GROWTH MANAGEMENT STRATEGY

SQUAMISH, BC

GROWTH MANAGEMENT STUDY

SQUAMISH, BC

Prepared for:
District of Squamish

July, 2005

Prepared by:
Urbanics Consultants Ltd.

In collaboration with:

Development Planning Strategies
Earth Tech Canada Inc.
The Sheltair Group

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

1.0 INTRODUCTION

1.1 Purpose

As part of the District's Official Community Plan (OCP) review, Squamish is conducting a Growth Management Strategy to guide the rate, location, and servicing of future development. The Growth Management Strategy is being undertaken parallel to and in concert with the Smart Growth on the Ground initiative and the Squamish Lillooet Regional District's Regional Growth Strategy. The Growth Management Strategy is a District-wide strategy that is intended to provide direction to managing population growth to the year 2031. It will provide guidance for accommodating future development in a way that balances fiscal, economic, environmental, and social concerns. The major purposes of the Growth Management Strategy are to:

- Provide an overview of the growth trends, challenges, and opportunities facing the District of Squamish;
- Assess the ability of the District to respond to these demands, both in the short and long-term in the context of the supply of serviced land areas, transportation and transit, and community facilities;
- Provide a comprehensive Growth Management Strategy that will allow the District to accomplish its community goals in a cost-effective and defensible manner;
- Communicate with Squamish residents, business, and community groups to obtain direction on growth issues and preferred growth options; and,
- Provide recommendations on implementation techniques and the policies and tools necessary to undertake the preferred growth management option.

1.2 Scope

The Growth Management Strategy covers those lands within the present legal District of Squamish boundaries. The Growth Management Strategy does not cover Indian Reserve lands. Recommendations and policies in the Growth Management Strategy do not apply to the Indian Reserves.

1.3 Process

The Growth Management Strategy was developed between November 2004 and July 2005, based on a review of existing available data, policies, and relevant bylaws and research. Public input was obtained through a series of workshops with stakeholder groups and the public (see Appendix A for workshop notes). Workshops in February 2005 and March 2005 were held to review and discuss growth management options. A workshop will be held in the near future to review and discuss the draft Growth Management Strategy.

In addition, the OCP Citizen's Advisory Committee was consulted and updated on progress in undertaking the Growth Management Strategy at multiple points throughout the process. The OCP Citizen's Advisory Committee includes a Councillor from Squamish Council and 10 Squamish residents.

Presentations to various interest groups and Council were made in November, December, February and March, and Council provided formal direction to the development of various stages of the Growth Management Strategy (GMS) process.

1.4 Intent of Growth Management Strategy

The overall intent of a District-wide Growth Management Strategy is similar to that of a regional growth strategy, which has a purpose to "…promote human settlement that is socially, economically and environmentally healthy and that makes efficient use of public facilities and services, land and other resources."

There are a number of overarching objectives of the 1998 Official Community Plan which underlie the management of growth in the District:

1. Support sustainable growth
2. Preserve and protect the natural environment
3. Promote community identity and protect neighbourhood livability
4. Nurture a healthy community
5. Deliver services in a cost effective manner
6. Revitalize Downtown Squamish and the Mamquam Blind Channel

1.5 Current Official Community Plan

The present OCP was adopted in the Fall of 1998 following an extensive community input process. The review of the 1989 Plan was intended to provide much needed flexibility to the land use decision making process, and established some critical policy objectives which the community felt were fundamental to the continued livability of Squamish.

Our review found those objectives to be just as relevant to today's community ideals as they were 7 years ago, and include: supporting sustainable growth, preservation and protection of the natural environment, promotion of community identity, protection of neighbourhood livability, as well as the revitalization of Downtown Squamish. The Plan was re-forged during an annual spurt of annual 3.5% population growth spurt of 3.5% over 5 years, which appeared as though it would continue. It was recognized that OCP policies had to be flexible to respond to such growth not only for the short term but for key population thresholds of 20,000 and 30,000, which appeared quite reasonable given recent trends.

Unfortunately, seminal changes in the world and national economies and fundamental changes in the demand for natural materials had profound impacts on the regional and local resource-based driven economies, directly impacting employment and population growth. This in turn negatively impacted land use decisions throughout the community undermining OCP and Downtown Plan policy initiatives. As a result, much anticipated positive growth and revitalization stalled.

Seven years later, the economy is on the rise, employment opportunities in a non-resource based economy are a hot topic and there is significant demand for new housing throughout the municipality. However, the policy base that seemed so appropriate such a short time ago is now incapable of dealing with the demands of a renewed but different economy, as well as the context and nature of land development approaches and housing product popular in the marketplace. While community values and objectives for the future of Squamish have remained reasonably consistent, the ability of the OCP to provide appropriate guidance in both the short and long terms is considered inadequate.

This study is intended to provide direction in the adoption of an overall Growth Management Strategy and tools that can be incorporated into a revised OCP that reinforces the community's ideals, while establishing a policy and action framework that assists staff and Council in guiding change proactively as major impacts and trends occur.

2.0 BACKGROUND

2.1 Guiding Principles

The approach to the Growth Management Strategy is guided by a number of general principles which are derived from a number of sources including the Local Government Act, Smart Growth Principles, sustainability principles, and the like.

- *Livability- Developing and maintaining an environment that contributes to an individual's physical, social, mental well-being and personal development is a central tenet of the Growth Management Strategy. Livability means that the processes of planning and design allow for effective participation in decision-making by a broad range of groups.*

- *Sustainability – The Growth Management Strategy is guided by the intent of being environmentally, fiscally, economically, and socially sustainable. A sustainable society is "one that can persist over generations, one that is far-seeing enough, flexible enough, and wise enough not to undermine either its physical or its social systems of support."*[1]

- *Stewardship - Accept responsibility for the conservation, restoration and management of resources so as to satisfy present and future uses. Stewardship means living within the limits imposed by ecosystems locally and globally.*

- *Smart Growth - Smart growth are land use and development practices that protects open space, habitat, and farmland, revitalizes communities, keeps housing affordable, provides more transportation choices, and reduces infrastructure costs*

- *Flexibility – The Growth Management Strategy is to be flexible enough to adapt to trends and changes over time, yet be firm enough to provide long-term policy guidance to the District*

- *Partnerships – Cultivating partnership relationships with federal, provincial, and regional government, business, non-governmental organizations, and others is a key element of successfully implementing and monitoring the Growth Management Strategy*

[1] Beyond the Limits (Meadows, Meadows and Randers 1992)

In addition, there are a number of goals in the Local Government Act, which govern regional growth strategies. Though not required in legislation for the District's Growth Management Strategy, these goals are useful references in order to:

1. Avoid urban sprawl;

2. Minimize automobile use and encourage walking, cycling and efficient public transit;

3. Move goods and people efficiently, making effective use of transportation and utility corridors;

4. Protect environmentally sensitive areas;

5. Maintain a secure and productive resource base, including the agricultural land and the forest land reserves;

6. Encourage economic development that supports the unique character of communities;

7. Reduce and prevent air, land and water pollution;

8. Ensure adequate, affordable, and appropriate housing;

9. Ensure adequate inventories of suitable land and resources for future settlement;

10. Protect the quality and quantity of ground and surface water;

11. Minimize the risks to settlement associated with natural hazards;

12. Preserve, create and link urban and rural open space including parks and recreation areas;

13. Promote efficient use, conservation and alternatives sources of energy; and

14. Ensure good stewardship of land, sites and structures with cultural heritage value.

2.2 Context – Dynamics & Trends

Physical Setting

The District of Squamish is located in the Sea to Sky corridor, midway between Vancouver and Whistler, BC (Fig. 2-1). It is situated at the northern end of Howe Sound on the Pacific Ocean at the mouth of the Squamish River. It is connected by the Sea to Sky highway and by rail to the Resort Municipality of Whistler and Pemberton to the north and to the communities of West Vancouver, Lions Bay, Furry Creek, Porteau Cove, and Britannia Beach to the south.

The District of Squamish rises from sea level at Howe Sound to elevations of over 900 metres within the District of Squamish boundaries and to Mt. Garibaldi, which rises to a height of 2,678 metres in the surrounding vicinity.

Squamish is oriented in a north-south direction, stretching 26 kilometres along Highway 99 and stretches 12.5 kilometres at its widest point. The total land area of the District of Squamish is 11,730 hectares (29,000 acres).

Squamish is located in a valley of five rivers - the Squamish, Mamquam, Cheakamus, Stawamus, and Cheekeye Rivers. Much of Squamish and Howe Sounds' unique physical landscape was formed during the retreat of the last glaciers approximately 10,000 years ago, and includes many glacial features such as U-shaped valleys and fjords. It is also located in a former volcanic area.

Historical Context

The word Squamish is from the name Sko-mish, which is the name of the First Nation that occupied the valley for over 5,000 years. The name means "strong wind" or "birthplace of the winds" in the Squamish language.

The Squamish First Nation has settlements located in the Squamish and Cheakamus valleys and along Howe Sound. The first contact between the Squamish First Nation and the European explorers occurred in 1772 when Captain Vancouver sailed up Howe Sound and traded with the local people.

In 1888, the first European settlers arrived and established farming in the area. Squamish remained only accessible by boat until completion of the railway along the eastern side of Howe Sound in 1956.

Fig. 2-1: Regional Location Map

In 1958, the Squamish Highway (now the Sea to Sky Highway) was established. In 1965, the road was completed to Whistler. Whistler has developed as an international four season resort municipality, including the development of the Whistler Town Centre which was started in 1978. With these access improvements, the growing population of the area and the outside world's need for timber, the population expanded between the 1950's and 1990's.

The population growth has been sporadic, but with further major improvements and capacity upgrades underway in conjunction with the 2010 Vancouver Whistler Winter Olympics, population and economic growth pressures are increasing.

Regional Context

The Squamish Lillooet Regional District (SLRD) is presently undertaking the development of a regional growth strategy, which was initiated in 2004. According to Part 25 of the Local Government Act, the purpose of a regional growth strategy is to "…promote human settlement that is socially, economically, and environmentally healthy and that makes efficient use of public facilities and services, land and other resources." The District of Squamish is one of a number of municipal partners working with the SLRD in preparation of the draft regional growth strategy.

The following is the Draft Regional Vision from the SLRD's RGS process:

"The Squamish-Lillooet Regional District is a spectacularly beautiful, economically vibrant region. The region features a number of distinct, liveable communities that have been developed within a regional context that respects individual community values and diversity. Residents and guests enjoy easy access to outdoor recreation opportunities. Communities work together, respecting the natural environment and celebrating the uniqueness of the history and culture of the region and its residents. Government organizations, of all levels, actively engage residents in the region in their decision-making processes and collaborate and communicate effectively among themselves."

As part of updating the District's OCP, the District of Squamish will be required to prepare a Regional Context Statement that indicates how the OCP will become consistent over time with the Regional Growth Strategy.

Local Context

Over the years Squamish has developed and utilized a small core of policy documents and Bylaws to assist in guiding their growth and addressing land use demands, pressures and challenges. As noted previously, the OCP has

provided a solid base in establishing community objectives, but more recently has been challenged in guiding growth patterns and in reacting to innovative planning approaches in the face of current growth pressures.

In September 2004 Squamish commenced a Smart Growth on the Ground (SGOG) program, a collaboration of the UBC Design Centre for Sustainability, the Real Estate Institute of BC and Smart Growth BC. This program involves the preparation and implementation of a Downtown neighbourhood plan that is intended to be more sustainable and smarter and relies heavily on meaningful community input. The final concept plan is based on the fundamental SGOG Principles which have been adopted by District Council:

- Each community is complete
- Options to the car are emphasized
- Work in harmony with natural systems
- Buildings and infrastructure are greener, smarter and cheaper
- Housing meets the needs of the whole community
- Good jobs are close to home
- The spirit of each community is honoured
- Everyone has a voice

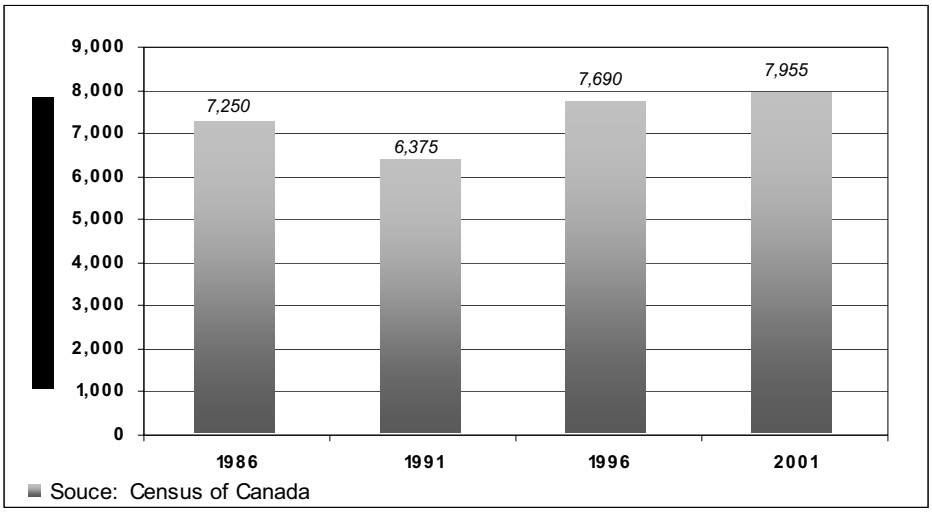
The growth strategy considered most appropriate by the community and supported by the analysis of this study will include recommended changes for adoption into the OCP, and are intended to be compatible with and complement the Zoning Bylaw and SGOG Plan.

