph of elementary student enrollments shows the predicted trends of enrollment from 1976-1990 for the elementary schools in Ashcroft, Cache Creek and Clinton (see Figure 3.5.1). In these three communities, enrollment is expected to increase gradually, and the number of classrooms and staff needed will also increase slightly. Total elementary student enrollment in the service study area in the 1976-77 academic year was 920 students. This enrollment is expected to increase to 1,275 students in 1990 (a 39% increase)\*.

Ashcroft will have the largest increase in elementary enrollment. In the 1976-77 academic year, there were 390 students enrolled in Ashcroft's elementary schools. By 1990, the enrollment is expected to reach 560 students (a 44% increase). Cache Creek's elementary enrollment is expected to increase by 39% up to 1990, and Clinton's elementary enrollment should increase by 29% over the same time period.

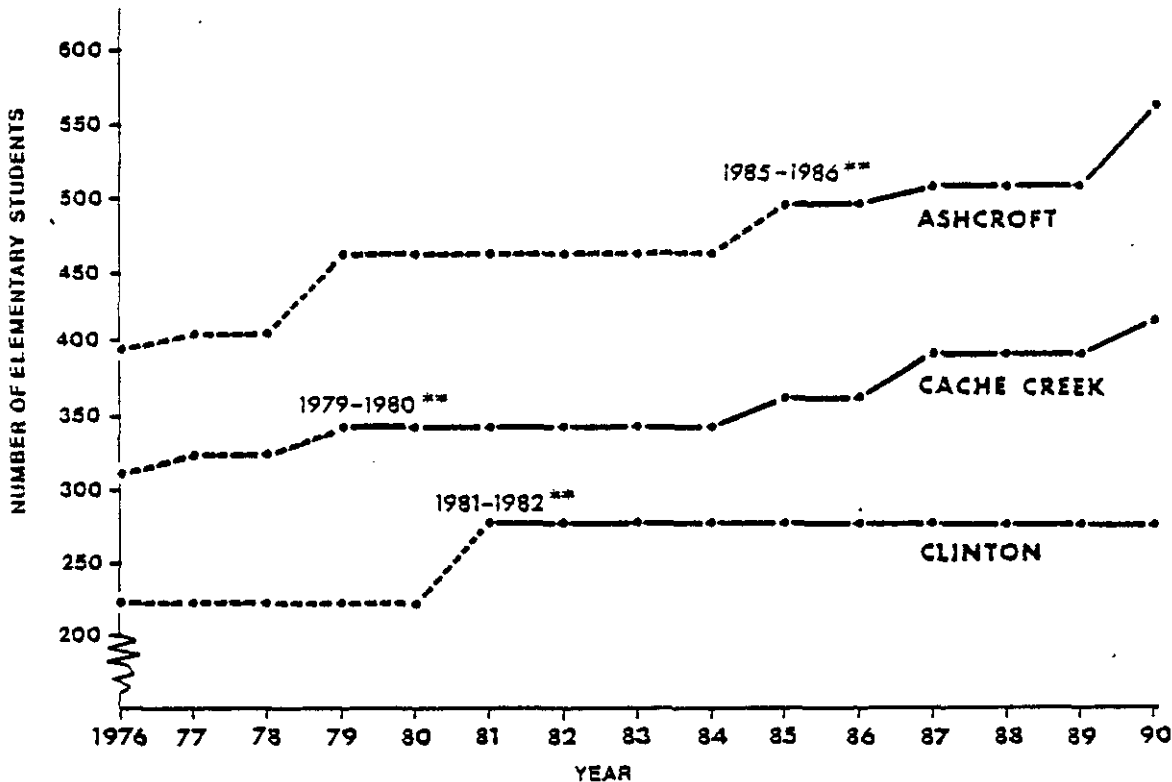
Each of the elementary schools in the study area has sufficient space to accommodate the increase in elementary students for several years. The elementary school in Cache Creek can presently accommodate an extra 24 students, and is expected to reach its full capacity by the 1980-81 academic year. From 1981 to 1990, an additional four classrooms should be required for the increase in student population (See Table 3.5.6).

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\* All figures in the service projections have been rounded to the nearest 5.

FIGURE 3.5.1

ELEMENTARY STUDENT ENROLLMENT FORECASTS FOR  
ASHCROFT, CACHE CREEK, CLINTON WITHOUT PROJECT \*



Figures for 1976 are based on Statistics Canada Census data. An average of one school age child per four residents has been used to determine projected school enrollments in the study area. That proportion was obtained from Administrative Services Branch, Ministry of Education, Province of B.C. and represents the B.C. average ratio. The ratio for School District 30 from 1971 Census data is 1:3.4.

An estimate of 66% elementary students in the total student population has been used to determine the forecasts of enrollments. This estimate was obtained from the B.C. Research Enrollment Model, September, Form B. B.C. Research identified a trend of changing elementary and secondary enrollments. Although those figures have not been applied specifically, the trend has been noted and applied as an average to these forecasts.

\* Year at which capacity is reached is specified.

SOURCE: Strong Hall & Associates Ltd., Population Projections, 1977.

Clinton's elementary school has sufficient space for an additional 38 students and should reach its capacity by the 1981-82 academic year. It is anticipated that two additional classrooms would be sufficient to handle the requirements of the increasing student populations in Clinton from 1981 to 1990.

The elementary schools in Ashcroft have the largest excess capacity of all the elementary schools in the study area, with space for 89 additional elementary students. That space should be sufficient to accommodate Ashcroft's elementary student population up to the 1985-86 academic year. From 1985 to 1990, three extra classrooms will be required in Ashcroft.

In order to maintain the present level of teaching quality in the service study area, extra teachers will be required as the student population increases. By 1990, it is anticipated that seven additional teachers will be required in each of Ashcroft and Cache Creek, and three in Clinton. (See Table 3.5.6).

The operating costs of schools in B. C. were approximately \$1,490 per student during the 1975-76 academic year\*. This cost includes staff salaries and the cost of maintenance and services. Based on 1976 dollars, the increase in elementary student enrollment could result in an increased operating cost of \$528,950 in the service study area by 1990.

#### B. Secondary Education

Secondary student enrollment in the service study area is expected to increase over the next 13 years at a rate similar to the anticipated growth in elementary student enrollment. In the 1976-77 academic year there were 680 secondary students in the service study area. By 1990,

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\* The operating cost per student was not available for 1976-77 at the time of preparing this report.

SOURCE: Facilities Planning and Financial Services, Ministry of Education, Province of B.C.

TABLE 3.5.6  
PROJECTED REQUIREMENTS FOR ADDITIONAL STAFF  
AND CLASSROOMS FOR ELEMENTARY SCHOOLS  
IN SERVICE STUDY AREA WITHOUT PROJECT

Year	Ashcroft		Cache Creek		Clinton	
	Staff**	Rooms **	Staff***	Rooms	Staff****	Rooms
1976	0	0	0	0	0	0
1977	0	0	0	0	0	0
1978	0	0	0	0	0	0
1979	3	0	2	0	0	0
1980	0	0	0	0	0	0
1981	0	0	0	0	3	2
1982	0	0	0	0	0	0
1983	0	0	0	0	0	0
1984	0	0	0	0	0	0
1985	1	1	2	1	0	0
1986	0	0	0	0	0	0
1987	2	1	1	1	0	0
1988	0	0	0	0	0	0
1989	0	0	0	0	0	0
1990	1	1	2	2	0	0
TOTAL	7	3	7	4	3	2

SOURCE: Strong Hall & Associates Ltd.  
Population Projections, 1977

- Based on 1976-77 pupil/teacher ratio (PTR) of 24.4 for elementary schools in Ashcroft.
- \*\* Calculations for each community based on 25 children per classroom.
- \*\*\* Based on 1976-77 PTR of 19.6 for elementary school in Cache Creek.
- \*\*\*\* Based on 1976-77 PTR of 22.8 for elementary school in Clinton.

total secondary student enrollment should have reached 925 students (a 36% increase).

These enrollment projections are shown on the graph. (Figure 3.5.2).

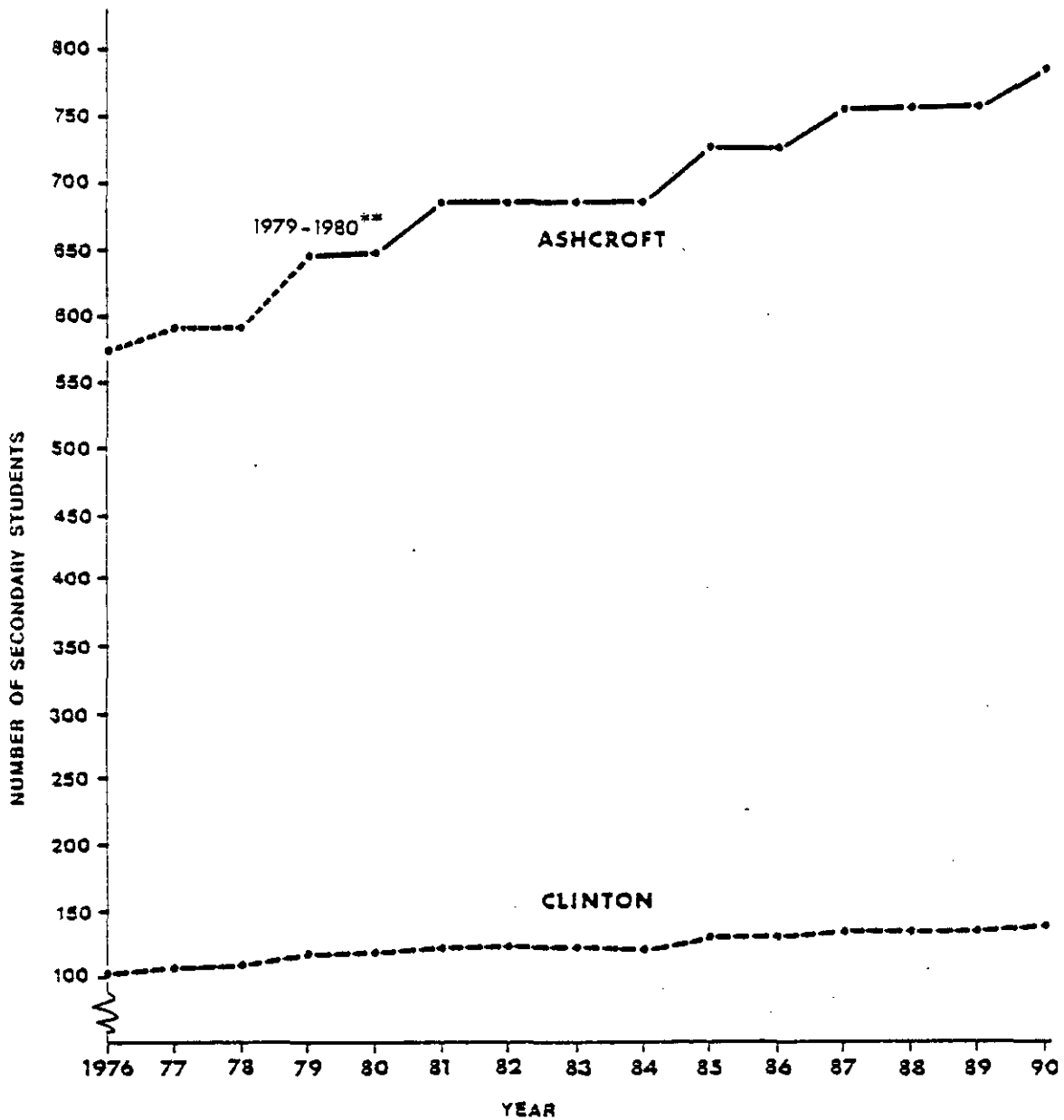
The secondary school in Ashcroft had an enrollment of 575 students in 1976-77. By 1990, the enrollment should have reached 785 students (a 37% increase). The junior secondary school also should increase by 35% over the same length of time.

Both of the secondary schools in the service study area have excess space to accommodate the immediate increase in secondary students. Ashcroft's secondary school presently has space for an extra 22 students, and should be operating at full capacity by 1979-80. Eight additional classrooms would be required to handle the increase in students from 1980 to 1990. (See Table 3.5.7).

The junior secondary school in Clinton has room for an extra 121 students and is not expected to reach its full capacity by 1990.

Over the next few years, additional teaching staff also could be required in the secondary schools in the study area. In Ashcroft, 11 extra staff could be necessary between 1977 and 1990 (Table 3.5.7). Fewer additions to Clinton's secondary teaching staff should be required over the next few years, with a total of three extra teachers needed between 1979 and 1990. As noted, Clinton's secondary school has an existing pupil/teacher ratio of 13 to 1.

FIGURE 3.5.2  
 SECONDARY STUDENT ENROLLMENT FORECASTS FOR  
 ASHCROFT AND CLINTON WITHOUT PROJECT\*



\* Figures for 1976 are based on Statistics Canada Census data. An average of one school age child per four residents has been used to determine projected school enrollments in the study area. That proportion was obtained from Administrative Services Branch, Ministry of Education, Province of B.C. and represents the B.C. average ratio. The ratio for School District 30 from 1971 Census data is 1:3.4.

An estimate of 34% secondary students in the student population has been used to determine the forecasts of enrollments. This estimate was obtained from the B.C. Research Enrollment Model, September, Form B. B.C. Research identified a trend of changing elementary and secondary enrollments. Although those figures have not been applied specifically, the trend has been noted and applied as an average to these forecasts.

\*\* Year at which capacity is reached is specified. Note: Capacity for Clinton not reached by 1990.

SOURCE: Strong Hall & Associates Ltd., Population Projections, 1977.



TABLE 3.5.7

PROJECTED REQUIREMENTS FOR ADDITIONAL STAFF  
AND CLASSROOMS FOR SECONDARY SCHOOLS  
IN SERVICE STUDY AREA WITHOUT PROJECT

<u>Year</u>	<u>Ashcroft</u>		<u>Clinton</u>	
	<u>Staff</u> <sup>*</sup>	<u>Rooms</u> <sup>**</sup>	<u>Staff</u> <sup>***</sup>	<u>Rooms</u>
1976	0	0	0	0
1977	1	0	0	0
1978	0	0	0	0
1979	3	2	1	0
1980	0	0	0	0
1981	2	2	1	0
1982	0	0	0	0
1983	0	0	0	0
1984	0	0	0	0
1985	2	2	0	0
1986	0	0	0	0
1987	2	1	0	0
1988	0	0	0	0
1989	0	0	0	0
1990	1	1	1	0
<b>TOTAL</b>	<b>11</b>	<b>8</b>	<b>3</b>	<b>0</b>

SOURCE: Strong Hall & Associates Ltd., Population Projections, 1977.

\* Based on 1976-77 pupil/teacher ratio (PTR) of 19.1 for secondary school in Ashcroft.

\*\* Calculations for each community based on 25 children per classroom.

\*\*\* Based on 1976-77 PTR of 13 for junior secondary school in Clinton.

As with the elementary schools in the study area, the additional operating costs for secondary schools have been calculated on the basis of the B. C. average of \$1,490 per student for the 1975-76 academic year. The additional secondary student enrollment up to 1990 could result in an increased school operating cost in the study area of \$333,760 (in 1976 dollars).

### C. Continuing Education

It is more difficult to forecast enrollments in continuing education programs in the study area. During the past decade, enrollment in this type of education has quadrupled throughout the province. The continuing education courses in the study area have been available for only four years and do not reflect the provincial trend yet.

In general, the programs offered through the community college in Kamloops have been successful, with approximately 450 people registering each year for courses over the past four years. As interest in the courses is increasing continually in the study area, it is expected that enrollments also will increase in the next few years to reflect the B. C. trend\*. As the continuing education courses make use of existing public school facilities after regular school hours, there will be no difficulty accommodating any increases in enrollment.

Changes have occurred in the types of courses that are in demand\*\*. Emphasis is switching from courses in hobbies and crafts, to college credit courses, and courses providing vocational training. This shift in the types of courses being offered is expected to continue in the study area.

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• Director of Continuing Education, Cariboo College, Kamloops, B. C., September, 1976.

\*\* Ibid.

(iv) Resident Comments on Existing Education Service in Study Area

Residents interviewed in the Hat Creek and Area Resident Survey expressed general satisfaction with the education services in the study area. The greatest proportion, 71.3%, were satisfied, 12.2% were uncertain, and 16.5% were unsatisfied\*.

Some differences of opinion are worthy of note. Those expressing the most satisfaction were households in Ashcroft, perhaps because complete secondary school facilities are available in that community. Cache Creek and Hat Creek Valley residents generally were satisfied with schools. Clinton residents, however, were split on their rating of schools with a greater proportion dissatisfied.

c) Health

(i) Inventory of Existing and Proposed Health Services

A. Hospital

Hospital services are provided by a 41-bed hospital in Ashcroft, the Ashcroft and District General Hospital that serves the majority of people in the service study area.

The Ashcroft hospital provides a full range of hospital services, including minor general surgery. Any major surgery, orthopedics, or serious burns, are taken to Kamloops or Vancouver. Over the next few years, expansion of services may include more volunteer work and additional community functions such as diabetic clinic, nutrition counselling, home care nursing, and physiotherapy.

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\*  
Cornerstone Planning Group Ltd.,  
Hat Creek and Area Resident Survey, 1977.

Of the 41 beds in the hospital, 33 are used for acute care patients, and eight are used for extended care patients. Table 3.5.8 displays the number of cases admitted to the Ashcroft Hospital over the past five years.

TABLE 3.5.8  
NUMBER OF CASES ADMITTED TO  
ASHCROFT AND DISTRICT GENERAL HOSPITAL  
1972-1976

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<u>Year</u>	<u>Cases Admitted</u>
1972	1,508
1973	1,219
1974	1,166
1975	813
1976	720

SOURCE: Hospital Administrator, Ashcroft and District General Hospital, 1976. Research Division, Hospital Programs, Ministry of Health, Province of B. C., 1977.

Admissions to the hospital have been decreasing steadily over the past five years. There is no direct cause for this decrease, although it is occurring in most areas of B. C. Factors such as a declining birth rate, improved public health care, and the use of extended care beds for the elderly could have contributed to the reduction in admissions.

Table 3.5.9 displays average occupancy rates and length of stay statistics by major hospital service at Ashcroft for 1974-1976, with comparative figures for hospitals of 25 to 49 bed size. Average occupancy for Ashcroft has decreased from 49.4% in 1974 to 46.2% in 1976. The occupancy rates of similar sized hospitals are higher over the same time period, but show a similar reduction from 68.5% in 1974 to 61.2% in 1976.

TABLE 3.5.9

OCCUPANCY RATES AND AVERAGE LENGTH OF STAY BY TYPE OF SERVICE  
 ASHCROFT AND DISTRICT GENERAL COMPARED WITH SIMILAR SIZE-GROUP HOSPITALS, 1974 - 1976

Year	Type of Service	Ashcroft and District General					Hospitals 25-49 Beds	
		Rated Capacity	Available Days	Cases	Days	Occupancy	Occupancy	Average Length of Stay
1974	Adult Medical			449	3,489			7.8
	Adult Surgical			233	1,539			6.6
	Psychiatry			56	352			6.3
	Total Adult	26	9,490	738	5,380	56.7	74.9	7.3
	Paediatric Medical			250	1,276			5.1
	Paediatric Surgical			66	234			3.5
	Total Paediatric	8	2,920	316	1,510	51.7	61.4	4.8
	Maternity	7	2,555	112	508	19.9	42.6	4.5
TOTAL	41	14,965	1,166	7,398	49.4	68.5	6.3	
1975	Adult Medical			283	2,955			10.4
	Adult Surgical			219	1,753			8.0
	Psychiatry			50	465			9.3
	Total Adult	26	9,490	552	5,173	54.5	72.7	9.4
	Paediatric Medical			116	699			6.0
	Paediatric Surgical			51	257			5.0
	Total Paediatric	8	2,920	167	956	32.7	52.6	5.7
	Maternity	7	2,555	94	567	22.2	36.6	6.0
TOTAL	41	14,965	813	6,696	44.7	65.3	8.2	
1976	Adult Medical			226	2,826			12.5
	Adult Surgical			231	1,558			6.7
	Psychiatry			32	265			8.3
	Total Adult	18	7,728	489	4,649	60.2	67.5	9.5
	Paediatric Medical			78	581			7.4
	Paediatric Surgical			58	309			5.3
	Total Paediatric	8	2,920	136	890	30.4	50.5	6.5
	Maternity	7	2,562	95	518	20.2	36.9	5.5
TOTAL	33*	13,118	720	6,057	46.2	61.2	8.4	

\* Reduction in acute capacity from 41 to 33 May 10, 1976.

The B. C. Ministry of Health suggests that an occupancy of 70% is a suitable rate for a hospital of 33 acute care beds. Given that rate, Ashcroft and District General Hospital could support a patient-day volume of approximately 9,000 to 10,000 days.\* This figure compares with the hospital's 1976 patient-day volume of 6,057 days.

Based on the 1976 population of 5,280 for the service study area, the Ashcroft hospital provides 6.25 beds per 1,000 population. Acute beds per 1,000 population for the province amounted to 4.96 in 1976 (excluding free-standing rehabilitation hospitals).\*\*

Of the different types of cases admitted to the Ashcroft and District General Hospital, Group 17, Accidents, Poisonings and Violence, had the highest patient day figure for both Ashcroft and rural B.C. However, the 1976 patient day figure for Diagnostic Group 17 at Ashcroft was 23.4% of the total volume compared with 16.5% for rural B.C. Diagnostic Group 7, Diseases of the Circulatory System, and Diagnostic Group 8, Diseases of the Respiratory System, had the next highest patient-days in both Ashcroft and rural B.C. (Tables in Appendix D, pp. D-3, D-4.)

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\* Research Division, Hospital Programs, Ministry of Health, Province of B. C.

\*\* Ibid.

In 1976, the hospital had a staff of 50 that includes the hospital administrator and nine department heads.\* The department heads consist of a director of nursing, business manager, chief of x-ray, chief laboratory technician, chief of medical records, executive housekeeper, dietician, physiotherapist, and head of maintenance. A pathologist from Kamloops visits the hospital regularly. The hospital also has two women's auxiliaries and a group of volunteer teenagers.

The 1976 operating budget for the hospital was \$932,809.\*\* This budget is based on a 65% occupancy rate and allows for 62.12 full-time equivalent staff. The operating costs are based on a per diem rate of funding and are met almost entirely by provincial grants. Capital costs are carried by hospital assessments collected by the Thompson-Nicola Regional District. In 1977, the Regional District approved \$8,000 for expenditure out of the 1/4 mill assessment for capital improvements and equipment.

#### B. Medical

There are three physicians operating a group practice in Ashcroft, and one physician operating independently in Clinton. The physicians in the Ashcroft Medical Centre primarily serve the Ashcroft, Cache Creek, Highland Valley and Hat Creek Valley. The physician in Clinton serves patients from Clinton, 100 Mile House, 70 Mile House, Loon Lake, Gang Ranch, Pavilion and Cache Creek.

In 1976, each of the three physicians in Ashcroft had consultations with 80 to 100 patients per week. The physician in Clinton saw 100 to 102 patients per week. Most referrals are made to specialists in Kamloops or Vancouver.

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\* Hospital Administrator, Ashcroft and District General Hospital, 1976.

\*\* Ibid.

The physician's office in Clinton had an operating cost of \$20,000 to \$22,000 per year in 1976 (including rent, light, insurance, and staff).\* The operating costs of the Medical Centre in Ashcroft were not available at the time of preparing this report.

With four physicians in the service study area serving approximately 5,280 people, there is a doctor to population ratio of 1:1,320 compared to the provincial ratio of 1:562. The variation between the provincial and local ratios is due in part to increased demands for medical care in urban areas. Areas of larger population are able to support more specialists, also reducing the doctor/population ratio. Based on discussions with physicians in the service study area, the number of physicians appears to be sufficient to meet the present needs of the area's population.

### C. Dental

At present, there are no permanent dentists in the service study area. In previous years, a dental intern has come to the study area for approximately 10 weeks per year, usually in the early spring, working from a mobile trailer located in Ashcroft. At other times of the year, people have to travel to Kamloops, Merritt or 100 Mile House to visit a dentist. The dentists in Kamloops are not taking on any new patients, which means there is quite often a wait of four to six months for an appointment. There is an obvious, recognized need for at least one dentist in the study area.

The Public Health Nurses from Ashcroft operate a preventive dental program in the schools in the study area. The program consists of fluoride brushing and daily dental hygiene activities with the students in the study area.

The College of Dental Surgeons of B.C. is in the process of setting

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\* Physician in Clinton, 1977.



up a dental office in a rental facility in Ashcroft. This office would then be leased out to a dentist.

#### D. Public Health

The South Central Health Unit, with head office in Kamloops, has a branch office located in Ashcroft that services School Districts 29 and 30. As well as the office in Ashcroft, there are offices in Clinton, Lillooet, and Lytton for this branch of the South Central Health Unit.

The health unit offers environmental inspection and nursing services concerned with home care, public health, and epidemiology. The public health services are directed primarily to the school population and newborn children. There are also VD clinics and some rural mental health programs. The home care programs provide the services of a visiting nurse on a daily or weekly basis for persons in the community who are not ill enough to require hospital care but who require regular personal care services.

Environmental inspections are required for food premises, public buildings such as schools and hospitals; campsites and mobile home parks; private sewage disposal; building sites; public water supplies; and swimming pools. There has been no significant change in the inspection work load at the Ashcroft office since the Public Health Inspector was first stationed there in 1972.

The number of environmental inspections made varies on a seasonal basis. Summer and fall are the busiest periods with over 200 inspections per month being the average. In the winter and spring, this number drops to 150 inspections per month, largely due to inclement weather and poor road conditions. An average annual figure would be 2,000 inspections.\*

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\* Public Health Inspector, South Central Health Unit, Ashcroft Branch, 1977.

The Public Health Nurses in the service study area provide approximately 350 consultations per month, as well as conducting public health programs in the schools such as immunizations and screening for vision and hearing problems and communicable diseases.\* A breakdown of the different public health programs and numbers of consultations is shown in Table 3.5.10.

TABLE 3.5.10

AVERAGE NUMBER OF PUBLIC HEALTH CONSULTATIONS  
SOUTH CENTRAL HEALTH UNIT ASHCROFT BRANCH OFFICE

<u>Type of Program</u>	<u>Number of Consultations</u>
New Infants	10 home visits per month
Baby Clinic	50 babies per month
Immunizations	Average 125 per month in clinics; Grades 1, 5 and 10 once a year in schools.
Prenatal Classes	56 mothers and 10 fathers in 1975
Public Health Home Visits	70 to 80 per month
TB Follow Ups	10 per month
VD Cases	5 per month
Conditions in Schools Requiring Investigation and Follow Up	794 in 1975
Home Care Program in Ashcroft and Cache Creek	14 to 18 patients per month

SOURCE: Senior Public Health Nurse, South Central Health Unit, Ashcroft Branch, September, 1976.

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\* Senior Public Health Nurse, South Central Health Unit, Ashcroft Branch, 1976.

Home nursing care is available in Ashcroft and Cache Creek. In 1976, there were 14 to 18 home care patients per month in those two communities.\* There are no home care services provided in Clinton at present because of a shortage of nurses in that area.

In 1976, the Health Unit branch office in Ashcroft was staffed with a health inspector, a senior public health nurse, two public health nurses, two registered nurses for home care program (working half time), and 1-1/2 clerks. One additional public health nurse will be added in 1977.\*\*

The Ashcroft Health Unit is presently located in leased space in a church hall. The amount of space in that facility is inadequate for the existing staff and programs. The Health Unit will move to a larger leased space in a building still under construction in Ashcroft.\*\*\*

The 1976 operating costs for the Health Unit were approximately \$108,200 per year, not including rent.

#### E. Mental Health

There are no special mental health services in the area. Mental health problems are dealt with by local physicians, public health nurses, or by referrals to specialists in larger areas such as Kamloops and Vancouver. Kamloops has a provincial mental health centre that provides mental health services to the region. A psychiatric social worker comes to the Public Health Office in Ashcroft from the Kamloops Mental Health Centre one day per month. There are two psychiatrists located in Kamloops. The Kamloops Family Life Association provides a Crisis Line and a counselling service for residents of the Kamloops region.

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• Senior Public Health Nurse, South Central Health Unit, Ashcroft Branch, 1976.

\*\* Administrative Assistant to Associate Deputy Minister of Public Health Programs, Ministry of Health, Province of British Columbia, 1977.

\*\*\* Ibid.

## F. Ambulance

Emergency ambulance services are provided in the service study area in Ashcroft and Clinton. In Ashcroft, the ambulance unit has two ambulances, one full-time employee, and volunteer staff. The Clinton ambulance unit began service in early 1977 and has one ambulance that is operated by volunteer staff. An employee will be added to the Clinton unit when there are approximately 100 ambulance calls per year. The Ashcroft ambulance unit has 200 to 300 calls per year presently.\* The rescue unit of the Ashcroft Fire Department also serves as an ambulance unit.

The Ashcroft ambulance unit had a 1976 operating cost of \$30,000 to \$45,000. Operating costs for the Clinton unit are not available as its operations did not start until early 1977.

### (ii) Standards for Health Services System

#### A. Hospital

A standard of 4.25 hospital beds per 1,000 population has been used as a basis for hospital construction in British Columbia. A population of 6,000 to 10,000 people is considered adequate to require the development of a small hospital of 25 to 40 beds. The hospital would serve as an acute general hospital for a region. A "Diagnostic and Treatment Centre" could provide hospital services to smaller communities of 2,000 to 2,500 people, but would have to be supplemented with an acute general hospital within the same region.\*\*

A number of factors are involved in determining the need for hospital services in the area. These additional factors include: Isolation of the community; location of other hospital facilities in the region; general demographic characteristics of the population in the community;

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• Executive Director, Emergency Health Services Commission, Province of B.C.

\*\* Provincial Service Requirements and Costs for Proposed Community by Resource Planning Unit, ELUC Secretariat, prepared for Townsite Sub-Committee, Province of B.C., September, 1976.

number of referrals into or out of the community; patient flow; doctor/population ratio; and adequacy of home nursing care in the community.

A hospital in B.C. may require a capital cost of \$63,000 per bed and an annual operating cost of \$4,500 per bed.\*

#### B. Medical

The College of Physicians and Surgeons of B.C. recommends a standard of one general practitioner to 2,200 people. The College also suggests that approximately 8,000 people are necessary to support a specialist in internal medicine, 11,000 people are necessary for a general surgeon or a psychiatrist, and 13,000 to 14,000 people are necessary for an anesthetist.\*\*

The B. C. Hospital Insurance Branch suggests that a community of 2,000 to 2,500 people is able to support one general practitioner.\*\*\*

The UBC Health Sciences Centre suggests that a community of 3,000 to 4,000 people would require 1-1/2 to 2 doctors, and a community of 10,000 people would require 9 doctors.\*\*\*\*

Factors such as the isolation of the community and characteristics of the population would have to be considered as well in determining the medical requirements of an area.

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• Provincial Service Requirements and Costs for Proposed Community by Resource Planning Unit, ELUC Secretariat, prepared for Townsite Sub-Committee, Province of B.C., September 1976

\*\* Chairman, Manpower Committee, College of Physicians and Surgeons of B.C., 1977.

\*\*\* Provincial Service Requirements and Costs for Proposed Community by Resource Planning Unit, ELUC Secretariat, prepared for Townsite Sub-Committee, Province of B.C., September, 1976.

\*\*\*\* Ibid.

### C. Dental

The College of Dental Surgeons of B.C. recommends one dentist for 2,500 people in rural areas in the province.\*

The UBC Health Sciences Centre suggests that 3.5 dentists are required to serve a population of 10,000 people in rural areas. However, if a dental plan is provided by the employer, this figure may double to six dentists per 10,000 people. If a dental hygienist is located in a community, one less dentist is required.\*\*

### D. Public Health

A standard of one public health nurse for 4,000 people (or 1,000 school age children) is used by the Department of Health for staff planning. In addition, the ratio for public health inspectors in B. C. is one to 15,000 people in rural areas and one to 30,000 people in urban areas.\*\*\*

The above standards can only be used as guidelines in determining staff requirements. As mentioned, other factors such as isolation and characteristics of the population must be taken into consideration: In addition, the amount of industrial construction in an area will affect the number of public health staff required. More staff are generally required during construction stages of large industrial projects for inspections of construction camps and additional caseloads for the public health nurses.

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\* President, College of Dental Surgeons of B.C., 1977.

\*\* Provincial Service Requirements and Costs for Proposed Community, by Resource Planning Unit, ELUC Secretariat, prepared for Townsite Sub-Committee, Province of B.C., September, 1975.

\*\*\* Ibid.

Operating costs for staff (including equipment, salary, etc.) are approximately \$16,200 per year for a public health inspector, approximately \$19,200 per year for a public health nurse, and approximately \$17,200 for a home care nurse. Rented facilities cost an average of \$3.80 per square foot annually, plus \$1.86 per square foot for services.\*

#### E. Mental Health

The following standards are used by the Department of Health for an area population of 5,000 to 10,000:

- 1 psychologist
- 1 psychiatrist on a sessional basis (part-time)
- 1 psychiatric worker
- 1 mental health nurse
- 2 support staff\*\*

In addition, other factors that affect staff requirements are: geography; demographic characteristics; socio-economic characteristics; extent of support service from Public Health, Human Resources, etc.; availability of psychiatric beds in local hospitals; and public political pressures.

Projected annual salaries for staff are as follows:\*\*\*

	<u>Lowest Possible</u>	<u>Highest Possible</u>
Psychologist	\$15,936	\$28,848
Psychiatric Social Worker	13,740	24,024
Mental Health Nurse	15,588	21,852
Support Staff	10,469	11,496 (each)
Psychiatrist	24,000 per year, based on 2 days per week of work for center.  One session: \$120 (one 1/2 day of work).	

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\* Provincial Service Requirements and Costs for Proposed Community,  
by Resource Planning Unit, ELUC Secretariat, prepared for Townsite  
Sub-Committee, Province of B.C., September, 1976

\*\* Ibid.

\*\*\* Ibid.