2.3 Community Profile & Trends

Employment Profile

Like many West Coast resource-based communities, the District of Squamish has not experienced any appreciable increases in Squamish-based employment over the past 15 years, at least as reported by Census Canada. The following Figure 2-2 also reflects the cyclical impacts of the Forestry and related industries on employment. Also not reflected is the fact that Squamish has become increasingly a community of commuters. Anecdotally, it has been suggested that those commuting to the resort Municipality of Whistler (primarily tourist service employees are currently estimated to approximate 1000 employees) and those commuting to Vancouver (are currently estimated to be as many as 2000 employees). This changing dynamic, reflecting rapidly increasing land values in both Whistler and the Greater Vancouver Regional District as well as improved connectivity (highway upgrades) is reflected in a subsequent sub-section dealing with District-related employment forecasts.

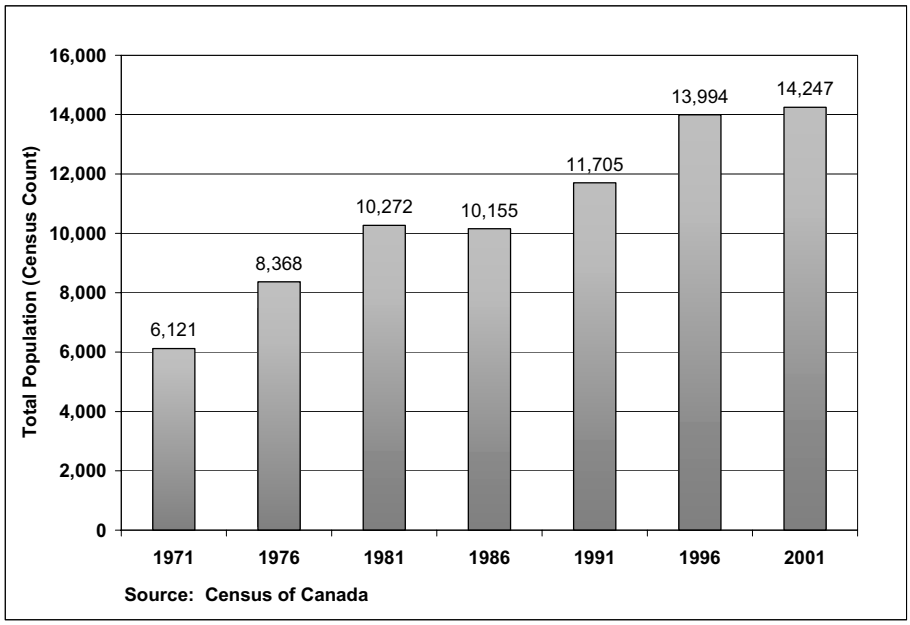
Figure 2-2: Total Employment, District of Squamish, 1986 – 2001



Population Profile

According to the Census count, the population of the District of Squamish was 14,247 in 2001. This represents a 22% increase from the 11,705 people who lived in Squamish in 1991 (Figure 2-3). Including an estimate for the Census undercount, BC Stats estimates that the population in Squamish was 15,390 in 2004.

Figure 2-3: Total Census Population Count, District of Squamish, 1971-2001



Historically, the population in the District increased from 6,100 in 1971 to 10,300 in 1981 and stayed approximately at that level until 1986. Between 1986 and 1996, the population in the District grew rapidly and then leveled off again between 1996 and 2001. Between 1986 and 2001, the District's compound annual population growth rate was 2.3%. This compares to 2.0% for BC, 2.5% for the GVRD, and 10.5% for the Resort Municipality of Whistler over the same time period. The District's growth rate has fluctuated widely between census periods, with the highest growth rate (6.5%) occurring between 1971 and 1976 and the lowest growth rate (–0.2%) occurring between 1981 and 1986.

In 2001, the median age of the District was 35.5 years of age, meaning that half of the population was younger than this age and half was older. The median age in Squamish is significantly lower than the BC median age of 38.4 years of age. This indicates that Squamish has a younger population base than many other areas in the province.

The population of Squamish is characterized by a relatively large proportion of youth with 23% of the District's population being under the age of 15 compared to 18% for BC. Conversely, the proportion of the population that is 55 years of age and older is much lower in Squamish than the BC average. Only 8% of the District's population is aged 55 to 64 compared to 10% for BC. Similarly, only 8% of the population is 65 years of age and older compared to 13% for BC.

There are two other unique aspects of Squamish's population compared to BC that are noteworthy. First, the District's population has slightly more males than females. This phenomenon is opposite to most other regions in BC and Canada. This might be explained by the fact that Squamish has a smaller proportion of people 65 years of age and older where there tends to be a higher share of females than males due to the higher life expectancy of females. In addition, the resource-based nature of part of the local economy attracts a higher share of males in the labour force may also contribute to this fact.

Another notable difference of the Squamish population base relative to the BC average is its ethnic makeup. Squamish has a significantly higher level of Indian immigrants than the BC average (36% of the District's immigrant population is from India). The other significant sources of immigration to Squamish include the United Kingdom, Germany, the U.S., the Philippines, and the Netherlands.

A number of forces were identified that can either promote or limit the population growth in Squamish.

The following key drivers will have a significant influence on promoting population growth in Squamish over the next decade:

- Natural population increases.
- Net migration.

- 2010 Vancouver-Whistler Winter Olympics (primarily due to key infrastructure and transportation improvements along the Sea-to-Sky corridor) and the international exposure the Sea-to-Sky corridor will receive.
- Housing and development constraints in other parts of the Sea-to-Sky corridor (including the Whistler build-out CAP).
- Lifestyle and the attractiveness of Squamish as a community and as the outdoor recreation capital of Canada.
- Regional economy and livability.
- Differential housing prices (Squamish vs. Whistler, West Vancouver, etc.)

These and other factors have culminated in tremendous development pressure in Squamish. The District has received an unprecedented number of development applications over the last year. As of early 2005, there are 6,800 units of housing that are currently under application, proposed, or have development applications pending:

- 2,500 housing units of current residential applications in OCP designated areas
- 1,500 housing units of current residential applications outside OCP designated areas
- 2,800 housing units for pending developments in the Downtown and waterfront areas

Included in the above totals is the Sea to Sky University being developed with a total of 1,200 students with the first phase involving 400 students, the creation of 240 direct full time jobs, and up to 960 market housing units.

Regional Influences

Major residential developments are underway or proposed, particularly south of Squamish, in such areas as Porteau Cove, Furry Creek and Britannia Beach. These and similar developments are likely to have a number of varying impacts on the District of Squamish, some of which may be counteracting.

Finally, there is a proposed Brohm Ridge Ski Resort (located approximately 10 km north of Squamish and outside the District of Squamish municipal boundaries) where as many as 11,500 units are being proposed. For the population projection, it is assumed that this development does not occur within the 30-year time period for the Growth Management Strategy. If this development occurs, it would warrant the development of an updated population projection.

Potential Growth Constraints

Constraints are forces that have a negative or limiting influence on population growth. The following constraints were identified:

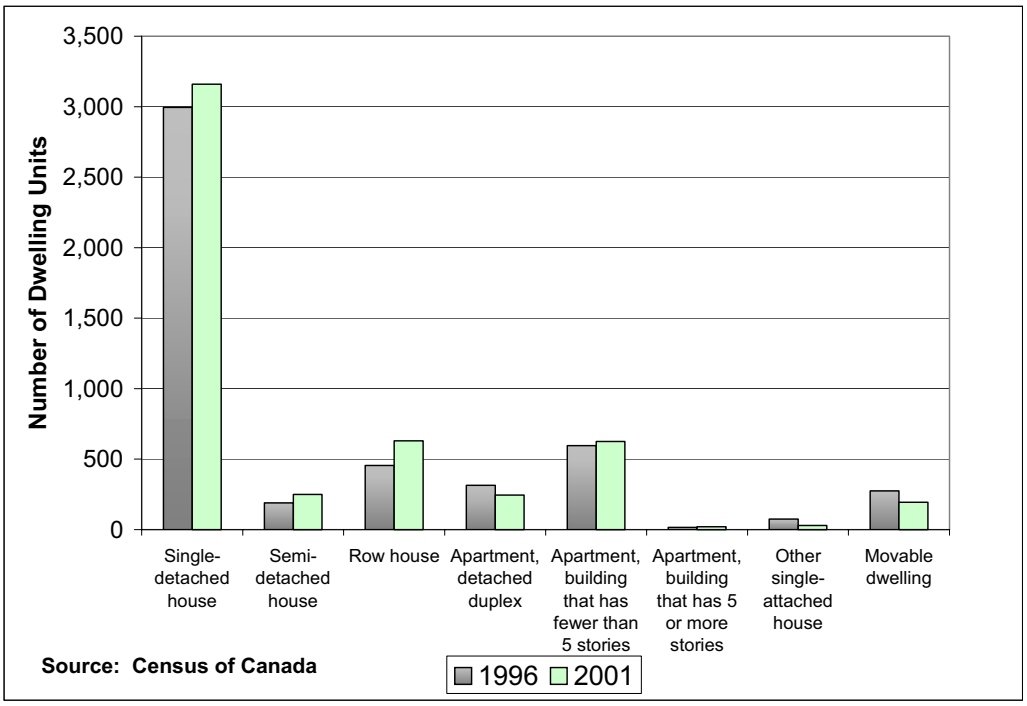
- Natural hazards and environmental constraints
- Availability of residential land supply
- Infrastructure constraints
- Fuel prices
- Competition from other resort communities and recreational areas
- Macroeconomic forces (e.g. interest rates)

On balance, it is anticipated that the market and related attraction forces that are positively impacting on anticipated population growth in the District of Squamish will not be untowardly constrained by the negative influences outlined above, particularly over the next several decades.

Housing Profile

In 2001, there were 5,155 dwelling units up from 4,915 units in 1996. The dwelling stock is comprised primarily of single-detached homes, which comprised 61% of the total dwelling units. As noted in Figure 2-4, Row houses comprised 12% of the housing stock and apartments represented 13% of the dwellings in 2001. Duplexes, semi-detached houses, single-attached houses, and movable dwellings made up the rest of the housing stock.

Figure 2-4: Housing Stock, 1996 and 2001



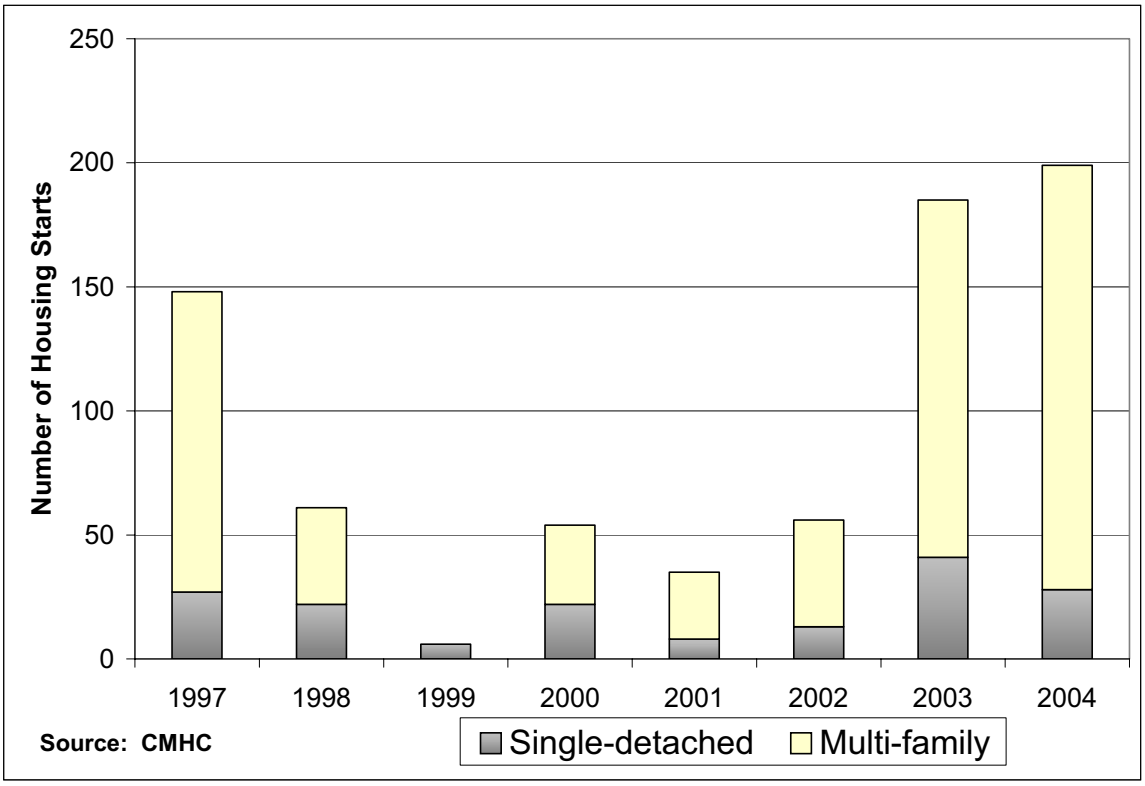
Source: Census of Canada

Housing starts were quite low in Squamish between 1998 and 2002, with approximately 50 units or less being built each year. In 2003 and 2004, the number of housing starts increased to approximately 200 per year according to the Canada Mortgage and Housing Corporation. There has been a shift to more multi-family units being built than single-family in recent years.

Squamish is primarily a community of homeowners. In Squamish, 72% of the dwellings were owned and 27% were rented in 2001. For owners, 18% of households spent 30% or more of their gross income on housing in 2001. For renters, 40% of households spent 30% or more of their gross income on housing in 2001 according to the Census of Canada. Therefore, issues of affordability are more acute for renters than for owners in the District.

Although housing prices in the area have been rising, housing costs are still lower in Squamish than the surrounding communities and in the Lower Mainland. In fact, Squamish is bounded by two of the most expensive housing markets in BC – Whistler and West Vancouver – making Squamish a much more affordable alternative.

Fig. 2-5: Total Number of Housing Starts by Type, 1997-2004



Land Use Profile

The District's unconstrained land supply is based on the land use designations in Schedule B of the Official Community Plan. Fig. 2-6 presents the District's current land use designations according to its 1998 OCP.

The District's OCP land use designations were generalized by the consultant team into the following categories for analytical purposes:

- Residential Neighbourhoods[2]
- Commercial
- Industrial
- Mixed Use
- Limited Use[3]
- Parks, Recreation, and Open Space[4]
- Social, Cultural, and Institutional

[2] According to the District's OCP, the Residential Neighbourhoods designation applies to all urban and suburban neighbourhoods as well as local commercial and institutional (i.e. churches) uses, schools, parks and open spaces typically found within residential neighbourhoods

[3] According to the District's OCP, the Limited Use designation applies to lands within the Agricultural Land Reserve, long term raw material extraction and processing areas, rural residential areas, inaccessible areas or with terrain constraints, environmentally sensitive areas along waterways, areas requiring limited improvements and / or services, and areas with development potential beyond the 30,000 population level

[4] This category is used for the District's Greenways designation which applies to green space networks to be permanently set aside for parks, recreation and environmental protection purposes including Provincial Parks, Ecological Reserves, conservation areas, major municipal parks, golf courses and open space areas.

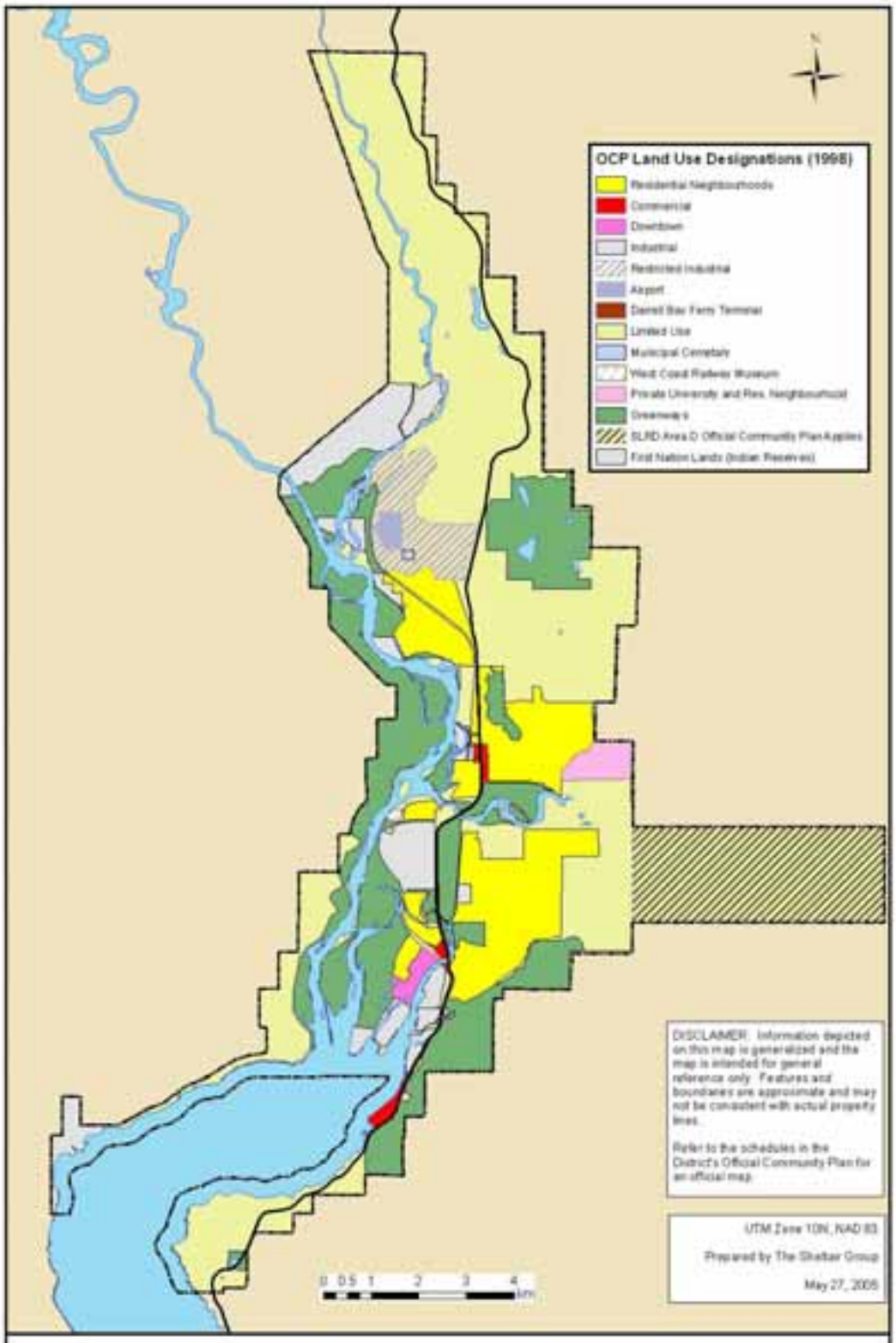
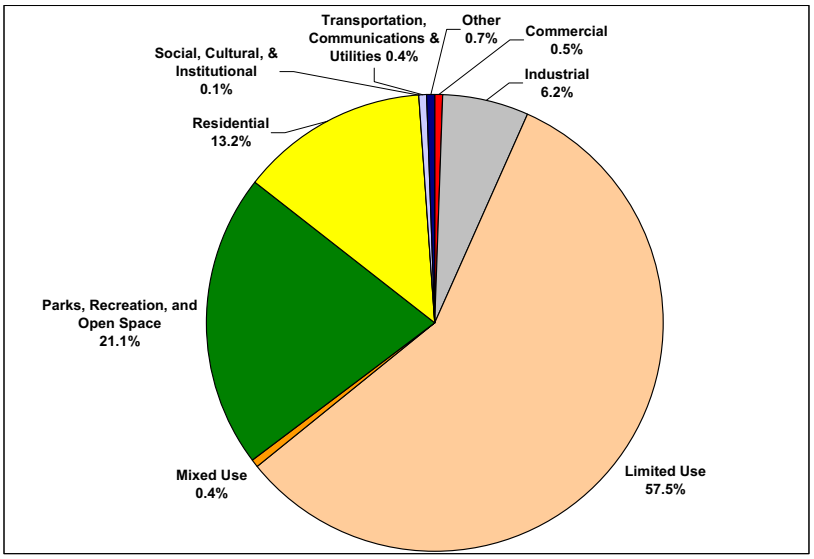


Fig. 2-6: Official Community Plan Land Use Designations

•

Figure 2-7 following shows the breakdown of the land use designations by the above noted generalized land use categories. It shows that the largest land use is the Limited Use at 58% of the District's land area. The second largest land use is Parks, Recreation, and Open Spaces at 21%.

Fig. 2-7: District of Squamish Generalized Land Use Allocation, 2001



Source: District of Squamish

Residential Neighbourhoods are the third largest designated land use in the District at 13%. Less than 10% of the land base is designated commercial, industrial, and other designations.

The following section presents the land supply by generalized land use designations and by sub-area. Fig. 2-8 shows the 13 sub-areas in the District of Squamish. These sub-areas were defined by District staff and the consultant team. Some of the areas correspond quite closely to the 1998 OCP, while others do not. The areas were defined to assist in the analysis process. Fig. 2-9 shows the breakdown of the current generalized land use designations by sub-area.

While this land is designated for these uses in the OCP, not all the land is available for development due to development constraints.