The above standards represent the staff complement for a mental health centre. In a region where a mental health centre has already been established in a large community, smaller surrounding communities are usually served by a mental health worker operating locally but administratively attached to the health centre.\*

#### F. Ambulance

The B.C. Emergency Health Services Commission recommends one ambulance for every 5,000 people in an area, but the actual number of ambulances required is based on the demonstrated need. In most rural areas, an ambulance is staffed by volunteers. When the number of calls per year exceeds 100, then a full-time staff member is employed. In general, one service call per day is generated by 10,000 persons.\*\*

The province covers the cost of providing ambulance service to a community, with one ambulance costing \$15,000. Operating costs for ambulance services are \$21,000 per full-time staff person per year. Where volunteers are used, the operating costs vary from \$4,000 to \$8,000 per year.\*\*\*

#### (iii) Requirements for Health Services Without the Project

##### A. Hospital

As was discussed in Section 3.5 (c) (ii), the hospital in Ashcroft is presently operating at less than 50% occupancy. The Ministry of Health assumes that an average occupancy of 70% is a suitable rate for a hospital of 33 beds, and suggests that Ashcroft and District General

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\* Research and Planning, Mental Health Program, Ministry of Health, Province of B.C., 1977.

\*\* Director of Ambulance Services, Emergency Health Services Branch, Province of B.C., 1977.

\*\*\* Provincial Service Requirements and Costs for Proposed Community, by Resource Planning Unit, ELUC Secretariat, prepared for Townsite Sub-Committee, Province of B.C., September, 1976.



Hospital could support a patient-day volume of approximately 9,000 to 10,000 days.\*

In projecting the hospital requirements in the service study area to 1990, the 1976 hospital occupancy rate of 46.2% was assumed to remain constant over the 14-year period.\*\* As the population grows over that time, the patient-day volume and number of admissions should also increase. Based on the standard of 4.25 hospital beds per 1,000 population, the Ashcroft hospital should be able to accommodate the increased population to 1990.

Additional staff will be necessary over the next 14 years to handle any increase in admissions. Assuming the present occupancy rate and the existing ratio of staff to patients remain constant over the 14-year period, the following staff could be required at the Ashcroft hospital:

1979	1 to 5 additional staff
1981	1 to 3 additional staff
1985	1 to 3 additional staff
1987	1 to 3 additional staff
1990	1 to 3 additional staff
Possible Total:	5 to 17 additional staff

The 1976 hospital budget included an approved operating cost of \$932,809. The annual operating costs are dependent on the hospital's occupancy and staffing requirements, and therefore cannot be projected with any degree of certainty. In fact, if the present trend of declining hospital admissions continues over the next few years, it is possible that the number of acute care beds and staff will not increase as rapidly as projected.

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\* SOURCE: Research Division, Hospital Programs, Ministry of Health, Province of B.C., 1977.

\*\* Hospital occupancy rates for Ashcroft and other similar sized hospitals in B.C. have actually decreased over the past few years, making it difficult to forecast, with any degree of accuracy, the projected number of admissions or patient-day volumes. Furthermore, hospital occupancy can be affected by such factors as the referral patterns of local doctors, attitudes toward health care, physician/population ratios, etc.

### B. Medical

At present, there are four general practitioners in the service study area. Based on the 1976 population of 5,280, there is a ratio of one general practitioner for 1,320 population in the service study area.\* Assuming that this standard is maintained, it is anticipated that one additional physician will be required in the service study area over the next 14 years. The Medical Centre in Ashcroft has sufficient space to accommodate this physician.

### C. Dental

Based on the standard of one dentist for 2,500 population in rural areas in B.C.\*\* there is an immediate need for two dentists in the service study area. The College of Dental Surgeons of B.C. is in the process of setting up a dental office in rental facilities in Ashcroft that would provide space for one dentist. This total of two dentists would meet the needs of the population increase up to 1990.

The capital cost of setting up a facility for one dentist is \$40,000 to \$45,000 for a rental office, and \$65,000 to \$70,000 in a facility built by the College. One dentist would require the following staff: One receptionist, one dental assistant, and one chairside dental assistant. The operating costs associated with that office would be \$70,000 to \$80,000 annually.

### D. Public Health

The Public Health Branch of the Ministry of Health recommends that one additional public health nurse is presently needed in the Ashcroft

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\* The College of Physicians and Surgeons of B.C. suggests a general practitioner to population ratio of 1:2,200 for B.C.

\*\* SOURCE: President, College of Dental Surgeons of B.C., 1977.

Public Health office.\* There are plans to add this extra nurse in 1977. Also, it is felt that a minimum of one home care nurse is needed to provide home care services in Clinton. When these two nurses are added to the Ashcroft office, the staffing should be adequate to meet the needs of the increased population to 1990.

Public Health considers the present space of the Ashcroft office to be inadequate. There are plans to move the office into a new rental facility in late 1977. The total space in that office should be approximately 4,500 square feet.

The present operating cost of the Ashcroft office is approximately \$108,200. When two additional nurses are added, the operating costs could increase to \$144,600.

#### E. Mental Health

There is an immediate need in the study area for mental health services. At present, a psychiatric social worker from the Kamloops Mental Health Centre provides counselling services to professionals in the study area one day per month. Although statistics are not available, there are a number of requests from residents of the study area for assistance on mental health problems.

The Mental Health Branch of the Ministry of Health suggests that services be initiated in the study area by locating one mental health worker there who would be attached administratively to the Kamloops Mental Health Centre. This mental health worker would require one part-time clerical staff and 250 square feet of office space. The operating costs would be approximately \$26,000 per year.

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\* SOURCE: Administrative Assistant to Associate Deputy Minister of Public Health Program, Ministry of Health, Province of B.C., 1977.

## F. Ambulance

The level of ambulance service required in the study area will depend on demonstrated need. One additional full-time employee is presently needed to operate the second ambulance located in Ashcroft. One additional ambulance and one full-time employee should be necessary by 1987 in Ashcroft and Cache Creek. If the Clinton ambulance unit receives more than 100 calls per year, one full-time employee could be required there also.

The operating costs for the ambulances in Ashcroft and Cache Creek could be \$30,000 to \$45,000 per year. The operating costs for the Clinton detachment could vary from \$4,000 to \$8,000 per year.

### (iv) Resident Comments Regarding Health Services

The focus of the area in terms of health services exists in Ashcroft. Approximately two-thirds of the residents surveyed said they made use of the Ashcroft medical services, and the others went to Clinton or Kamloops. In 1977, there were no doctors' offices in Cache Creek, and residents of this town were the greatest proportion that expressed dissatisfaction with this service. However, 60% of the study area households were satisfied with medical services.

As there are no permanent dental facilities in the study area, most residents travelled to Kamloops for the service. Residents interviewed, when asked to rate their satisfaction with services in the study area, placed dental services at the bottom of the list, and said that dentists were needed in the communities.

People also complained of the need for more doctors and several additional specialists including an optometrist, chiropractor, pharmacist, nurse, and mental health worker.

The ambulance service was considered to be satisfactory.

d) Recreation

(i) Inventory of Existing and Proposed Recreation Services

The recreation resources presently in the service study area provide for public leisure time activities such as ball games, athletic events, swimming, skating, tennis, children's play, banquets, dinners, and dances. These activities are either unorganized in nature or organized by recreation clubs in the community.

Table 3.5.11 lists the recreation resources or facilities available for public use in the Villages of Ashcroft, Cache Creek, or Clinton. These resources are owned either by the respective village or by School District 30.

Ashcroft has two small parks with picnic tables, a children's playground, and a fountain. A stampede ground, with a baseball diamond, is located at the north end of the village. An outdoor swimming pool is used during the summer months for special swimming programs as well as general swimming for residents of the community. An artificial skating arena has just completed its first season of operation and was used well by residents of the study area. Residents from outside of Ashcroft were charged an extra entrance fee for the season, which was a source of criticism locally.

Outdoor recreation resources also are available for community use after school hours at the elementary and secondary schools in Ashcroft. Ashcroft Secondary School has two tennis courts, a soccer field, playing field and running track. The two elementary schools in Ashcroft provide a soccer field, softball backstop, playing field, and children's playground.

Space for indoor leisure activities in Ashcroft is available in the community hall and in the schools in the village. The community hall is used for dances, banquets, dinners and community meetings. The gymnasium and activity rooms are used well in the evenings by community recreation groups.

TABLE 3.5.11

SUMMARY:  
LOCATION OF EXISTING PUBLIC RECREATION RESOURCES  
IN SERVICE STUDY AREA

<u>Recreation Resource</u>	<u>Ashcroft</u>	<u>Cache Creek</u>	<u>Clinton</u>
<u>Indoor Resources</u>			
Community Hall	x	x	x
Secondary School Gymnasium	x		x
Elementary School Activity Room	x	x	x
Skating Arena	x		
<u>Outdoor Resources</u>			
Swimming Pool	x	x	
Municipal Park with Grassed Area and Picnic Tables	x	x	x
Children's Playground	x	x	
Lawnbowling		x	
Tennis Court	x	x	
Skating Rink (Outdoor)		x	x
Wading Pool			x
Stampede Ground	x		
Rodeo Grounds			x
Baseball Diamond	x		x
Secondary School Soccer Field	x		x
Secondary School Playing Field	x		x
Secondary School Running Track	x		
Elementary School Soccer Field	x	x	x
Elementary School Baseball Backstop	x	x	x
Elementary School Children's Playground	x	x	x
Elementary School Playing Field	x	x	

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SOURCE: Cornerstone Planning Group Limited  
Service Inventory of Hat Creek Study Area  
1977

Cache Creek has a village park with a children's adventure play area, lawnbowling, shuffleboard, and picnic tables. There are two tennis courts used for an outdoor skating rink during the winter, and an outdoor swimming pool. Outdoor resources at the elementary school include a soccer field, baseball backstop, undeveloped running track, playing fields and children's play area.

Indoor facilities in Cache Creek that are available for public use are the community hall and the activity room in the elementary school. Community groups frequently use these facilities for dinners, dances, banquets, and indoor sports.

Of the three communities in the service study area, Clinton's outdoor recreation resources are the most limited. The village has a small park with wading pool and picnic tables. Rodeo grounds are located on the edge of the town. A larger park area is presently under development at the north end of the town and will include a baseball diamond. An outdoor skating rink is operated by the village during the winter. The elementary school and junior secondary school facilities have baseball diamonds, soccer fields, playing fields, and children's playground.

As in Cache Creek, Clinton's indoor facilities available for public leisure time use include the community hall, and the gymnasium and activity room in the schools.

In general, recreation programs in Ashcroft, Cache Creek and Clinton are initiated and sponsored by local interest groups. Recreation clubs meet regularly in community halls, Legion or Elks halls, private homes, or in schools. Special events take place throughout the year, such as fall fairs, stampedes, dances, and community banquets that are also sponsored by local groups. Recreation clubs and associations that are functioning in the service study area include: Brownies, Girl Guides, Royal Canadian Legion, Lions, Elks, Old Age Pensioners Group, hockey league, snowmobile club, and swim club.

Residents of Cache Creek travel to Ashcroft to use recreation facilities and vice-versa. However, attempts at coordinating programs or sharing the costs of facilities have not been successful because of inter-community competition. A Twin Village Recreation Coordinator was appointed in 1975 but the appointment did not prove satisfactory and was not continued in 1976, primarily due to difficulties of cooperation between the two communities. Few residents from Clinton use the recreation resources available in Ashcroft and Cache Creek.

The operating costs for recreation resources provided by the villages in the service study area are presented in Table 3.5.12.

TABLE 3.5.12  
1976 OPERATING COSTS OF VILLAGE RECREATION RESOURCES  
IN ASHCROFT, CACHE CREEK AND CLINTON\*

	<u>Ashcroft</u>	<u>Cache Creek**</u>	<u>Clinton</u>
Parks	\$16,841	\$ 600	\$ 984
Swimming Pool	27,750	28,016	
Skating Arena	4,030		
Community Hall	<u>4,037</u>	<u>8,045</u>	<u>1,534</u>
 TOTALS	 \$52,658	 \$36,661	 \$ 2,518

\* Operating costs for recreation resources associated with schools in the three communities are not included.

\*\* Figures given for Cache Creek are from the 1976 budget. Actual 1976 operating costs were not available.

SOURCE: Village offices, Ashcroft, Cache Creek and Clinton, 1977.



(ii) Standards for Recreation Services System

The Province of B. C. Outdoor Recreation Branch does not employ standards in determining the recreation facilities or staff required in an area. Rather, necessary facilities are determined by expressed demand and willingness to raise funding in local communities.

Standards given below have been developed by the Province of Ontario, and are used widely throughout Canada:

Open Space Standards\*

<u>Area</u>	<u>Acres per 1,000 Population</u>	<u>Minimum Size</u>
Sub Neighbourhood	less than 1	500 sq ft
Neighbourhood Park	4	10 acres
Community Park	3	30 acres

Selected Activities/Facilities Standards\*\*

The following is a list of the recommended size of recreation activities or facilities appropriate for rural communities of similar size to those in the study area:

<u>Activity Area/Facility</u>	<u>Total Area (Sq Ft)</u>
Badminton	1,500 to 1,800
Basketball	6,000
Baseball Field	90,000 (minimum)
Bowling	14,400 (8 lanes)
Community Hall	40,000 (1 acre)
Curling Rink	8,400 (4 sheets)

• Sports and Recreation Branch of the Ontario Ministry of Community and Social Services, Guidelines for Public Recreation Facility Standards, September, 1973.

\*\* Ibid.

<u>Activity Area/Facility</u>	<u>Total Area (Sq Ft)</u> (continued)
Football Field	93,600
Indoor Pool	25 metres, 5 lanes
Outdoor Pool	25 Metres, 5 lanes
Soccer Field	64,000 to 86,000
Skating Rink	17,000
Softball Diamond	62,500
Tennis Court	7,200
Volleyball Court	4,000

The approximate costs of selected recreation facilities are:\*

	<u>Capital Cost</u>	<u>Operating Cost</u>
Arena.	\$800,000 to \$1,000,000	\$40,000 to \$50,000
Outdoor Swimming Pool	\$300,000 to \$ 400,000	Not available.
Curling Rink	\$600,000	Not available.
Community Hall	Approximately \$40 per sq ft, but can vary.	Not available.
Tennis Court	\$ 10,000 to \$ 15,000	Not available.

The quoted capital costs do not include land costs. The Ministry of Recreation and Conservation will provide one-third of the total capital cost of facilities with a maximum of one-third of a million dollars for each distinct component of the recreation facility (i.e., complex-arena pool). As well, it is an accepted practice in many communities to apply appropriate user charges to offset operating costs.

(iii) Requirements for Recreation Services System Without the Project

The availability of recreation facilities has always been an important aspect of community stability and quality of life. Communities in the study area are not lacking in interest in recreation activities. They are, however, lacking in facilities, and the existing ones are being used at close to capacity.

\* Provincial Service Requirements and Costs for Proposed Community, by Resource Planning Unit, ELUC Secretariat, prepared for Townsite Sub-Committee, Province of B.C., September, 1976.

Population in the study area is expected to increase by approximately one-third over the next 14 years. The future population should have similar characteristics to those of the existing population with a predominance of young families and single persons. Upgrading of existing recreation facilities would assist in meeting the needs of this population growth. The community halls in Ashcroft and Clinton, and the swimming pool in Ashcroft need special attention, as suggested by representatives in the study area.

In addition to the upgrading of existing facilities, the communities in the study area already have reached a size where a demand has been expressed for other recreational resources. The increased population in future years will put further pressures on this demand. Research on the quality of life in small, resource communities has established the significance of recreation resources for the wellbeing of residents. People in the study area were concerned particularly about the lack of recreation opportunities, and the state of existing facilities, and associated problems such as boredom, isolation, strained family relationships, and out-migration from the area.

Each community surveyed expressed the need for additional recreational facilities. Ashcroft residents suggested that they could use a bowling alley, an indoor swimming pool, and other recreation facilities for young children and adolescents.\* The Cache Creek community expressed an even greater concern about recreational services. They requested a curling rink, skating arena, sports complex, organized activities for the winter, covered swimming pool, and golf course. Clinton residents expressed a need for facilities for adolescents and older people, specifically a bowling alley, curling rink, ball park, skating arena and swimming pool.

Although recreation facilities are provided within village boundaries, rural residents also make use of these services. In the study area, the rural population wanted the use of curling and bowling facilities

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\* Hat Creek Area Resident Survey  
Cornerstone Planning Group Ltd.  
1977.

and resources for children.

The provision of any of the suggested recreation facilities would be a valuable addition to the study area. However, covering operating costs will most likely be a major constraint in determining the selection and distribution of recreation services in these small communities.

Given this constraint and the range of responses that were received in the survey, it is possible that the future needs of the study area residents could be met by a multipurpose recreation complex that could be used jointly by Ashcroft, Cache Creek and Clinton. In this manner, several activities would be combined in one facility with costs shared by the three communities.

(iv) Resident Comments Regarding Recreation Services

The activities of watching and participating in sports events in the study area are focused in Ashcroft. Of the people responding to the survey, less than 50% felt that these activities were adequate. Only 38% of the households surveyed were satisfied with indoor sports facilities in their towns. Section (iii) above has described the specific recreation facilities demanded by residents of each community.

e) Social

(i) Inventory of Existing and Proposed Social Services

A. Ministry of Human Resources

The Ministry of Human Resources has three offices in the study area: Merritt, Lillooet, and headquarters for the region in Cache Creek. There is also a sub-office located in the courthouse in Clinton. The area serviced by these offices extends north to 83 Mile House, 20 miles south of Spences Bridge, 14 miles west of Merritt, northeast to Deadman's Creek, and 15 miles west of Highway 97 on Highway 12. Information is

provided for the Cache Creek office which serves Ashcroft, Cache Creek, Clinton, and the surrounding rural areas.

The specific programs of the Ministry offered through the Cache Creek office include the statutory services of social assistance, old age pensioners assistance, day care, homemaker, foster homes, adoptions, child welfare, family service, and assistance for handicapped people. There is also a group home for children, a group home for Native Indian children, a special rate foster home, a home for retarded children, a shelter workshop and an alternate education facility.\* There are no community development workers or youth workers. The Ministry hires child care workers for 8-week periods to help out families in need. There are no social planning agencies in any of the communities in the area.

The Cache Creek office has a caseload that is comparable to other Human Resources offices serving similar areas. In 1976, there was a caseload of 3,667. In September of 1976, there was a social assistance caseload of 69 people. That was the lowest monthly caseload for the office since its initiation in 1970. In January, 1977, there were 90 people on social assistance and in March, 1977, the caseload had increased to 138 people. Single parent families represented the highest percentage of people on social assistance.\*\* In terms of distribution, as of September, 1976, 60% of the social assistance caseload were from Clinton; 20% were from Ashcroft; and 15% were from Cache Creek. However, Clinton has only 11% of the population in the service study area.

There is one supervisor for the region. The Cache Creek office is staffed with two social workers, one financial assistance worker, and

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\* Supervisor, Cache Creek office, Ministry of Human Resources, September, 1976.

\*\* Executive Director, Ministry of Human Resources, 1977.  
Supervisor of Cache Creek office, Ministry of Human Resources, 1976.  
Supervisor, Ashcroft-Cache Creek Day Care Centre, September, 1976.

one stenographer. There are 25 foster homes throughout the area. At the time of inventory, there were no child care workers temporarily assigned in the region.

The 1976 operating costs for the Cache Creek Human Resources office were \$98,707. There were no plans to change the Human Resources facility or staffing and the service was considered to be adequate at the time of inventory.

### B. Day Care

The Ashcroft-Cache Creek Day Care Society provides the only day care services in the area at a day care and play school centre in Ashcroft. Parents are able to leave their children at the day care by the month, or at the play school for a day or half-day at a time.

In September, 1976, there was a staff of two, and 1 to 12 children at the centre. The number of children in the centre fluctuates continually even between morning and afternoon because of the varying number of children in the play school, with an average of eight children in day care per month.

The day care centre is licensed for a maximum of 25 children, but has never operated at its full capacity. The day care costs parents approximately \$125 per month per child, and the play school costs \$7 per day. The operating costs of the centre were \$900 to \$1,000 per month in 1976.

## (ii) Standards for Social Services System

### A. Ministry of Human Resources

The Ministry of Human Resources does not plan its facility or staff requirements on the basis of standards. The average population per Human Resources worker is one per 2,600 people (not including the Lower Mainland area). These workers provide both child welfare,

family services, and income assistance services. The ratio of clerical staff to workers is 1.3:2.\*

The annual operating costs of a Ministry of Human Resources office are approximately \$7.00 per sq ft, services included. The staff costs would be \$3,320 per month to serve a population of approximately 5,000, allowing for two social workers and one stenographer.\*\*

#### B. Day Care

There are no standards available for day care services. At present, day care centres are developed as required by the community through the operations of a non-profit society, licensed individuals, or cooperative groups.

#### (iii) Requirements for Social Services System Without the Project

As discussed in Section (ii) above, Human Resources staffing is not determined on the basis of per capita standards. The Ministry's requirements are determined by caseloads, but caseload standards are not available.\*\*\* However, the average population per Human Resources worker for B. C. regions, excluding the Lower Mainland, was applied in calculating requirements for the service study area.

Based on the population projections, no additional staff or facilities should be necessary to 1990, without the project.

The day care centre is presently being under-used and could accommodate about 12 more children. Any additional requirements for day care services would be determined by expressed interest in the local communities.

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\* Provincial Service Requirements and Costs for Proposed Community by Resource Planning Unit, ELUC Secretariat, prepared for Townsite Sub-Committee, Province of B.C., September, 1976.

\*\* Ibid.

\*\*\* Ibid.

(iv) Resident Comments Regarding Social Services

Over half the residents of the study area expressed satisfaction with local social services. Some suggestions were made regarding the need for counselling services specifically oriented towards youth, family, marriage and alcohol problems. In addition, services for senior citizens, such as an old age home, were requested.

f) Cultural

(i) Inventory of Existing and Proposed Cultural Services

Cultural resources in the service study area provide for a limited range of cultural activities including displays of historic events, arts and crafts shows, occasional travelling musical and theatrical events, and library services. The cultural facilities available for community use in Ashcroft, Cache Creek, and Clinton, are listed in Table 3.5.13. These facilities are owned and operated by either the villages or School District 30.

TABLE 3.5.13

SUMMARY:  
LOCATION OF RESOURCES USED FOR CULTURAL ACTIVITIES  
IN SERVICE STUDY AREA

<u>Cultural Resource</u>	<u>Ashcroft</u>	<u>Cache Creek</u>	<u>Clinton</u>
Village Museum	x	x	x
Community Hall	x		
Elementary School Gymnasium	x		
Elementary School Activity Room		x	
Library	x	x	x

SOURCE: Cornerstone Planning Group Limited,  
Service Inventory of Hat Creek Study Area,  
1977.



Museums are operating in Ashcroft and Clinton with displays of local and regional history. They are a source of interest for tourists visiting the area, and are well attended during summer months. These museums are operated by the villages and through public donations.

Each village has a library that is a part of the Cariboo Thompson Nicola Library System. The Ashcroft library is a new facility built in 1975. It is the largest of the three libraries in the service study area and had the greatest number of volumes circulated in 1976 (23,714 books). The Cache Creek library had 7,650 volumes circulated and the Clinton library had a circulation of 8,599 volumes in the same year. Volumes are available for circulation from other libraries within the Cariboo Thompson Nicola Library System.

The libraries offer special programs throughout the year, such as children's story hours, summer reading programs for children, films and library tours. The Ashcroft library has a meeting room used two nights per week for meetings of local non-profit organizations.

Special events such as concerts or theatre troupes come to the area and perform in community halls and schools. Arts and crafts shows are held periodically. Other events, such as fall fairs, stampedes, and community dances, organized by local groups and organizations, occur throughout the year.

As in many rural areas, the service study area is felt to be deficient in cultural activities for the residents. Several service representatives interviewed in the three communities expressed concern about the lack of musical and theatrical events locally. The libraries in the three communities are adequate to meet the existing demands for library services in the community.

(ii) Standards for Cultural Services System

There are no standards available for most cultural services. In general, cultural resources are developed in a community by local residents or

in response to demand from local residents and the availability of funding.

The B. C. Library Development Commission has developed standards for an integrated library system throughout B. C. It consists of community libraries for populations of less than 10,000 people and major libraries for more than 10,000 people. The community library may be a branch library or, in areas of low population density, a bookmobile.

The Development Commission requires a minimum of one full-time staff member for each 2,000 people in the library service area. A mobile library would require at least two persons for staffing. A community library should have a standing collection of two volumes per capita, and could serve as the local information centre, as well.\*

(iii) Requirements for Cultural Services System  
Without the Project

As noted, there has been concern expressed that the communities in the study area are lacking in cultural activities. These activities are usually initiated by local groups and depend on expressed community interest for their development and support. As the population grows, the demand for cultural activities and all forms of entertainment will increase. There is sufficient space in existing facilities in Ashcroft, Cache Creek and Clinton to accommodate a few additional activities organized by those communities.

Projections of library services in Ashcroft, Cache Creek and Clinton, based on the standards of the B. C. Library Development Commission, indicate that the existing facilities and staff of the three libraries should be adequate to 1990.

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• British Columbia Library Development Commission.  
Standards for Integrated Library Systems, 1973.

(iv) Resident Comments Regarding Cultural Services

Although residents were not asked to rate specifically their satisfaction with cultural services, they did express their views regarding civic and service clubs and entertainment facilities. While 80% were satisfied with service clubs in the area, such as the Elks and Legionnaires, only 28% indicated satisfaction with restaurants and movies.

Residents felt that there was a definite lack of cultural activities in the area which they defined as including theatres and other evening entertainment facilities.

g) Corrections

(i) Inventory of Existing and Proposed Corrections Services

The provincial Ministry of the Attorney-General provides a Corrections office in the study area. The office is located in Ashcroft and services the area from Spences Bridge, north to 83 Mile House, northeast to Deadman's Creek, and west to Pavilion.

Programs offered include probationary supervision and diversion programs for juveniles and adults; family court cases such as applications for maintenance, custody and enforcement, and marriage counselling; and provincial and national parole. The probation office also provides preventive programs such as drug counselling and assistance to Alcoholics Anonymous.\*

Service representatives in the region indicated that permanent corrections programs are in the general areas of family counselling, juvenile responsibilities and preventive programs. The major proportion of the corrections caseload is in probationary supervision, as

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\* Ashcroft Probation Office, 1976.

reflected in Table 3.5.14. Over the next 5 to 10 years, this emphasis could change to adult diversion programs. However, at present, time constraints determine the amount of time spent on diversion or preventive programs.

TABLE 3.5.14

ASHCROFT CORRECTIONS CASELOAD FOR 1975 AND 1976

<u>Type of Case</u>	<u>Caseloads</u>		
	<u>1974</u> <u>(Apr - Dec)*</u>	<u>1975</u>	<u>1976</u>
Probationary Supervision	272	434	687
Family Court	77	381	381
Pre-Sentence Reports	53	36	34
Probation Office Enquiries	63	50	58
Parole	<u>8</u>	<u>14</u>	<u>0**</u>
TOTAL	473	915	1,160

• Statistics for 1974 are for April to December only as the Ashcroft Probation Office was not in operation prior to that time.

\*\* Parole cases were handled through Kamloops for 1976

SOURCE: Ashcroft Probation Officer, September, 1976

Caseloads for 1974 to 1976 for the Ashcroft probation office are given in Table 3.5.14. Caseloads have been increasing over that time period but are considered to be similar to other rural B. C. areas.

The office is staffed by a probation officer and a secretary (half-time). The probation officer travels to the communities surrounding Ashcroft as required. For example, he is in Clinton a minimum of 1-1/2 days per week.

(ii) Standards for Corrections Service System  
Without the Project

The Corrections Branch of the Ministry of the Attorney-General does not have any standards defining staff requirements throughout the province based on population. Corrections staffing is determined more by caseload, and therefore by crime rate in an area. The Corrections Branch does suggest that a probation officer is usually required in a community when it reaches about 5,000 people. Support staff are provided at the rate of one part-time support staff for each full-time probation officer.

The requirements for probation officers are dependent on other characteristics such as awareness of the community, the number of transients in the area, availability of recreation facilities and programs and the amount of counselling provided by other services. Changes in the justice system resulting in an increase in community programs rather than custody would also affect the number of staff working with offenders.

The establishment cost for a probation office is \$1,700. The annual operating costs (excluding rent) are approximately \$3,000. The average salary for a probation officer is \$14,000, and \$5,400 per year for a part-time clerk.\*

(iii) Requirements for Corrections Services System  
Without the Project

According to service representatives in the region, the population growth in the service study area over the next 14 years is not expected to substantially increase the need for probationary services. The existing staff should be sufficient to handle any increases. A

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\* These operating costs were obtained from Provincial Service Requirements and Costs for Proposed New Community, by Resource Planning Unit, ELUC Secretariat, prepared for Townsite Sub-Committee, Province of B. C., September, 1976. However, the 1976 costs appear to be low.

visiting probation officer from the Kamloops regional office could come to the area periodically to assist the permanent staff.

h) Court and Judicial

(i) Inventory of Existing and Proposed Court/Judicial Services

Provincial Courts in the service study area are located in Ashcroft and Clinton. The Ashcroft Court serves an area that extends from Marble Canyon, Upper Hat Creek, and Thompson River to Deadman's Lake and Clappen. It includes the villages of Ashcroft and Cache Creek. The Clinton Court extends from mountainous country in the west into plateau area around Gang Ranch and Big Bar Creek to Bonaparte and Table Lake on the east. It includes Clinton and 70 Mile House.

Adult Provincial Criminal Court represents the bulk of activity in both courts. Caseload statistics are available for the two courts for 1973 and 1976 only. These breakdowns, shown in Table 3.5.14, indicate that caseloads have decreased in Ashcroft while they have remained relatively stable in Clinton. The decrease in Provincial statute cases in Ashcroft has primarily contributed to the overall decrease in cases prosecuted in that court.\* However, there is no real justification for the decline, and it is impossible to predict any trends from the available information.

Other levels of court represented in Ashcroft and Clinton are Small Claims Court, Family and Juvenile Court, and Superior Court.

Court utilization in Ashcroft and Clinton is shown in Table 3.5.15. With the exception of Provincial Criminal Court, sittings have been minimal in Ashcroft and Clinton.

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\* Courts Planning Group, Courts Division, Ministry of the Attorney-General, Province of B. C., 1977.

TABLE 3.5.15

COURT UTILIZATION (AVERAGE DAYS PER MONTH)

	<u>Ashcroft</u>	<u>Clinton</u>
Provincial Court	4 days per month	1½ days per month
Small Claims	½ day per month	minimal
Family	½ day per month	as necessary (1 to 2 days per year)
County Court	½ to 1 day per month	as necessary (2 to 3 days per year)
Supreme Court	special arrangement	0

SOURCE: Courts Planning Group, Courts Division, Ministry of the Attorney-General, Province of B. C., June, 1977.

The staff complements for the two courts are shown in Table 3.5.16. A Provincial Court circuit judge comes to Ashcroft one day per week from Kamloops, and to Clinton one and one-half days per month. A County Court judge comes to Ashcroft one day per month from Williams Lake. The regional crown counsel in Kamloops appoints a crown counsel on an ad hoc basis to come to court in Ashcroft and Clinton. Small claims and family matters are heard by a Provincial Court judge at the same time as criminal matters.

TABLE 3.5.16

STAFF COMPLEMENT OF COURTS IN STUDY AREA

	<u>Ashcroft</u>	<u>Clinton</u>
Court Administration	2	1
Sheriffs' Deputies	1	0
Official Court Reporters	from Kamloops	from Kamloops
Crown Counsel	ad hoc	ad hoc

SOURCE: Courts Planning Group, Courts Division, Ministry of the Attorney-General, Province of B. C., June, 1977.

At present, there are no deputy sheriffs in Clinton. Sheriff services are provided by the RCMP or by sheriffs from Ashcroft. There is presently the need to add one sheriff to provide sheriff services to courts in Ashcroft, Clinton, Lytton, and Lillooet.

The Clinton registry was closed in July, 1977. However, it was expected that the Clinton court would remain for a time as a satellite court, serviced on circuit from Ashcroft for Provincial Criminal matters only. County and Supreme Court matters would be filed and heard either in Ashcroft or 100 Mile House. The decision to close the registry was made because the level of activity was considered to be minimal. The closure of the Clinton registry would result in the relocation of one staff to another court location.\*

The rented facility in Ashcroft had sufficient space to absorb considerable increases in staff or caseloads. However, the lease on the Ashcroft facility was terminated in August, 1977, and it was expected that new facilities would be located in Ashcroft. The annual rent on that facility, including services, was \$25,061. The Clinton Court was located in the government building.

Detailed operating costs for the two courts are not available. The Courts Planning Group, Ministry of the Attorney-General, have suggested that an operating cost of \$1,000 to \$1,200 per sitting-day is a realistic figure.

(ii) Standards for Court/Judicial Services System

The following staff are required in a Provincial Court: Judge, court clerk, sheriff, official court reporter, crown counsel and prosecutor. A Provincial Court may sit full-time or part-time. If the court sits

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• Courts Planning Group, Courts Division, Ministry of the Attorney-General, Province of B. C., 1977.



part-time, it is served on circuit with the judge, official court reporter and crown counsel travelling from a larger court.\*

The County and Supreme Courts also sit in a number of the Provincial Court centres. The majority of County Court, and all Supreme Court locations outside of Vancouver, are served on circuit.

An area with a population of 10,000 to 25,000 people, in general, requires a Provincial Court operating half-time. A Provincial Court that operates full-time would be required in an area with a population of 35,000 to 60,000. A court operating at full capacity would need 10 to 12 staff members including clerk, sheriff, judge, court reporter and crown counsel.

The demand for court services in an area is dependent, in particular, on the availability of the services of the police, lawyers, Corrections and Human Resources.

(iii) Requirements for Court/Judicial Services System Without the Project

The effect of the projected population to 1990 is not expected to place any additional requirements for staffing or facilities for Ashcroft Provincial Court. One sheriff is needed presently to provide sheriff services for the area, including Lytton and Lillooet, as well as Ashcroft and Clinton. Other additional staff or facilities should not be necessary.\*\*

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• Provincial Service Requirements and Costs for Proposed Community, by Resource Planning Unit, ELUC Secretariat, prepared for Townsite Sub-Committee, Province of B. C., September, 1976.