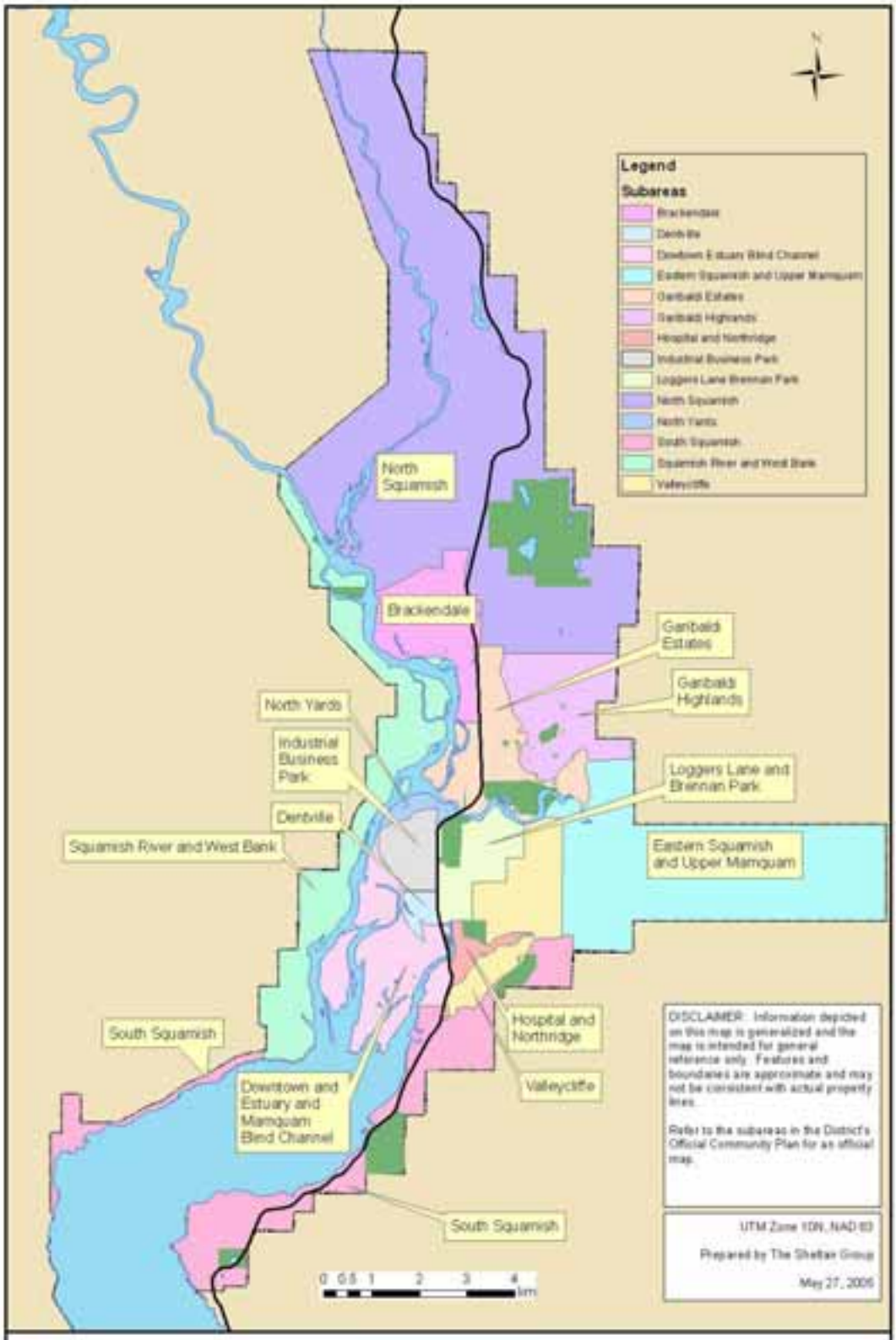
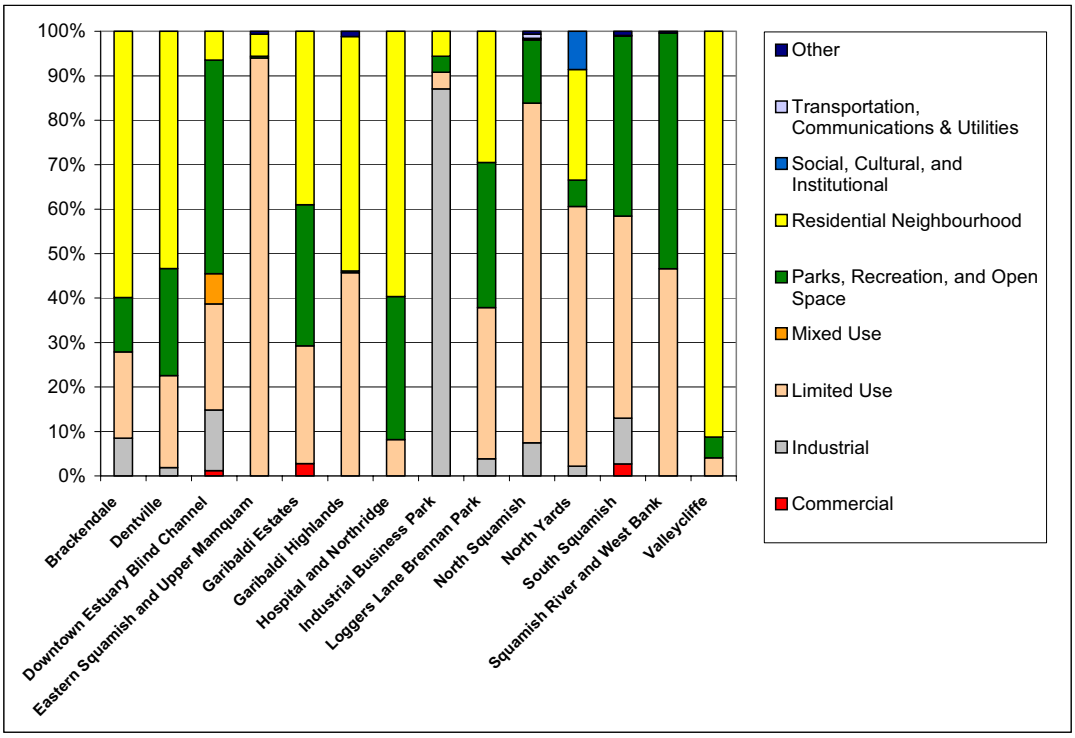


Fig. 2-8: Squamish Subareas

The combinations of these somewhat opposing dynamics – anticipated sustainable high population growth rates coupled with relatively rapidly diminishing availability of developable lands (as will be more detailed in the next section) serves as the most significant influence in evolving a responsibly-conceived Growth Management Strategy.

Fig. 2-9: Breakdown of Generalized OCP Land Uses by Subarea



Source: District of Squamish and The Sheltair Group

3.0 ANALYSIS

3.1 Development Constraints & Land Supply

Areas that are at risk of natural hazards and environmental features limit the amount of potentially developable land. Squamish has a significant number of natural hazards and environmental constraints, which affect developable areas as well as the density of development.

A constraints mapping exercise was conducted to identify areas where urban expansion is not appropriate or lands that are suited for only a limited range of land uses. The residual area is the unconstrained lands in the District or the amount of available land supply to accommodate future development.

The following individual constraint layers and criteria for non-developable lands were used:

- Lakes
- First Nations Indian Reserves
- Steep slopes greater than or equal to 40%
- Elevations greater than or equal to 300 metres (for practical purposes to 2031 due to cost of servicing)
- Squamish River and Howe Sound Flood Plain (no development permitted)
- Cheekeye Fan Natural Hazard (zones 1, 2, 3,)
- Provincial and Municipal Parks
- Ecological Reserves and Conservation Areas
- Squamish Estuary
- Wetlands (30 metre buffer)
- Fish-bearing streams (30 metre buffer)
- Non fish-bearing streams (15 metre buffer)

A description of the individual constraints is included in Appendix A. In addition, two other constraints are:

- Community wells (wellhead protection buffer)
- Trails (buffer)

The following individual constraint layers were identified and may include some development but it may be limited or subject to restrictions or conditions:

- Steep slopes greater than or equal to 25% and less than 40%
- Squamish River and Howe Sound Flood Plain (development permitted but restrictions apply).
- Figure 3-1, shows the composite constraints map. The map shows that 73% of the land base of the District of Squamish is not suitable for urban development.

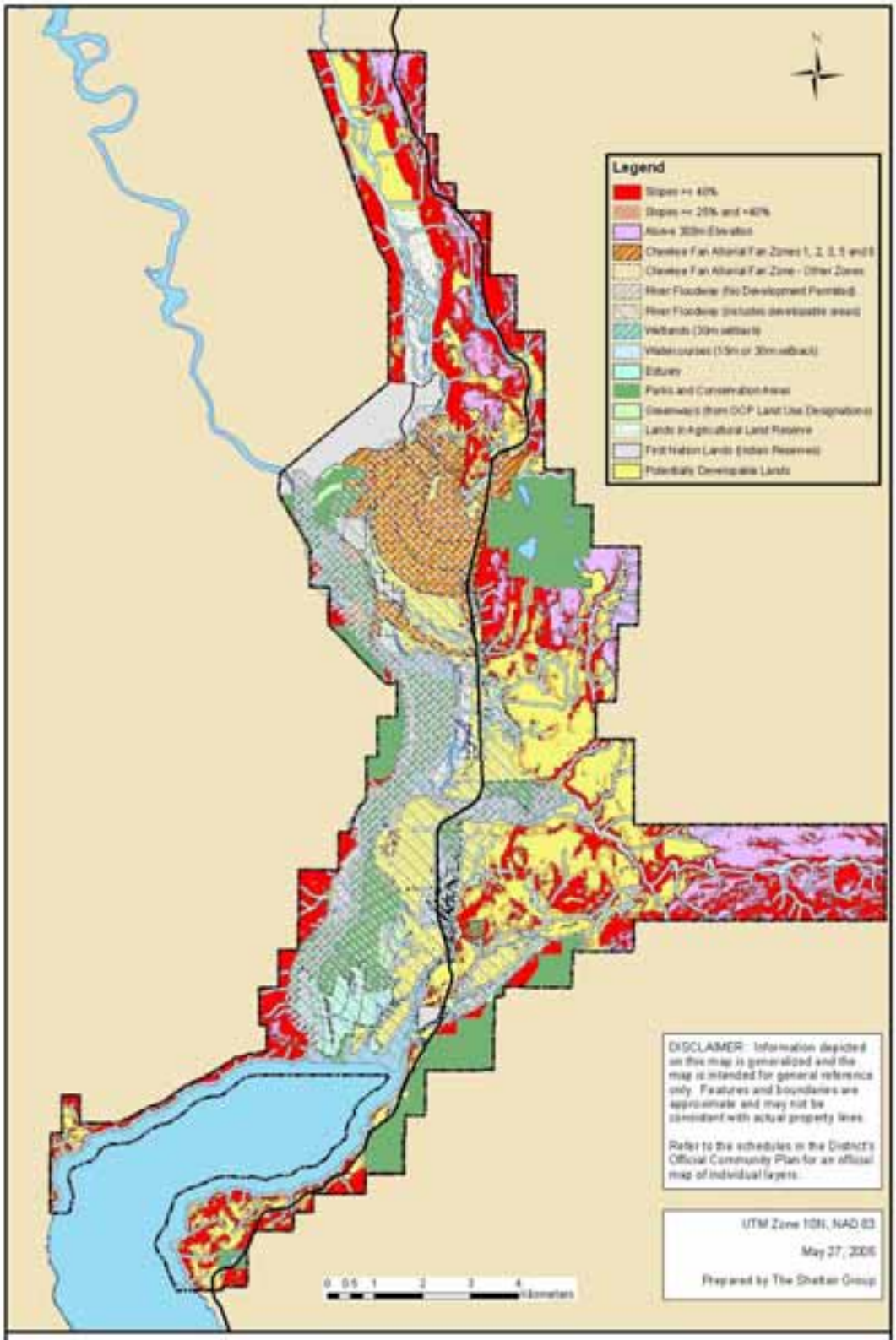


Fig. 3-1: Composite Constraints Map

Potentially Developable Areas

As reflected in Figure 3-2, the results of the constraints analysis indicate that only 27% of the land base of the District of Squamish is potentially developable. Of the remaining 27% of the District that is developable, there are still conditions that limit the amount of development including slopes that are greater than 25% and less than 40% as well as lands that are in the flood plain. The large contiguous areas of potentially developable lands are primarily to the east of Highway 99 and the area south of the constrained lands around Alice Lake Provincial Park.

There are also areas between Highway 99 and the Squamish River and south of the Cheekeye Fan that are already developed or have some development potential through infill development. Finally, there are pockets of potentially developable areas south of Shannon Falls and also north of Alice Lake and in the very northern portion of the District, however these are discontiguous and are unlikely to be developed to urban uses due to servicing limitations.

Figure 3-3 following, shows the amount of land that is already developed or potentially developable in each sub area compared to the total land in the sub area. It also breaks the potentially developable land into categories where slopes are less than 25% and where slopes are less than 40%.

The figure reveals that there is very little potentially developable land in some sub areas. In particular, while North Squamish and Eastern Squamish and the Upper Mamquam have very large land areas, but only 19% and 28% of these areas respectively are potentially developable. Including only slopes that are less than 25% reduces the amount of land that is potentially developable to only 4% and 6% of the land area respectively. Similarly, in South Squamish 25% of the area is potentially developable, but only 6% of the total area is in suitable areas where slopes are less than 25%. Also, the west bank of the Squamish River to the municipal boundary is completely constrained and has no capacity for development.

The least constrained sub areas are Brackendale, Dentville, Downtown, Garibaldi Estates, Garibaldi Highlands, the Industrial Business Park, Loggers Lane and Brennan Park, the North Yards and Valleycliffe. Though most of these areas are within the floodplain.

The following table summarizes the potentially developable lands in the District. It indicates that only 1,540 ha of the land are potentially developable with slopes less than 25%. Much of these lands are located within the floodplain, but development can still occur with some restrictions.

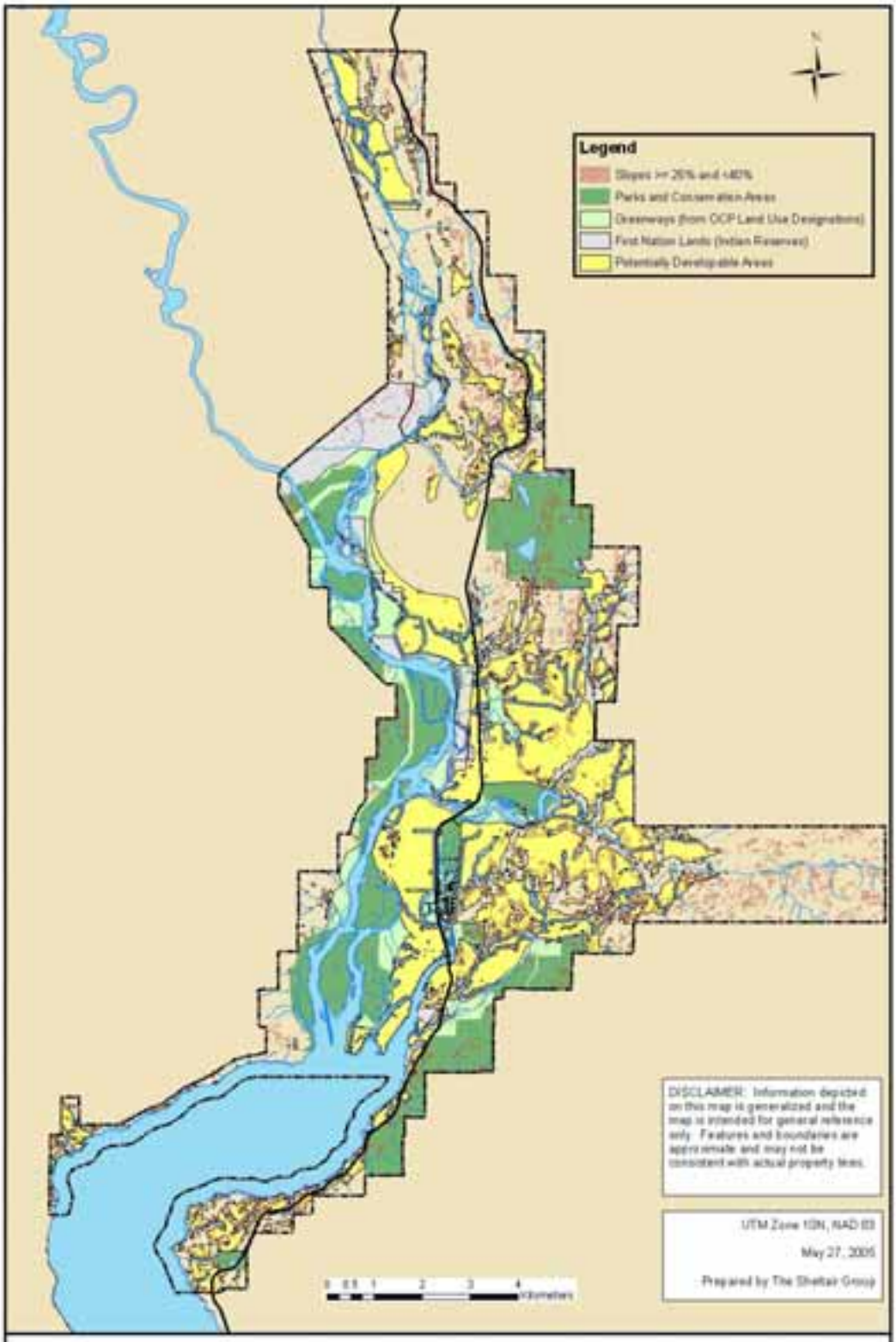
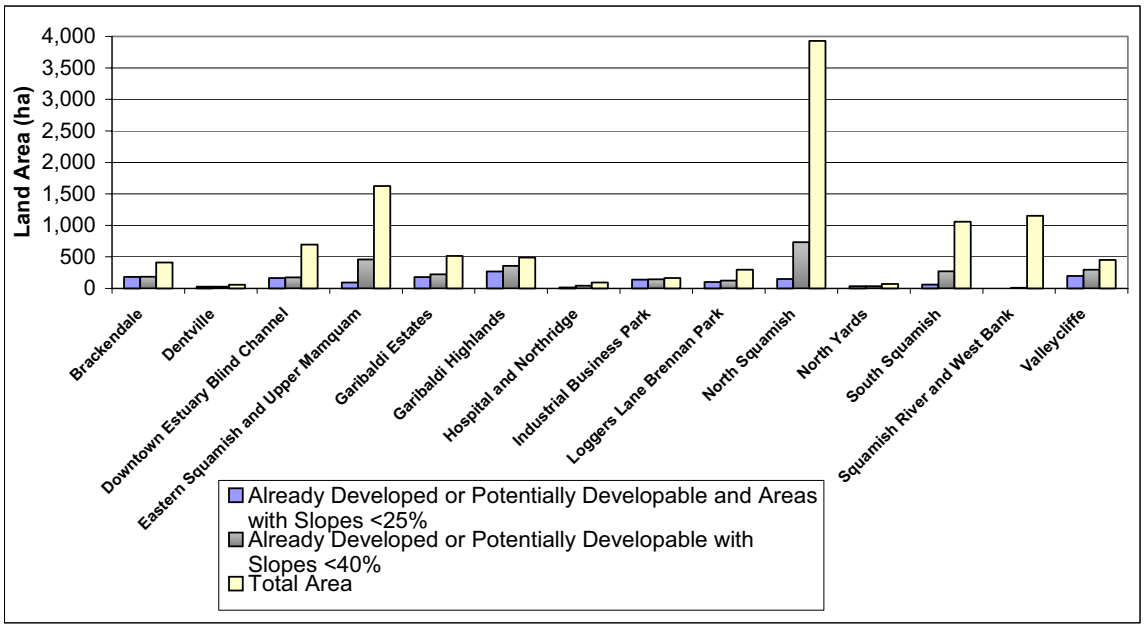


Fig. 3-2: Developed and Potentially Developable Areas

Fig. 3-3: Amount of Land that is Potentially Developable and Total Land Area by Sub area



Including the potentially developable lands where slopes between 25% and 40% results in almost doubling the amount of land that is potentially developable. However, these sites would be more difficult and expensive to develop and would only be suited to some land uses, such as residential uses at medium densities to make the development economic.

Table 3-1 shows the totally potentially developable area for the full District. Table 3-2 shows the potentially developable area for the core area of Squamish, which excludes North Squamish, South Squamish, and the area west of the Squamish River. The core area of Squamish is generally bounded by: Alice Lake Provincial Park to the north; the western boundary of the annexed area to the east; the Stawamus River to the south; and by the Squamish River on the west. This area can be defined as the contiguous urban area of the Squamish District. Including only the core area, it is significant to note, in Table 3-2, that there is less than 2,100 ha of land that is potentially developable in areas that would be contiguous to existing development.

Table 3-1: Breakdown of Land Area that is Potentially Developable by Land Use Designation, District Wide

	Potentially Developable and slopes <25% (ha)	Potentially Developable and slopes >=25% and <40% (ha)	Total Potentially Developable Land Area (ha)
Residential Neighbourhoods	887	182	1,070
Limited Use	520	1,090	1,610
Other Designations	354	51	405
Total	1,539	1,555	3,094

Table 3-2: Breakdown of Land Area that is Potentially Developable by Land Use Designation, Core Area

	Potentially Developable Where Slopes <25% (ha)	Potentially Developable where Slopes >=25% and <40% (ha)	Total Potentially Developable Land Area (ha)
Residential Neighbourhoods	880	182	1,063
Limited Use	289	443	733
Other Designations	264	17	281
Total	1,434	643	2,077

It is estimated that between 40% and 50% of the District's potentially developable lands have already been developed.

3.2 Population and Employment Projections

Population Projection

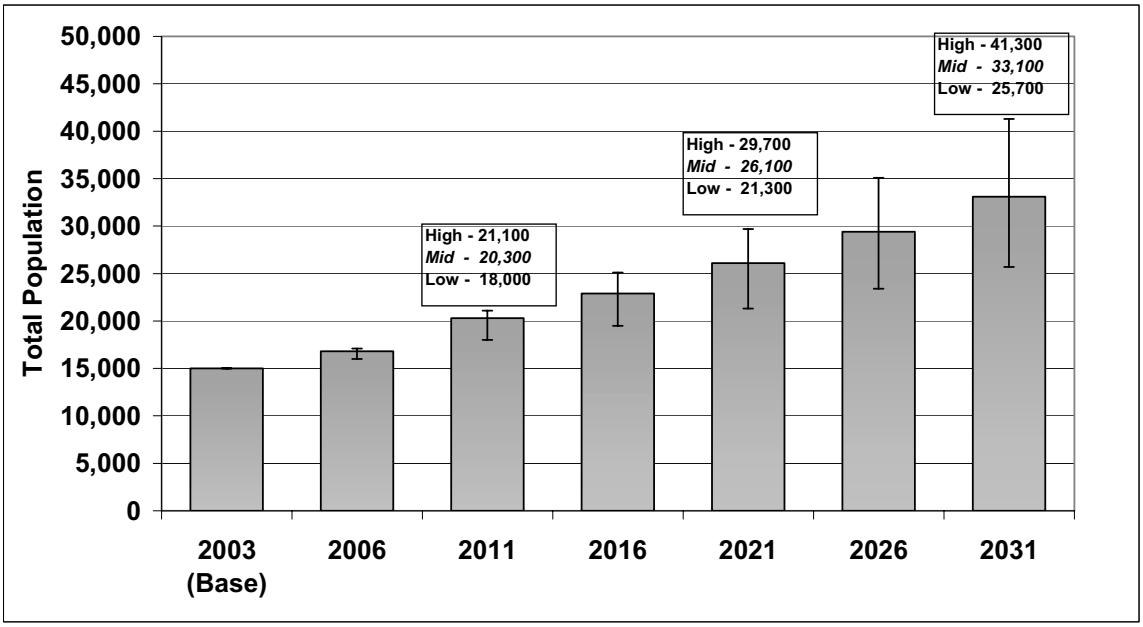
A population projection was developed based on the BC Stats PEOPLE 29 population projection, and factored using a ratio and share method to allocate the population growth from Local Health Area 48 (Howe Sound) to the District of Squamish. Significant adjustments were made to the projection to account for much higher levels of known development activity occurring or anticipated to occur in Squamish, particularly over the next 10-year period.

Capacity constraints in Whistler are taken into account in the population projection due to the identified build-out level for that community. The share of growth apportioned to Whistler after it reaches a resident population of 15,000 is assumed to fall significantly. The resident population is still assumed to grow after it reaches a population of 15,000 but at a much slower rate. The share of the population growth distributed to Squamish, Pemberton, and the remaining areas in the Local Health Area are readjusted once Whistler approaches the 15,000-population level.

The projection shows the population reaching a level of 20,300 in 2011 and 26,100 in 2021. In 2031, the population is projected to be 33,100 or more than double its current level of 15,400 in 2004 (Fig. 3-4). The projection has an annualized compound population growth rate of 3.9% between 2003 and 2011. This declines to a growth rate of 2.6% between 2011 and 2021 and then to 2.4% between 2021 and 2031. This compares to an average annual growth rate of 2.3% experienced between 1986 and 2001.

It is extremely difficult to forecast future population, as there are many uncertainties about population growth in the District, particularly since the District is facing an unprecedented level of development activity. Low and high projections were therefore prepared to provide a reasonable “bound” for the projection. The low and high projection is based on different assumptions regarding the growth rate in the region and the share of regional growth captured by the District of Squamish. The high projection is unconstrained, meaning that it does not take into account the possibility of insufficient housing capacity available. The low and high projection is for the District’s population to reach 25,700 and 41,300 people respectively by the year 2031. See Appendix B for a more detailed review of population forecast.

Figure 3-4: Projection of Population, Squamish, 2003-2031 (showing low, medium, and high projections)



Over the 30 year time period, the age composition of the population is projected to change significantly. The proportion of the population over the age of 65 is expected to increase from about 8% in 2001 to 15% by 2031. Including those 55 years of age and older, the proportion is expected to increase from 16% in 2001 to 26% by 2031. In absolute terms, the number of people aged 55 to 64 is anticipated to increase by 220% between 2001 and 2031. The number of people aged 65 to 74 is anticipated to increase by over 290%. The number of people over the age of 75 years of age is anticipated to increase by 325%.

The median age of the population is projected to increase from 35.5 years of age in 2001 to 38.2 years of age by 2031. This compares to the median age in BC increasing from 38.4 years to 44.5 years of age by 2031, according to BC Stats. Therefore, Squamish is projected to continue to have a much younger population than the provincial average throughout the forecast period.