\*\* Courts Planning Group, Courts Division, Ministry of the Attorney-General, Province of B. C., 1977.

i) Legal

(i) Inventory of Existing and Proposed  
Legal Services

Within the study area, legal aid services are provided through two legal offices, one in Ashcroft, and one in Cache Creek. These offices operate as agents for the Kamloops Legal Aid Society, and provide legal aid services for criminal cases, family law, foreclosures, and other legal advice.

The Ashcroft office is operated by a Kamloops law firm, and is located on the second floor of the village office. The legal firm in Cache Creek operates full-time, with one lawyer, and is located in a private rented facility. The Cache Creek law office was opened within the past year and the number of clients has been increasing steadily since that time.

The lawyer in Cache Creek feels that there is sufficient workload in the area presently to handle another full-time lawyer, and that with any increase in population, this would become essential.

There is no information available on the operating costs of either legal office in the service study area.

(ii) Standards for Legal Services System

There are no standards available for the provision of legal services in British Columbia.

(iii) Requirements for Legal Services System  
Without the Project

It is possible that the study area could support one additional full-time lawyer over the next 14 years. However, it is not possible to determine where this would be required.

(iv) Resident Comments Regarding Legal Services

Residents in the study area indicated that they obtained legal services, for the most part, in Kamloops. Opinions on the satisfaction of the service were split. No specific comments on this service were offered by the respondents.

j) Police

(i) Inventory of Existing and Proposed Police Services

The RCMP provide police services in the study area through two police detachments. They provide police protection, safety education courses, and have a public relations department. Included in this program are safety courses and a "law in the community" course given in the schools, a defensive driving course, minor sports teams that compete with other local teams, and an organization of sports tournaments with Native Indian Bands.

The total criminal code offences for the Ashcroft and Clinton RCMP detachments for the past 10 years are presented in Table 3.5.17. These data show that the number of offences reported in both detachments have been increasing gradually over the 10-year period. The Ashcroft detachment, which serves approximately twice the population of the Clinton detachment, had slightly more than twice the number of offences recorded for 1976.

The statistics of offences per year as presented here should not be used as an indication of crime rates or trends in the study area, as the figures shown here do not represent the total number of crimes committed in the area. Rather, the figures are presented here as an indicator of caseload for the local police force.

TABLE 3.5.17

TOTAL CRIMINAL CODE OFFENCES\*  
CLINTON AND ASHCROFT RCMP DETACHMENTS  
(TRAFFIC OFFENCES EXCLUDED)  
1966 - 1976

<u>Year</u>	<u>Actual Number of Recorded Offences</u>	
	<u>Clinton</u>	<u>Ashcroft</u>
1966	138	251
1967	176	264
1968	194	283
1969	156	285
1970	209	284
1971	172	359
1972	124	374
1973	69 (Apr-Dec)	296
1974	117	445
1975	161	409
1976	175	409

\* Data for 1966 to March 1973 are recorded for an April to May fiscal year. From April, 1973, data are recorded for a January to December calendar year. Hence, the data given for 1973 represent statistics for April to December only.

SOURCE: RCMP, E Division Headquarters,  
Victoria, B. C., Criminal Justice  
Monthly Reports, Crime Data.

The Ashcroft detachment has six officers on highway patrol, six on general duty, and two stenographers. Also, there is a seven person auxiliary police force, trained in an emergency planning course, that is available in case of a disaster. The Clinton detachment has four general duty officers and one stenographer.

The 1976-1977 RCMP operating costs for B. C. are approximately \$35,000 per police officer, including rent. Of this total, the Province of B. C. pays 53% and the Federal Government pays 47% of the cost.

A new facility is planned for the Ashcroft detachment to be completed by 1979, at a location near the existing facility. It will be slightly larger than the existing building. The estimated capital cost of that facility is \$750,000, including site purchase. There are no plans to change the Clinton detachment accommodation.\*

Over the next few years, the addition of two officers and one patrol car is planned for the Ashcroft detachment. This additional manpower is considered necessary in order to provide 24-hour police protection for Cache Creek.\*\*

The RCMP have coordinated an emergency disaster fan-out directory of agencies in the Ashcroft-Clinton area that would be involved in supplying emergency services and/or equipment in the case of disaster. The services available in the fan-out system include the RCMP, emergency planning coordinator, fire departments, emergency services ambulance, Ashcroft and District Hospital, news media, municipalities of Ashcroft, Clinton and Cache Creek, Canadian Red Cross, Search and Rescue, Emergency Disaster Services, Kamloops, Canada Manpower, Human Resources, Public Health, and the businesses in Ashcroft and Cache Creek.

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\* RCMP, E Division Headquarters, Victoria, B. C., 1977.

\*\* Officer in Charge, RCMP Ashcroft Detachment, 1976.

This fan-out has been in operation for approximately one year and has been effective in locating lost hunters, recovering a drowned person and alerting business people of wanted criminals in the area.

(ii) Standards for Police Services System

The RCMP recommend one police officer per 1,000 people in a rural area and one police officer per 750 people in an urban area. In addition, one stenographer is required for four police officers. The RCMP also recommend three to five general duty officers per police vehicle and two highway patrol officers per police vehicle. As well as police to population ratios, RCMP staffing is based on a number of other considerations such as the population density, demographic and socio-economic characteristics of the community, the number of transients in the area, and the proximity to major transportation routes.

The existing operating costs for an RCMP officer have been used as the standard in determining the operating costs for police services. Approximately \$35,000 is the cost per officer in British Columbia. Of this cost, the Provincial Government pays 53% and the Federal Government pays the remainder. The cost per police officer includes salaries for support staff, rentals, cost of vehicles, etc.

(iii) Requirements for Police Services System Without the Project

Changes to the Ashcroft detachment's facility and staffing have already been proposed by the RCMP E Division Headquarters in Victoria. The detachment is presently in a rental facility but a new facility is planned for construction by the RCMP with completion in early 1979. The new facility will be located near the old facility in Ashcroft.\*

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• RCMP, E Division Headquarters,  
Victoria, B. C., 1977.

Two additional officers should be added to the Ashcroft police force over the next few years.\* With that extra staff and the new facility, the police service should be sufficient to meet the requirements of the projected population to 1990.

The existing facility and staff of the Clinton detachment should be adequate over the next 14 years.

(iv) Resident Comments Regarding Police Services

Households in all study area communities were very satisfied with law enforcement, with 85% indicating satisfaction. Several Cache Creek residents requested 24-hour police patrols, perhaps because of their location on the Trans Canada Highway.

k) Fire

(i) Inventory of Existing and Proposed Fire Services

Fire services are provided in the study area by volunteer fire departments that are operated and financed by each village. Therefore, the fire protection is only available to residents living within the village boundaries of Ashcroft, Cache Creek or Clinton.

The Ashcroft Fire Department consists of 25 firemen, including a Fire Chief, Deputy Fire Chief, and four Captains. Their equipment consists of two pumpers and one rescue unit that also serves as an ambulance. The department averages one call per month.\*\*

The Cache Creek Fire Department has 18 volunteer firemen, including a Fire Chief and Deputy Fire Chief. They have one pumper with a rescue ladder. This department also averages approximately one call per month.

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\* Officer in Charge, Ashcroft RCMP Detachment, 1976.

\*\* Village Clerks, Ashcroft, Cache Creek and Clinton, 1976 and 1977.

Like Cache Creek, the Clinton Fire Department has 18 volunteer staff, including the Fire Chief and Deputy Fire Chief. It is equipped with one fire engine. The Clinton Fire Department averages fewer fire alarms than Ashcroft or Cache Creek, with approximately five calls per year. In 1976, the majority of these calls were for brush fires.

In Ashcroft and Cache Creek, the Captains, Deputy Fire Chiefs and Fire Chiefs receive a stipend and the firemen are paid on a per fire basis, \$5.00 per fire. The Clinton Fire Chief receives \$5.00 per call, and other staff receive \$2.00 per call. Members of the Clinton Fire Department receive \$2.00 per month remuneration for fire practices.

(ii) Standards for Fire Services System

The only standard available for fire protection services in the province is provided by the Office of the B. C. Fire Marshall, and recommends that a volunteer fire department should have at least 25 members.\*

(iii) Requirements for Fire Services System Without the Project

There is no indication that any additional facilities or staff would be required to provide fire protection services in the area over the next 14 years. If new facilities for Village Offices were provided in Ashcroft, Cache Creek or Clinton, space for the respective fire departments could be included but this is not considered to be a requirement. An auxiliary fire truck may be required in Cache Creek and Clinton in the next five years.

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• Supervisor of Training, Office of B. C. Fire Marshall. "Fire Department Organization", (undated).



(iv) Resident Comments Regarding Fire Services

As with law enforcement, most residents were satisfied with fire protection in the area. Clinton residents expressed more uncertainty and slightly less satisfaction than residents of Ashcroft or Cache Creek.

1) Communication

(i) Inventory of Existing and Proposed Communication Services

There are three post offices in the service study area, one in each of the communities. The Ashcroft post office serves Ashcroft, the Highland Valley, and the southern part of the Hat Creek Valley. It is used by approximately 3,000 people per month, and provides seven day receipt and dispatch of mail, post office lock boxes, and general delivery. There are four full-time staff, two part-time staff, and two casual staff members. The post office is presently located in 1,700 sq ft of space in a Federal Government building. A new Federal building is planned for Ashcroft that would expand the post office to 3,500 sq ft in size.\*

The Cache Creek post office serves approximately 2,000 people per month from Cache Creek and the rural areas surrounding it, including the northern portions of the Upper Hat Creek Valley. This post office provides seven day receipt and dispatch of mail, lock boxes, general delivery, rural routes, and is the main distribution centre for the region, where mail is transferred, sorted and redistributed. It also is the zone manager's office.\*\*

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\* Postmaster, Ashcroft Post Office, 1977.

\*\* Postmaster, Cache Creek Post Office, 1977.

The post office in Cache Creek has one postmaster/zone manager, one assistant postmaster, one shift supervisor, five full-time postal clerks, and four part-time postal clerks. Its present space is adequate for its operations.

The Clinton post office is the smallest of the three post offices in the area, serving approximately 1,000 people from Clinton and the rural surrounding area. It provides receipt and dispatch of mail and post office lock boxes. There are three full-time staff at the Clinton post office. The size of the Clinton facility is more than adequate for its existing operations.\*

There is no information available on operating costs for the three post offices.

CBC radio and television programs are received in the three communities in the service study area. Low power radio transmitters are located in Ashcroft, Cache Creek and Clinton, providing CBC AM Pacific network radio listening within a 5-mile radius of each community. CBC FM radio broadcasts from Kamloops may be received in some locations within the study area.

There are TV repeaters located within the service study area in Ashcroft, Cache Creek and Clinton that transmit programs from the CBC affiliate TV station in Kamloops. It is unlikely that TV broadcasts would be received from these repeaters outside of the villages, but this transmission does vary with topography.

Information is not available on the operating costs of either the CBC radio or TV services in the study area.

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• Postmaster, Clinton Post Office, 1977.

(ii) Standards for Communication Services System

There are no standards available for the provision of postal services in rural areas of British Columbia. Staffing and facilities are increased as workload demands increase.

Any community of over 500 people is eligible for a CBC radio transmitter. The costs of installing and maintaining the transmitter are paid for by CBC. Television repeaters are installed by a local community or TV station, and not by CBC. The capital costs for a television repeater would be approximately \$5,000 to \$7,000.

(iii) Requirements for Communications Services System Without the Project

Projections of staff and facilities for postal services have not been calculated. In general, any increases required are determined on a yearly basis as workload changes. There are plans to construct a new Federal building in Ashcroft to house an enlarged post office. That facilities should be completed by the end of 1977 and, at that time, some additional staff could be required.

No additional CBC radio transmitters or TV repeaters should be necessary in the study area.

(iv) Residents Comments Regarding Communication Services

A few people in Ashcroft and Cache Creek felt that postal services were poor, although no specific reasons were given. Clinton residents said that television and radio reception were unsatisfactory.

m) Commercial Services\*

(i) Inventory of Existing and Proposed Commercial Services

The commercial facilities of the local study area are essentially located within the communities of Ashcroft, Cache Creek, Clinton and Lillooet. These facilities generally cater to rather small trading area populations as well as the servicing of highway traffic. Kamloops serves as the major regional trading center with a trading area population in excess of 100,000 persons.

Typical of small population centers, the commercial sector of the local communities meets most of the convenience and hardware shopping needs of local residents, but lacks diversity in specialty good areas and consumer durables.

The existing array of commercial facilities in Ashcroft, Cache Creek and Clinton are identified in Table 3.5.18 and compared to the level of facilities in Merritt. The inclusion of Merritt, with a current population of 5,680, is to provide a tentative basis for assessing the likely areas of commercial expansion that could occur in the local communities with population growth.

As would be expected, in most retail and service categories, Merritt has a greater number of establishments than Ashcroft and Cache Creek combined. However, due to Cache Creek's economic dependence on highway traffic, the number of restaurants, service stations and motels is much greater than would normally be expected for a population of 3,100 persons.

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• Defined as retail and wholesale trade and private services.

TABLE 3.5.18

COMMERCIAL FACILITIES OF SELECTED LOCAL COMMUNITIES  
 COMPARED TO MERRITT  
 (APRIL, 1977)

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<u>Facility Type</u>	<u>Ashcroft/ Cache Creek *</u>	<u>Clinton</u>	<u>Merritt</u>
Food			
- Grocery	5	2	5
- Bakery	1	0	1
- Meat	1	0	1
Clothing			
- Men's and Boys'	3	1	5
- Ladies' and Girls'	3	1	3
- Shoes	0	0	2
Hardware and Building Supplies	5	2	5
Pharmacies	2	1	2
Sporting Goods	1	0	2
Banks	3	1	3
Heavy Appliances and Furniture	1	0	2
Liquor	2	1	1
Barbers	0	1	3
Beauty Salons	2	0	3
Laundry and Dry Cleaning	3	2	5
Hotels/Motels	11	5	12
Automotive			
- Service Stations	15	6	8
- Auto Supplies	1	0	6
- Auto Dealers	2	0	3
Restaurants	11	3	10
Beer Parlours	2	1	4
Cocktail Lounges	3	0	0
Finance, Insurance, Real Estate	5	1	6
Accountants	4	2	0
Miscellaneous Specialities	9	0	22

• Ashcroft and Cache Creek have been grouped together as the commercial sectors of these towns serves the populations of both communities.

SOURCE: Strong Hall & Associates Ltd., from telephone directories and personal observation.

The most notable discrepancies in the number of establishments between the Ashcroft/Cache Creek and Merritt areas are in clothing stores and the miscellaneous specialty establishments. These establishments specialize in carpet and floor coverings, TV and stereo, flowers, mobile homes, hobbies, sewing goods, photo supplies, bowling, and glass, among others. This is illustrative of the increased breadth of establishments and increased depth of consumer offerings that can be economically viable in a community trading area of 6,000-10,000 persons rather than 3,000-5,000 persons.

A related condition, which is not obvious from the table but is very important to the adequacy of the commercial sector and its evolution over time is the degree of specialization and, therefore, depth of product choice offered by the existing commercial mix in Ashcroft and Cache Creek. Although many commodity groups are available in the existing commercial establishments, the size of the trading market does not permit the stocking of as wide a variety of goods within any product class as could be provided with a larger market. Therefore, although clothing, furniture and appliances are available in the local communities, the product variety is fairly limited.

The Hat Creek Area Resident survey identified the communities in which local residents usually shop for selected commodities. It reveals that Kamloops is the preferred shopping location for about half of the local area residents for household furnishings and clothing. The recent addition of a well-stocked Kamloops competitive supermarket to Ashcroft's commercial mix has effectively reduced local residents' dependence on Kamloops for food items. This in turn, has tended to retain a greater amount of the overall retail expenditures of Cache Creek and Ashcroft residents within their communities. Ashcroft has a more extensive retail sector than Cache Creek and is the dominant shopping center for the population of the two communities.

The retention of potential retail and service expenditures within the commercial sector of the communities is a fundamental determinant of community growth. In the induced income and employment multipliers

developed for the communities in Appendix B, the size of the multipliers, and therefore the amount of overall income and employment expansion resulting from development projects, is directly related to the proportion of consumption expenditures retained within the communities. It was estimated for the multiplier analysis that at the present time Ashcroft and Cache Creek retail and service ventures obtain about 50% of the consumer expenditures of their residents. This compares to about 85% retention of Kamloops resident expenditures with Kamloops.\* This analysis tended to confirm the shopping patterns identified in the Resident Survey, again indicating the reliance of local area residents on Kamloops for clothing and consumer durables.

The Resident Survey also indicated a general satisfaction with the commercial facilities in the local communities, considering the size of the towns. However, the residents' perceived need to shop in Kamloops for certain commodities was reflected in their identification of numerous types of retail establishments that they would like to see locate in their communities. Their desires are more or less in line with the commodity deficiencies outlined above.

At the present time commercial development in Ashcroft and Cache Creek is in a state of flux. Speculation is high surrounding numerous potential resource developments occurring in the area. Some established operators are selling their businesses at speculative prices, others are planning expansion and some have decided that they can't wait for the rumoured developments and are closing.

A recent fire in Ashcroft resulted in the loss of four retail establishments but provided a catalyst for downtown redevelopment. Three of the outlets have since rebuilt and plans are being laid, in conjunction

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\* Estimated from personal interviews with retail and service operators and weighted with the Statistics Canada, Household Expenditure Estimates, 1969. See Appendix B.

with the B.C. Development Corporation, to develop 6.8 acres along Railway Avenue around a central shopping complex.

A shopping center complex in Cache Creek has also been recently announced for a site at the north end of town to the west of Highway 97.

(ii) Commercial Sector Development Without the Project

The current speculative activity in commercial ventures is in response to both expected Highland Valley developments as well as the proposed Hat Creek project. It is not possible to clearly separate these potential occurrences. In addition, although planners sometimes employ retail and commercial service standards as "requirements" for towns of differing population sizes, the response of the private market to potential opportunities is far less predictable than planning standards would imply. Consequently, there is no means of confidently predicting the square footage or the types of establishments that might locate in the local communities, in response to the population growth expected to occur without the project, short of detailed market feasibility studies. This level of detail is beyond the terms of reference of these studies.

What can be accomplished, however, is an estimate of likely future commercial sector employment, an assessment of possible expansion constraints and an indication of the nature of possible commercial expansion.

A. Ashcroft and Cache Creek

Table 3.2.17(Section 3.2) presents estimated future employment increases in Ashcroft and Cache Creek. Induced employment is expected to increase by about 325 persons. Should the current relationship between commercial trade and services and other induced employment



sectors hold, about 85% (275 persons) of this employment would occur in the commercial sectors. This would constitute a 50% employment increase in that sector.

Commercial facility expansion would not necessarily be proportional to employment increases. Some of the incremental employment opportunities would undoubtedly occur within the existing establishments.

There are no apparent constraints to commercial expansion in either of these communities. There is adequate land zoned commercially in both communities to facilitate significant expansion, either by developing vacant land or by redeveloping existing sites. Financing of small-scale developments locally should not present particular problems, but larger scale projects would likely be financed by outside resources.

Without the Hat Creek project, the rate of population growth in these communities is expected to be moderate. Planning on the basis of this growth alone would likely delay implementation of some of the retail development plans, particularly in Cache Creek. Expansion in Ashcroft, tied as it is to downtown reconstruction, will likely proceed, particularly given the inclination of Bethlehem Copper to expand its residential developments in the community. It is unlikely that the population growth would justify the entrance of mini-department stores or national supermarket chains, but the retail depth in clothing lines, household appliances, groceries and a few miscellaneous specialties would occur. Existing businesses could be sustained on a more stable basis.

Although some local shopping and commercial recreation expansion would likely occur in Cache Creek, the established buying patterns directed towards Ashcroft would likely continue.

## B. Clinton

Population expansion in Clinton is not expected to result in substantial commercial growth. An increase of 30 to 40 employees over the next 15 years will not significantly alter the existing retail or service structure and the community can easily absorb the facility expansion that could occur. What might prove more important to the Clinton commercial sector is that improved shopping facilities in the Ashcroft/Cache Creek area and possibly 100 Mile House, will draw increasing proportions of the Clinton residents' consumption expenditures. This would reduce the growth predicted for that community.

### 3.6 COMMUNITY LAND

The following evaluation of community land is carried out separately for each of the municipalities under consideration.

#### a) Ashcroft

##### (i) Existing Land Use

As illustrated in Figure 3.6.1, land use patterns in Ashcroft are typical of smaller, older communities, with a well-defined commercial core surrounded by residential and industrial uses. The patterns of land use are a direct reflection of the constraints to development imposed by the Thompson River, the two rail lines and topography.

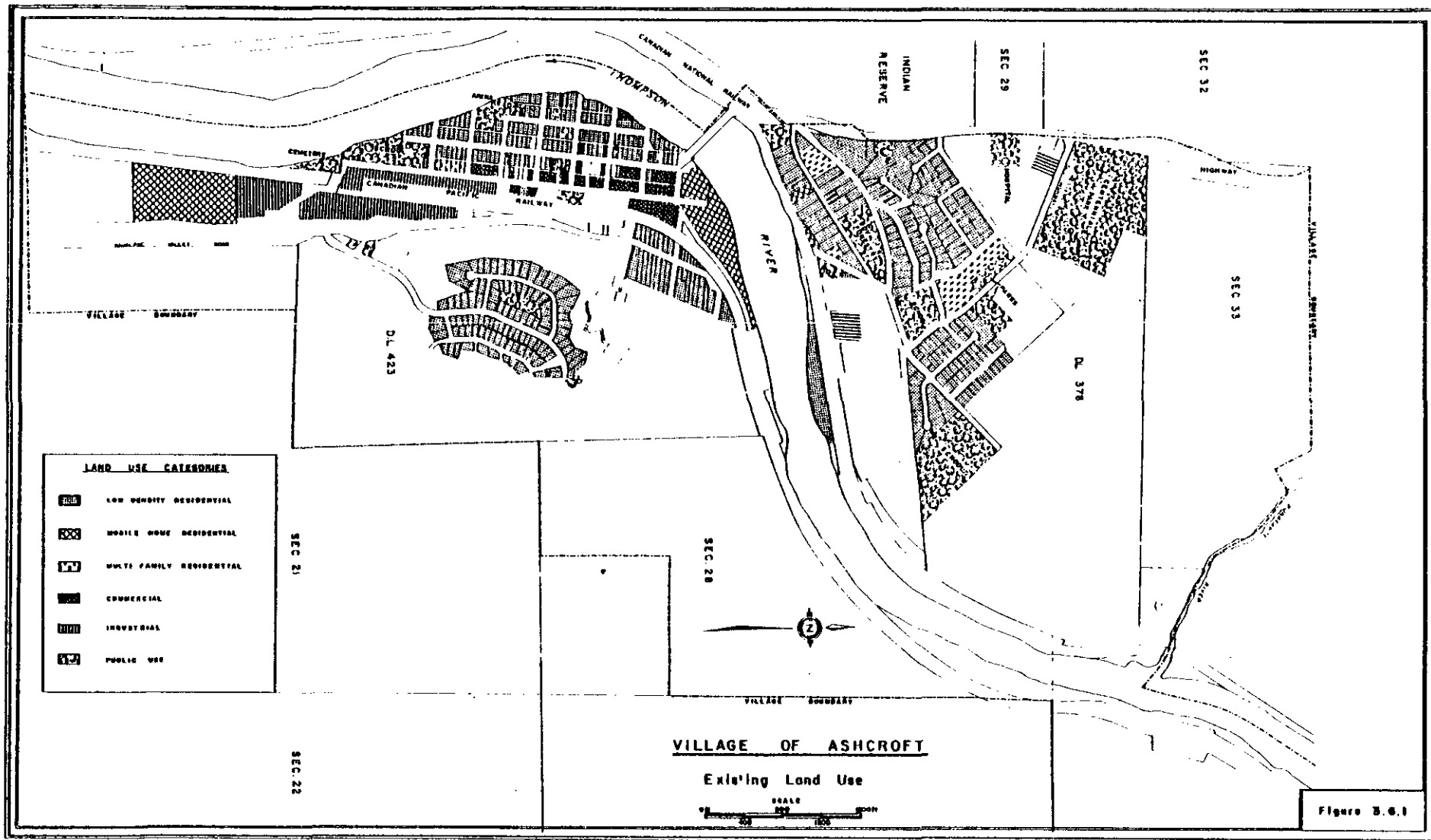
##### (ii) Availability of Developable Land

###### A. Constraints to Development

As illustrated in Figure 3.6.2, the three major constraints to development are topography\*, the Agricultural Land Reserve, and the location of the adjacent Indian Reserves. Lands within the ALR on the lower benches within the existing municipal boundaries have a high agricultural capability when irrigated (Class 1). (See Appendix E, Section E.1 for description of soils classifications.) Because of the stated policy of the B.C. Land Commission regarding urban development on Class 1 lands (see Appendix E, Section E.2), it is assumed that no urban development will be permitted on these properties unless unusual circumstances are associated with a particular property. There are developable areas on higher benches, both north and south of the existing municipal boundaries, which are in the ALR but the soils classifications are lower. It is assumed that if the

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\* Lands with gradients in excess of 25% slope are considered undevelopable.



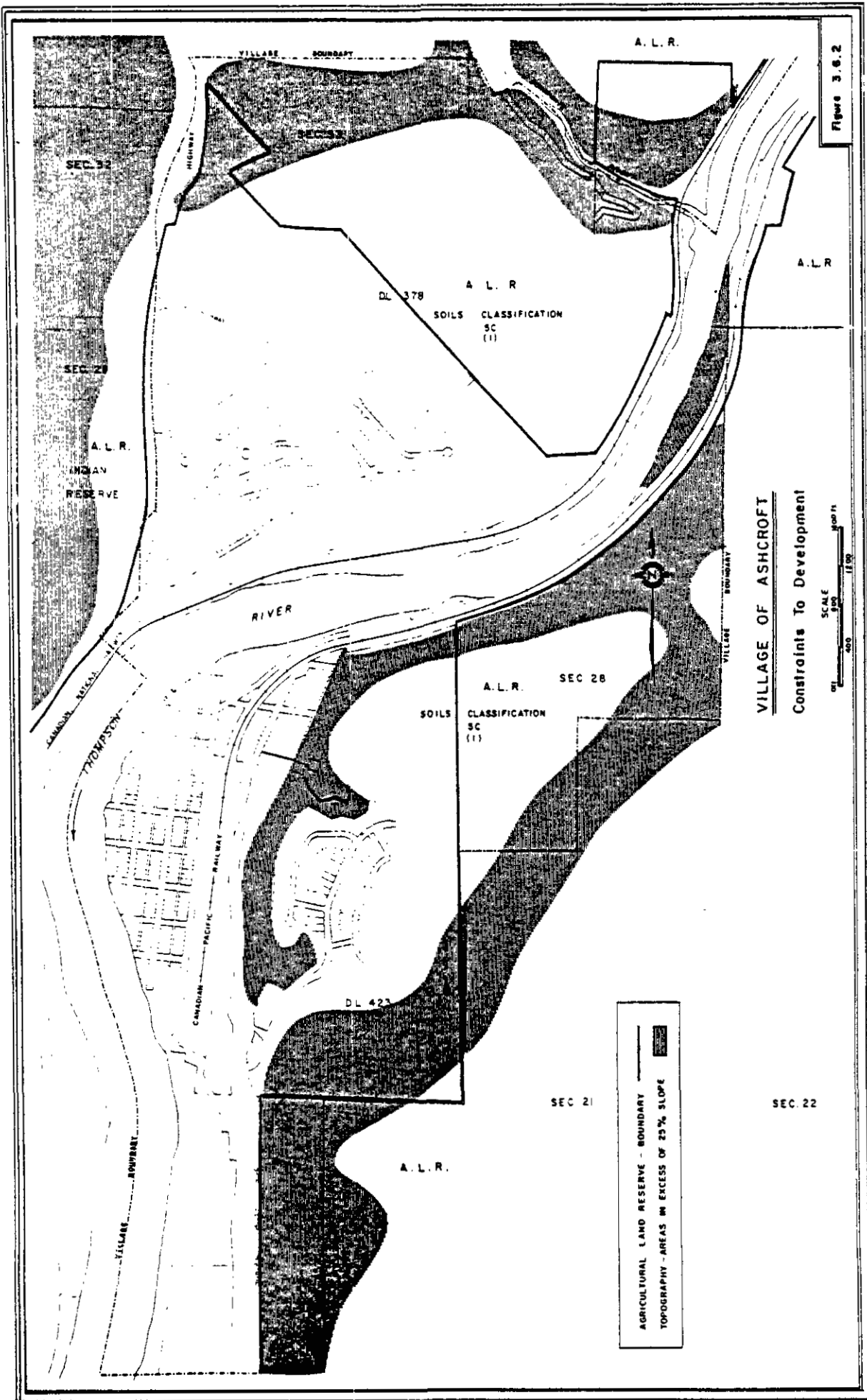


Figure 3.6.2

VILLAGE OF ASHCROFT  
Constraints to Development

demand for land is warranted, the B.C. Land Commission will release these lands for urban development before releasing the Class 1 lands on the lower benches.

## B. Location of Developable Land

The following assessment deals primarily with vacant developable areas outside the existing built-up section of the community. There is very little space available for infilling in Ashcroft, although some older, low density dwellings in South Ashcroft may be redeveloped for commercial use or higher density multi-family developments. It is assumed that development in the vacant areas will consist primarily of single and two family dwellings and mobile home developments at an average density of five dwelling units per gross acre. Assume a household factor of 3.6 persons per unit.

### 1. South Ashcroft

Residential - on the Mesa Vista bench, there are approximately 50 acres of developable land outside the ALR with a household equivalent of approximately 250 households or 900 persons. On the easterly extension of the Mesa Vista bench, there is a 60 acre area of Crown owned, Class 1 (when irrigated) land within the ALR. The future viability of this property for intensive agricultural use would be questionable in light of the fact that it would be surrounded on all sides by urban development or steep topography. As such, there is a possibility that this land may be released for urban development. The population equivalent of this parcel is 300 households or 1,080 persons.

In summary, if the total Mesa Vista bench were developed for residential purposes, approximately 550 additional households, or 1,900 to 2,000 persons could be accommodated.

In the area south and east of the existing municipal boundaries on the next bench above the Mesa Vista bench, there is an extensive area

(300+ acres) of developable land within the ALR but in a lower soils classification (80% Class 3 and 20% Class 2 when irrigated).

Industrial - in east Ashcroft, an extensive area of developable land was selected by a large chemical company as a site for a major explosives plant. Development was never completed and the future status of the use of this land for industrial purposes is not known. It is assumed, however, that this area will not be made available for residential development.

Commercial - in the central business district of Ashcroft, the intensity of existing commercial development is relatively low and many of the existing buildings are old. It is therefore considered that if the demand warrants, it will be economically feasible for redevelopment to new and higher intensity commercial use to locate in the central business district.

## 2. North Ashcroft

Residential - within the municipality, in the areas outside the ALR, there are approximately 50 acres with a household equivalent of approximately 250 households, or 900 persons. This includes only areas east of the highway; developable properties west of the highway are not considered suitable for residential use. There is a large, 150 acre tract of easily developable land north and east of the existing developed area. As illustrated in Figure 3.6.2, however, this land is within the ALR and has a high agricultural capability - Class 1 when irrigated. It is therefore assumed that this land will not be released from the ALR for urban development.

In the upper bench lands immediately north of the Village boundaries, illustrated in Figure 3.6.3, there are approximately 340 acres of developable land also in the ALR. Of this area, approximately 140 acres are classified as Class 5L (Class 1 when irrigated), and the remaining 200 acres are classified as Class 5C (Class 3 when irrigated). It is therefore possible that if demand warrants, the

# Area Between Cache Creek & Ashcroft

SCALE 1 : 50,000  
MILE



1000 METRES 1000

Developable areas  
(less than 25% slope)

---ALR boundary

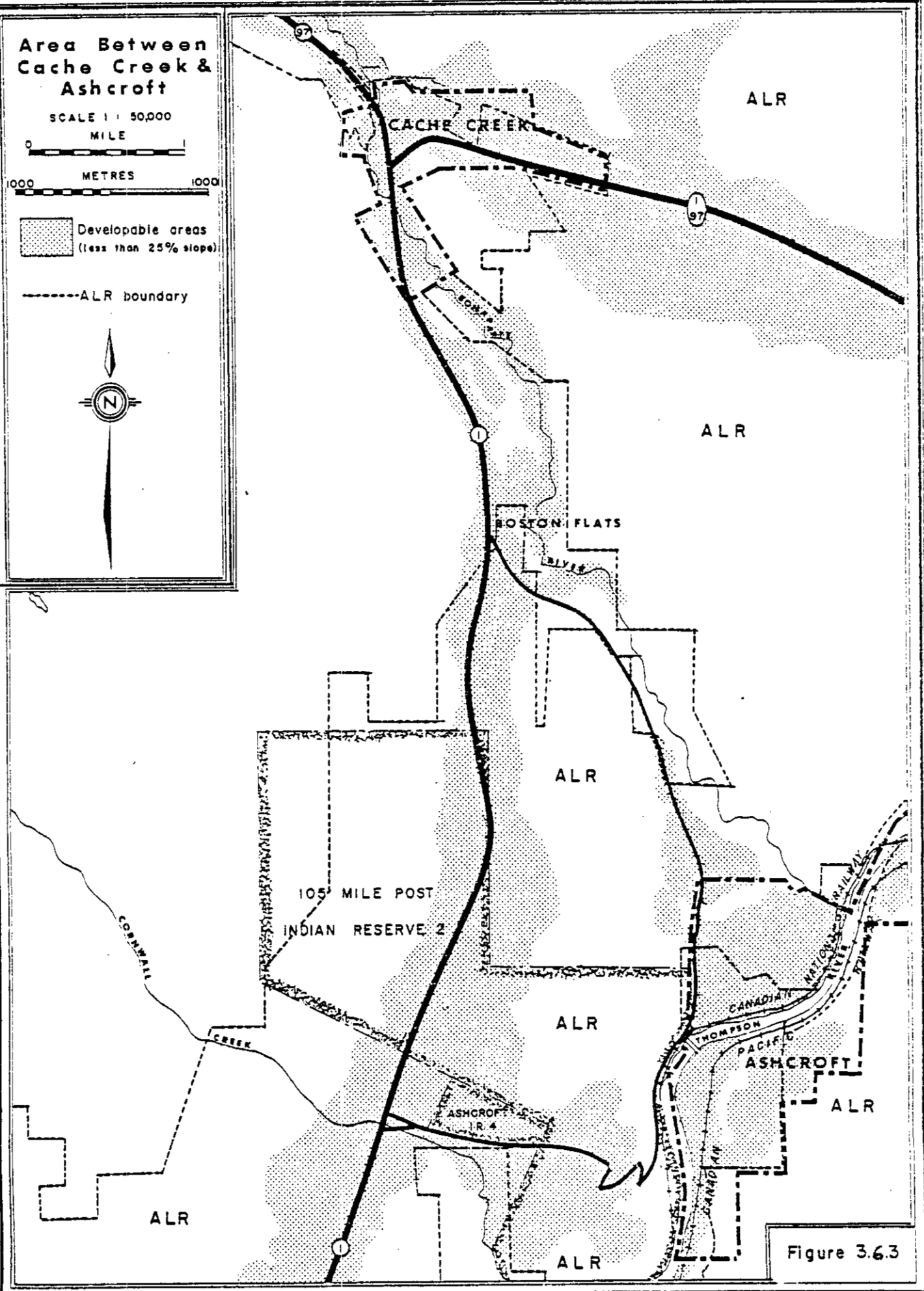


Figure 3.63



lower capability portions of this bench may be made available for urban development.

Industrial - on the lower benches adjacent to the railway tracks, there are approximately 30 acres of vacant land zoned for light industrial use.

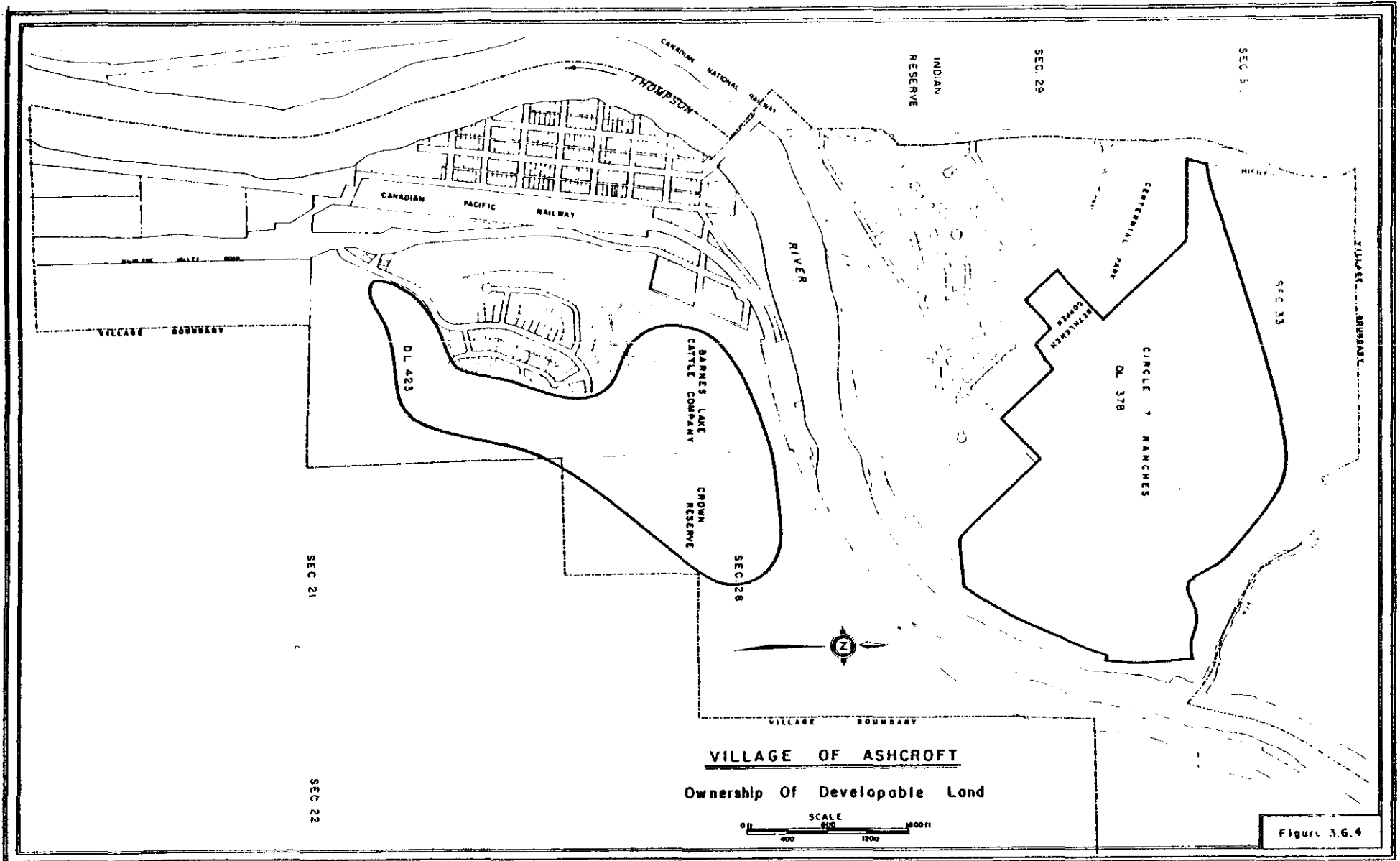
Commercial - with continued residential development, there may be a demand for a small neighbourhood shopping center. Such a facility would require only three to four acres of land and could be located either on the west side of the highway or integrated into a new residential subdivision.

### 3. Area West of Ashcroft

On the west side of the Thompson River, within the 105 Mile Post Indian Reserve No. 2, there are extensive areas of land which could be potentially developable. Since this land cannot come under the jurisdiction of any local government agencies, any development which may take place would have to be independent of Ashcroft's servicing systems.

#### C. Land Ownership

Because of the potential effect that ownership of land may have on the manner in which land is put on the market, consideration of existing ownership patterns is warranted. As illustrated in Figure 3.6.4, the majority of developable land in Ashcroft is privately owned by two ranching companies and a mining company. The 60-acre parcel within the ALR on the Mesa Vista bench is Crown land, but requires access through the privately owned portion of the bench.



**VILLAGE OF ASHCROFT**  
**Ownership Of Developable Land**

Figure 3.6.4

D. Land Requirements to 1990 - Without the Project

1. Residential Development

Space requirements to 1990 to accommodate residential development have been calculated from the housing demand projections derived in an earlier section and are outlined as follows:

Single family and duplex	- 160 to 165 units @ 5 units/acre = 30 to 35 acres
Mobile homes	- 70 to 75 units @ 6.5 units/acre = 11 to 12 acres
Multi-family	- 55 to 60 units @ 20 units/acre = 2 to 3 acres
Total	<u>45 to 50 acres</u>

Because of servicing constraints to be outlined in a subsequent section, it is considered that the majority of new residential development will be located in North Ashcroft.

2. Commercial Development

The amount of additional commercial development to 1990 is expected to be minimal. Plans for a small convenience center in North Ashcroft are currently being considered, and some redevelopment in the CBD in South Ashcroft may take place.

3. Industrial Development

The amount of additional industrial development to 1990 is also expected to be minimal, and can be easily accommodated in the vacant areas in North Ashcroft presently zoned for light industrial use.

b) Cache Creek

(i) Existing Land Use

As illustrated in Figure 3.6.5, the dominant land use features are the two highways, and the adjacent highway oriented commercial

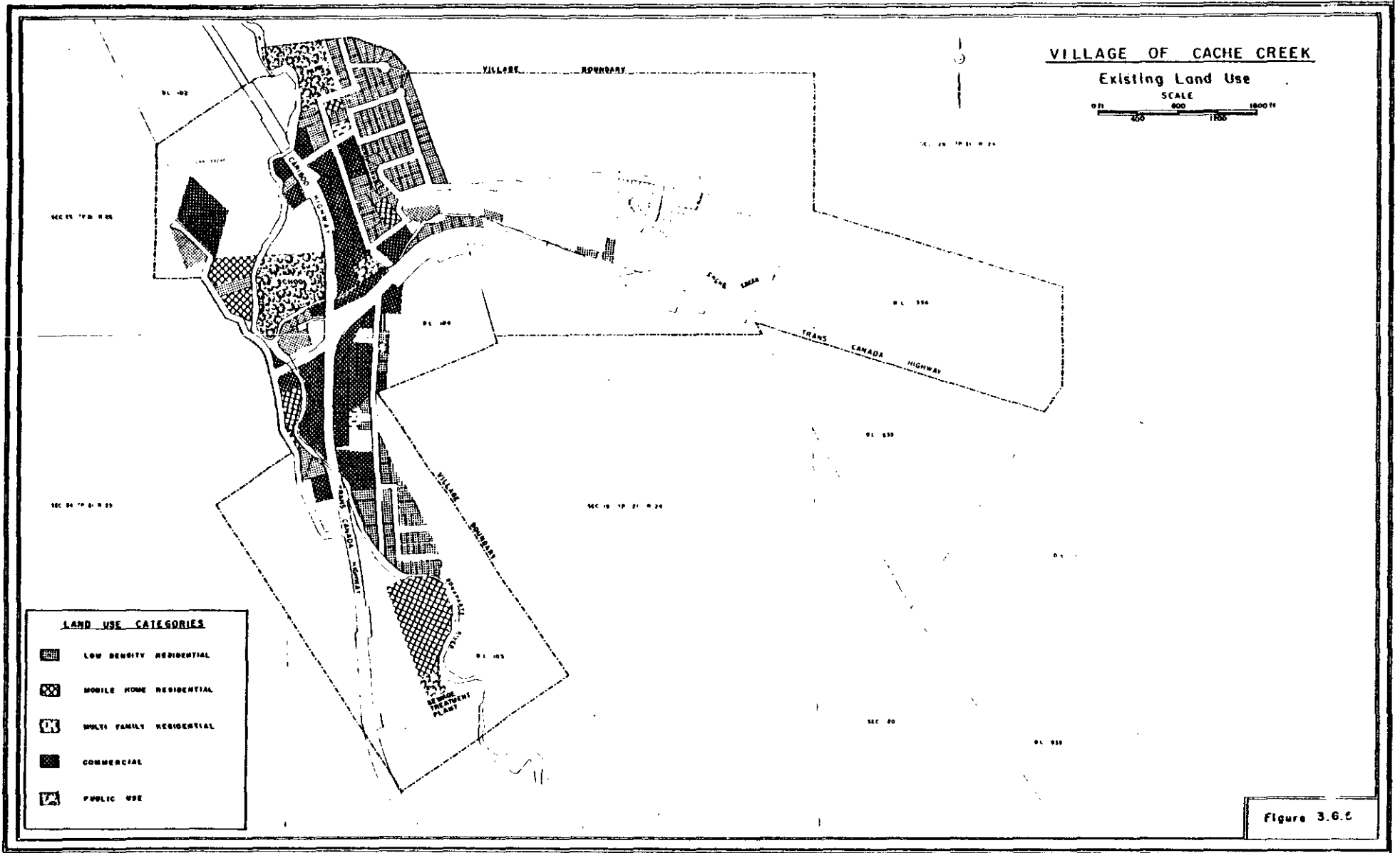


Figure 3.6.6

establishments. There is not a well-defined central business district which serves the needs of the local trading population. Residential development is confined primarily to three nodes, each of which has very limited room for expansion because of topographical constraints.

(ii) Availability of Developable Land

A. Constraints to Development

Similar to Ashcroft, the two major constraints to development in Cache Creek are topography and the Agricultural Land Reserve. The ALR in Cache Creek, however, is not considered a major constraint as in Ashcroft for two reasons. First, as illustrated in Figure 3.6.6, the agricultural capabilities of most future development areas are generally lower. Second, in several major development areas, the B.C. Land Commission has authorized the use of lands within the ALR for urban development (see Appendix E, Section E.3).

B. Developable Land

This assessment deals primarily with vacant developable areas outside the existing built-up section of the community. It is assumed that development in the vacant areas will consist primarily of single and two-family dwellings and mobile homes at an average density of five-dwelling units per gross acre. Assume a household factor of 3.6 persons per unit.

1. Central Cache Creek

Residential - area north of Bonaparte River and west of Cariboo Highway - Area C in Figure 3.6.6.

This 26-acre parcel within the municipal boundaries is within the ALR, but the B.C. Land Commission has authorized non-farm uses on the property, without exclusion from the ALR. Although the land is zoned for commercial use, it is anticipated that a considerable proportion

VILLAGE OF CACHE CREEK

Constraints To Development

SCALE



MC 20 10 20 30 40

PROPOSED RAILWAY ALIGNMENT

ALR  
SOILS CLASSIFICATION  
SC  
(4 1/2 - 1 1/2)

ALR  
SOILS CLASSIFICATION  
SC  
(1 1/2 - 4 1/2)

- AGRICULTURAL LAND RESERVE BOUNDARY
- TOPOGRAPHY - AREAS IN EXCESS OF 25% SLOPE
- FLOOD PRONE AREAS
- +— ALIGNMENT OF PROPOSED RAILWAY

Figure 3 6.6

will ultimately be used for mobile home and low density multi-family residential use. Approximately 100 to 150 dwelling units could easily be located in this area, with adequate space for considerable commercial development.

Commercial - in addition to a considerable amount of vacant land suitable for highway commercial use, two sites have been suggested as locations for community shopping centers, as well as possible redevelopment of the light industrial, residential, and commercial uses along Quartz Street for general downtown commercial uses.

## 2. East Cache Creek

It is anticipated that all development in East Cache Creek will be residential. For descriptive purposes, this sector is divided into several sub-sections.

- All areas within the Village boundaries north of the Trans Canada Highway (includes D.L. 556), shown as Area A in Figure 3.7.6 Total area is 235 acres, of which approximately 85 acres are undevelopable due to steep topography and occasional flooding of the creek flats, If the proposed railway as illustrated in Figure 3.7.5 is constructed, approximately 30 acres, including the strip along the railway and the area immediately north of the line, would be rendered undevelopable. Assuming the railway is to be constructed, the net developable acreage of Area A would be approximately 120 acres. The population equivalent of this area is therefore approximately 600 households or 2,160 persons. If the railway is not constructed, the net developable acreage would be approximately 150 acres. It should be noted that this area is also within the ALR. However, because of the fact that the B.C. Land Commission has permitted subdivision of the parcels plus the fact that the agricultural capability is low, it is

considered that the ALR will not constitute a significant constraint in this particular area.

- Area on south side of Trans Canada Highway - designated as Area B in Figure 3.5.6. In this area which is not within the ALR, but is largely outside the existing municipal boundaries, there are approximately 165 acres, of which 120 acres are developable. The population equivalent of this area is approximately 600 households or 2,160 persons.
- Lands east of Areas A and B in Figure 3.6.6. As illustrated in Figure 3.6.3, there are extensive areas of easily developable land in the wide valley east of Cache Creek. Because this land is within the ALR and has a high agricultural capability, it is assumed that no urban development will take place in this sector in the foreseeable future.

### 3. South Cache Creek

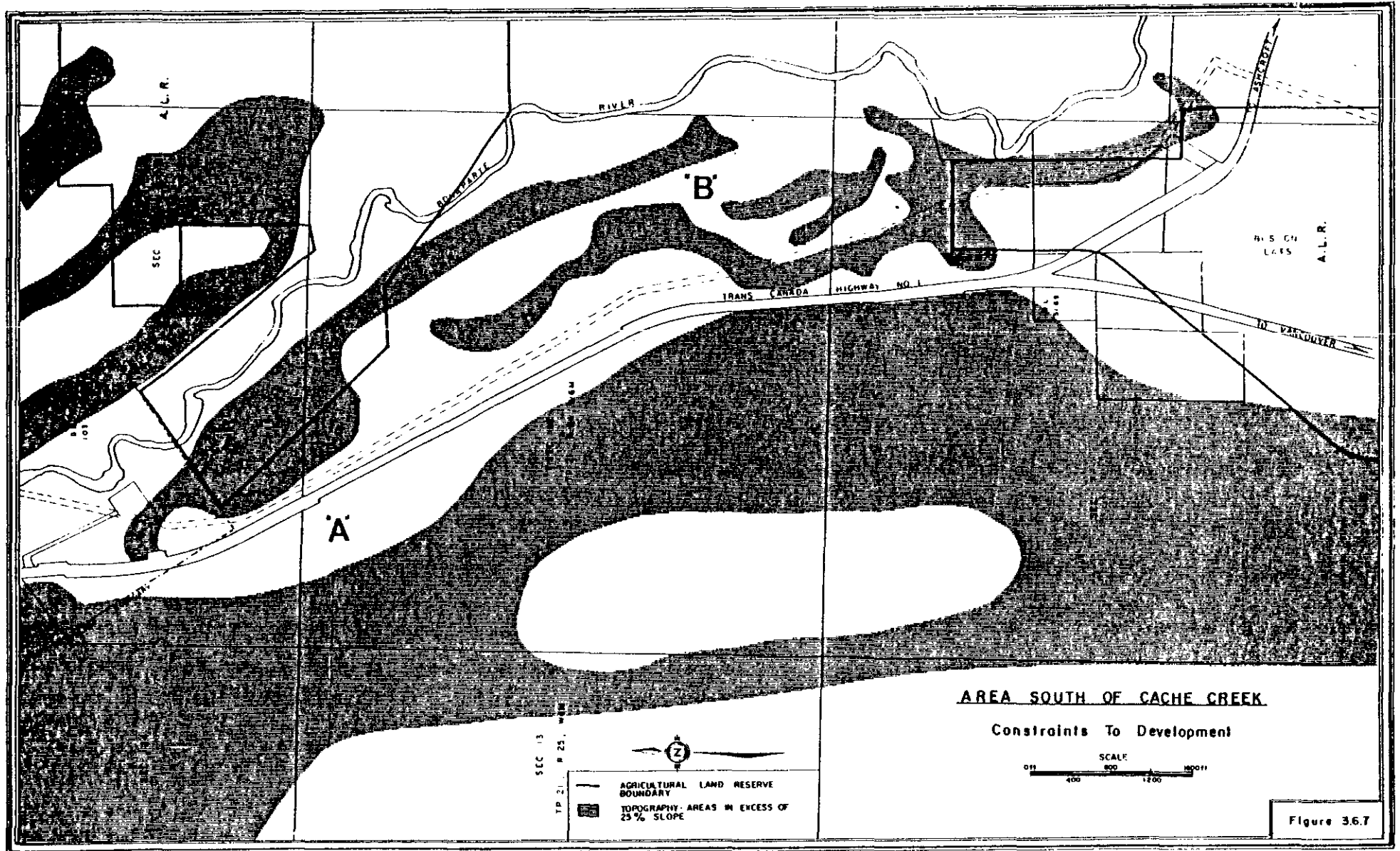
Industrial - area on west side of Trans Canada Highway - designated as Area A in Figure 3.6.7. In the Cache Creek Community Development Plan\*, this 50-acre strip of developable land (not within the ALR or within existing Village boundaries) is recommended for development as a light industrial park. The potential development of this area as a light industrial park, which incidentally is badly needed in Cache Creek, is largely dependent upon obtaining access to the Trans Canada Highway. Preliminary indications from the Department of Highways are that this access would be granted.

Residential - area on east side of Trans Canada Highway south of Cache Creek to Ashcroft Junction at Boston Flats - designated as Area B in Figure 3.6.7. There are approximately 85 acres of developable land

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\* Strong, Lamb and Nelson Ltd., "Cache Creek Community Development Plan - 1973".





**AREA SOUTH OF CACHE CREEK**

**Constraints To Development**

Figure 3.6.7

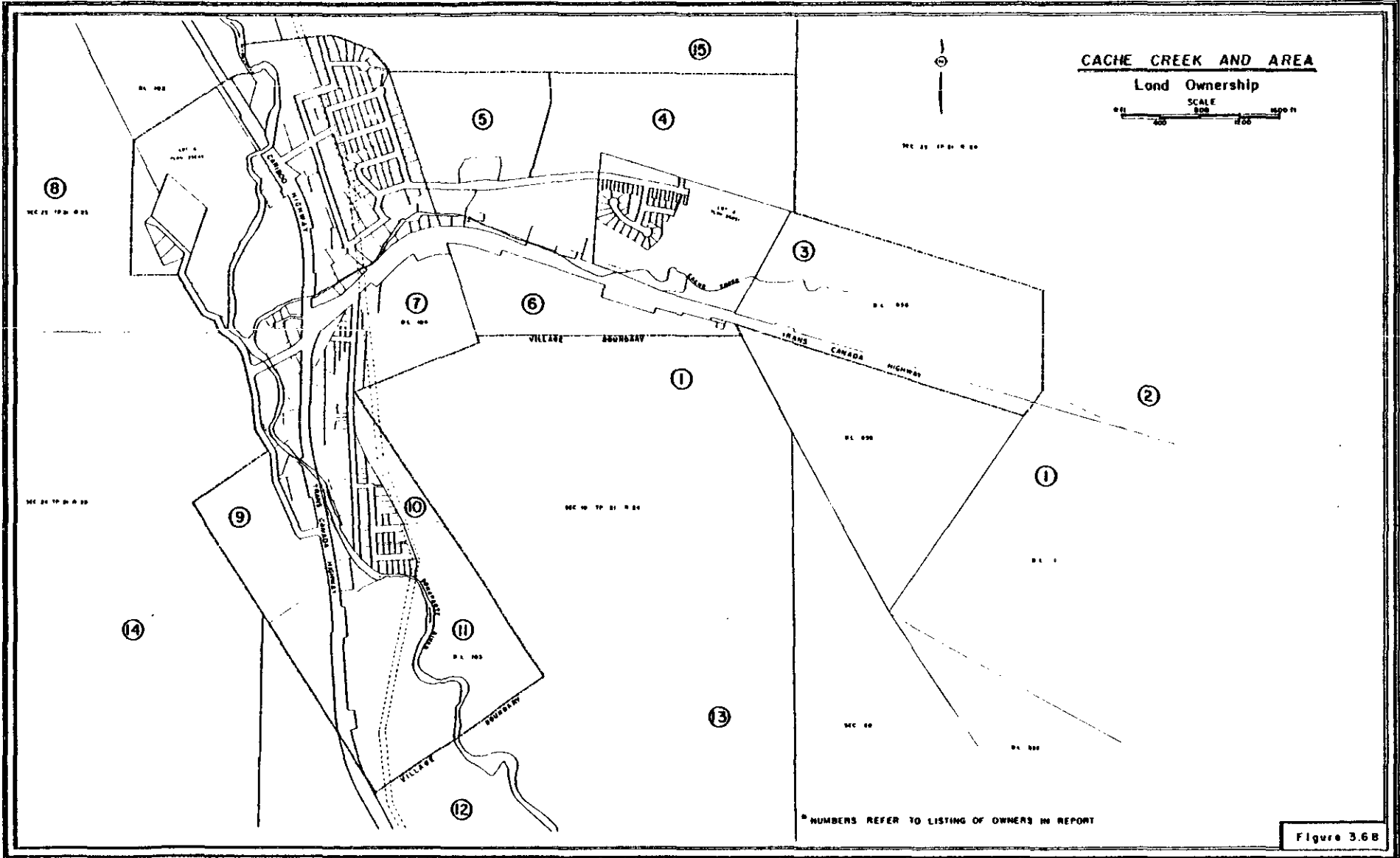
not within the ALR in this area. A major factor influencing the development potential of this area will be access to the Trans Canada Highway. At least one, and preferably two points of access would be required; direct access from Cache Creek by extending local roads would be very costly. Approximately 50 acres of this area would be suitable for residential development. Potential development areas in the Boston Flats area are within the ALR and have a high agricultural capability. As such, it is considered that no urban development will be permitted in this area.

In summary, there are approximately 300 acres of developable land east and south of Cache Creek which could be suitable for residential development. The population equivalent of this, plus several smaller areas within the existing Village boundaries is approximately 1,700 households or 5,600 persons. If areas to the east, south and north of Cache Creek within the ALR were made available for development, there would be virtually unlimited quantities of land available for urban development.

(iii) Land Ownership

Existing land ownership patterns of developable land in the Cache Creek area are illustrated in Figure 3.6.8. Virtually all lands capable of being developed in the foreseeable future are privately owned. As illustrated, potentially developable properties are more widely held than in Ashcroft. The ownership pattern, denoted by numbers in Figure 3.6.8, is outlined as follows:

1. Semlin Ranch
2. Gang Ranch
3. Laurentian Holdings - M. Battel
4. Leippi
5. Lowenburger and Steinke
6. William Reaugh
7. Sun Valley lands



8. Bonaparte Ranch
9. Casadio and Son Holdings Ltd.
10. Dan Wong
11. Collins
12. Woodburn
13. Crown Lease -
14. Crown Lease - Bonaparte Ranch
15. Crown Lease - Melton Studdard

It should be noted that with the current level of buying and selling activity in the Cache Creek real estate market, actual ownership of the various properties can be expected to change significantly over time.

(iv) Land Requirements to 1990 - Without the Project

1. Residential Development

Space requirements to 1990 are based on housing demand projections derived in an earlier section, and are outlined as follows:

Single family and duplex	- 95 to 100 units @ 5 units/acre	= 19 - 20 acres
Mobile homes	- 40 to 45 units @ 6.5 units/acre	= 7 - 8 acres
Multi-family	- 35 to 40 units @ 20 units/acre	= 1 - 2 acres
Total		<u>25 - 30 acres</u>

This development can easily be accommodated by infilling in Central Cache Creek, with some new development in East Cache Creek.

2. Commercial and Industrial Development

Based on economic projections for Cache Creek outlined in an earlier section, it can be expected that there will be very little additional highway-oriented commercial development in the foreseeable future. There may be a limited amount of local commercial development which

could easily be accommodated in a small shopping center. There is a shortage, however, of land within the Village suitable for service, commercial and light industrial development.

c) Clinton

(i) Existing Land Use

Existing land use patterns in Clinton are illustrated in Figure 3.6.9.

(ii) Availability of Developable Land

A. Vacant Serviced Land

There are approximately 35 vacant serviced lots in Clinton.

B. Constraints to Development

As illustrated in Figure 3.6.10, the two major constraints to development are topography and the ALR. As outlined in the following section, however, neither of these constraints is considered significant since there is adequate developable land not within the ALR to accommodate a large increase in population.

C. Developable Land

As shown in Figure 3.6.10, the vacant land between the B.C. Railway and the Cariboo Highway is developable, although the gradient is relatively steep (15 to 25% slopes). In this strip there are approximately 150 acres, of which approximately 100 acres would be suitable for residential development, allowing for a buffer strip along the railway. Because of the steepness of the area, the average density of development is assumed to be lower - three units per acre. The population equivalent of this area if fully developed for residential

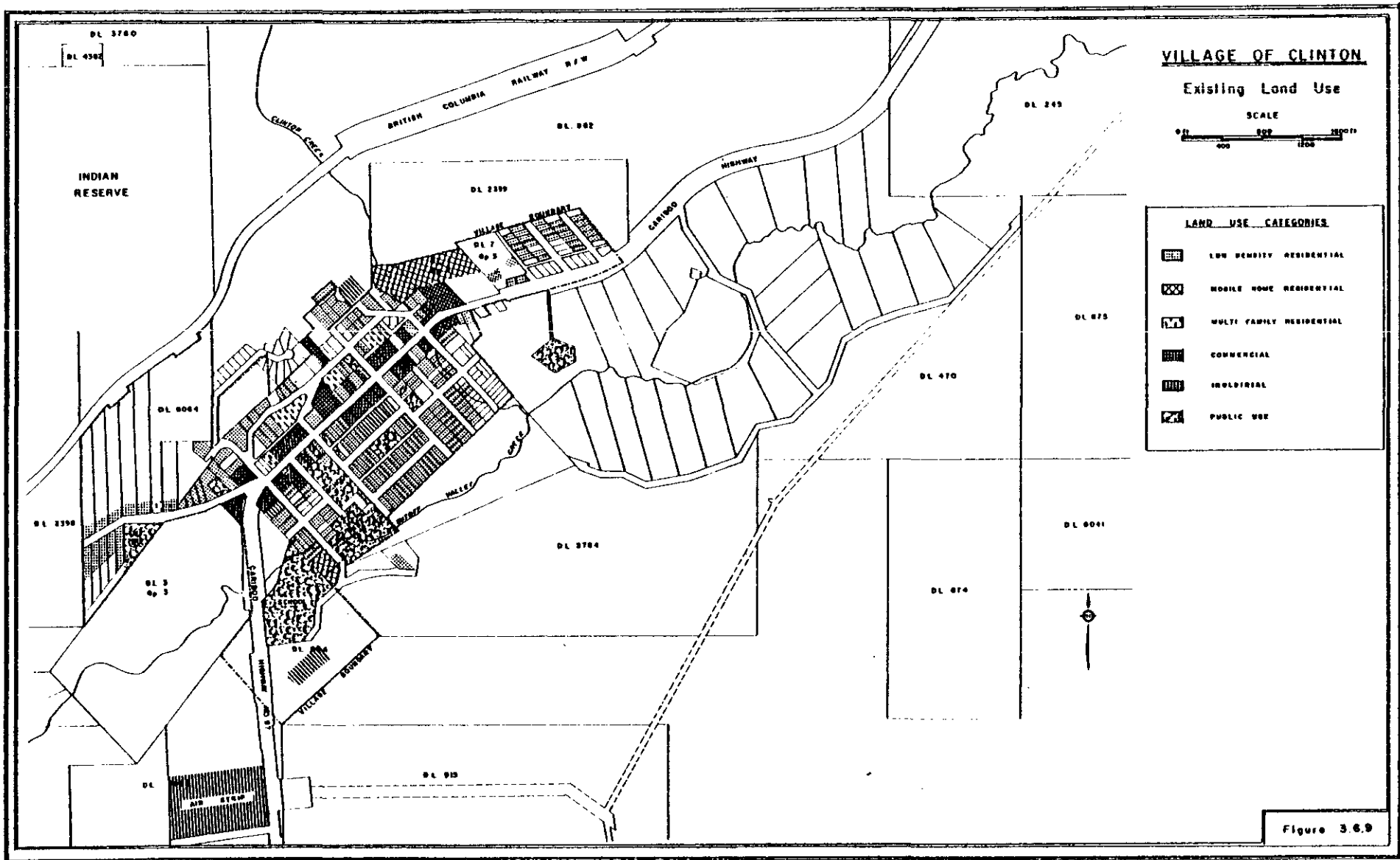
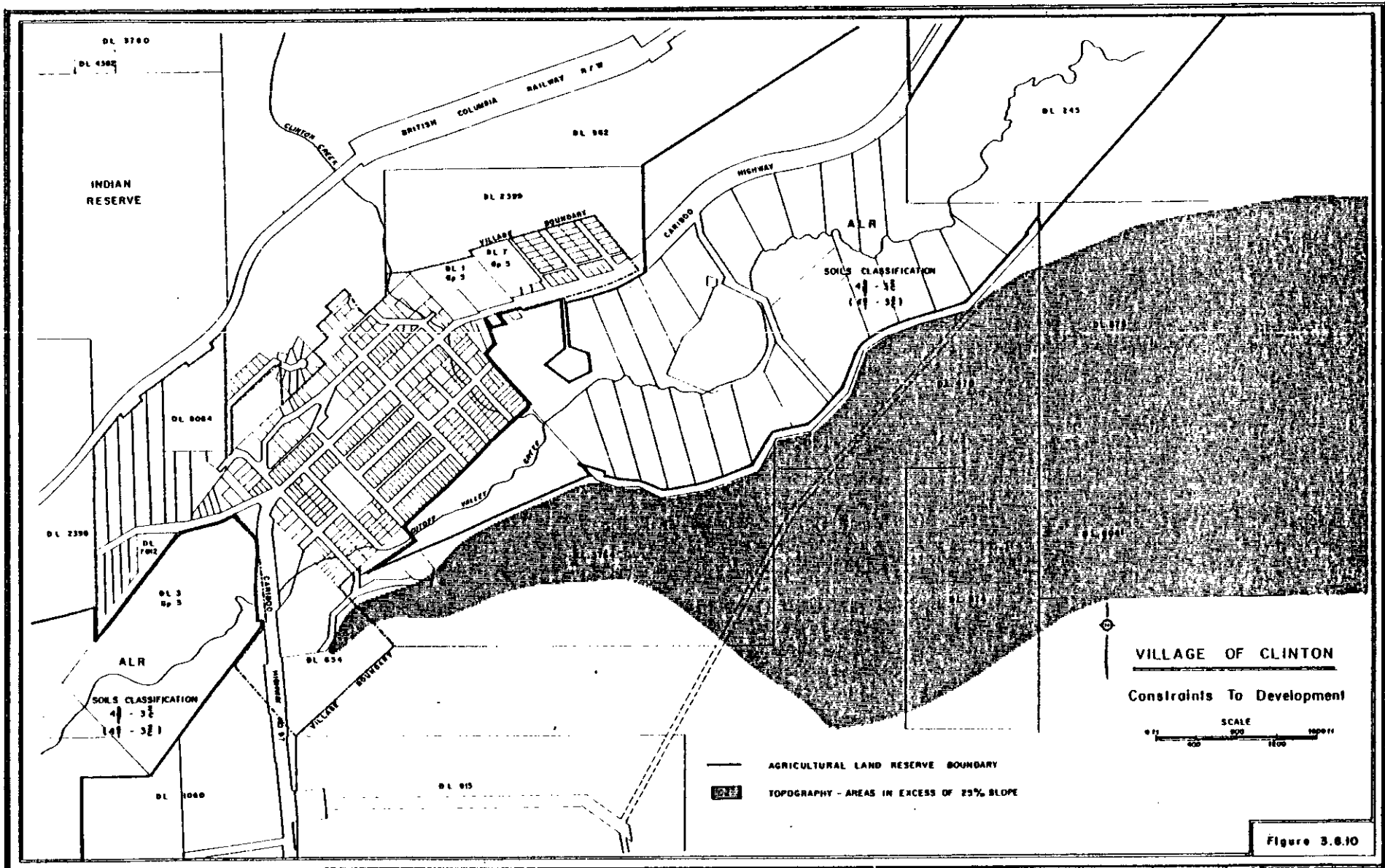


Figure 3.6.9



purposes would be approximately 300 households or 1,000 persons. A large portion of this area is owned by the Crown (B.C. Rail) and the Village has been assured that this land will be made available to be developed by the Village when the demand warrants.