There are many complicated factors that affect growth in the District of Squamish. Due to the rapid growth anticipated for Squamish, it is recommended that the population projection be reviewed every two years and an updated projection be conducted at least every five years to take into account actual changes that have occurred on the ground or that are planned in the future.

Employment Projection

As discussed in Section 2 above (see Figure 2-2), employment growth in the District between the period 1986 and 2001 grew at a very moderate average annual growth rate of .05%. Given the comparatively robust population growth during the same period, it is evident that employment generation for local residents is occurring outside of the District of Squamish, principally in the Whistler and Lower Mainland areas. Indeed, it is expected that with improved driving times to both Whistler and Vancouver, that Squamish will inevitably become increasingly a dormitory community. While this phenomenon has been brought on, in part, by a contraction in local employment opportunities (particularly in the forestry sector), the relative low cost of housing in Squamish (particularly as compared to Whistler and a substantial portion of the Lower Mainland) results in the District becoming increasingly attractive as a perceived location for competitively-priced shelter – both owned and rented.

Notwithstanding the contraction in forestry and related industries, the District of Squamish will experience significant employment growth in other sectors, including:

- Construction sector – many new jobs have and will continue to be created in the Squamish area in part due to the preparations for the 2010 Winter Olympics as well as a response to urban development pressures including university, schools, road construction, subdivision infrastructure, residential, and commercial developments.

- Education sector – the Sea to Sky University as well as the expansion of the Capilano College will lead to increased full and part-time employment opportunities for teachers, teacher's assistants, administrative and related personnel.

- Hospitality industry – as the "Outdoor Recreation Capital of Canada" coupled with the ever increasing popularity of adventure and eco-tourism, Squamish is destined to experience burgeoning employment opportunities related to the development of hotels, motels, restaurants, and related hospitality functions and activities. This circumstance, while obviously advanced by the 2010 Winter Olympics, is anticipated to extend beyond the Olympics as an important facet of the District's increasingly diversified economic base.

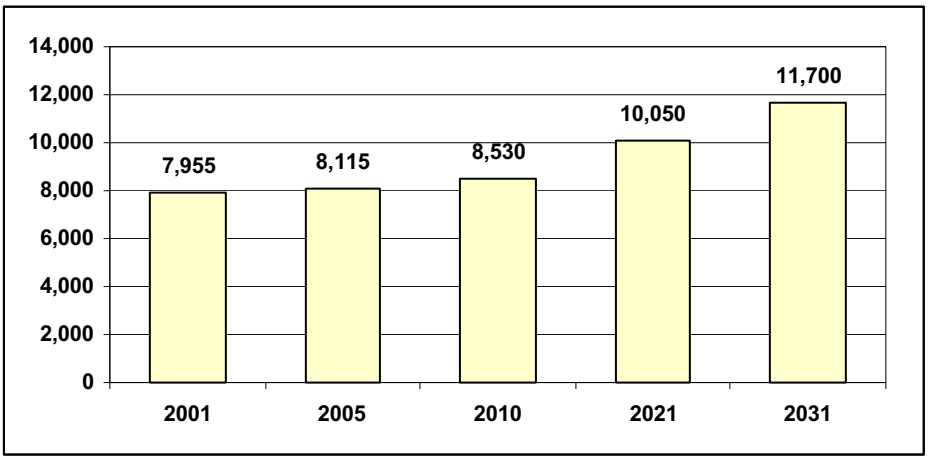
- Retail and commercial service sector – the advent of the opening of two relatively large format retailers, Wal-Mart and Home Depot, will result in significant increases in retail-related job opportunities – possibly representing in excess of 450 full and part-time employment openings.

- Other sectors and industries – given its strategic location and the ever expanding need for commercial and related services evolving as a consequence of region-wide urban developments particularly along the Sea to Sky corridor, Squamish will continue to benefit as a distribution centre for the entire "corridor". In addition, extensive aggressive marketing will inevitably result in the accommodation of added-value enterprises in some of the traditional forestry and related employment sectors as well as in knowledge-based and other related "clean" business. In the latter context, the District has mounted a special marketing campaign to fully exploit employment generated activities related to the harnessing of alternative energy sources, including wind.

Pre-supposing that current District-wide employment is at a level of 8,115 (assuming an average annual compounded growth rate from 2001 of .05%) and assuming that growth will continue at a slightly accelerated average annual compounded growth rate of 1%, as reflected in Figure 3-5, forecasted employment for the year 2010 is estimated to approximate a level of 8,530.

For reasons noted above, employment is likely to increase, beyond 2010, at an average annual compounded growth rate of 1.5% which would result in a 2021 employment forecast of approximately 10,050 representing a labour participation rate of nearly 40% as compared to a current level of approximately 50%. This contraction in the labour participation rate should not be altogether surprising given the combined dynamics of an ageing local population as well as with an ever expanding percentage of new residents who also see Squamish as an ideal place to retire.

Figure 3-5: Projection of Employment, Squamish, 2001 – 2031



While a matter of some speculation, assuming a continued average annual employment growth rate of 1.5%, 2031 employment is projected to reach a level of nearly 12,000. These employment forecasts must be seen as being highly volatile particularly in light of the relatively small population base of the District and the urban transformations which are currently being exhibited and which are likely to become even more pronounced over the short to medium term.

Housing Projection

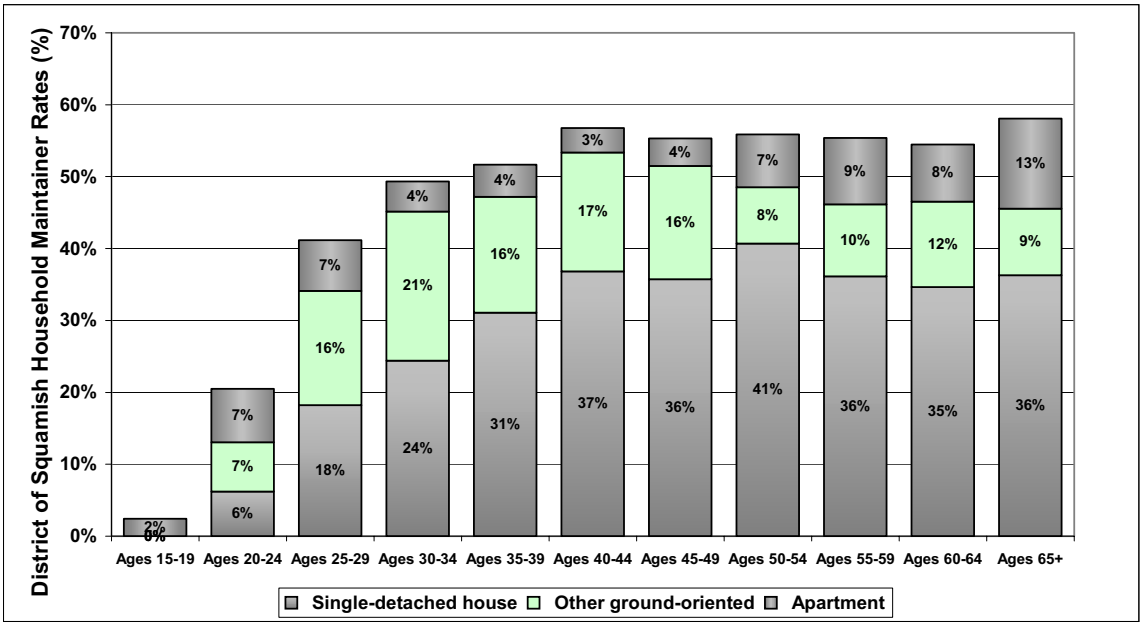
The growth in the size of the population and the change in the age composition of the population are two of the most important determining factors for a community's future housing demand.

Demand for new dwellings by structure type is estimated for future time periods by using projections of the future size and age structure of the population and household maintainer rates. The maintainer data show the propensity of certain age groups to be maintainers of households by structural type. In addition to demographic-based housing demand, the housing projection also takes into account housing starts that have occurred since 2001, known and anticipated development applications, and land supply constraints.

The proposed housing mix for new or pending development applications known to the District of Squamish are used to adjust the housing projection for the first 20 years of the housing projection. The housing projection after 2021 is assumed to take on a closer distribution to the demographic-based housing demand.

Figure 3-6 shows the lifecycle of housing demand for the District of Squamish and the Squamish-Lillooet Regional District. It shows that at younger ages, these age cohorts have lower household maintainer rates. As the population ages, the older cohorts have a higher propensity to be household maintainers, with the trend generally increasing until the household maintainers are in their mid-40s and then remaining flat for the older age categories.

Figure 3-6: Household Maintainer Rates by Structural Type for District of Squamish, 2001



Source: Statistics Canada, Census of Canada

The figure shows that single-detached housing remains the dominant form of housing demand for those 35 years of age and older. The share of the population that are apartment maintainers increases particularly for those people who are 65 or older.

Based on the household maintainer rates and the known development activity planned or pending for the District, a housing projection was prepared. The housing stock is projected to increase from 5,200 units in 2001 to 13,900 units in 2031 for an increase of approximately 170% or 8,800 net new dwelling units (Figure 3-7).The housing stock is projected to increase faster than the population growth rate due to the anticipated continual decline in average household size and proportional shift to more people living in multi-family units, which tend to have a lower average household size. Apartment units are projected to almost quadruple (270% increase) under the projection from 600 units in 2001 to approximately 2,500 units in 2031[5] . Other ground-oriented units, such as townhouses, are projected to roughly triple from 1,400 units in 2001 to 4,000 units in 2031. This reflects, for the most part, the redevelopment activity that is anticipated to occur in the downtown and waterfront areas. Single-detached units are projected to increase by 135% from 3,200 units to 7,400 units over the projection period.

[5] Between 2006 and 2011, it is assumed that 650 dormitory units are provided at the Sea to Sky University campus. These are not included in the "apartment" category as they are institutional units. Therefore, the 650 campus units are on top of the apartment units projected.

One of the anticipated growing housing trends that the District of Squamish can not escape is the incidences of expanding secondary residential markets – homes, of varying size and type, that will accommodate residents on a part-time basis (in contrast to their respective primary home) reflecting the ever expanding attraction of the Squamish area for recreational and related leisure-time pursuits. This trend, of course, has been quite conspicuous in the community of Whistler, which like most resort communities, manifest a very high percentage of secondary homes. A Growth Management Strategy which is designed to minimize and untoward percentage of secondary homes is to ensure that there is a strong, local and growing employment market. Obviously, as the secondary market expands, the historical correlation between the total housing stock (which as been predominantly of a primary orientation) and population growth rates will be impacted.