There are also extensive areas of developable land (outside the Village boundaries) in the Cutoff Valley and Clinton Creek flats. Since this land is relatively good quality agricultural land within the ALR, it can be expected that no urban development will be permitted in these areas until the other areas described above are fully developed.

(iii) Land Requirements to 1990 - Without the Project

1. Residential

Space requirements to 1990 are based on housing demand projections and are outlined as follows:

Single family and duplex	- 60 to 65 units @ 5 units/acre	= 12 - 13 acres
Mobile homes	- 15 to 20 units @ 6.5 units/acre	= 3 acres
Multi-family	- 15 units @ 20 units/acre	= 1 acre
Total		<u>15 - 20 acres</u>

Approximately 50% of this demand could be accommodated by infilling existing lots.

2. Commercial and Industrial

Space requirements for additional general commercial, service commercial and light industrial developments are expected to be minimal.



d) Lillooet

(i) Existing Land Use

Existing land use patterns in Lillooet are illustrated in Figure 3.7.11.

(ii) Availability of Developable Land

A. Vacant Lots

As illustrated in the existing land use map, there are relatively few vacant serviced lots within the Village boundaries. In the Lillooet Riverside Improvement District, however, there are a large number of inadequately serviced one-acre lots. The major constraint to development in this area is the lack of good water and sewer services.

B. Developable Land

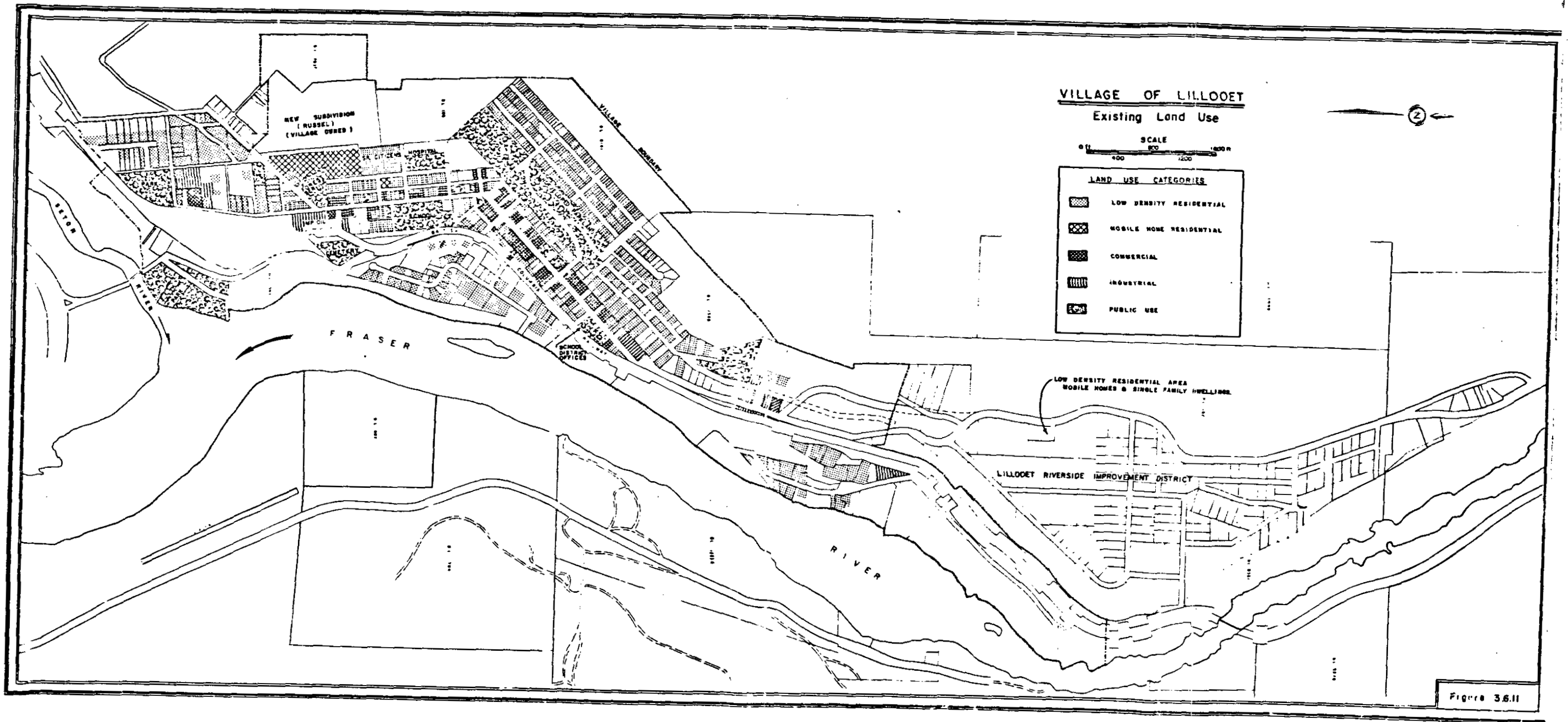
A large residential subdivision, to consist of 111 single family dwelling lots, five duplex lots, and three multi-family lots, is currently being developed by the Village of Lillooet. In addition, a private subdivision consisting of approximately 17 single family dwelling lots is in the advanced stages of planning.

If water and sewer services were made available in the Riverside Improvement District area, there would be a large increase in the availability of developable land for urban purposes.

(iii) Land Requirements to 1990 - Without the Project

1. Residential

Space requirements, based on housing demand projections, are outlined as follows:



Single family and duplex	- 95 to 100 units @ 5 units/acre =	19 - 20 acres
Mobile homes	- 20 to 30 units @ 6.5 units/acre =	4 - 5 acres
Multi-family	- 20 to 25 units @ 20 units/acre =	<u>1 - 2 acres</u>
Total		25 - 30 acres

The majority of this incremental demand can be accommodated in the new residential subdivision being developed by the Village.

2. Commercial and Industrial

Incremental demands for space to accommodate new commercial and light industrial development are expected to be minimal.

### 3.7 COMMUNITY INFRASTRUCTURE

The following evaluation of community infrastructure is carried out separately for each of the municipalities under consideration. Detailed descriptions relating to the evaluation of community water and sewer systems are contained in Appendix F as follows:

Appendix F, Section F.1 - Criteria for evaluating water and sewer systems.

Appendix F, Section F.2 - Detailed description of existing systems.

Appendix F, Section F.3 - Analyses of quality of existing water supplies.

Matters relating to budgeting for the provision of these services are contained in Section 3.9 - Local and Regional Government.

#### a) Ashcroft

##### (i) Water System

In summary, the Ashcroft water system has basic supply capacity for population growth up to a total of 3,100. Existing and potential deficiencies or problems are outlined as follows:

- The aesthetic quality of the Thompson River as measured by parameters such as turbidity and color is questionable. Concern is being expressed regarding the effect of upstream waste water discharges in Kamloops on Thompson River quality at Ashcroft.
- Water intake - silt accumulation in the intake pump well is an operational problem and requires regular cleaning.
- In both North and South Ashcroft, there is a lack of storage capacity to provide for adequate fire flows.

(ii) Water System Improvements Without the Project

The following improvements are required to adequately service the existing population, as well as the incremental population anticipated to 1990 without the Hat Creek project. As outlined in Section 3.1, the approximate population levels anticipated are an increase from 2,000 to 2,600 by 1985, and a further increase to 3,000 by 1990.

- New water intake.
- Distribution system in North Ashcroft, reconstruction of Elm Street booster station and supply main improvements.

(iii) Sanitary Sewage System

A major sanitary sewage system upgrading program is presently being undertaken in Ashcroft. The upgrading program includes consolidation of the North and South Ashcroft collection systems, and construction of a high rate activated sludge treatment plant. Upon completion, the upgraded collection and treatment system will adequately handle a population of 5,000. As such, no additional improvements will be required to accommodate the projected population increases to 1990 without the project.

(iv) Solid Waste Disposal

The Villages of Ashcroft and Cache Creek utilize a common land fill site located adjacent to the Trans Canada Highway and midway between the municipalities. The operation of the land fill site is a responsibility of the Thompson Nicola Regional District, and the municipalities contribute on a proportionate use basis.

(v) Roads

Roads within the Village are in generally good condition and have adequate capacity for the existing population. Major expenditures on upgrading will not be required to accommodate projected population increases to 1990.

(vi) Storm Drainage

No major trunk storm sewerage facilities are required in view of the general accessibility of natural drainage features. It has been pointed out, however, that several outfalls from the natural drainage courses to the river are required.

b) Cache Creek

(i) Water System

In summary, the Cache Creek water system has basic supply capacity for population growth up to a total of 1,800. Water supply is derived from the Bonaparte River through an infiltration gallery which enables water to be drawn through filter beds prior to transmission in the distribution network. The major deficiency is that water supply components serving East Cache Creek are inadequate both from the point of view of providing sufficient service pressure for further new development, and provision of adequate fire storage reserves.

(ii) Water System Improvements Without the Project

The approximate population levels anticipated are an increase from 1,150 to 1,350 by 1985, and a further increase to 1,600 by 1990. If a policy were adopted to limit further development in East Cache Creek and to direct new development into the several vacant areas where adequate capacity exists for complete infilling, there would be no need for upgrading of the existing water system

components. It should be noted, however, that the existing inadequacies in available fire flows in the east sector would remain uncorrected.

(iii) Sanitary Sewerage System

With a treatment plant with a rated capacity to serve a population of 5,000, and trunk main facilities with adequate capacity to service potential development areas in the respective sectors, no improvements will be required to accommodate population projections to 1990 without the project.

(iv) Solid Waste Disposal

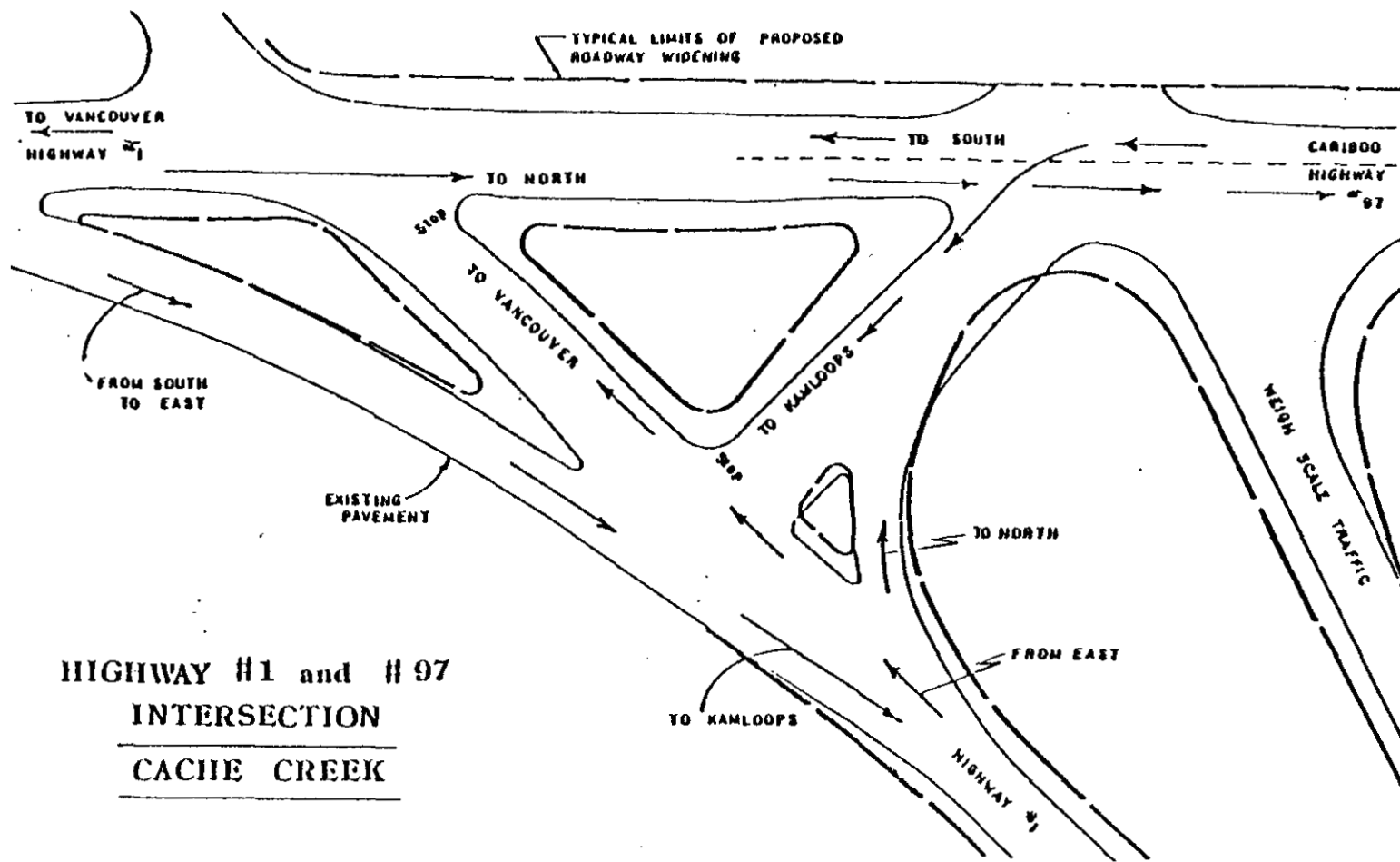
As outlined in Section 3.7 (a), Cache Creek and Ashcroft utilize a common land fill site between the two municipalities. The site has ample capacity to accommodate the needs of both communities in the foreseeable future.

(v) Roads

A. Trans Canada Highway and Cariboo Highway

The Trans Canada Highway and Cariboo Highway intersection is illustrated in Figure 3.7.1. Presently there are two travelling lanes (one each way) on Highway No. 1 straight through to No. 97 North and two travelling lanes on Highway No. 1 to the east. Traffic congestion at the intersection is experienced on summer statutory holidays and to a lesser degree during the summer holiday period. Traffic congestion and backup occurs as follows:

- Backup on south bound lane of Cariboo Highway caused by left turn across north bound lane and limited storage in island.
- Backup on south bound lane from east on Trans Canada Highway caused by difficult left turn across north bound traffic



**HIGHWAY #1 and #97  
INTERSECTION  
CACHE CREEK**

**Figure 3.7.1**



on Trans Canada Highway from the south.

The backup of south bound traffic on the Trans Canada from the east on occasion has blocked the intersections at Quartz and Collins Road some 800 feet to the east.

#### B. Proposed Intersection Improvements

Improvements of the Cariboo and Trans Canada Highway intersection were first advanced by the Ministry of Highways in 1962. This improvement plan basically involves providing four travelling lanes on both sections of the Trans Canada Highway and the Cariboo Highway. The objective of the four laning is to improve overall traffic flow through Cache Creek and thereby improve the opportunities for left turns from Highway No. 1 east to the south and the Cariboo Highway from the north to the east. The second travelling lane on the Cariboo Highway from the north to south, will eliminate blockage of south bound traffic by vehicles waiting for an opportunity to turn to the east on Highway No. 1.

As of December 1977, the Ministry of Highways has no firm schedule to undertake the four laning improvements within Cache Creek. It should be noted that these improvements are required primarily to facilitate movements of non-local through traffic rather than local traffic. As such, the Ministry of Highways has indicated that these improvements will be required regardless of the extent and timing of population increases in Cache Creek and Ashcroft.

#### C. Local Roads

Local roads other than the Trans Canada Highway and the Cariboo Highway are generally considered to be adequate to accommodate anticipated population increases without the project.

(vi) Storm Drainage

No major trunk storm sewerage facilities are required in view of the general accessibility of natural drainage features.

c) Clinton

(i) Water System

The Clinton water supply is derived by gravity from a dam and water impoundment area on Clinton Creek. Although it appears that adequate flow is available in Clinton Creek for the present population, it is suggested that insufficient water licences are held by the Village. In light of a refusal to get an additional licenced diversion from the creek, a study of potential groundwater sources has been undertaken. No work has been undertaken to develop those groundwater sources which were identified in the study.

The distributive system is generally adequate, although there are areas where the capacity of the system to deliver adequate fire flows is limited by "unlooped" and inadequately sized mains. It is expected that no major improvements will be required to adequately handle the population increments anticipated without the Hat Creek project.

(ii) Sanitary Sewer System

Treatment is provided by a series of anaerobic and aerobic lagoons with a service capacity for a population of between 1,500 to 2,000 persons. A limiting factor is the present Pollution Control Permit which authorizes discharge from a population equivalent of approximately 1,200 persons.

The trunk sewer main, which is capable of serving by gravity extension all potentially developable properties, has a capacity adequate for a service population of 2,700.

Based on the foregoing, it is expected that no major improvements will be required to adequately handle the population increments anticipated without the Hat Creek project.

(iii) Roads

Roads within the Village are in generally good condition and have adequate capacity for the existing population and projected increases to 1990.

(iv) Storm Drainage

No major trunk storm drainage facilities are required in view of the general accessibility of natural drainage features.

d) Lillooet

(i) Water System

In summary, the present water supply system serving the Village of Lillooet is considered to be more than adequate for the existing population. One deficiency is the inadequate sizing of the main supply line from Town Creek which severely limits fire flows although adequate storage is provided. There are also significant portions of the distribution system which require upgrading to improve fire flow capabilities.

In the Lillooet Riverside Improvement District, all components of the supply and distribution system are severely overtaxed.

(ii) Sanitary Sewerage System

Treatment is provided by a spiragestor type system, which is capable only of primary treatment. A deadline has been issued by the Pollution Control Branch to upgrade the system to provide the

equivalent of biological secondary treatment. The collection system is generally adequate for the existing population, although the prevalence of 6-inch diameter sewer mains may restrict the extension of sewer mains to new development areas. Therefore, replacement of many of the existing 6-inch diameter mains may be required to enable these extensions.

### 3.8 REGIONAL INFRASTRUCTURE

#### a) Transportation

The purpose of this section is to describe existing highway traffic patterns in the Hat Creek study area and to project traffic increases on selected arteries that could be expected to occur without the proposed project. The sections of highway contained within the study area are shown on Map No. 1. Traffic flows are described in terms of vehicles per day, seasonal variations, vehicle types and trip purpose. An attempt has been made to estimate the volume of local traffic generation, defined as trips originating and terminating within the study area.

##### (i) Existing Traffic Patterns

Highway No. 1 is one of two major routes connecting the Lower Mainland and the B. C. Interior (the other being Highway No. 3). It joins Highway No. 97 at Cache Creek, forming one of the most heavily travelled highway intersections in the province.

A permanent counting station, is located on Highway No. 1 at the northern end of the China Bar Tunnel near Boston Bar. Data from this station indicate that average annual daily traffic grew at a rate of approximately 8% per annum, between 1965 and 1970, from 2,450 to 3,700 vehicles per day. Between 1970 and 1975, traffic increased at the somewhat slower rate of about 6% per annum, from 3,700 to 4,900 vehicles per day.\*

Data on traffic flows are limited to summer (July-August) average daily volumes for most points of interest within the study area. Table 3.8.1 presents summer average daily traffic volumes at

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\* Ministry of Highways, "The Coquihalla Route, Traffic Analysis - Addendum", Province of British Columbia, 1977

selected points for the period 1965 to 1976. Summer traffic volumes at China Bar Tunnel reached a level of 8,500 vehicles per day in 1975, compared to 6,400 vehicles in 1970 and 4,200 vehicles per day in 1965. The rate of traffic growth during the summer, while slightly higher than average annual daily flows during the 1965 to 1970 period, had been below the growth in average annual daily volumes from 1970 to 1975.

TABLE 3.8.1

HISTORICAL TRAFFIC GROWTH HAT CREEK STUDY REGION  
1970-1976

(JULY-AUGUST AVERAGE DAILY TRAFFIC)

<u>Location</u>	<u>1970</u>	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>
Highway No. 1 China Bar Tunnel	6,400	7,500	7,900	8,600	7,300	8,500	8,500
Highway No. 1 South of Ashcroft	5,700	6,500	-	-	8,200	8,300	6,300
Highway No. 1 At Cache Creek	8,500	9,400	10,700	10,500	11,700	12,600	9,800
Highway No. 97 South of Carquile	4,100	6,800	5,900	-	6,600	6,700	6,700
Highway No. 12 East of Pavilion	440	280	260	470	370	430	-
Highway No. 12 West of Highway No. 97	-	460	470	690	880	750	760

SOURCE: Ministry of Highways, Traffic Flow Maps  
Government of British Columbia

Other highway points of interest to the study include Highway No. 12, near the Carquile Junction, which experienced between 700 and 900 vehicles per day over the past few summers; Highway No. 1, near the southern turnoff to Ashcroft, which experienced a peak summer volume of 3,300 vehicles per day during 1975, and Cache Creek, whose summer traffic approached 13,000 vehicles per day during 1975. Flows at most traffic count stations declined during 1976.

The marked seasonal peaking of traffic volumes during the summer months indicates the importance of Highways No. 1 and No. 97 for tourist and recreational travel. A roadside survey of traffic characteristics conducted by the Ministry of Highways on Highway No. 1 north of Boston Bar in the summer of 1972 revealed that 87% of all trips were multi-day social or recreational trips. Automobiles comprised about 76% of all vehicles, and campers about 12%. Trucks (slow vehicles) constituted about 3% of all vehicles. Thirty-four percent of all vehicles were based in Greater Vancouver, 17% in provinces other than B. C., and 20% in the United States.

During other months of the year, traffic volumes in the study area are reduced considerably below the summer peak and thus a substantially higher proportion represents commercial through traffic and local traffic. Winter flows (December-January) at the China Bar tunnel counting station averaged about 26.0% of peak summer flows between 1970 and 1975.

Growing traffic volumes on Highway No. 1 in the Fraser Canyon and at the intersection of Highway No. 1 and Highway No. 97 during the summer months constitute impediments to the efficient functioning of this route to the interior of B. C. The growing congestion at the Cache Creek intersection also interferes with local traffic movements within and through the village. In the absence of any improvements to the existing highway system and the Cache Creek road network, continued growth in highway travel by study area

residents would lead to further deterioration in the efficiency of vehicular movements within the region. However, traffic problems on Highway No. 1 currently associated with local vehicle movements, particularly within Cache Creek and between Cache Creek and Ashcroft may be largely eliminated in the near future. The section of the highway from the east side of Cache Creek to the Ashcroft turn-off is to be expanded to four lanes and the road network within Cache Creek is to be modified so as to divert local traffic from the main highway. For a more detailed discussion of this proposed road alteration, see page 3.7-4

(ii) Projection of Traffic Volumes Without Hat Creek Project

The Provincial Ministry of Highways has projected summer traffic volumes through parts of the study area as a component of the planning process for the proposed Coquihalla Highway. The Coquihalla will provide an alternative route through the Interior, connecting Hope to Highway No. 5 in the Merritt area, via the Coquihalla Pass and the Coldstream Valley. The route could possibly be connected beyond Merritt to Highway No. 97 in the Westwold area. The proposed route should be in operation by the mid-1980's, according to current plans.

The Ministry's projections estimate that without the Coquihalla, summer traffic volumes at the China Bar tunnel on Highway No. 1 will increase from 8,500 vehicles per day in 1976 to 13,300 in 1986. An extrapolation of this projection to 1991 results in an estimated volume of 15,700 vehicles per day during that year. Although no specific projections have been prepared by the Ministry for points of more direct concern in the study area, summer volumes just south of Ashcroft average about 90% of the levels at China Bar while Cache Creek levels average about 35% more than China Bar.

The construction of the Coquihalla Highway is expected to reduce projected traffic volumes on Highway No. 1. The Ministry estimates



that 1986 volumes with the Coquihalla Highway will approximate levels experienced during 1974.\* This would indicate peak summer volumes in the order of 7,000 to 8,000 vehicles per day at points on Highway No. 1 near the southern Ashcroft connector and possibly 11,000 to 12,000 vehicles per day at Cache Creek.

There are no Ministry of Highways projections of traffic volumes for either Highway No. 97 between Cache Creek and Clinton or Highway No. 12 between the Carquile Junction and Pavilion. Projections of summer average daily traffic were thus prepared based on 1970-1976 trend data, using linear regression and ratio methods. The projection for Highway No. 97 refers to a point immediately south of the junction with Highway No. 12. The summer average daily traffic flow at this point is projected to increase from 6,700 to 11,500 vehicles per day between 1976 and 1991.

Summer traffic volumes on Highway No. 12, recorded near Pavilion, are small; about 400 vehicles per day on average. An extrapolation of historical trends over time indicate an increase to about 550 vehicles per day by 1986, and 600 vehicles by 1991.

Traffic flows recorded intermittently at the Carquile Junction with Highway No. 97 indicate that the volume of traffic at that point on Highway No. 12 is about 50% higher than at the point south of Pavilion. This suggests that a significant number of trips originate and terminate at intermediate points (such as the Upper Hat Creek Reserves No. 1 and No. 2) and/or that a significant volume of traffic enters the Hat Creek Valley from the turn-off on Highway No. 12. Since no significant population increases are expected along this section of the Highway, it could be expected that traffic

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\* Ministry of Highways, "The Coquihalla Route, Traffic Analysis - Addendum", Province of British Columbia, 1977

volumes west of the Hat Creek Junction would continue to exceed volumes near Pavilion by about 300 vehicles per day.

The above projections are presented in Table 3.8.2.

TABLE 3.8.2  
PROJECTED TRAFFIC GROWTH AT SELECTED POINTS  
HAT CREEK STUDY REGION

(JULY-AUGUST AVERAGE DAILY VEHICLES)

<u>Location</u>	<u>1981</u>	<u>1986</u>	<u>1991</u>
Highway No. 1 China Bar Tunnel*	11,000	7,500	8,900
Highway No. 1 South of Ashcroft	9,900	6,700**	8,000
Highway No. 1 At Cache Creek***	14,900	10,100	12,000
Highway No. 97 South of Carquile	8,500	10,000	11,500
Highway No. 12 East of Pavilion	500	550	600
Highway No. 12 West of Highway No. 97	800	850	900

- Interpolated and extrapolated from Ministry of Highways trend data and 1986 projections.

\*\* Ibid.

\*\*\* Ibid.

SOURCE: Strong Hall & Associates Ltd.

b) Utilities

Consultations were made with each of the utility companies to determine their capability to provide adequate services in light of the projected population increase without the project.

(i) B.C. Hydro

No problems are foreseen in providing electrical supply to Ashcroft, Cache Creek, Clinton or Lillooet.

(ii) B.C. Telephones

No problems are foreseen in providing the required additional telephone service in each of the four municipalities.

(iii) Inland Natural Gas

Service is presently provided to Ashcroft, Cache Creek, and Clinton, but not Lillooet. In each of the three communities which are presently served, no problems are foreseen in providing an expanded service.

### 3.9 Local and Regional Government

The following section consists of an evaluation of the local and regional government agencies in the study area. Included are the four village municipalities of Ashcroft, Cache Creek, Clinton, and Lillooet; the two regional districts - Thompson-Nicola Regional District and Squamish-Lillooet Regional District; and the two school districts - School District 30 (South Cariboo) and School District 29 (Lillooet). The evaluation consists of two components - first, a description of the functions and responsibilities of the local government agencies; and second, an analysis of the financial structure of these agencies with emphasis on municipalities which are responsible for providing a wide variety of services to local residents.

#### Municipalities

The functions and responsibilities of village municipalities are specified in the Municipal Act, and can generally be classified into two main categories:

1. Legislative control and regulation by bylaw of land use (zoning and planning), land subdivision, nuisances, business licences, and a variety of other minor activities. The function of Building Inspection is handled by the regional district.
2. Provision and delivery of community facilities and services including: fire protection, roads, water, sewer, garbage collection and disposal, recreation and cultural facilities and programs, storm drainage, street lighting, and sidewalks. In municipalities with a population less than 5,000, the provincial government retains the responsibility for policing, as well as public health and welfare.

In the following analysis of municipal financing and budgeting, the

primary emphasis is on the costs associated with the provision of the services outlined above, and the financial capability of the municipalities to finance these services. The detailed budgeting calculations which serve as a basis for evaluating the financial capabilities of the municipalities are presented in Appendix G.

### Regional Districts

A regional district is a form of municipal government whose functions and responsibilities are also specified in the Municipal Act. The following is a brief description of the structure, as well as the roles and responsibilities of a regional district. For descriptive purposes, the Thompson-Nicola Regional District, in which the municipalities of Ashcroft, Cache Creek, and Clinton are located, is considered. The structure and functions of the Squamish-Lillooet Regional District is very similar to that of the T.N.R.D.

Structure - Consisting of approximately 17,600 square miles, the Thompson Nicola-Regional District is comprised of eight municipalities (including the City of Kamloops, the Town of Merritt, and six Village municipalities) and surrounding rural areas, which are further divided into ten Electoral Areas. The elected body, the Regional Board, consists of 21 Directors, with one Director from each Electoral Area, and one director from each municipality, except Kamloops, which is represented by four directors. In order to maintain a voting strength representative of population levels, a weighted voting process is used with the City of Kamloops controlling 19 of the total 37 voting units. All other municipalities and electoral areas have a voting strength of one, except the Town of Merritt which has a voting strength of two.

From the Hat Creek study area, there are five directors on the Regional Board - one each from the Villages of Ashcroft, Cache Creek, and Clinton, and one each from Electoral Area 1 (area between

Cache Creek and Lytton) and Electoral Area E (area surrounding Clinton).

### Legislative Functions and Responsibilities

Planning and Land Use Control - In the context of this study, the Regional District function of prime importance is that of regional and community planning in all unorganized rural areas not within municipal boundaries. Municipalities may utilize the planning services of the Regional District planning department, but are not obliged to do so. In the same unorganized areas, Regional Districts exercise land use control by means of zoning bylaws. Subdivision applications are reviewed by the Regional District, but the final approving authority is the Department of Highways Regional Approving Officer. In addition to the foregoing, the Regional District is consulted by the B.C. Land Commission on all applications for exclusion of land from the A.L.R., or subdivision of lands within the A.L.R.

Building Regulations - The Regional District is also responsible in unorganized areas for legislating building bylaws and for providing building inspection services. The smaller Village municipalities generally contract their building inspection function to the Regional District, although the Village of Cache Creek has recently taken on the task of building inspection on its own.

Provision and Delivery of Services - In the study area, the Regional District provides the following services:

- public library service
- refuse disposal - to all rural areas and on contract to the Village of Ashcroft, Cache Creek and Clinton
- fireworks and firearms regulation
- control of untidy and unsightly premises

a) Ashcroft

(i) Expenditures

A. Historical Expenditures

The following is a summary on a biannual basis (1970-1976) of actual expenditures on all services provided by the Village of Ashcroft. A detailed outline of expenditures by category is presented in Appendix G, Table G.1. It should be pointed out that these figures will not be strictly comparable with the figures used in projecting expenditures to 1990. In the table of Historical Expenditures, all capital payments are combined in a single category - fiscal services. In the table of Projected Expenditures, payments on long-term debenture debts are included in the various classifications (e.g. roads, sewers). As a result, the fiscal services classification is reduced to a minor item which includes only servicing charges or short-term loans.

A further distinction between historical and projected expenditures is that expenditures on sewer, water, garbage services, and contributions to a reserve fund are included in historical expenditures and excluded from projected expenditures.

Summary of Historical Expenditures

	<u>1970</u>	<u>1972</u>	<u>1974</u>	<u>1976</u>
Population	1,900	1,950	2,000	2,500
Total Expenditures	\$189,718	\$266,925	\$452,123	\$603,014

The above totals include expenditures on general government, protective services, transportation, environmental health, public health the welfare, environmental development, recreation and cultural, fiscal services, transfers to reserves, capital from reserves, water

works, and other services.

3. Projected Expenditures to 1990 - Without the Project

In projecting expenditures, the following approach was used:

1. Under each category of expenditures are included operating and maintenance costs, capital costs (debt retirement), and purchase of capital items from general revenue.
2. All estimates are expressed in constant 1976 dollars.
3. It is assumed that sewer, water, and garbage services are totally self-sustaining. As such, there will be no deficit or surplus which will have an effect on the general revenue fund. These items are therefore excluded from the projection of expenditures.
4. It is assumed that there will be no contributions to a reserve fund. All capital items will either be totally financed in the year of purchase (capital from revenue) or financed on a long term debt retirement basis.
5. It is predicted that costs will generally rise approximately in proportion with the projected increases in population. No major capital expenditures in Ashcroft are anticipated. Consideration is given to the need for improvements to the Village office and community center, but major rehabilitation or rebuilding is assumed to be beyond the financial capability of the Village.



Summary of Projected Expenditures to 1990

	<u>1978</u>	<u>1980</u>	<u>1982</u>	<u>1984</u>	<u>1986</u>	<u>1988</u>	<u>1990</u>
Estimated Population	2,070	2,400	2,400	2,400	2,620	2,800	2,970
Total Expenditures \$ Thousands	418.5	477.0	477.0	477.0	508.2	539.4	569.5

A detailed projection of expenditures by category is presented in Appendix G, Table G.2.

(ii) Revenues

A. Historical Revenues

Following is a summary on a biannual basis (1970-1976) of revenues from all sources in the Village of Ashcroft.

Summary of Revenues: 1970 - 1976

	<u>1970</u>	<u>1972</u>	<u>1974</u>	<u>1976</u>
Population	1,900	1,950	2,000	2,005
Property Tax	\$ 44,090	\$ 67,130	\$138,910	\$145,087
Sewer, Water, Garbage	\$ 78,323	\$107,265	\$145,807	\$186,638
All Other Sources	\$ 56,156	\$ 91,867	\$175,162	\$268,989
Total Revenue	\$178,569	\$266,144	\$459,879	\$600,714

A detailed summary of revenues by category is presented in Appendix G Table G.3.

B. Projected Revenues

For projecting purposes, revenues are classified into two broad categories - revenues from non-property tax sources, and property tax revenues. Revenues from the water, sewer, and garbage utilities are excluded since it is assumed that these utilities will be totally self-sustaining.

1. Non-Property Tax Revenues

The following projections are a summary of detailed calculations presented in Appendix G, Table G.4.

Projected Revenues From Non-Property Tax Sources

	1978	1980	1982	1984	1986	1988	1990
	\$000	\$000	\$000	\$000	\$000	\$000	\$000
Grants	131.5	147.3	147.3	147.3	158.6	167.5	176.0
From Own Sources	79.0	87.0	87.0	87.0	92.0	96.0	100.5
Total	210.5	234.3	234.3	234.3	250.6	263.5	276.5

2. Revenue From Property Taxes

The revenue which must be generated by property taxes is the difference between projected expenditures and projected revenues from non-property tax sources.

Revenue Requirements from Property Taxes

	1976	1978	1980	1982	1984	1986	1988	1990
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
Estimated Expenditures	603.3	418.5	477.0	477.0	477.0	508.2	239.4	569.5
Estimated Non-Property Tax Revenues	458.2	210.5	234.3	234.3	234.3	250.6	263.5	276.5
Required Revenue From Property Tax	141.1	208.0	242.7	242.7	242.7	257.6	275.9	293.0

The sharp jump in required revenue from property taxes in 1978 can be attributed to several factors:

- No contribution to general revenue fund from water, sewer, or garbage utilities.
- Increases in expenditures associated with new arena.
- It is assumed there will be no revenue from reserve fund. In 1976, \$53,600 was taken out of the reserve fund and only \$12,500 was put in.

(iii) Assessment and Property Tax Rates

In 1976, the per capita taxable assessment in Ashcroft was approximately \$2,350. The two main components of assessed values were residential - 63%, and commercial - 22%. It is considered that the mix of assessed values attributed to residential, commercial, and other uses will not vary significantly in the foreseeable future. This can be attributed primarily to the fact that the majority of commercial and industrial establishments serve the local population, rather than a large non-local clientele as is the case with businesses in Cache Creek. Assuming continuation of restricted value assessments\*, it is therefore projected that assessed values will increase directly in proportion to increases in Ashcroft's population.

	1976	1978	1980	1982	1984	1986	1988	1990
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
Projected Assessment For Municipal Purposes	4,711	5,200	6,040	6,040	6,040	6,580	7,020	7,460

\* With pending legislation to shift to actual value assessments, this assumption may be obsolete in the near future.

The property tax rate (mill rate) required to generate the revenue requirements from property tax is calculated by applying the projected revenue requirements to the projected assessments outlined above. These rates are outlined as follows:

	<u>1976</u>	<u>1978</u>	<u>1980</u>	<u>1982</u>	<u>1984</u>	<u>1986</u>	<u>1988</u>	<u>1990</u>
Mill Rate Level to Generate Property Tax Revenue Requirements	30.8	40.0	39.9	39.9	39.9	38.4	38.3	38.0

As these figures indicate, aside from a sharp jump in tax rates anticipated between 1976 and 1978, property taxes in Ashcroft can be expected to be relatively stable at levels which are not considered excessive.

(iv) Water and Sewer Services

In evaluating the financial aspects of the community water and sewer services, the following approach was used:

1. Estimate of annual capital costs - debt retirement on existing and new works.
2. Estimate of operating and maintenance costs.
3. Estimate of net municipal costs, after taking into consideration the financial assistance available from the Provincial and Federal Governments.
4. Calculation of required rate structure (user fees) to generate required funds.
5. Evaluation on a comparative basis of resultant structure with other B.C. Municipalities.

A review of user fees for water and/or sewer (generally made up by flat rate levies and/or frontage taxes) in other B.C. municipalities would suggest a basis for comparison as follows:

<u>Annual Levy for Each Utility (Water or Sewer)</u>	<u>Comparative Evaluation</u>
\$70 or less	relatively low
\$70 - \$100	average
\$120	relatively high
\$150	excessive

A. Sewer

A major upgrading of the Village sewer system is currently being undertaken. The following is an analysis of projected costs for the system, showing costs to the Village with and without the existing assistance available from the federal and provincial governments.

<u>Item</u>	<u>Estimated Annual Costs</u>	
1. Capital Costs		
- New Works	\$141,200	
- Existing Facilities	<u>24,700</u>	\$165,900
2. Operating, Maintenance plus Contingencies	\$ 54,000	<u>54,000</u>
TOTAL		\$219,000

Without any assistance, therefore, the annual cost to the Village would be approximately \$220,000. With assistance under existing provincial and federal programs, however, the annual cost to the Village is reduced to approximately \$100,000. In order to raise this amount, it is anticipated that the following rate structure will be imposed:

- Sewer utility rate - \$6.00 per month or \$72.00 per year plus
- Frontage tax - \$0.85 per front foot.

Assuming an average lot frontage of 65 feet, total annual sewerage costs would be approximately \$130 per year per user. Although these rates are relatively high when compared to other B.C. municipalities, they are not considered excessive. It is apparent, however, that without the assistance available from the provincial and federal governments, the resultant rates would definitely be excessive.

With increases in population, a decrease in costs per capita can be expected, since the design capacity of the system far exceeds the existing population. There will be little effect on user rates, however, since the annual provincial contribution will decrease as the level of property assessments in the Village increases.

#### B. Water

Current expenditures on the water system are outlined as follows:

<u>Item</u>	<u>Annual Expenditures</u>
Capital - Debt Retirement	\$32,110
Operating and Maintenance	57,245
TOTAL	<u>\$89,355</u>

Existing water rates are outlined as follows:

- Water utility rate - \$5.00 per month or \$60.00 per year plus
- Frontage tax - \$0.50 per front foot.

Assuming an average lot frontage of 65 feet, total annual water costs would be approximately \$90 per year per user, a moderate rate when compared to provincial averages.

The estimated capital cost of improvements required to accommodate population increases to 1990 is \$280,000, which is equivalent to a debt retirement payment of approximately \$ 30,000 per year. Assuming this work is undertaken in 1980, annual costs after that date are estimated as follows:

<u>Item</u>	<u>Estimated Annual Expenditure</u>
Capital - Debt Retirement	\$ 62,000
Operating and Maintenance	<u>65,000</u>
TOTAL	\$127,000

Without government assistance, annual costs would therefore be approximately \$127,000. With provincial government assistance, total annual costs are expected to be reduced to approximately \$95,000. Total costs per capita would not be significantly higher than present costs and as such, rates would not be altered significantly.

Without government assistance, it is estimated that user rates would have to be increased by approximately 30% to a level of approximately \$120 per year per user. This is a relatively high level of user rates, but is not considered excessive.

b) Cache Creek

(i) Expenditures

A. Historical Expenditures

The following is a summary on a biannual basis (1970-1976) of actual expenditures on all services provided by the Village of Cache Creek. As with the figures produced for Ashcroft, these figures will not be strictly comparable with the figures used in projecting expenditures to 1990. A detailed outline of expenditures by category is presented in Appendix G, Table G.5.

Summary of Expenditures: 1970 - 1976

	<u>1970</u>	<u>1972</u>	<u>1974</u>	<u>1976</u>
Population	1,000	1,150*	1,200*	1,040**
Total Expenditures	\$130,574	\$231,022	\$320,287	\$479,784

The above totals include expenditures on general government, protective services, transportation, environmental health, public health and welfare, environmental development, recreation and cultural, fiscal services, transfers to reserves, capital from reserves, water works, and other services.

B. Projected Expenditures to 1990 - Without the Project

A summary of projected expenditures to 1990 is shown below. The assumptions used in preparing these figures are similar to those used in preparation of projected expenditures in Ashcroft. Major capital expenditures anticipated by the Village and reflected in the 1977 Capital Works Budget include the following:

- 
- Municipal Estimate
  - \*\* 1976 Census Population



1980 - New Civic Building	\$100,000	
1980 - New Fire Hall	\$800,000	
1989 - Street Improvements	\$300,000	
(Net Cost to Municipality)		(\$200,000)
1981 - Sports Complex	\$700,000	
(Net cost to Municipality)		(\$500,000)

It should be noted that a firm decision has not been made by the Village to proceed with these major capital works in the event the Hat Creek project does not proceed.

Summary of Projected Expenditure to 1990

	<u>1978</u>	<u>1980</u>	<u>1982</u>	<u>1984</u>	<u>1986</u>	<u>1988</u>	<u>1990</u>
Estimated Population	1,080	1,185	1,185	1,185	1,330	1,450	1,570
Total Expenditure \$ Thousands	232.0	280.0	350.0	350.0	369.5	384.0	403.0

A detailed projection of expenditure by category is presented in Appendix G, Table G.6.

(ii) Revenue

A. Historical Revenue

Following is a summary on a biannual basis (1970 - 1976) of revenues from all sources in the Village of Cache Creek.

Summary of Revenues: 1970 - 1976

	<u>1970</u>	<u>1972</u>	<u>1974</u>	<u>1976</u>
Population	1,000	1,100	1,200	1,040
Property Tax	\$ 27,032	\$ 44,577	\$101,762	\$116,352
Sewer, Water, Garbage	72,559	111,156	108,863	242,402
All Other Sources	32,283	49,222	55,102	63,300
Total Revenue	\$131,874	\$204,955	\$265,727	\$422,054

A detailed summary of revenues by category is presented in Appendix G, Table G.7.

B. Projected Revenues

As in the case of Ashcroft, revenues are classified into two broad categories - revenues from non-property tax sources, and property tax revenues. Revenues from the water, sewer, and garbage utilities are excluded since it is assumed that these utilities will be totally self-sustaining.

1. Non-Property Tax Revenues

The following projections are a summary of detailed calculations presented in Appendix G, Table G.8.

Projected Revenues From Non-Property Tax Sources

	1978	1980	1982	1984	1986	1988	1990
	\$000	\$000	\$000	\$000	\$000	\$000	\$000
Grants	85.7	90.5	90.5	90.5	96.7	102.0	107.3
From Own Sources	20.3	21.8	21.8	21.8	22.7	23.7	25.2
Total	106.0	112.3	112.3	112.3	119.4	125.7	132.5

2. Revenue From Property Taxes

The revenue which must be generated by property taxes is the difference between projected expenditures and projected revenues from non-property tax sources.

Revenue Requirements From Property Taxes

	<u>1976</u>	<u>1978</u>	<u>1980</u>	<u>1982</u>	<u>1984</u>	<u>1986</u>	<u>1988</u>	<u>1990</u>
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
Estimated Expenditures	207.9	232.0	280.0	350.0	350.0	369.5	384.0	403.0
Estimated Non-Property Tax Revenues	100.0	106.0	112.3	112.3	112.3	119.3	125.7	132.0
Required Revenue From Property Tax	116.4*	126.0	167.7	237.7	237.7	250.2	258.3	271.0

\* Surplus budget in 1976.

(iii) Assessment and Property Tax Rates

In 1976, the per capita taxable assessment in Cache Creek was \$3,997. The two main components of assessed values are residential - 34.6%, and commercial - 62%. The proportion of commercial values compared to total values is disproportionately high, and this proportion is expected to decline as additional residential development takes place. It is therefore assumed in projecting assessments that the residential component of assessments will increase proportionately to population increases; the commercial component will increase somewhat slower, even though a sizable shopping center is planned for the community.

Projected Property Assessments and Tax Rates

	<u>1976</u>	<u>1978</u>	<u>1980</u>	<u>1982</u>	<u>1984</u>	<u>1986</u>	<u>1988</u>	<u>1990</u>
Projected Assessment Municipal Purposes \$ Thousands	4,157	4,500	5,000	5,000	5,200	5,400	5,600	6,000
Required Revenue From Property Tax \$ Thousands	116.4	126.0	167.7	237.7	237.7	250.2	258.3	271.0
Mill Rate Level to Generate Property Tax Revenue Requirements	28.0	28.0	33.5	47.5	47.5	46.3	46.1	45.2

This significant mill rate increase can be attributed entirely to the rather ambitious capital works program of the Village, and in particular, the construction of a sportsplex, the net cost (capital plus operating deficit) of which is expected to amount to approximately \$100,000 per annum.

(iv) Water and Sewer Services - User Rates

A. Sewer

As outlined in Section 3.7, the existing sanitary sewer system is generally adequate, although a \$50,000 upgrading program is currently being carried out.

	<u>Estimated Annual Costs</u>
Capital Costs	\$50,000
Operating and Maintenance	40,000
Total	<u>\$90,000</u>

In 1976, the Village budgeted to receive \$19,000 from the provincial government under the provisions of the Sewer Facilities Assistance Grant. With the additional work to be undertaken in 1976/1977, it is estimated that this grant will increase to approximately \$24,000 per year. Net costs to the Village will therefore be \$66,000. In 1976, projected revenues from sewer user fees were budgeted at approximately \$62,000. It is therefore anticipated that the existing annual rates of approximately \$120 per residential lot will be adequate in the foreseeable future.

B. Water

Existing water facilities will generally be adequate to accommodate projected population increases to 1990.

	<u>Estimated Annual Costs</u>
Capital Costs	\$44,000
Operating and Maintenance	<u>18,000</u>
Total	\$62,000

In 1976, the Village budgeted to receive \$23,300 from the provincial government under the provisions of the Water Facilities Assistance Grant. Net costs to the Village are therefore approximately \$39,000 per year. In 1976, budgeted revenues from user rates were \$66,000, resulting in a substantial surplus which will be carried over for use in future years.

Existing water rates of approximately \$165 per year for an average residential lot are relatively high. No further increases will be required in the foreseeable future.

c) Clinton

(i) Expenditures

A. Historical Expenditures

The following is a summary on a biannual basis (1970-1976) of actual expenditures on all services provided by the Village of Clinton. As with the figures produced for Ashcroft and Cache Creek, these figures will not be strictly comparable with the figures used in projecting expenditures to 1990. A detailed outline of expenditures by category is presented in Appendix G, Table G.9.

Summary of Expenditures: 1970 - 1976

	<u>1970</u>	<u>1972*</u>	<u>1974</u>	<u>1976</u>
Estimated Population	1,150	890	920	806**
Total Expenditures	\$118,400	\$112,000	\$158,600	\$216,900

\* The 1971 Census population was 905.

\*\* 1976 Census population.

B. Projected Expenditures to 1990 - Without the Project

Projections of expenditures to 1982 are shown below. Since population levels after 1982 are expected to remain static, it is assumed that expenditures in 1990 will be roughly equivalent to expenditures in 1982 (i.e. assuming no inflation). In addition, no major capital expenditures (other than general water and sewer upgrading) are anticipated.

Summary of Projected Expenditures to 1990

	<u>1978</u>	<u>1980</u>	<u>1982 - 1990</u>
Estimated Population	805	805	1,120
Total Expenditures \$ Thousands	110.5	110.5	137.0

A detailed projection of expenditure by category is presented in Appendix G, Table G.10.

(ii) Revenues

A. Historical Revenues

Following is a summary on a biannual basis (1970-1976) of revenues from all sources in the Village of Clinton.

Summary of Revenues: 1970 - 1976

	<u>1970</u>	<u>1972</u>	<u>1974</u>	<u>1976</u>
Population	1,150	890	920	806
Property Tax	\$ 12,000	\$ 13,000	\$ 15,900	\$ 26,000
Sewer, Water, Garbage	54,200	60,800	76,400	78,300
All Other Sources	51,500	40,100	68,700	79,100
Total Revenue	\$117,700	\$113,900	\$161,000	\$183,400

A detailed summary of revenues by category is presented in Appendix G, Table G.11.

## B. Projected Revenues

### 1. Non-Property Tax Revenues

The following projections are a summary of detailed calculations presented in Appendix G, Table G.12.

	<u>1978</u>	<u>1980</u>	<u>1982 - 1990</u>
Grants	\$66,700	\$66,800	\$80,400
From Own Sources	<u>12,900</u>	<u>12,900</u>	<u>14,600</u>
Total	\$79,600	\$79,700	\$95,000

### 2. Revenue From Property Taxes

#### Revenue Requirements From Property Taxes

	<u>1976</u>	<u>1978</u>	<u>1980</u>	<u>1982 - 1990</u>
	\$000	\$000	\$000	\$000
Estimated Expenditures	112.1	110.5	110.5	137.0
Estimated Non-Property Tax Revenues	88.7	79.7	79.7	95.0
Required Revenue From Property Tax	26.8*	30.8	30.8	42.0

\* Slight surplus in 1976.

### (iii) Assessment and Property Tax Rates

In 1976, the per capita taxable assessment in Clinton was approximately \$2,236. The two main components of assessed values are residential - 56%, and commercial - 42%. It is assumed that increases will be proportionate to population increases.



Projected Property Assessments and Tax Rates

	<u>1976</u>	<u>1978</u>	<u>1980</u>	<u>1982 - 1990</u>
Projected Assessment For Municipal Purposes \$ Thousands	1,722	1,800	1,800	2,500
Required Revenue From Property Tax \$ Thousands	26.8	30.8	30.8	42.0
Required Mill Rate To Generate Property Tax Revenue Requirements	15.6	17.1	17.1	16.8

As indicated above, it is expected that tax rates will be maintained at a very low level, assuming that the Village does not undertake any major capital works projects.

(iv) Water and Sewer Services - User Rates

A. Sewer

The existing sanitary sewer system is generally adequate, with only minor extensions required to accommodate an increase in population to 1,120.

Estimated Annual Costs

Capital Costs	\$30,000
Operating and Maintenance	18,000
Total	<u>\$48,000</u>

In 1976, the Village budgeted to receive \$15,000 from the provincial government under the provisions of the Sewer Facilities Assistance Act. Net costs to the Village are therefore estimated to be \$33,000. In 1976, projected revenues from sewer use fees were budgeted at approximately \$32,500. It is therefore anticipated

that the existing annual rates of approximately \$75 per residential lot will not have to be increased significantly in the foreseeable future.

### 8. Water

Based on the need for upgrading of the water system (alternate groundwater sources, upgrading mains for fire flow), the Village has projected that capital expenditures of approximately \$110,000 will be required (equivalent to approximately \$12,000 per year).

#### Estimated Annual Costs

Capital Costs	\$18,000
Operating and Maintenance	22,000
Total	<u>\$40,000</u>

Under the Water Facilities Assistance Program, the Village would be eligible for an annual grant of approximately \$9,000. Resultant costs to the Village will therefore be approximately \$31,000. In 1976, projected revenues were \$21,000. As such, existing rates of approximately \$50 per residential lot will have to be increased significantly to approximately \$75 - \$80 per lot. The resultant rates will still be relatively low compared to rates in Cache Creek and Ashcroft.

#### d) Lillooet

A detailed financial analysis of the Village of Lillooet is not included in this study. In general terms, the Village does not have a particularly strong assessment base - the per capita taxable assessment is approximately \$1,900. As such, the tax rate is relatively high compared to the other municipalities under consideration - 34.99 mills. It is anticipated that the assessment base will improve significantly if the proposed Federal Penitentiary

is taken into the boundaries of the Village.

Even though the mill rate in Lillooet is higher than the other communities under consideration, the expenditure per capita, which could be interpreted as level of service, is significantly lower in certain areas of expenditure. The following table illustrates this.

Expenditure Per Capita

<u>Village</u>	<u>Recreation</u>	<u>Transportation</u>	<u>General Government</u>
Lillooet	20.75	37.57	49.93
Ashcroft	51.01	58.45	64.98
Cache Creek	53.55	57.98	51.63

Although existing water and sewer rates are relatively low, (water - approximately \$77 per year for an average residential lot, and sewer - approximately \$50 per year), it is anticipated that rates will have to be increased to finance the improvements required to both systems.

### 3.10 SOCIAL ENVIRONMENT

#### a) Introduction

The objectives of this section of the socio-economic studies are to describe the existing social environment in the study area and to anticipate the changes to the quality of life that will evolve through projected growth and development to 1990, without the Hat Creek project. The attributes selected to describe the quality of life in the social environment of the small towns in the study area, constitute the "human" or social resource that ultimately will be affected by, and, in turn, affect future development.

A wide range of attributes can be defined that describe the quality of life of this social resource. For the purposes of this study, the attributes have been classified into two major groupings, the social setting and the social conditions. The factors defining the social setting include the population and economic base, historical aspects, the natural environment, accessibility, availability of services, housing, land and other amenities, and the opportunity for employment and level of income.\* These are discussed in detail in previous sections of this report. These, and the summary chapter, should be read to provide an understanding of the quality of life in the study area. Also, for the interest of the reader, demographic characteristics of the residents interviewed in the Resident Survey are included in Appendix H.

The attributes describing the social conditions within the study area are grouped into three topic areas: social benefits and problems; community cohesion; and the reactions of residents to growth and development. These form the basis of discussion in this chapter.

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\* Note: The terms of reference of this study excluded the resident native people of the study area. It is understood that separate studies have been undertaken to address the socio-economic impact on the native people. This consultant recommends that the study findings be integrated before final impacts are assessed.

To describe the social environment of the area adequately, this section draws from a number of sources. A major information source was the survey of residents in the study area, conducted early in 1977. A questionnaire was administered to a random sample of over 300 persons in 145 households in Ashcroft, Cache Creek, the Hat Creek Valley, Clinton, Lillooet and the surrounding rural areas. Other data gathering techniques used by the consultants in defining the attributes of the social condition include:

- . a review of similar projects, relating to social conditions,
- . a review of literature on previous projects,
- . a survey of newspapers in the study area,
- . an interview schedule with ranchers in the Hat Creek Valley,
- . an interview schedule with key persons in the study area, and
- . incorporation of data from other study team members.

The approach to information collection for this study through survey research and community input was considered in the light of recent work in the field of social impact assessment and the definition of quality of life in small towns.

This section is divided into several parts, primarily reflecting the three chosen attributes of the social environment in the study area. Following the introduction and approach, Section 3.10 (b) defines the social benefits and problems in the study area. Section 3.10 (c) outlines the factors affecting community cohesion and the special factors within each of the study area communities. Community cohesion is discussed for two particular aspects, the stability of the communities and the level of participation of the residents in these communities. Section 3.10 (d) identifies the attitudes and the reactions of the residents to aspects of future growth, including the Hat Creek Project. Section 3.10 (e) provides comment, specifically on the social environment of the people in the Hat Creek Valley, residents of the prime impact area. This is followed by a summary of the existing social environment of the study area.

The final sections of this chapter provide an indication of the potential situation in these communities until 1990, without the project.

b) Social Benefits and Social Problems

This section not only outlines the social problems in the study area, but also attempts to portray the residents' views of the existing social benefits in the area. While in most studies the problem areas are identified, very seldom are the benefits of the region, or possible enhancement to these benefits, discussed. The benefits recognized here include aspects of both the natural environment and the community setting, as well as the availability of services in the towns. The problems to be discussed include community problems and the adequacy and availability of community services.

(i) Social Benefits

While the majority of the residents moved to the study area for economic or job related reasons, some were drawn to the region because of anticipated environmental and social benefits. Many of the others who arrived for economic reasons said that they have come to appreciate the benefits once they settled. When asked in the Resident Survey to comment on their feelings regarding the area as a place to live, 70% of the total rated it as good or excellent, specifically noting the desirability of the natural setting, the size of the communities, and the availability of services. Ranchers, farmers, and other rural residents were particularly enthusiastic. However, employees of tourist services, such as motels and restaurants, were more critical in their rating. Responses of the miners reflected the pattern of the total. See Table 3.10.1 for the responses.

TABLE 3.10.1  
REGION AS A PLACE TO LIVE

	<u>Total</u>	<u>Ranchers</u>	<u>Miners</u>	<u>Tourist Trade Employees</u>
Excellent	28.6%	64.3%	33.3%	29.6%
Good	41.6%	28.6%	41.7%	29.6%
Average	21.8%	7.1%	20.8%	22.2%
Below Average	3.5%	0.0%	0.0%	7.4%
Poor	<u>4.5%</u>	<u>0.0%</u>	<u>4.2%</u>	<u>11.1%</u>
TOTAL	100.0%	100.0%	100.0%	100.0%

SOURCE: Cornerstone Planning Group Limited, Nat Creek and Area Resident Survey, 1977

Several factors in the natural setting and location of the communities were noted as important by the residents. Many of the comments indicated that access to outdoor activities was a major benefit, especially in the clean, pollution-free environment and the relatively mild year-round climate. They felt that the outdoors and related recreational activities, both during the summer and the winter, were major attributes of the area.

The residents viewed the small town setting as very favourable. One of the major repeated comments was that the small size of the communities resulted in a friendly atmosphere. Residents of Clinton and Ashcroft noted that their rural setting was much more desirable than a large urban environment. They felt the towns were excellent family oriented communities, an ideal setting for raising their children. The other major desirable feature noted by the residents and discussed in greater detail in Section 3.5 was the general availability of services. Residents were satisfied with the majority of services in their communities, especially physical services and basic social services such as education and law enforcement. The residents also noted general satisfaction with both the availability and the quality of housing in the communities. Table 3.10.2 illustrates the satisfaction rating of all services ordered from the most to the least satisfactory.

TABLE 3.10.2  
HOUSEHOLD RATING OF SATISFACTION WITH SERVICES IN THE STUDY AREA

SERVICES	RATING (in percent)		
	Satisfied	Uncertain	Unsatisfied
Sewer Service	95.7	0.9	3.5
Garbage Collection	93.2	1.7	5.1
Law Enforcement	85.0	8.6	6.4
Fire Protection	81.5	11.3	7.2
Civic and Service Clubs	80.2	16.0	3.8
Schools	71.3	12.2	16.5
Water Supply	70.7	9.8	19.5
Medical Services	60.0	14.3	25.7
Social Services	58.2	19.1	22.6
Streets and Roads	56.8	10.6	32.6
Housing - Availability	56.1	19.7	24.3
Housing - Quality	55.5	23.4	21.1
Shopping Facilities	47.6	10.5	42.0
Local Government	45.6	28.3	25.9
Legal Service	40.8	22.4	36.8
Indoor Sports	38.0	13.9	48.2
Restaurants, Movies, etc.	27.6	11.8	60.6
Dental Services	12.5	11.6	75.9

SOURCE: Cornerstone Planning Group Limited, Hat Creek and Area Resident Survey, 1977

Services in Ashcroft were used extensively by residents for their shopping, medical, educational and religious needs, while Cache Creek appears to be an automobile and entertainment centre.

The centrality of the study area within the province was a major factor providing them with quick access to other areas of the region or the province. A two hour drive to Kamloops and a five hour drive to Vancouver made this location ideal for many residents.

The importance of Kamloops as a regional centre to the study area residents is supported by data in Table 3.10.3. A significant proportion of the residents drive there for services, especially dental, legal, and entertainment. Some residents went to Vancouver for major purchases and special services.

TABLE 3.10.3  
SERVICE USAGE IN THE STUDY AREA

SERVICES	LOCATIONS (in percent)							N/A
	Cache Creek (31.0)*	Ashcroft (28.3)*	Clinton (14.5)*	Lillooet (12.4)*	Kamloops	Vancouver	Other (13.8)*	
Medical	0.0	57.9	11.0	9.0	13.1	3.4	2.8	2.8
Dental	2.1	1.4	0.0	1.4	66.0	6.9	12.5	9.7
Legal	9.7	5.5	0.7	3.4	43.4	5.5	4.2	27.6
Educational	15.2	24.8	6.9	6.2	8.3	1.4	0.0	37.2
Religious	7.6	22.8	11.0	4.8	1.4	0.0	0.0	52.4
Entertainment	27.1	13.9	7.6	7.6	16.0	6.3	3.5	18.1

\* Percentage of survey households in sample.

SOURCE: Cornerstone Planning Group Limited, Hat Creek and Area Resident Survey, 1977

In summary, many residents of the area consider the physical and social environment to be major benefits that have influenced them to settle here and remain, even though the majority arrived for employment and economic reasons.



(ii) Social Problems

During the field work in the study area, a number of social problems became evident in the communities. These were of two types, community-related problems, and problems with the availability and adequacy of some community services. The first part of this section will discuss the community problems related to alcoholism, delinquency, marital breakdown, transiency, and employment. Residents identified problems dealing with the adequacy and availability of community services in several sectors including commercial services, social services, recreational and community services, and other amenities. These will be discussed in the second part of this section.

While criminal offences over the last few years generally have increased in the study area at a rate similar to that of the province, the RCMP have noted a 20% decrease in criminal activity in the last year. The types of activities that are occurring are, for the most part, of a relatively minor nature. These include vandalism, assault, and motor vehicle related offences, many attributed to liquor. In the local newspapers reviewed during 1976 and 1977, vandalism and petty theft offences, primarily relating to juvenile activities, were the most noted. Many of the articles indicated that the perceived solution was to provide more facilities that would "occupy the spare time" of youth in the area. (See Appendix I).

While overall offences have decreased in the last year, the RCMP reported a 65% increase in total alcohol related offences. The use of alcohol, they note, is the most serious problem in the study area. In interviews with the probation staff in Ashcroft, it was stated that a large proportion of their caseload involved impaired driving offenders. This was confirmed by the RCMP who noted an 18% increase in impaired driving offences between 1975 and 1976.

Records from the Liquor Control Board for the period from 1974 to 1976 indicate a noticeable increase in the sales and, therefore, consumption of liquor. While the rate of growth for this period seems high, almost 8%, it is only one-half of the increase noted for the province (15.3%).

TABLE 3.10.4  
LIQUOR CONTROL BOARD SALES  
IN THE STUDY AREA

<u>Town</u>	<u>1976</u> <u>Population</u>	<u>Sales</u>		<u>Rate Of</u> <u>Increase Of</u> <u>Purchases</u> <u>1974-1976</u>	<u>Per Capita</u> <u>Sale of</u> <u>Alcohol</u> <u>1976</u>
		<u>1974-1975</u>	<u>1975-1976</u>		
Ashcroft	2,030	\$ 447,924	\$ 478,418	6.8%	\$235.67
Cache Creek	1,050	563,083	610,323	8.4%	\$576.86
Clinton	810	356,332	377,755	6.0%	\$466.36
Lillooet	2,220	814,891	888,843	9.1%	\$400.38
Rural Areas	1,390	(included above)	(included above)	(included above)	(included above)
<u>Total</u> <u>Study Area</u>	<u>7,500</u>	<u>\$ 2,182,230</u>	<u>\$ 2,355,339</u>	<u>7.9%</u>	<u>\$314.05</u>
British Columbia	2,466,608	\$388,680,426	\$448,323,149	15.3%	\$181.76

SOURCE: Liquor Control Board, Financial Statements and Annual Reports  
1974, 1975, 1976

Another interesting indicator, however, is the per capita sale of alcohol in the study area. The average of \$314.05 per person is 70% higher than the provincial average. The sales rate was higher in Cache Creek than in other communities, perhaps because it is located on the Trans Canada Highway and, therefore, received an extensive transient customer population. This was reflected in an apparent higher amount of liquor consumed per capita in that community.

Even though the relatively high consumption levels in Cache Creek could be attributable to the liquor store's centrality, the amount of liquor purchased in other study area towns, especially Lillooet, is significantly higher than the provincial average as well. Ashcroft is the only community that appears to be close to the provincial average for the per capita sale of alcohol and had one of the lowest rates of increase in purchases in the study area.

Other problems became apparent in the communities, but were less

severe than those previously mentioned. Welfare and social assistance cases, although fairly heavy, were noted as being at the lowest level in several years. Nearly two-thirds (60%) of the caseload reside in Clinton, with 20% in Ashcroft, and 15% in Cache Creek. Single parent families comprise a relatively large proportion of that caseload. A number of service delivery representatives indicated in interviews that marriage breakups were prevalent, however, this did not show up in the Resident Survey and government statistics on that variable reveal similar figures on divorce or separation rates as in other areas of the province.

It was indicated by the RCMP that an increased use of the Trans Canada Highway has resulted in a transiency problem in the area, especially in Cache Creek. Police said that locating transients wanted for various offences elsewhere is a major task. Officials estimated that they arrested and held two or three transients per week for other jurisdictions.

Another form of transiency has resulted from a high degree of resident mobility and the accessibility of other centres, such as Kamloops, Prince George, and Vancouver. This is particularly relevant to problems associated with young people. Youth in the study area have become very mobile, making use of their relatively large disposable incomes acquired while working part-time in the service sector in Cache Creek or at the mines in the Highland Valley. Many have worked in the service sector since 13 years of age and can afford to purchase cars at 16.

Teachers in the Ashcroft Senior Secondary School indicated that a high drop-out rate was normal as the students reached 16 and were able to take available low skill, high paying jobs. This has been associated with a perceived increase in juvenile problems related to alcohol and vandalism as discussed earlier. Drugs do not appear to have become a major problem in the study area, however, they are still a concern to local officials.

Residents also were concerned with the delivery of some community services in the study area. As discussed previously, and noted in Table 3.10.2, satisfaction was expressed with many services. However, the lack of dentists, optometrists, and other specialists was a commonly referenced

problem. Cultural, entertainment, and sports facilities and programs were noted as lacking in the communities, especially indoor sports activities, restaurants, and movies. When asked what services were desired in the community, the major request from residents was for recreational facilities. These were a covered swimming pool, bowling alley, and a public skating and curling rink. Some residents commented on the need for cultural facilities and programs, referring to the study area as a "cultural wasteland". Tied closely to this was the lack of variety and competition in shopping, with many people driving to Kamloops or Vancouver for major purchases.

The major problem perceived by the residents to be facing the study area is that of employment. Although employment is discussed in detail in Section 3.2 of this study, many of the concerns expressed to the consultants were associated with employment and, therefore, warrant further discussion.

As mentioned, the study area has gone through a number of employment booms in its recent history, primarily due to its reliance on the basic sector, resource extraction industries. At present, the study area is undergoing a slow period due to economic downturns which have affected a number of development decisions in the region. Mining, the major income contributor, is relatively static while forestry and the service sector, the other two major income producers have shown a decline in the study area with serious effects on Clinton and the whole area. The impacts of this have created significant concern among the residents and local government agencies regarding methods to stabilize, and hopefully increase, both basic and service sector employment. One outcome at the regional level has been the creation of the Community Employment Strategy Program, currently operating out of Kamloops and described in detail in Section 3.2, Labour Force and Employment. The program is currently being evaluated and no indication of its success is known at this time.

While, at present, there is relatively stable employment accompanied by a fairly low unemployment rate compared with the rest of the province, this is a somewhat inaccurate portrayal as many of the unemployed have left the area seeking employment elsewhere. The Resident Survey noted

that the majority of residents would leave the area only if they had to seek employment elsewhere.