Fig. 3-7: Projection of Total Dwelling Units by Structural Type, 2001-2031

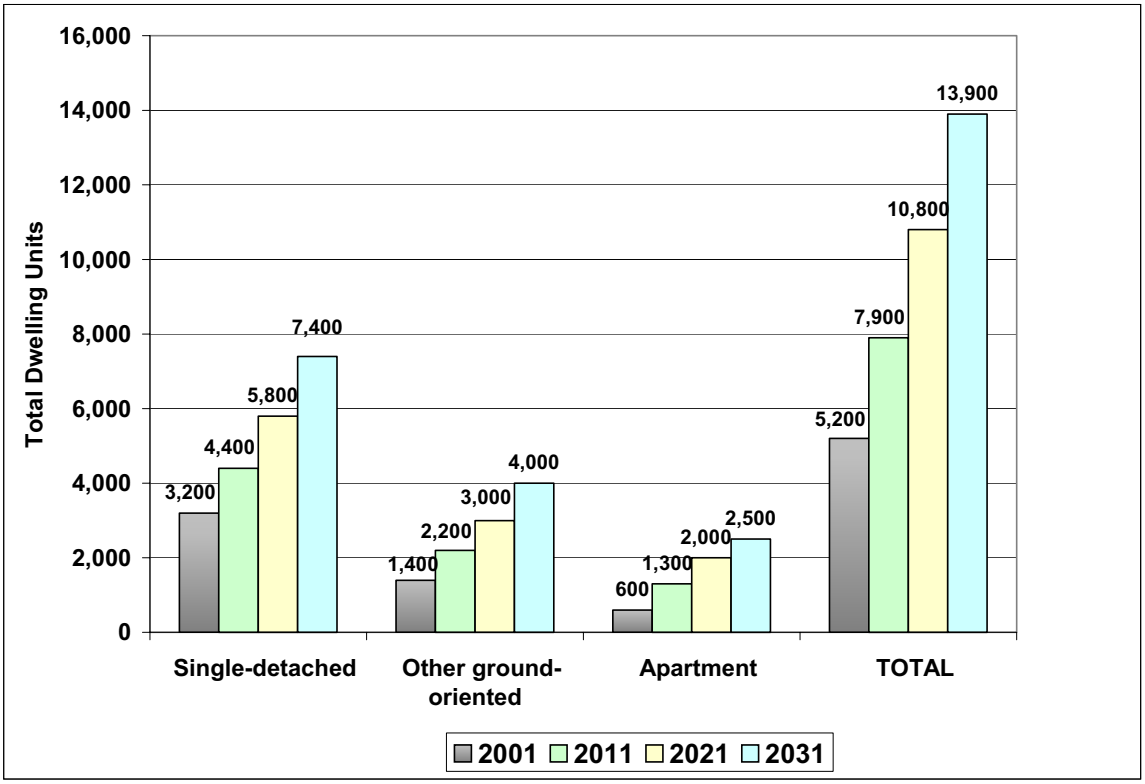


Table 3-3 provides a breakdown of new dwellings by structural type. In contrast to the current housing stock of approximately 61% single detached units, the share of new dwellings that are single-detached homes is projected to drop to 45% between 2001 and 2011 and increase to 53% between 2021 and 2031. Housing demand is still very high for this housing form, but due to the number of developments in the downtown area, which have multi-family units, the forecast falls below its historical levels. The demand for single-detached homes, from

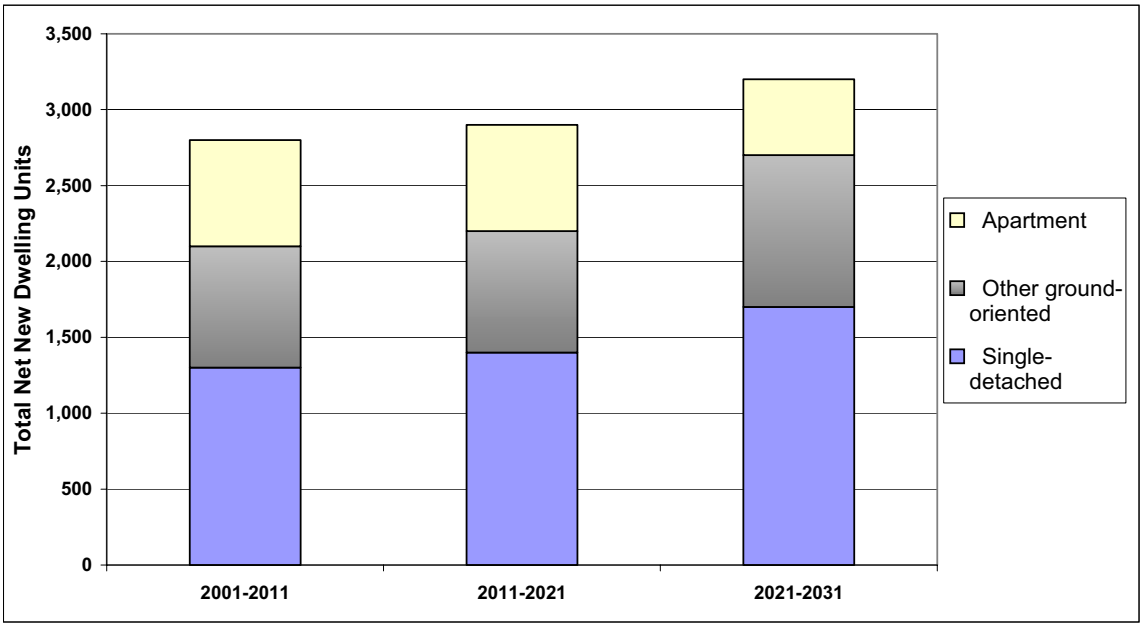
purely a demographic perspective, would be approximately 60%, but is believed to not be reflective of housing trends in Squamish. The percentage of the new dwelling stock that is apartment increases to approximately 25% between 2001 and 2021 and then falls to 16% between 2021 and 2031 after much of the redevelopment of downtown and waterfront areas are complete.

Table 3-3: Breakdown of New Dwellings by Structural Type

	2001-2011	2011-2021	2021-2031
Single-detached	45%	48%	53%
Other ground-oriented	30%	29%	31%
Apartment	25%	24%	16%
TOTAL	100%	100%	100%

In terms of new dwelling units, it is projected that there will be 2,800 new dwelling units between 2001 and 2011 (Fig. 3-8). Even though the population growth rate declines after 2011, the declining average household size and larger base population results in 2,800 new dwellings units between 2011 and 2021 and 3,200 units between 2021 and 2031. Under the projection, the average annual number of new dwelling units increases from 280 units per year near the start of the projection to 320 units per year towards the end of the projection. The average household size is projected to fall from 2.77 in 2001 to 2.38 in 2031. This level is similar to that projected by BC Stats and the Urban Futures Institute.

Figure 3-8: Total Net New Dwelling Units by Structural Type, 2001-2031



In summary, the housing projection reflects and anticipates increased development activity in Squamish associated with the projected population growth and current levels of known and potential development activity. It also anticipates a shift towards more multi-family units due to the redevelopment of downtown and waterfront development. The share of single-detached units has been reduced over that projected by the age composition of the household maintainers to account for the high desirability of the waterfront locations. Actual internal choices, particularly regarding the choices that the District makes about the availability[6] of land for residential development for certain types of housing, as well as external forces will ultimately affect housing growth in Squamish.

Using the housing demand forecast and making assumptions regarding the gross densities associated with the additional housing units, an estimate was made of the amount of land that would be required to accommodate that number of units. It is forecast that there would be a total of 13,900 dwelling units in 2031. Of great significance is the fact that the total amount of land to accommodate this number of dwelling units is roughly estimated at 1,060 ha in 2031. This amount could be higher or lower depending on the actual densities that are achieved on the ground, the amount of land that is protected for greenway corridors and trails, the mix of housing types, and how successful the downtown is in attracting residential development.

As there is less than 1,000 hectares of land that is mixed use, Residential Neighbourhood and less than 25% slope, including the Oceanfront (Nexen) and Interfor lands, the availability of OCP designated land that is potentially developable will run out before 2031. This forecast is based on the current OCP designations and includes all of the downtown sites and thus excludes such non-designated lands as District Lots 509 and 510 (Merrill and Ring). These land areas are discernable on the "Developable Areas" map. However, there is sufficient capacity to accommodate the projected population beyond 2031 by using the remaining residentially designated lands where the slopes are between 25% and 40% (this increases the land supply by almost 200 hectares) or by allowing residential development in selected areas that are designated Limited Use where the lands are potentially developable and the slopes are less than 25% (this increases the land supply by over 500 hectares). A third alternative would be to allow development in areas that are above 300 metres in elevation (refer to Appendix Figure A-1 which outlines contours and specifically 300 metre contour/elevation).

[6] The following assumptions were made for the sources of new residential land supply for the analysis:

- The Squamish Industrial Park and other industrial lands located outside of downtown remain protected for industrial use and are unavailable for residential development.
- The Interfor and Oceanfront Development Corporation lands are re-designated to either Residential Neighbourhood, or Mixed Use.
- Parks, green space, and lands in the Agricultural Land Reserve remain unavailable for development.
- Downtown lands are primarily developed at grade with commercial usage and either retail/office or residential uses above.
- No land is developed above an elevation of 300 metres.

Therefore, there is sufficient capacity to meet the District's population projection of 33,100. There is development capacity to accommodate the population beyond this level, but it will require tradeoffs and development will become more expensive once the land that is on slopes less than 25% is depleted. Development will also become more expensive as many of the remaining developable areas are located in pockets that are not contiguous to serviced areas or are located in higher elevations.

The results of the preliminary analysis indicate that the land base for residential development is more limited in Squamish than previously thought. Once the population approaches 30,000, a study to explore options for accommodating future populations will be warranted. Such a study would require at least a 5 year lead time to ensure that any contemplated annexed land is available and to allow sufficient time and consultation with the community, SLRD, and neighbouring jurisdictions

Commercial Projection

Based on current OCP land use designations, the District's total designated commercial[7] land area approximates 51 hectares (126 acres). In reality, this does not represent the District's total capacity for commercial land uses given that the OCP designates 47 hectares of land as Mixed-Use (i.e. Downtown) . Also not included in this total are commercial uses in the Residential Neighbourhood land use designation. In addition, large format "warehouse-type" retail uses are also permitted in the industrial land use classification (an area of some 688 hectares or 1,700 acres). These lands are classified as industrial in this land use inventory.

With the exception of the accommodation of large format retailers, such as Wal-Mart and Home Depot, which will be situated in an industrial classified land area, the existing land areas identified as commercial, mixed-use, and portions of the Residential Neighbourhood areas are anticipated to provide significant capacity for additional retail and other commercial uses (services, commercial entertainment, eating & drinking facilities, etc.). Most of the existing residual capacity is made up of the following residual considerations:

- As yet undeveloped land.
- Under-developed land areas.
- Existing buildings with vacancies, and

[7] Commercial OCP land use designation: applies to highway and commercial areas and associated buffers but not commercial areas in Downtown Squamish or in residential neighbourhoods

- Existing retail establishments which are under-performing – exhibiting significant opportunity to accommodate additional sales either in their present use or as re-tenanted with more appropriate, consumer-sensitive establishments.

One can not sufficiently emphasize the enormous existing capacity that exists in existing retailing establishments that are grossly underperforming, particularly as exhibited in the District's downtown or central business district areas. With the advent of expanded residential development, again most notably in the downtown area, and in the introduction of new strategies and incentives, much of this existing residual capacity is anticipated to be slowly but progressively brought into a higher state of utilization and higher per square foot sales productivity.

Likewise, some of the existing suburban-located shopping centres and retailing establishments can also experience significant increases in sales performance and productivity such that with, minor exceptions, additional commercial land use designations are not anticipated to be required, in any appreciable form, for the near term.

A significant variable in forecasting land use demand for commercially-designated land uses relates to the fact that a significant portion of the District's retail expenditure potential is known to be leaving the community, predominantly to retailing establishments in the Greater Vancouver area. The retailing operations of two significant soon-to-be-built large format retailing operations should contribute significantly to the recapture of retail expenditures currently leaving the local market.

While near-term demand for additional office space is not likely to be experienced, again, given the substantial amount of vacancy in existing commercially designated buildings, as District-wide population levels approach, and exceed levels of 20,000 to 25,000, there will be a pronounced need for additional facilities accommodating medical/dental, legal, accounting, and other general-purpose office uses. As with retail establishments, between commercial and mixed-use land designations, significant capacity currently exists for such future needs, particularly in the District's downtown area. Whether located at grade or on second levels, it is anticipated that as demand begins to transcend existing built form capacities, that a substantial portion of such needs will be accommodated, whether in downtown or suburban locations, in increasingly mixed-use but predominately residentially-oriented projects.

Employment/Industrial Projections

While the 1998 OCP-related land use inventory designated 688 hectares (nearly 1700 acres) of land for industrial uses. This includes lands that are designated in

the OCP as Industrial[8] or Restricted Industrial[9]. Lands that are Restricted Industrial have a more limited set of uses due to the constraints in the Cheekye Fan area. Some of these industrial lands, such as the Interfor or Oceanfront (Nexen) sites, have either been re-classified or are likely to be converted to other land use designations in the near term. It is anticipated, however, that given the District's strategy of promoting economic growth, little, if any further contraction in industrially-designated land is anticipated to occur, at least in the short to medium term.

In this context, the existing under-developed industrial-designated lands provide substantial capacity for the accommodation of future demands especially based on recent industrial land use absorption rates which, for the most part, have been of a negative orientation – reflecting significant contraction in forestry and related industrial activities.

Notwithstanding the broader use of so called industrial-designated lands (including, for example, the accommodation of large format retail interests), future employment-related operations are likely to reflect more efficient utilization of land, particularly from the stand point of numbers of employees per hectare. This will become more evident as the District's promotional and marketing strategies result in attracting additional added-value manufactures and more knowledge-based employers in areas of research, light industrial activity, assemblage operations, alternative energy, and the like.