In summary, while there are a number of social problems in the study area communities, research findings indicate that they are not severe in comparison to other regions in the province in 1977. The major social problems, from the point of view of the residents, are related to employment, juvenile delinquency and alcohol-related offences, and the lack of some services. The social problems at the present time, in the view of the residents, are outweighed by the social benefits in the area and within the communities. This is supported by the Resident Survey, which noted that approximately 70% of the residents surveyed indicated that the study area was a good place in which to live.

c) Community Cohesion

One of the major attributes of the quality of life in a community is community cohesion. In many small communities, especially those affected by a fluctuating population, whether through growth or decline, cohesion is the extent to which the residents have a feeling of identification or "belonging" in the community. This feeling of being a part of a community affects the residents' desire to remain in the community and become involved in the activities of the community. There is little information available on resident satisfaction with the quality of life in small communities, or methodologies to assess community cohesion. However, for the purpose of this study, the consultants have defined two basic indicators of community cohesion, the stability of the residents in their community and their level of participation in community events and activities. These are outlined in the following section.

(i) Community Stability

To determine the stability of residents within their community, a number of indicators have been assessed, including the communities' historical growth, reasons for moving to the community, length of residency, reasons for leaving and factors of resident satisfaction.

In addition to determining resident satisfaction with both the study area and the community, questions were asked regarding an assessment of the area as a place to live, as well as satisfaction with the services and the activities available in the community. These indicators are outlined and evaluated in the following sections.

The communities within the study area saw their beginnings with the advent of the Cariboo Wagon Road constructed to service the gold rush of the late 1800's. Although Ashcroft and Clinton became service centres on the road, the major growth did not occur in these towns until the early 1960's when large deposits of base metals were discovered in the Highland Valley. This resulted in a rapid increase in Ashcroft's population. At the same time, Cache Creek was growing because of its location on the busy Trans Canada Highway. Clinton and Lillooet, primarily dependent on forestry activities, grew steadily at that time. However, Clinton's economic base was extremely eroded during the 1960's and there has been a continuing decline in its population.

History has produced a variety of social groups in these communities. On the one hand, there is a relatively stable population of long time residents, notably ranchers and farmers in the rural areas, including the Hat Creek Valley. Then, there is the newer population who have moved in during the last two decades with the advent of mining and other resource extraction enterprises, as well as the increased service sector activities. The stability characteristics can be seen to some extent in Table 3.10.5, Length of Residency in the Study Area. Nearly one-half of the residents have lived in the region for more than ten years and nearly one-half of these, for 20 years or more. The remaining portion of the residents have lived in the region less than ten years and are generally the "newcomers" to the area. Those who have lived in the area from three years to 15 years, about one-half of the population, arrived in the region during the prime growth period of mining and service sector expansions. Cache Creek and Ashcroft became the prime residential locations for these incoming residents. Table 3.1.1 in the Population section of this report notes more than a 50% increase in population in these two communities from 1966 to 1971 tapering to approximately 5% growth for the period 1971 to 1976.

TABLE 3.10.5  
LENGTH OF RESIDENCY IN THE STUDY AREA

	<u>Total</u>	<u>Hat Creek Valley Residents</u>	<u>Mining Residents</u>
Less than 6 months	5.2%	0.0%	16.0%
6-12 months	4.2%	5.3%	4.0%
1 - 2 years	5.9%	0.0%	4.0%
3 - 5 years	17.6%	21.1%	16.0%
6 - 10 years	19.5%	26.3%	20.0%
11 - 15 years	15.6%	5.3%	24.0%
16 - 20 years	9.4%	0.0%	12.0%
20+ years	<u>22.5%</u>	<u>42.1%</u>	<u>4.0%</u>
*TOTAL	100.0%	100.0%	100.0%
N =	307	19	25

SOURCE: Cornerstone Planning Group Limited,  
Hat Creek and Area Resident Survey, 1977

\* May not total 100%  
due to rounding

In Table 3.10.6, Length of Residency and Reasons for Moving to the Area, it can be seen that the communities in the study area have a fairly even distribution of longtime residents compared with new residents. Ashcroft notes the largest number of residents living in the community for between 11 and 20 years. This was the period during the late 1950's when the first major developments occurred in the Highland Valley. The Hat Creek Valley and Clinton, on the other hand, noted a large percentage of their populations resident for greater than 20 years. From these characteristics, it could be assumed that the population in the study area is generally very stable, with a large number of the residents living in the area for a long period of time. In addition, of those people who have moved to the study area, one-third have lived in other areas of the interior region in the past. Also, it can be seen that the major reason for coming to the region has been economic, with nearly three-quarters of the Ashcroft residents stating this as their prime reason for living there.

An assessment of the number of telephone disconnections over the past few years, however, provides an indication of the number of residents leaving communities or moving within their community. Discussion with B.C.

TABLE 3.10.6  
LENGTH OF RESIDENCY AND REASON FOR MOVING  
TO THE AREA

	<u>Length of Residency</u> <u>in Area (Years)</u>					<u>Reason for Moving</u> <u>to the Area</u>		
	<u>&lt; 3</u>	<u>3-5</u>	<u>6-10</u>	<u>11-20</u>	<u>20+</u>	<u>Economic</u> <u>Opportunity</u>	<u>Climate</u> <u>Environment</u>	<u>Personal &amp;</u> <u>Other</u>
Hat Creek	5.3%	21.1%	26.3%	5.3%	42.1%	50.0%	35.7%	14.3%
Cache Creek	15.6%	21.6%	19.6%	26.4%	16.7%	60.5%	16.4%	23.3%
Ashcroft	18.6%	12.8%	22.1%	29.0%	17.4%	77.1%	15.6%	7.2%
Clinton	17.2%	14.1%	14.1%	23.4%	31.3%	57.6%	12.1%	30.2%
Lillooet	8.1%	24.3%	16.2%	27.0%	24.3%	56.7%	13.3%	30.0%

SOURCE: Cornerstone Planning Group Limited, Hat Creek and Area Resident Survey, 1977

Telephone company representatives indicated that most telephone dis-connects were most likely related to out-migration from the study area, rather than internal movements between or within communities. Table 3.10.7 indicates that most of the communities saw a steady turnover over the period from 1972 to 1976. Ashcroft, in fact, had a 34% increase in telephone disconnections over this period.

This may indicate that there is a low turnover rate amongst the long time residents while a higher turnover is prevalent among the more recent arrivals in the study area, primarily in the mining and service sector residents.



TABLE 3.10.7  
TELEPHONE DISCONNECTIONS IN THE STUDY AREA

<u>Community</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>Population</u>	<u>% Change 1972-1976</u>	<u>1976 Per Capita Disconnections</u>
Asncroft	269	330	336	348	360	2,030	34%	1:177
Cache Creek	252	288	226	281	255	1,050	1%	1:243
Clinton	148	161	157	186	162	810	9%	1:200
Lillooet	227	279	301	313	333	2,220	47%	1:150
<b>Study Area Total</b>	<b>896</b>	<b>1058</b>	<b>1020</b>	<b>1128</b>	<b>1110</b>	<b>6,110</b>	<b>24%</b>	<b>1:182</b>

SOURCE: Forecasting Department, B.C. Telephone Company, September, 1977

Information on future resident stability was solicited in a question in the Survey directed to high school students in the sample households to determine their desire to work in the area. Nearly one-half of the students indicated an interest in remaining, as noted in Table 3.10.8.

TABLE 3.10.8  
STUDENT INTEREST IN WORKING IN THE AREA

Very interested	18.8%
Interested	28.1%
Uncertain	31.3%
Not interested	18.8%
Don't know	3.1%
* TOTAL	100.0%

- May not total 100% due to rounding

SOURCE: Cornerstone Planning Group Limited, Hat Creek and Area Resident Survey, 1977

Some were not interested in remaining in the area, while many, as can be expected, were uncertain of their future plans. Many indicated that they wanted to stay because of their familiarity with the area and because their families and friends were located there. Others noted the desirability of the environmental attributes, as well as the enjoyment of the small town atmosphere. While most wanted to remain, their concern was that they would be unable to find full-time, interesting work. Those expressing interest in leaving indicated that they either intended to continue their education or look for work elsewhere, as there were few jobs and little selection or variety available in the study area.

Two questions were asked of the adult population regarding their anticipated residency in the community. The first was, "How long do you plan to stay in the area?", and resulted in nearly 40% stating they would stay as long as possible. Only a small number indicated that they planned to leave in less than two years (Table 3.10.9).

TABLE 3.10.9  
LENGTH OF TIME  
RESIDENTS PLANNED TO REMAIN

0 - 12 months	3.2%
1 - 2 years	6.1%
3 - 5 years	7.4%
6 - 10 years	1.9%
Over 10 years	4.2%
As long as possible	38.8%
Don't know	<u>38.8%</u>
*TOTAL	100.0%

\* May not total 100%, due to rounding

SOURCE: Cornerstone Planning Group Limited, Hat Creek and Area Resident Survey, 1977

The large number indicating that they did not know, expressed concern about the stability of the economic base and the related job market. When asked under what conditions they would leave, many observed that it would be only to seek work elsewhere. Environmental loss, pollution,

and overcrowding would cause a fair portion to move from the study area to find natural amenities in other areas of the province (Table 3.10.10).

TABLE 3.10.10  
CONDITIONS FOR LEAVING THE AREA

Would not move	6.7%
Personal	6.3%
To seek other employment, job transfer, job opportunities	51.1%
Environmental loss, pollution, or overcrowding	16.8%
Other (e.g. housing, education, win lottery)	<u>19.1%</u>
TOTAL	100.0%

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SOURCE: Cornerstone Planning Group Limited, Hat Creek and Area  
Resident Survey, 1977

The study area communities are relatively stable in comparison with other B.C. resource-based towns, where the economic base is not diversified and the turnover rate may exceed 80% per year. The area was settled before the gold rush when the first ranches were established. Some residents have lived there all their lives, and many for more than 20 years, providing a stabilizing sector in the population. The amenities of the area have attracted other new residents who think of the region as a good place to live and intend to stay. For the most part, residents would leave the study area only to seek employment elsewhere.

(ii) Level of Participation

In attempting to assess the level of resident participation in the study area communities, measures of a number of indicators have been reviewed. These included a definition of the sociological groupings in the community, the type and number of events and social organizations in which residents participated and their feelings toward local government. Community participation in events relating to the potential Hat Creek developments is discussed.

Various kinds of organizations, community groups, interest groups and individuals are active and operational in the study area. One category, government agencies, operates at several levels within the study area. Representatives are elected from the region for both federal (Members of Parliament) and provincial (Members of the Legislative Assembly) governments. At present, the federal representative resides in Kamloops, while the local MLA resides in Victoria. These officials are aware of the activities occurring in the study area and are accessible by the local populace, as their elected representatives, to assist with any problem areas. Another level of government is the Thompson-Nicola Regional District, the offices of which are located in Kamloops. A structure has been defined to involve them in the ongoing planning activities for the Hat Creek project. This committee is outlined in greater detail in the chapter on methodology. At the local level, the Village Councils in Ashcroft, Cache Creek, Clinton and Lillooet, as well as the school board and the health board, are influential in the development activities of their communities.

Community organizations typical of small communities exist in the towns in the study area. Several agriculture and ranching associations operate in the Cache Creek, Ashcroft, Clinton area including the Cattlemen's Associations, the Cattlemen's Research Association, the Stampede Association and the Fall Fair Association.

Various church groups as well as service organizations are quite active in the immediate area. The Resident Survey data indicate that participation by Ashcroft residents in social activities is somewhat limited compared to the other communities. Often, in fact, more residents from Cache Creek and the surrounding areas attended Ashcroft functions than Ashcroft residents themselves. Most of the towns have a normal number of service organizations, societies, associations, social clubs and civic organizations in comparison to other towns of similar size in British Columbia. There is a lack, however, of volunteer organizations and self-help groups, such as the Homemakers Association, which provide needed services that are not funded through normal agencies.

Different groupings of residents, as mentioned before, reside in the area and take part in the social dynamics of the area and their communities. Three groupings are of note: the ranching and farming residents, located in rural areas including the Hat Creek Valley, the mining and mine industry related residents, primarily located in Ashcroft, and the business and commercial groups in each of the towns, often represented through the various Chambers of Commerce. In particular, the Cache Creek Chamber of Commerce has taken an extremely active role in promoting the development of its community. At present, two of these groups are participating in the discussion on the proposed Hat Creek project, the ranchers and the commercial and business community. Again, the Cache Creek Chamber of Commerce has been lively in promoting the development of the Hat Creek project within the community. They conducted a telephone opinion poll, documented later in this section, and proposed a trip to view other thermal generating stations. The Hat Creek residents have expressed their opposition, raising issues on personal inconveniences, relocation and compensation, B.C. Hydro's role, the continued environmental damage, loss of prime ranching land, and restoration problems. The attitudes of these groups are identified in greater detail in Section 3.10 (d), Reaction of Residents.

Although the residents noted a general lack of cultural, entertainment and recreation facilities, they do have some formal and informal recreation and community related clubs, and special social events. Many of these events are related to the agricultural and rural nature of the region including the annual Highland Valley Rodeo, the Klondike Nite Benefit, the Annual Clinton Ball, the Annual Ashcroft Stampede, the Fall Fairs, and the Lillooet Rodeo. Supplementing these annual highlights are other organized events such as the popular Barnes Lake automobile ice races held in January each year. Skating on Pavilion Lake also seems to have become a winter tradition as has snow-mobiling on the hills outside the towns.

It appears that participation in various organizations and events varies within the communities and even within social groupings. There are key individuals active in community organizations, both in an official

capacity, elected or otherwise, or in an unofficial capacity. This type of involvement is characteristic of small towns which offer an opportunity for advancement, economically, socially, and politically, which is not available in larger cities.

The previous section has illustrated the variety of community groups and organizations, as well as the type of events and activities in which they may participate. Survey questions were asked in an attempt to characterize resident participation in community or social activities. The first of these questions asked the respondents the perceived length of residency of their friends in the community. Over one-third of the respondents said that their friends had lived there longer than they had. This may indicate that there has been a reasonable level of integration of the newer residents into the existing study area. When asked

TABLE 3.10.11  
LENGTH OF RESIDENCY OF FRIENDS

	<u>Total Population</u>	<u>Mining</u>
Been there longer	36.4%	40.0%
Same time	28.9%	36.0%
Came after	17.2%	12.0%
Don't know	1.3%	0.0%
Other	<u>16.2%</u>	<u>12.0%</u>
TOTAL	100.0%	100.0%

SOURCE: Cornerstone Planning Group Limited, Hat Creek and Area Resident Survey, 1977

where the residents most often met their friends, two major places were noted, their place of employment or their own neighbourhood. This was followed closely by clubs and community centres (Table 3.10.12).

TABLE 3.10.12  
POPULAR MEETING PLACES

	<u>Total Population</u>	<u>Mining</u>
Neighbourhood, homes	34.9%	36.0%
Work	24.1%	36.0%
Clubs, community centre	15.3%	8.0%
School	11.1%	8.0%
Recreation	5.5%	4.0%
Local pub	5.2%	8.0%
Church	3.6%	0.0%
Relations	<u>0.3%</u>	<u>0.0%</u>
TOTAL	100.0%	100.0%
N =		25

SOURCE: Cornerstone Planning Group Limited, Hat Creek and Area Resident Survey, 1977

Many residents noted that they socialized with friends or went to evening meetings once or twice a week while others noted activities three or four times a week (Table 3.10.13). A few indicated more extensive activities. These were often key participants in community business and government. A substantial group noted that they did not socialize at all, the largest portion located in Ashcroft.

TABLE 3.10.13  
WEEKLY PARTICIPATION IN SOCIAL ACTIVITIES

	<u>Total Population</u>	<u>Mining</u>
Not at all	16.7%	28.0%
Once	16.1%	20.0%
Twice	22.3%	16.0%
Three or four times	20.7%	8.0%
Five or six times	10.5%	16.0%
Seven or more	10.5%	12.0%
Uncertain/Unknown	<u>3.3%</u>	<u>0.0%</u>
● TOTAL	100.0%	100.0%

\* May not total 100%, due to rounding

SOURCE: Cornerstone Planning Group Limited, Hat Creek and Area Resident Survey, 1977

These three factors may indicate that the level of integration of new residents within the study area has been fairly successful in the past, although this varies within the individual communities, especially Ashcroft, where the influx of mine workers during the past ten years has caused some significant changes. Responses from Ashcroft residents employed in the mining industry indicated that their friends had lived in the community longer than they had and that they met their friends at work or in their neighbourhood. A much smaller percentage met their friends at social or community related events as noted in Table 3.10.12. As many of the mining families live in the subdivisions developed by the mining companies, the fact that nearly three-quarters of the places where they meet their friends are through employment or within their own neighbourhood may indicate that they do not socialize extensively with the non mine-related residents within the community. When asked how often these families socialized with people from outside their family, 28% indicated they did not, while approximately one-third reported they only socialized once or twice a week. Table 3.10.13 shows that a further 28% go out more than five times a week.

Therefore, in comparison with the general population, the mining residents seem to have a different pattern of socializing. While many socialize infrequently or not at all, outside of their own family, an equal number socialize extensively, again differing from the overall resident population in Ashcroft.

It should be noted that the process of integration into a new community can take a relatively long time and the existing separation of the housing of some of the miners in Ashcroft makes it more difficult for this form of community integration to occur. This lack of integration does not seem to have resulted in major conflicts in the community and, at present, there seem to be no noticeable problems.

Another factor to be considered in assessing the level of participation in the study area communities is the involvement in the local government and decision making processes of the community. Over 40% of those surveyed, as indicated in Table 3.10.14, expressed satisfaction with the local government structure, although nearly one-third were uncertain and



another one-quarter were dissatisfied.

TABLE 3.10.14  
SATISFACTION WITH LOCAL GOVERNMENT

Very satisfied	3.1%
Satisfied	42.5%
Uncertain	28.3%
Dissatisfied	15.7%
Very Dissatisfied	<u>10.2%</u>
*TOTAL	100.0%

\* May not total 100%, due to rounding

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SOURCE: Cornerstone Planning Group Limited, Hat Creek and Area Resident Survey, 1977

A number of local issues were raised during the interview process, as well as in the review of local newspapers. Some revolved around the inter-community rivalry between the towns in the region, especially between Cache Creek and Ashcroft. Concerns have arisen between these two communities regarding the potential sharing of costs, services, or facilities which neither community could afford on its own. While these inter-community rivalries may help to promote town solidarity and unity, more potentially severe problems may be created as each community tries to become the "host" community for that service or facility. Often, if one community loses to the other and withdraws its support, the end result is that no one benefits, as whatever they were vying for is lost. Because of these attitudes, there have been few successful joint planning ventures, and the two communities were not in favour of amalgamation plans put forward to allow for potential sharing of services.

The final indicator to be considered in this section on level of involvement revolves around resident responses to the planning activities and public announcements made by B.C. Hydro regarding the Hat Creek project. Most of the articles published in the local papers were in favour of the development, primarily because of the economic benefits that

would accrue to the region. Critical comments were made by organizations such as the Society for Pollution and Environment Controls (SPEC)\* and the B.C. Federation of Labour\*\* regarding the possible detrimental effects on the quality of the environment in the region, should the project proceed. The public meetings, held by B.C. Hydro and the local councils in the region, were poorly attended. Few residents of the towns publically indicated a significant interest in the project and the general public seemed to feel that the planning was being completed and the decisions could not be affected, only reactions were possible. Concerns were raised at the public meetings and to the consultants about the timing of the project commencement, level of employment generated, and the severity of possible environmental effects.

In association with these developments, the consultants initiated a proposal with the client regarding community involvement strategies to be carried out throughout the planning and implementation stages should the project proceed. Two committee structures were proposed; a planning committee and a community committee. The goal of these structures was to facilitate communications among the community, the District, and B.C. Hydro, so that community concerns and responses could be exchanged along with information valid for community planning. The first committee was implemented by B.C. Hydro and the Regional District and is currently operational while the second, the community committee, was not established by either the Regional District or B.C. Hydro because they felt that this kind of non-elected forum should develop spontaneously within the local community, rather than be instigated by external influence.

To summarize, levels of participation in the study area communities vary depending on the type of participation and type of group involved. Participation in social and community-related activities and events has been typical of small B.C. communities, most often centering

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\* Reference Appendix I - page I-6

\*\* Reference Appendix I - page I-8

around the home and neighbourhood, rather than around entertainment, community services, or politics in the towns. Many activities involving the residents, especially recreation, are of a non-structured nature. However, there are important special events throughout the year relating to the ranching and agricultural character of the area. In terms of participation in local government or decision making within the communities, most residents prefer to let the elected officials and key community leaders provide the initiative and direction. Involvement in issues and activities relating to the proposed project has been minimal, with the exception of the Hat Creek Valley residents and the Cache Creek business community who represent different interests. Expectations regarding project actions have been raised, however, and most have been anticipating a decision from B.C. Hydro for some time.

(iii) Existing Community Cohesion

Each community in the study area presented a reasonably cohesive image. The stability of the residents and their level of participation in community activities generally indicated to the researchers a commitment to the study area and the individual towns.

Several of the communities seemed more cohesive than others, notably Cache Creek and the Hat Creek Valley. This is primarily due to a strong commitment to certain goals and objectives within each of these communities. The residents of the Hat Creek Valley have been committed to their ranching lifestyle and the valley. The Cache Creek residents, on the other hand, are working for expansion and development of the economic base of their community. Research showed that the residents of these two communities participated more extensively in community activities and reacted more strongly to issues affecting their communities. The pre-planning activities related to the Hat Creek project are a good example of this. This issue has seen each of these two communities united, a majority of Cache Creek residents in favour of the project, and a majority of Hat Creek Valley residents opposed to the project.

The other towns in the study area, especially Clinton and Ashcroft, do not appear to have the same degree of cohesion as exhibited in Cache Creek or the Hat Creek Valley. This may be attributed to the recent economic declines and resulting social adjustments, including the influx and continued turnover of residents, that have affected Clinton and Ashcroft.

d) Reactions of Residents

The following sections define a number of issue areas where specific resident reactions were noted. These include attitudes to growth and development in the study area, attitudes toward the Hat Creek Project and general problems and concerns expressed by the residents.

(i) Attitudes to Growth and Development

In the survey, residents were asked to respond on the desirability of possible future growth rates for the area, as well as potential development forms. The question of population growth obtained reactions to four possible conditions - a doubling of the population, steady population growth, a stable or non-growth population, or a decline in the population.

Over two-thirds of the residents sampled were in favour of a doubling of the population, many of whom strongly favoured this increase. Slightly under 20% felt that a population increase of this magnitude was unfavourable. More than two-thirds favoured a steady population growth, while only a few regarded this as unfavourable. A stable or no-growth situation was viewed as favourable by only 38% of the residents sampled, and unfavourable by an equal number (39.9%). When asked for their reaction to a decline in the population, 80.8% felt a declining population was unfavourable, one-half of whom thought it was very unfavourable. Figure 3.10.1 displays these reactions for the overall study area. Between the individual communities, however, there were significant differences of opinion. Over 80% of those surveyed in Ashcroft and Clinton favoured a doubling of the population, followed by Cache Creek (77.3%)

## RESIDENT REACTIONS TO POPULATION GROWTH

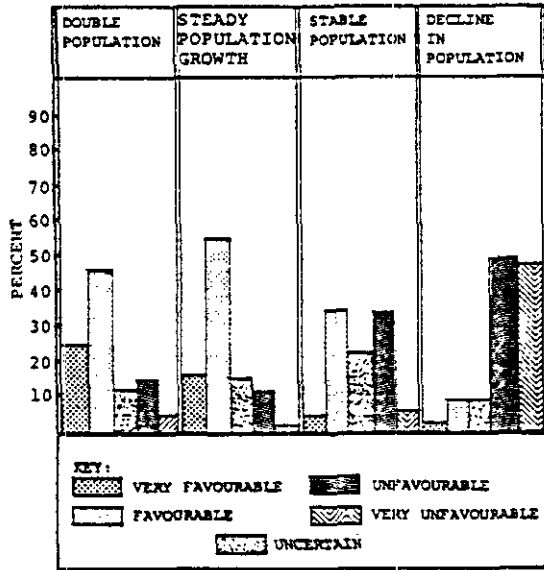


FIGURE 3.10.1  
TOTAL STUDY AREA

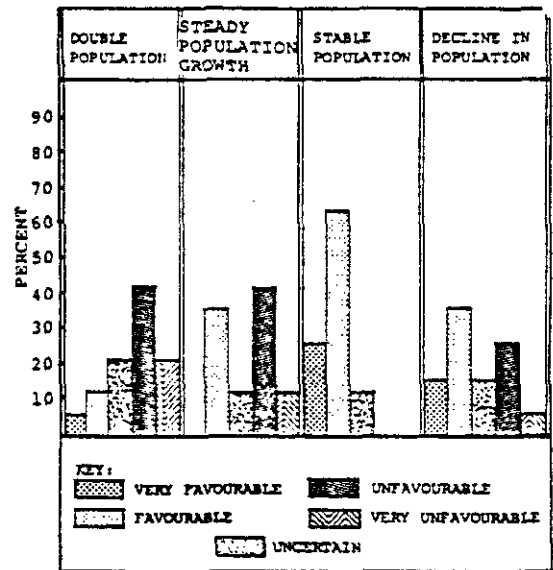


FIGURE 3.10.2  
HAT CREEK VALLEY

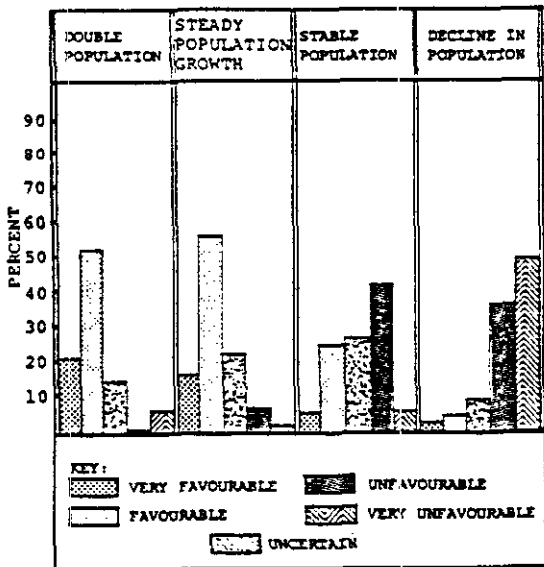


FIGURE 3.10.3  
CACHE CREEK

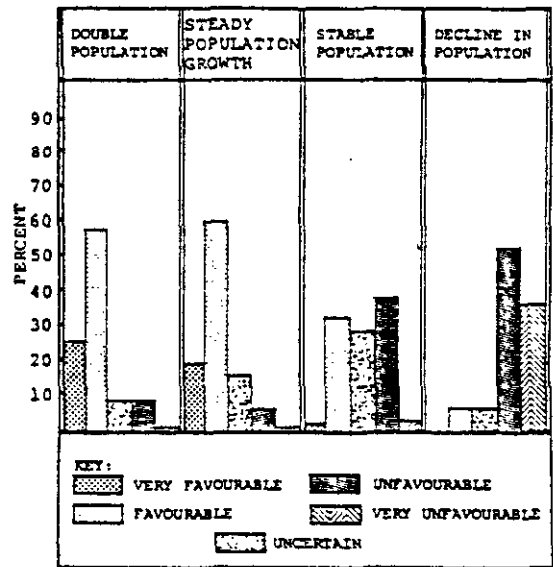
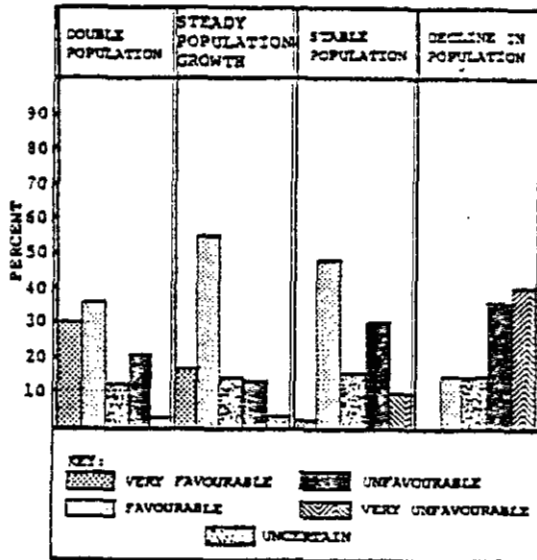


FIGURE 3.10.4  
ASHCROFT

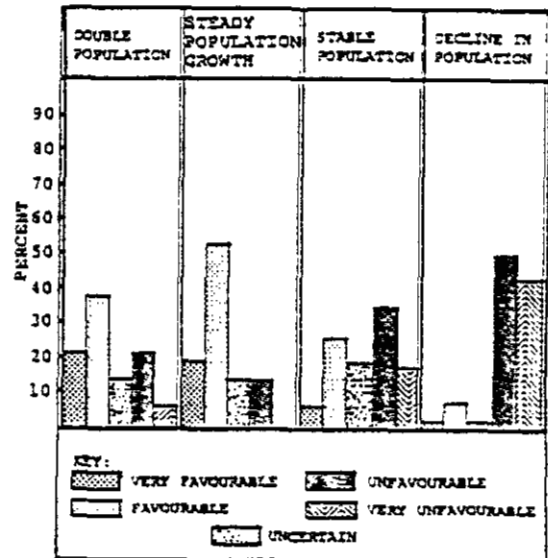
SOURCE: Cornerstone Planning Group Limited, Hat Creek and Area Resident Survey, 1977

## RESIDENT REACTIONS TO POPULATION GROWTH

**FIGURE 3.10.5**  
**CLINTON**



**FIGURE 3.10.6**  
**LILLOOET**



**SOURCE:** Cornerstone Planning Group Limited, Hat Creek and Area Resident Survey, 1977

Nearly 60% of Lillooet's surveyed residents favoured a steady population growth with just over one-half of the residents stating a doubling of the population was desirable.

One-half of the rural residents and two-thirds of the Hat Creek Valley residents in particular, viewed doubling of the population as unfavourable.

Most residents in the communities generally favoured a steady population growth with the exception of the Hat Creek Valley residents where over one-half felt even steady growth was unfavourable. When asked about a stable or no-growth situation, residents in each of the communities were evenly split, or undecided. The Hat Creek Valley residents and other rural residents both felt that a no-growth situation was favourable, 89.5% of the former and 81% of the latter residents.

The issue of a declining population, however, provided the strongest resident reactions with all communities feeling this would be unfavourable,

in fact, very unfavourable for the study area. Only the Hat Creek Valley residents were split in their opinions on this topic with some favouring a declining population. Figures 3.10.2 to 3.10.6 present resident reactions in each community to population growth in the region.

In summary, from these reactions, it can be seen that the residents of Ashcroft, Clinton, and Cache Creek strongly favour large population increases either within their communities or in the study area. The rural residents, including the Hat Creek Valley population, however, would prefer to see a no-growth or stable situation, although slow growth was not considered a problem.

The second set of questions focused on a number of possible development options. Resident reactions were sought regarding the development of a large shopping centre, a large industry, a new town and an airport. Nearly all residents (88.3%) would like a large shopping centre in the study area. The second option on the development of a major industry solicited slightly less favourable response than the shopping centre with three-quarters (75.2%) of the surveyed residents wanting the development. However, residents of the Hat Creek Valley and other rural areas did note unfavourable responses. Of the Hat Creek residents, one-half were undecided about the desirability of a large industry while one-third (31.6%) were opposed to it. Ashcroft residents were most unified as 87.2% of this town's residents desired the development of a large industry.

The question of the development of a new town in the area resulted in some indecision by the residents as one-third (32.3%) expressed favour at the development of a new town with slightly more residents (39.2%) not favouring the new town. One-quarter (27.0%) were uncertain as to the effects of such a development. These reactions were fairly consistent for residents of all the communities, with the exception of the rural and Hat Creek residents. Nearly two-thirds of those residents expressed disfavour with a new town. The fourth option related to the development of an airport. Nearly two-thirds (75.0%) of the study area respondents favoured this development, which was generally reflected throughout all the communities. Figures 3.10.7 to 3.10.12 display these development options and the residents' responses.

RESIDENT REACTIONS TO DEVELOPMENT OPTIONS

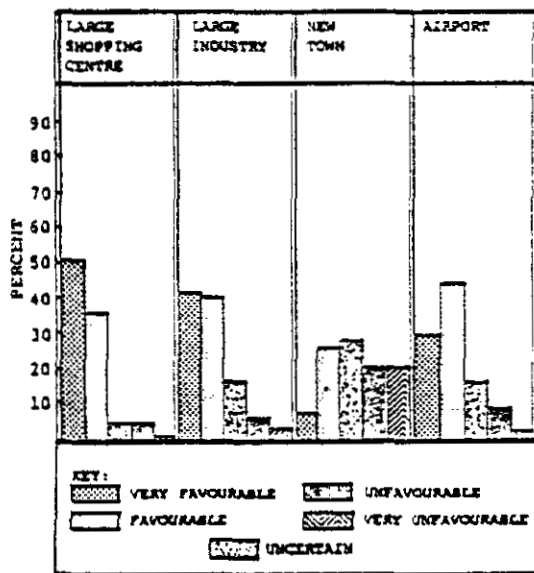


FIGURE 3.10.7  
TOTAL STUDY AREA

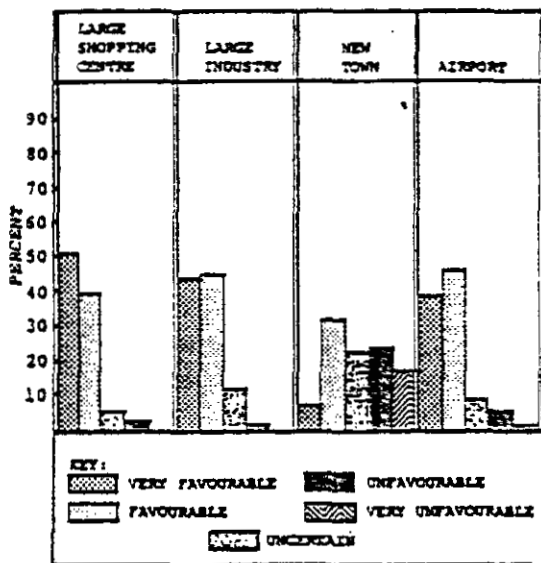


FIGURE 3.10.8  
ASHCROFT

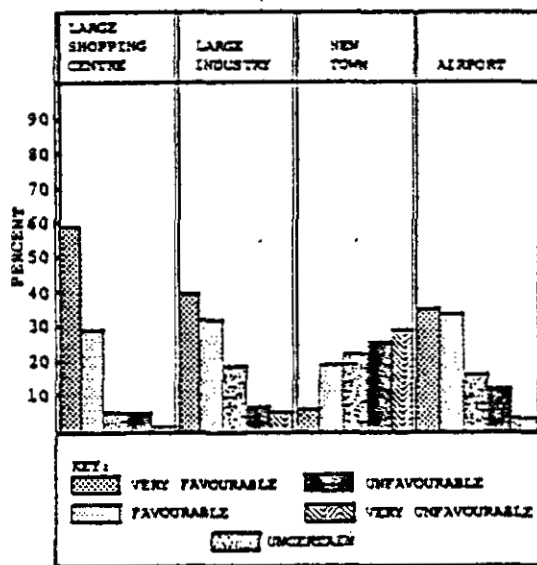


FIGURE 3.10.9  
CACHE CREEK

SOURCE: Cornerstone Planning Group Limited, Hat Creek and Area Resident Survey, 1977



RESIDENT REACTIONS TO DEVELOPMENT OPTIONS

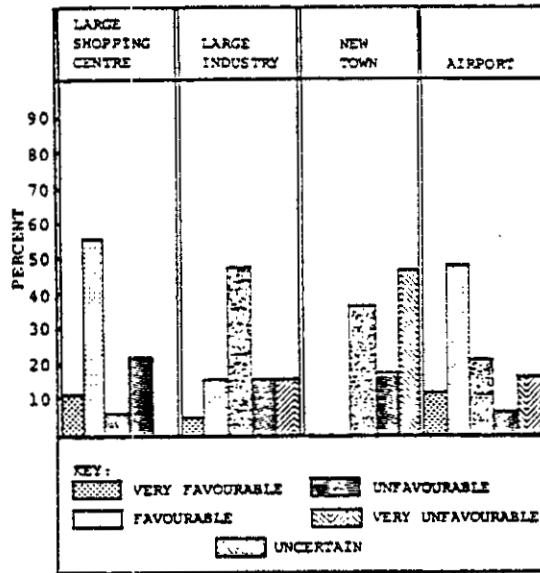


FIGURE 3.10.10  
HAT CREEK VALLEY

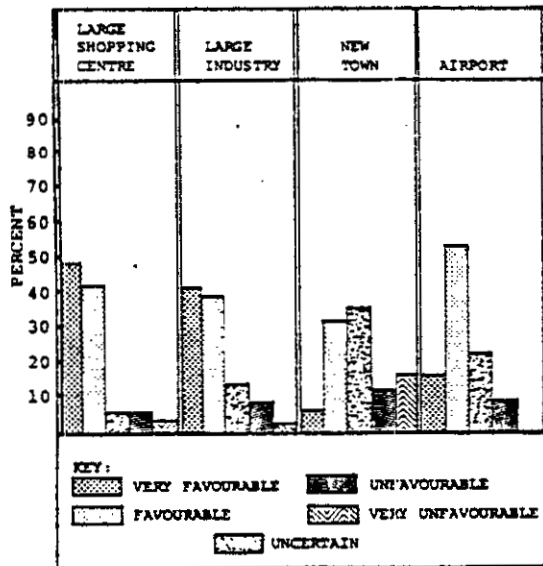


FIGURE 3.10.11  
CLINTON

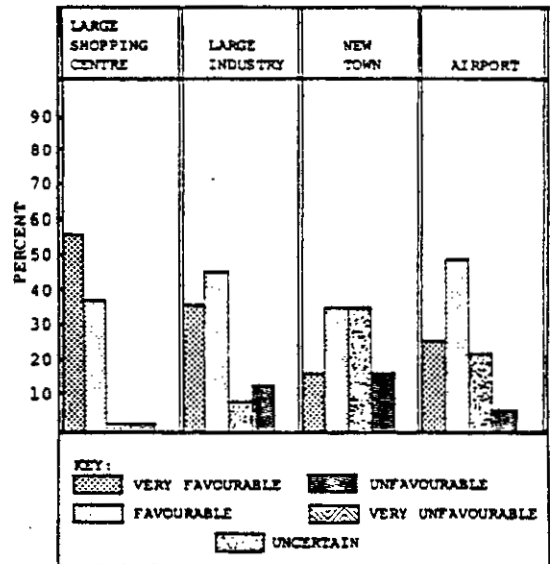


FIGURE 3.10.12  
LILLOOET

SOURCE: Cornerstone Planning Group Limited, Hat Creek and Area Resident Survey, 1977

In summary, the majority of the residents of Ashcroft seemed to favour a dramatic increase in the local population but a steady growth pattern was almost as popular a concept. The perceived advantages relate mainly to possible increased economic benefits, as well as increased and better quality services and facilities. Cache Creek indicated that steady or dramatic growth was almost equally endorsed by most residents, largely because of associated economic benefits. They were strongly opposed to a declining population.

The residents of Clinton also were strongly opposed to any decline in the population and most favoured a dramatic increase to help revitalize an ailing local economy. Lillooet residents were largely in favour of a steady population increase and the associated developments required to support this population. They would not, however, be adverse to a dramatic increase in the population.

A significant portion of the residents of the Hat Creek Valley and the rural areas favoured a decline in population although the majority favoured a stable or no-growth population. They feared the adverse socio-environmental effects of an increase in population and industrial activity.

(ii) Attitudes Toward the Hat Creek Project

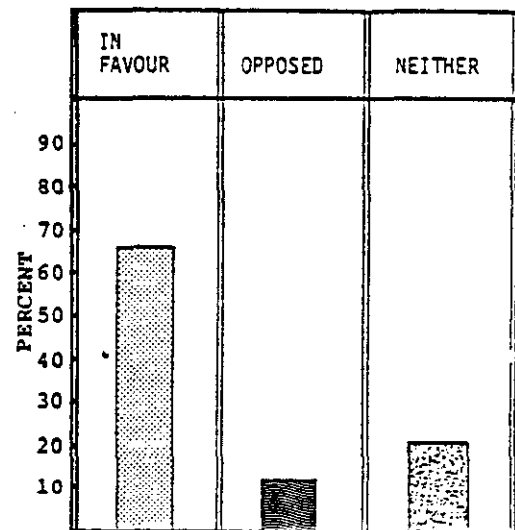
It is essential to discuss resident reactions toward the Hat Creek project as they reflect the existing attitudes and, therefore, affect the existing social environment in the study area. If the project were not to proceed, as would be the situation in the "without the project" case, discussed later in this section, the expectations of the residents would be altered. It should be recognized that these reactions and attitudes are based on information that was available to April of 1977.

Three specific sources were referenced in this analysis. These are the Resident Survey completed by the consultants in April, 1977, the telephone opinion poll completed by the Cache Creek Chamber of Commerce in September of 1976, and the newspaper survey undertaken by the consultants during the time of the study (1976 and 1977). In the Resident Survey, the attitudes of residents toward the development of the Hat Creek project

were solicited. When the question was asked, certain advantages of the project, as well as the disadvantages, were presented and are noted in Appendix J. As indicated in Figure 3.10.13, two-thirds of the respondents in the study area were in favour of the Hat Creek project. Another 20.7% were neither in favour or opposed, primarily because they felt they did not have an understanding of the magnitude of the development or its potential impact on the area and needed more information from the developer, or they were split in their opinion, favouring the economic benefits and fearing the possible environmental damage. About 12% expressed opposition.

FIGURE 3.10.13  
ATTITUDE TOWARD THE PROPOSED HAT CREEK PROJECT

OPINION	NUMBER OF RESPONSES	PERCENT
In favour of proposed Hat Creek Project	205	66.3
Opposed	38	12.3
Neither	64	20.7
No Response	2	0.6
TOTAL	309	100.0



SOURCE: Cornerstone Planning Group Limited, Hat Creek and Area Resident Survey, 1977

Those favouring the project said that they felt strongly about their opinion and even a greater percentage of those opposed noted extremely strong feelings. (See Table 3.10.15)

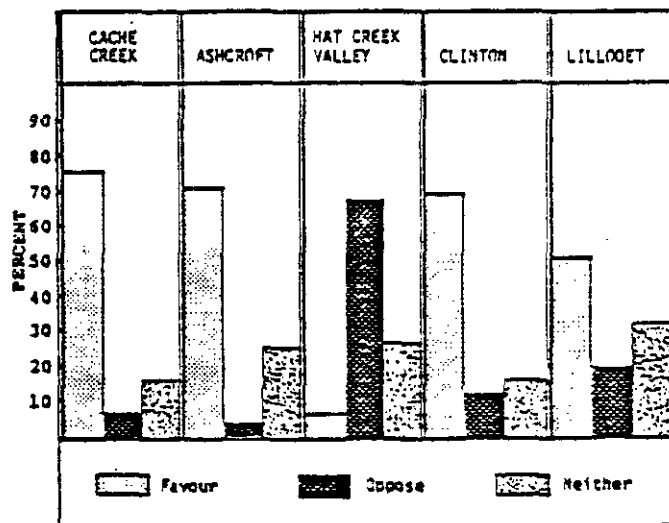
**TABLE 3.10.15**  
**HAT CREEK ISSUE AND STRENGTH OF FEELINGS**

OPINION	STRENGTH OF FEELINGS (In percent)							Extremely Strong Feelings	
	No Feelings One Way Or The Other	1	2	3	4	5	6		7
In favour of Hat Creek Project		1.0	1.5	5.0	16.1	22.1	15.1	37.2	
Opposed		0.0	5.3	2.6	21.1	13.2	7.9	50.0	
Neither		6.0	10.0	5.0	46.0	8.0	4.0	18.0	

SOURCE: Cornerstone Planning Group Limited, Hat Creek and Area Resident Survey, 1977

The residents of Cache Creek, Ashcroft, and Clinton were almost equally in favour of the project. Cache Creek residents were slightly more enthusiastic. The major opposition was noted by the residents of the Hat Creek Valley with 68.4% opposed to the project and 26.3% recognizing both the positive and negative aspects. Only 5.3% in the Valley favoured the development of the coal mine and thermal generating station. Figure 3.10.14 compares the community responses.

**FIGURE 3.10.14**  
**ATTITUDES TOWARD THE HAT CREEK PROJECT**  
**IN EACH COMMUNITY**



SOURCE: Cornerstone Planning Group Limited, Hat Creek and Area Resident Survey, 1977

The strength of feelings toward the project was noteworthy. Proportionately fewer Ashcroft, Clinton, and Lillooet residents said they had strong feelings about the proposed Hat Creek developments than the residents of either Cache Creek or the Hat Creek Valley. The valley residents, the majority of whom are opposed to the project, noted the strongest feelings, as outlined in Table 3.10.16 below.

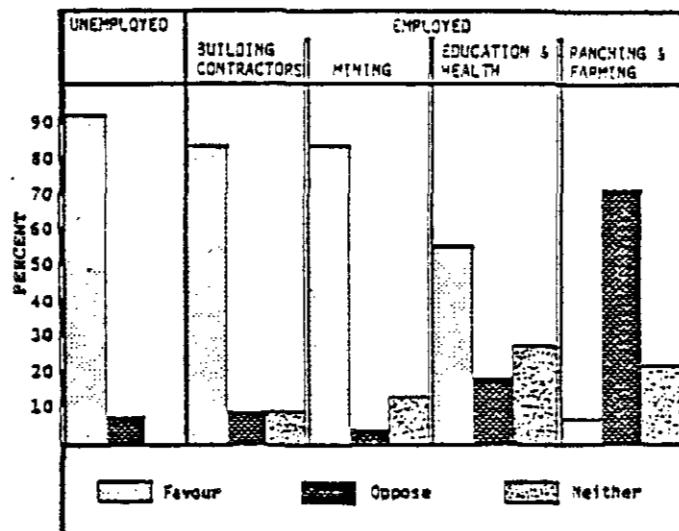
TABLE 3.10.16  
COMMUNITY COMPARISON OF STRENGTH OF FEELINGS  
TOWARD PROPOSED HAT CREEK PROJECT

COMMUNITIES	STRENGTH OF FEELINGS (in percent)								
	No Feelings One May Or The Other	1	2	3	4	5	6	7	Extremely Strong Feelings
Cache Creek		1.0	6.9	5.9	16.8	11.9	10.9	46.5	
Ashcroft		1.3	0.0	3.8	26.9	26.9	14.1	26.9	
Hat Creek Valley		0.0	0.0	0.0	23.5	11.8	11.8	52.9	
Clinton		4.7	0.0	4.7	11.6	25.6	18.6	34.9	
Clinton Rural		0.0	10.5	10.5	31.6	31.6	10.5	5.3	
Lillooet		3.4	3.4	3.4	51.7	3.4	3.4	31.0	

SOURCE: Cornerstone Planning Group Limited, Hat Creek and Area Resident Survey, 1977

Of interest is a comparison of the project attitudes based on current employment status. Well in excess of 80% of the present construction and mine employees favoured the development, while the professional categories indicated noticeably less favour, although still more than 50%. Over three-quarters of the ranching and farming respondents, or the rural residents, were in opposition to it as illustrated in Figure 3.10.15.

FIGURE 3.10.15  
ATTITUDES TOWARD THE HAT CREEK PROJECT  
BY TYPE OF EMPLOYMENT



SOURCE: Cornerstone Planning Group Limited, Hat Creek and Area Resident Survey, 1977

Those respondents who were unemployed, although a small number, were the group most strongly favouring the project, primarily due to the potential employment opportunities generated by the project. Typical comments of the residents regarding the project have been included in Appendix J for the interest of the reader.

As expected when rating the strength of their feeling either for or against the project, the residents employed in the retail trades and finance along with those in building contracting noted the strongest feelings favouring the project while the ranchers, again, noted an equal strength of feeling in opposition to the project (see Table 3.10.17). Two-thirds of the residents in the study area have strong feelings about the project, whether they favour the project or are in opposition to it.

A comparison was made between the residents' responses to population growth and development in the study area and their opinion regarding the Hat Creek Project. As illustrated in Table 3.10.18, the majority of people in favour of the Hat Creek Project also strongly favoured an increase in population and other potential developments.

TABLE 3.10.17  
EMPLOYMENT: COMPARISON OF STRENGTH OF FEELINGS  
TOWARD PROPOSED HAT CREEK PROJECT

EMPLOYMENT	STRENGTH OF FEELINGS (in percent)								
	No Feelings One Way or The Other	1	2	3	4	5	6	7	Extremely Strong Feelings
Retail Trades & Finance	0.0	5.0	5.0	10.0	10.0	5.0	65.0		
Ranching, Farming	0.0	0.0	0.0	30.8	0.0	7.7	61.5		
Building	0.0	0.0	8.3	8.3	25.0	0.0	58.3		
Mining	0.0	4.5	0.0	9.1	27.3	22.7	36.4		
Students	0.0	9.4	21.9	25.0	15.6	6.3	21.9		
Homemakers	3.2	4.8	3.2	32.3	22.6	14.5	19.4		
Civil Service	18.2	0.0	0.0	27.3	27.3	9.1	18.2		
TOTAL SAMPLE	1.7	3.5	4.9	23.7	18.5	12.2	35.5		

SOURCE: Cornerstone Planning Group Limited, Hat Creek and Area Resident Survey, 1977

TABLE 3.10.18  
RESPONSES TO GROWTH AND THE HAT CREEK ISSUE

GROWTH RATES AND FORMS	OPINION (in percent)								
	IN FAVOUR OF HAT CREEK PROJECT			OPPOSED			NEITHER		
	Favourable	Uncertain	Unfavourable	Favourable	Uncertain	Unfavourable	Favourable	Uncertain	Unfavourable
Double Population	83.8	8.3	7.9	5.3	13.2	81.5	57.9	23.4	18.8
Steady Growth	80.0	13.2	6.9	42.1	13.2	44.7	59.0	27.9	13.1
Stable Population	31.7	23.3	45.0	91.9	5.4	2.7	30.2	28.6	41.2
Decline	4.4	7.3	88.3	47.3	10.5	42.1	9.4	10.9	79.7
Large Shopping Centre	93.2	3.4	3.4	73.0	5.4	18.9	81.3	10.9	7.8
Large Industry	87.7	10.3	2.0	18.9	29.7	51.3	87.9	23.4	9.4
New Town	37.6	23.8	38.6	13.5	37.8	48.6	26.7	30.0	43.3
Airport	78.8	13.8	7.4	39.5	26.3	34.2	73.4	20.3	6.7

SOURCE: Cornerstone Planning Group Limited, Hat Creek and Area Resident Survey, 1977

A comparison can be drawn between the results of the Resident Survey regarding the proposed Hat Creek developments and the results of the telephone opinion poll that was undertaken several months prior to the Resident Survey. The telephone poll solicited responses to a number of specific issues relating to the project as illustrated in Table 3.10.19. Question 3, "Are you in favour of the Hat Creek development?" drew a favourable response from 66.7% of the Cache Creek respondents, almost identical with that of the Resident Survey response of 66.3% in favour of the project in the study area. It should be noted, however, in Figure 3.10.14, that nearly three-quarters of the Cache Creek respondents favoured the Hat Creek project in the Resident Survey.

TABLE 3.10.19  
CACHE CREEK PUBLIC OPINION POLL:  
HAT CREEK DEVELOPMENTS

Question	Responses			
	Yes	No	Don't Know	No Comment
1. Do you know where Hat Creek is?	89.85	8.05	0.45	4.05
2. Do you know what the Hat Creek project is?	90.2	6.2	0.4	3.2
3. Are you in favour of the Hat Creek development?	66.7	7.1	21.3	4.9
4. Do you feel the increased employment will be good for the area?	86.2	4.0	3.1	6.0
5. Are you concerned about too many people moving into the area?	15.1	73.1	2.7	7.1
6. Do you feel that there may be benefits accrue to you and your family?	57.8	26.7	11.1	4.4
7. Do you feel there may adverse economic effects?	20.0	51.1	21.8	7.1
8. Do you think "prices" may escalate as a result of the project?	32.9	48.0	12.0	7.1
9. Are you concerned about influx into the school system?	25.8	61.8	9.2	6.2
10. Do you feel Cache Creek has a future if Hat Creek, (or some other major industrial development) does not located in the area?	35.1	52.0	6.2	6.7
11. Are you concerned about a possible increase in the crime rate? As a result of Hat Creek Mine and Plant Development:	42.7	45.3	4.4	7.6
12. Are you concerned about air pollution?	55.6	33.8	5.3	5.3
13. Are you concerned about possible noise?	16.0	76.0	1.8	6.2
14. Are you concerned about loss of fishing and hunting in the area?	36.0	50.7	3.8	7.5
15. Do you feel Cache Creek Council should give top priority to promotion of Village growth and participation in the Hat Creek development here, (rather than, that is, the development of an instant townsite)?	71.9	8.0	8.0	4.9
16. Would you like to see the Chamber, or Hyvra sponsor a Public Forum meeting to allow resident participation and reaction?	83.1	8.0	2.7	6.2

SOURCE: Cache Creek Chamber of Commerce, Telephone Opinion Poll, September, 1976



(iii) Resident Concerns Regarding the Hat Creek Project

In addition to requesting the residents' feelings toward the project, other questions were asked related to employment interest in the Hat Creek project. Over 40% of the respondents expressed interest, however, the other half either were not interested or uncertain. Many might like a combination of jobs in construction and operations. Others expressed interest in construction activities or the related commercial and clerical support activities. Table 3.10.20 outlines the various categories of employment and the resident interest.

TABLE 3.10.20  
RESIDENT INTEREST IN EMPLOYMENT

Construction	13.8%
Mine Operation	5.8%
Generator Station Operation	5.1%
Commercial Activities	18.1%
A Combination of Jobs	31.2%
Uncertain/Don't Know	10.1%
Other	<u>15.9%</u>
<u>TOTAL</u>	100.0%

SOURCE: Cornerstone Planning Group Limited, Hat Creek and Area Resident Survey, 1977

Many of those now in the primary sector noted interest in employment on the project. Over two-thirds of those respondents currently employed in mining, forestry and construction related activities expressed interest in work. This may reflect the current uncertainty regarding the future of forestry in the study area and the Highland Valley mining activities, expressed by many of the respondents. Twenty percent of the women respondents, one-half of the students, and 60% of the unemployed expressed interest in working on the project, should it proceed.

During the survey interviews, the residents voiced many concerns regarding the proposed developments of the coal mine and thermal generating station. These responses have been categorized into specific issue areas outlined below. Supporting material and direct quotations are in Appendix J.

A. Need for the Proposed Mine and Generating Station

Some respondents felt that other forms of energy should be exploited or that demand should be reduced rather than proceeding with new facilities of the proposed type. Attitudes differed on the relative benefits of hydro generating plants and thermal generating plants, yet most replies seemed to indicate an underlying assumption that more power is required.

B. Public Image of B.C. Hydro in Study Area

Comments relating to B.C. Hydro were not directly solicited during the survey. However, comments were provided by persons who felt that the effects of the proposal would be partially dependent on Hydro's attitudes and dependability.

C. Environmental Effects of Development

Many people were worried about pollution which could result from the project and others expressed similar concerns regarding the need for strong environmental guidelines. A third sub-group of comments related to the potentially adverse effects on wildlife, recreational opportunities, and the natural scenery.

D. Economic Effects of Development

Some comments reflected a concern that economic benefits will not automatically accrue to the area, while other comments indicated an assumption that the development will definitely improve local conditions. Possible adverse effects of the development on existing and potential local industries were also mentioned.

E. Employment Effects of Development

The majority of these comments reflected the concerns of the community on the need for more employment in the study area and the instability of the mining industry as an employer. Other comments dealt with hiring

practices and the residential location of the new workforce.

F. Service Effects of Development

Most of the comments on this aspect of the development assumed that there will be a need for more services and that services cost money. As long as the increased costs are balanced by increased tax revenues from industry, it would appear that most respondents are confident that their needs can be met and that services may even be improved.

G. Pro and Con Responses

As in the question regarding the favourability of the proposed Hat Creek developments, most comments indicated a positive evaluation of the net effect of the proposed project, but many qualifications were put forward. For many, the trade-off is between economic benefits, such as employment, new facilities, and higher property values, and detrimental effects, such as pollution, environmental damage, higher taxes and overcrowding. For other respondents, the negative items may be similar but the perceived benefits are social. An assumed inevitability of the project occurring is evident in several comments which described the project as the lesser of two evils, or the logical result of an increasing need for electrical power.

e) The Hat Creek Valley

The objective of this section of the report is to provide a comprehensive portrayal of the residents of the Hat Creek Valley, the prime impact area of the Hat Creek project. This section will provide information on the attributes of the valley and the residents, including the physical setting, ranching history, activities, and social characteristics. The residents' reactions to the Hat Creek project will be discussed, as part of the existing social environment.

(i) Physical and Historical Setting

The Hat Creek Valley contains some of the earliest ranches in the region, established over 100 years ago. Since that time, the valley has been dedicated to agricultural production, mainly beef cattle and grains. A small underground coal mine that serviced the study area was in operation several decades ago, but left little mark on the present surroundings.

Some of the original families that settled in the valley were still operating family ranches at the time of the survey. These people are important members of the social fabric of the valley and in the surrounding communities. The valley had a population in 1977 varying from 30 to 40 residents, including ranchers, dependents, and ranch hands.

While the climate is relatively dry, irrigation has brought some of the land into active production, and supported the grazing of herds of beef cattle. Much of the land is privately owned, supplemented by crown grazing leases. While most of the residents work full-time on the ranches, some also support themselves with outside jobs by working on construction or in service jobs in the valley and the surrounding towns. The reported household incomes are generally lower than in the overall study area, however, this is offset by other attributes of their particular lifestyle and a high degree of self-sufficiency.

In addition to the agricultural use of the Hat Creek Valley, residents from the surrounding region have, for many years, used the valley as a

recreational area. According to them, Hat Creek and McLean and Gallagher Lakes have provided some of the best grazing and hunting country in the Cariboo. At the northern end of the valley, the Robertson Meadows and the Marble Canyon district provide numerous recreational opportunities for hiking, swimming, hunting and fishing. Many valley residents particularly enjoyed riding and hiking throughout the valley.

Eighty percent of the valley residents indicated that the valley was an excellent place to live with the remainder considering it a good place to live. The majority of the comments centered on the climate, the productivity of the land, the secluded setting and their rural life style. A number of direct quotes provide an indication of their feelings:

- . "Excellent climate, lack of pollution, people pollution. Beautiful; combination of working and living under superb aesthetics."
- . "Hat Creek Valley ideally suits the way I wish to live...not Cache Creek area."
- . "Remote, not too built up."
- . "Basically the people...when the chips are down they're there."
- . "Far away from town, so not bothered by town. Yet all the modern conveniences...quiet."
- . "Don't know of any other part of country that I'd like to live in."
- . "Don't like to be in cities, like to be out of doors."
- . "Absolutely a beautiful valley, ranching is great, ideal for cattle... good hay with irrigation. Perfect climate for agriculture. Country is so beautiful."

The exploration program, test burn program and the activities of the environmental consultants have caused disruptions over the past two years to the social and the physical environment of the valley.

(ii) Characteristics of the Residents

The 30 to 40 residents and dependents represent approximately ten family groupings within the valley. Many of those are the descendants of families that originally settled in the valley over a century ago. The actual resident population of the valley fluctuates extensively depending on

the season. A few older children and other family members have moved to other communities in the region or to the Lower Mainland for education or employment, but return in the spring, summer or fall of each year for holidays, and planting and harvesting activities. Some relatives who intended to move to the valley permanently have not done so because of the uncertainties of proposed Hydro developments.

Most of the residents are families with several children. The older residents within the area do not consider themselves as retired, as they work to maintain self-sufficient operations on their holdings. All the residents interviewed, regardless of age, occupation, or income, were firm in their commitment to their ranching lifestyle.

(iii) Comments of the Hat Creek Valley Residents

As previously noted, most residents of the valley expressed strong opposition to the development of the Hat Creek project. When asked for the reasons for their opposition, numerous responses were received. Notes on selected responses from residents who were opposed to or uncertain about the mine and generating station are included here as an important part of the social environment of the valley. The following are resident quotes:

- . "We can grow beef for up to 13,000 people...all these things (the project) are to a degree, favourable for jobs and economic benefits but destructive of upper Hat Creek Valley and polluting of the environment. Completely opposed because of agriculture in valley."
- . "Total loss of productive land which cannot be restored/pollution, arsenic, mercury/lack of coal technology, so many ramifications. Storage and usage of ash. There is the possibility of an aluminum smelter. Big issue is that there are a great number of environmental concerns and analysis shows high level of heavy metals - e.g. Centralia, Washington."
- . "The decisions being made by people who don't have anything to do with this area. Seriously doubt that there is the necessity to develop Hat Creek or McGregor or the Peace. Hydro plays one off against the other."
- . "The project will create additional employment but not sure how much local employment."

- . "We don't want to leave our home and would like to live in this area, but if province needs more energy this will have to go."
- . "If we need the power, there isn't a great deal we can do about it. There's a terrific bed of coal here but I hate to see farm land disappear. We are losing farm land all over the country."
- . "Our industry would be put out of business. Definitely not in favour of the development."
- . "It would kill everything in the valley - don't want to see it at all."
- . "General preservation of the ecology of the area and wildlife is abundant however there will be a problem, as they will be driven out by the numbers of people."
- . "Want some communication with Hydro so that they can plan what will happen with the project. It is a basic human courtesy to keep people informed of the planning for the project, with such power, courtesy should go along with it. Leases are now being changed to 30 day notice: Crown has added this into all new leases. Why has this suddenly changed? It is due to the coal deposit. Such a policy change and yet no contact with people or ranchers regarding the decision. Value of the property is subject to this lease and all rights. Appraisals so controlled by B.C. Hydro."
- . "Problem with hired help - rancher employee relations, devastating effect in terms of employment, and wage disparity."
- . "Hydro's position on residents of Hat Creek Valley: they don't exist... No concern about the residents whatsoever. No understanding that we are here trying to do something."
- . "If extraction of coal and then taken out, that change is acceptable. With the associated industry, however, that is unacceptable - especially the large number of people. Great fear about secondary and tertiary industry as being greatest problem."

f) Summary: The Existing Social Environment in the Communities

(i) Cache Creek

The town has a high activity image linked to its location at the intersection of major B.C. highways. The residents have common objectives

related to their service sector economy and are strongly in favour of growth, development, and the Hat Creek project. They have high expectations of the social and economic effects of the project and already have taken action in anticipation of a decision approving the Hat Creek project, such as extending municipal boundaries, and sponsoring field trips to U.S. thermal plants. However, residents also noted a great awareness of potential environmental effects related to development and expressed the need for controls.

(ii) Ashcroft

The town, of some historical significance, is based on resource developments and the railway. It does not appear to have a strong cohesive community, perhaps due to the influx and continuing turnover of residents. There is a low visible level of public social activities, although many study area services are available in the town. The residents are in favour of growth, development, and the Hat Creek project, anticipating needed economic benefits.

(iii) Hat Creek Community

The residents of the valley expressed commitment to their ranching lifestyle and the preservation of the natural environment. They form a stable community with strong historical continuity through their families and the land. The residents are in opposition to population growth and development in the study area, and strongly opposed to the Hat Creek project. Many presently feel bitter, insecure, and threatened by project development, and the indecision of B.C. Hydro.

(iv) Clinton

Clinton is a physically attractive small town in a quiet rural setting. However, the continuing decline in the forestry industry, and therefore, the town population, has resulted in an atmosphere of uncertainty and depression within the community, heightened by the visibility of under-utilized services and land. The residents are strongly in favour of growth and development and, especially, the Hat Creek project, hoping that this will reverse the existing decline in activity.



(v) Lillooet

The residents of Lillooet do not seem to identify with the study area, or the present and potential development activities. A strong community identity was not observed by the consultants during the studies. In general, the community was in favour of growth, development, and the Hat Creek project, although uncertainty was expressed due to the lack of awareness of or exposure to information regarding the project.

g) The Social Environment - Without the Project

The study area would undergo steady but slow economic growth from the present time until 1990, if the anticipated industrial development projects occur and the Hat Creek project does not proceed. New mining operations are anticipated in the Highland Valley, and Clinton may see the development of a lime and cement plant. Planning is underway for a new federal penitentiary in Lillooet. It is projected that nearly two-thirds of the incoming population would locate in Ashcroft and Cache Creek with relatively small growth in the remaining areas. The communities should be able to absorb the increased population without serious community disruptions. However, a decision not to build the Hat Creek project would result in some social impacts on the study area, especially in Cache Creek, Ashcroft and the Hat Creek Valley. The following paragraphs outline the probable impacts on the overall study area, as well as the individual communities, without the Hat Creek project.

While there is an immediate need for some services, regardless of the amount of growth in the study area, other services would be able to accommodate the expected population until 1990. As the availability of services is an important part of the quality of life in any community, the projected service needs should be met if the study area communities wish to develop as stable, cohesive entities. This would be especially important if the Hat Creek project does not go ahead because of the existing expectations of the residents that action would occur. Some communities like Cache Creek would need to encourage and redirect their energies to keep the existing residents and attract newcomers. Details of the service needs without the project are outlined in Section 3.5.

If the project does not proceed, and the anticipated population growth generated from the other projects is realized, several positive attributes of the community may be enhanced. The first characteristic is the small rural nature of the communities. With a slow but steady growth rate until 1990, the communities most likely would be able to absorb this growth with few problems. This would allow the retention of the small town, friendly atmosphere which so many residents indicated was a major attribute of the community. The communities should continue to keep their family orientation which many residents said was a desirable setting for raising their children. A steady population growth should allow these characteristics to remain as they are now, or, in fact, be enhanced.

Another desirable attribute of the area is the existing natural environment, offering access to the out-of-doors and associated recreational amenities. With a steady, but relatively small population increase, the recreational amenities of the area would not be over-utilized. The environmental deterioration feared by some residents, from the development of a large industry, would not occur, and, therefore, the environmental quality of the region may not be affected. The area would retain and possibly continue to draw new residents because of this quality as well.

As the steady population growth primarily would be related to mining, the incoming residents probably would have similar demographic characteristics to the existing residents, especially in Ashcroft. Because of this, and the relative stability of the existing communities, it is anticipated that the level of social problems in the communities would see little change, possibly increasing at a rate proportionate to the population increase. It is felt that the existing problems related to alcohol and juvenile activities can be reduced if the proper services are provided, as discussed previously.

As noted in the Resident Survey, while many people in the study area favoured large increases in the population, an even greater number indicated steady growth as being desirable. The relatively steady growth situation which would develop without the project should allow the communities to support a stable economic base and reflects a desirable

growth profile. While Ashcroft would probably continue to see some turnover in the mining industry, the population growth over the longer time period may allow further integration of the existing and new residents into the community. Clinton, potentially affected by the development of the lime and cement plant, would see its population stabilize with some growth occurring, which, however, would barely take up the existing surplus service capacity.

Most communities in the study area would have only minor problems meeting their housing, land and physical infrastructure requirements up to 1990. The adequate provision, location and choice of housing and land would be a major factor in attracting and retaining residents. This, as much as any other factor, would contribute to the quality of life of the residents and the communities in the study area. If the communities wish to take advantage of the situation, steady growth would allow for careful planning to meet community needs. Issues, however, may arise should the Hat Creek project not proceed. As previously mentioned, the expectations of many residents have been raised in anticipation of the project. Actions already have been taken assuming approval of the Hat Creek project. If the project does not proceed, these communities and residents will be directly affected and their plans would not come to fruition. Many residents such as the Cache Creek business sector, likely would be vocal about their losses.

The social environment of the Hat Creek Valley has been disturbed by the exploration, bulk sampling, and environmental studies phases of the Hat Creek project. B.C. Hydro already has major land holdings in the valley, and some residents have relocated.

The valley may return to a state reminiscent of its rural, agricultural past, and the residents would be able to continue with their lifestyle. The grazing and agricultural potential of the valley may be increased if further irrigation is developed, benefiting both the study area and the region. However, plans for the development of the coal deposits by B.C. Hydro would continue to be a factor in the valley residents' plans and, therefore, may affect the implementation of any expansions or improvements they might contemplate. Members of the remaining valley

families who have expressed interest in living in the valley may not make that commitment under the circumstances.

Section 10 of Chapter 4 will explore impacts on the growth of the social environment in the study area resulting from the Hat Creek project.

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