In summary, existing supplies of under utilized or vacant industrial designated land areas are deemed to provide a sufficient capacity for employment-related activities for the foreseeable future. This will become increasingly evident as knowledge-based industries become "cleaner" in orientation with the expansion of some employment from traditional industrial-designated lands to commercial office-type facilities.

3.3 Summary

A key finding of this study is that only 27% or 3,145 hectares (7,770 acres) of land are potentially developable. Steep slopes, natural hazards, high elevations, and environmental features signficiantly constrain Squamish's developable land base. Of this land area, only 1,540 hectares (3,800 acres) of land is located in areas with slopes less than 25%. Most of the potentially developable areas with slopes less than 25% and with elevations less than 300 metres are located south

[8] Industrial OCP land use designation: applies to service and heavy industrial areas including the Ssquamish port, Squamish Business Park, and BCR rail yards. For the purpose of the land use inventory, commercial/retail uses within industrial areas are classified as "industrial"

[9] Restricted Industrial OCP land use designation: applies to part of the Cheekye Fan for land intensive, industrial purposes related to resource initiatives whereby the predominant activity is not enclosed within a building (i.e. log sort)

of Alice Lake Provincial Park, north of the Stawamus River, and east of the Squamish River.

The population of Squamish is projected to increase from 15,390 people in 2004 to 33,100 in 2031, more than doubling the population. The employment projection is for the number of jobs to increase from 7,955 in 2001 to 11,700 in 2031.

Accompanying this population and employment growth is the accompanying demand for housing units and demand for residential, commercial, industrial, institutional, and other lands.

The housing projection is for the number of housing units to increase from 5,200 units in 2001 to 13,900 units in 2031. The housing stock is projected to increase at a faster rate than the population due to the anticipated decline in average household size and proportional shift to more people living in multi-family units, which tend to have a lower average household size. In contrast to the current housing stock of approximately 61% single detached units, the share of new dwellings that are single-detached is projected to drop to 45% between 2001 and 2011 and then increase up to 53% between 2021 and 2031. The higher demand for multi-unit dwellings is primarily due to the higher projected townhouse and apartment growth in downtown and the oceanfront area in the next two decades.

This housing demand translates into roughly the need for 1,060 hectares of total residential land in 2031 (2,620 acres) to satisfy the total number of dwelling units (depending on assumed densities). However, there is less than 1,000 hectares of land that is currently designated as Residential Neighbourhood or Mixed Use where the lands are on slopes less than 25%. This land amount includes the Oceanfront (Nexen) and Interfor sites which are anticipated to accommodate residential units during the planning horizon. Therefore the current OCP is insufficient to accommodate the projected population.

The population can be accommodated if urban development is able to locate in the following areas:

- Selected areas that are designated Limited Use and are redesignated to allow urban residential development. Including only lands that are less than 25% slope would yield an increase in land supply of over 500 hectares (1,235 ha). However, a significant amount of this land is located in North and South Squamish and not contiguous to existing urban areas
- Lands can be developed that are between 25% and 40% slope in areas currently designated Residential Neighbourhood
- Lands can be developed that are above 300 metres in elevation

The last two options may pose significant cost constraints to development and also limit the amount of residential density that is possible. Redesignating appropriate lands that are now identified as Limited Use in areas contiguous to

the existing urban area and that have slopes less than 25% would allow additional population to be accommodated in a manner that is cost effective to the other growth options.

For commercial uses, the existing land areas identified as Commercial, Mixed Use, and Residential Neighbourhood are anticipated to provide significant capacity for additional retail and other commercial uses. For industrial land uses, existing supplies of underutilized or vacant industrial designated land are believed to provide a sufficient capacity for employment-related activities for the foreseeable future.

A demand for institutional uses and parks was not conducted as part of this study. These lands uses are partially included in the Residential Neighbourhoods category that are typically found within residential areas. Significant additional parkland dedication in areas that are potentially developable, have slopes less than 25% and are currently designated for residential, commercial, or industrial uses would reduce the available residential, commercial or industrial land.

4.0 GROWTH MANAGEMENT OPTIONS

4.1 Original Growth Management Options

A number of different growth options were identified and discussed in the preparation of this study.

Growth options describe different ways that the District can accommodate, shape, and manage growth over the next 30 years. The different characteristics of growth include: Is growth compact or dispersed? How much growth in accommodated in Downtown versus others parts of the District? Does the District annex other areas or remain within its current boundaries? And should growth be slowed?

The growth management consultant team identified seven growth options for the District:

1. *Dispersal (sprawl) within Existing District Boundaries (Status Quo)*

    - This is a business-as-usual option where growth is based on approved applications as received throughout the District in accordance with existing OCP land use designations and policy, as amended from time to time.

2. *No Growth/Slow Growth*

    - No further growth is allowed or development is heavily controlled

3. *Village Approach (community of communities)*

    - Growth is encouraged within established neighbourhoods (e.g. Valleycliffe, Brackendale, Garibaldi Heights, Garibaldi Estates) and new neighbourhoods. Within neighbourhoods, a mixed use centre is established or enhanced so that local residents have basic shops and services in closer proximity to where they live and the communities are developed as more "complete" communities.

4. *Greenways Concept*

    - Greenway corridors and possibly a greenway belt are established between community sectors or separate major land use groups or by natural features (e.g. rivers, creeks, steep terrain, and core habitat areas and corridors).

5. *Downtown First (Directed Growth) Approach*

- This approach ensures commercial and commercial/residential mixed-use development and intensification is completed in the downtown area prior to any further major growth occurring elsewhere within District boundaries. Under this option, downtown is significantly revitalized.

6. *Urban Containment Approach(s), and*

- There are three variations to the urban containment approach:

a) Growth is contained within the present designated urban development boundaries (i.e. Limited Use area remain designated as Limited Use)

b) Growth is allowed within the present District municipal boundary on land suitable for urban development

c) A greenbelt or urban containment boundary is established either within or outside the present District boundary

7. *Annexation (Controlled Expansion) Approach.*

- The municipality annexes land as necessary adjacent to the existing District boundary to maintain a supply of developable and serviced lands.

The above options are not mutually exclusive. For example, the greenways concept can be part of a hybrid option with any of the options.

4.2 Community Input

The above-described seven options were presented and considered at a series of four public workshops in February 2005 representing four stakeholder groups – land developers and key property owners, downtown interests, government-related interests, and environment and trails.

The individual workshop meeting notes are attached as Appendix C. In summary, comments can be characterized as follows:

Land Developers & Key Property Owners

The group felt that little time should be spent pursuing the No Growth/Slow Growth Option. It was also suggested that "villages" should be referred to as neighbourhoods and that they were in fact already emerging. The importance of the

Downtown to the economy was emphasized, and that it should be made into a destination. It was strongly suggested that a number of the options could be combined to create a "hybrid" option for Squamish.

Downtown Interests

The group preferred the Downtown First Option, and suggested that any village options contain only a modest amount of commercial. The Greenways Option was also a favourite. It was noted that the Downtown needs a critical mass of population to support additional uses such as marinas, a convention centre, railroad interpretive centre, new Capilano College campus, accelerated residential units including live/work, and a performance arts centre. Parking was cited as a critical need, as was the need to overcome the barrier the railway presents.

Government Related Interests

It was considered very important that the industrial and employment lands were protected. Discussions are underway with Ministry of Transportation (MOT) concerning an alternate access to Downtown, as well as an east-west connection to facilitate lateral movements in the District. There was considerable discussion around the idea of the future of highway expansion vs. a by-pass and the potential effect on the Downtown – the Downtown needs to be revitalized and strong before considering such an approach. From MOT's perspective the Dispersal Option may cause conflict with Provincial policy regarding the number of access points along the highway.

Environment & Trails

The group identified a strong desire to have a legacy of natural habitats throughout the valley, including readily identifiable connections and corridors for wildlife movement. Corridors should also include wetlands, dykes and sensitive habitat. There was a strong preference for the Village Concept, and also for Downtown First, and an indication that a Containment Greenbelt was a good idea. There was consensus that densification is a reality of the future, which is sustainable and that it allows more greenspace. There was also a strong preference to have alternative design standards for roads and services, more emphasis on commuter transit and cycle-friendly routes.

OCP Citizens Advisory Committee

The Committee noted that the Downtown needs help and that the Downtown First approach was appealing, it is particularly important to emphasize the strengthening of

commercial but also ensure the addition of cultural, educational, residential and recreational uses. There was also strong support for retention of employment lands. Squamish has a role to play in hospitality and tourism and is becoming an increasingly knowledge-based community. It was also noted that the community needs to use its land more efficiently through densification and that the community is stronger socially if people live and work in the community. The Committee also sees the community as becoming a leader in the greening of infrastructure and alternate forms of energy. They also recognize the need to meet the challenge of keeping the land supply in proportion to needs and demand, particularly with respect to employment lands.

4.3 Evaluation Of Growth Management Options

It is important to compare and assess the seven growth management options identified in Section 4.1 by referring to some key evaluation criteria, including:

- Smart Growth
- Economic
- Environmental Implications
- Land Use
- Housing
- Commercial & Office
- Other Land Uses

Smart Growth

Smart Growth is a term used more and more to describe sustainable community development and involves a new way of thinking about our neighbourhoods, cities and regions. The concept has evolved as a way of dealing with rapid population growth and the development impacts associated with that growth.

The Smart Growth approach offers an alternative to current development practices which are quickly taking populations to their natural limits resulting in escalating housing prices, increased traffic congestion, increased pollution, loss of natural habitat and dependency on inefficient modes of transport. Smart Growth recognizes the importance and interdependency of the natural, social, and economic aspects of communities and aims to optimize these fundamental areas to preserve and enhance residents' quality of life.

Squamish is the second community in BC chosen to have a Smart Growth on the Ground (SGOG) initiative to create a Downtown Neighbourhood Plan. The Growth Management Strategy project team and has been monitoring that initiative and liaising with the SGOG team throughout both exercises.

The 1998 OCP recognized the importance of supporting sustainable growth and a range of policies were developed to support a more sustainable approach to development and growth management leading to some leading edge development proposals such as the Sea to Sky University development and the proposed Thunderbird Neighbourhood Plan. In addition, a sustainable approach was supplemented with policies preserving and protecting the natural environment, nurturing a healthy community, promoting community identity while protecting neighbourhood livability, and accommodating revitalization of the Downtown. Despite such policy initiatives, due to circumstances discussed elsewhere in this study, realization of these goals has been slow to materialize.

In terms of Smart Growth, the Dispersal and Annexation options rate poorly as they are not based on sustainable planning principles resulting in increased urban sprawl; are not self-containing, economically self-reliant or socially inclusive; and are inefficient structurally for servicing and the movement of people and goods.

In addition, the No Growth/Slow Growth option does not necessarily ensure Smart Growth, notwithstanding the potential for densification, there is the potential for significant increases in servicing costs to support such change. Some level of containment will be found to be necessary and will indeed be reflected in the recommended management strategy.

The Village (or Neighbourhood) Approach, Greenways Concept and Downtown First Options all rate well in respect to Smart Growth principles. All can be based on ensuring stability to the land base in all land use categories, reducing sprawl, reducing automobile reliance, creating a range of densities, housing options and affordability, protecting community character and promoting a healthy community.

Economic

The District of Squamish has attached an ever greater degree of importance to developing economic growth strategies that will benefit the community as a whole. This has been precipitated, in part, by the significant structural changes that have occurred in the community's economic base, most strongly evidenced by the significant contraction in the District's forestry industry and related enterprises. Accordingly, one of the critical aspects of selecting the most appropriate Growth Management Strategy option relates to ensuring that the District's strong interests, as manifested by its revised Official Community Plan, results in land uses, programs, and implementation strategies that reinforce the need for a sustainable economic growth program. Such growth strategies, involving incremental economic values, relate not only to land use planning but also in the selection of growth strategies that result in optimum efficiencies of most, if not all, of the District's resources including, most notably: land, infrastructure expansion, roads, and other intensive capital cost related projects.

Of no lesser importance, is the evolution of a Growth Management Strategy which improves the general productivity and well being of all residents, recognizing that the general state of community livability as manifested by its environment, social, and cultural manifestations have a direct impact on the general economic welfare of the entire community.

In this context, the option that is deemed to be of least value, particularly from an economic perspective, would be Option 1, the dispersal or sprawl option, which would manifest the most inefficient use of land with the attendant maximum infrastructure and related capital-intensive costs. While some might argue that an unimpeded development program might result in some incremental municipally-earned revenues, the general characteristics of this option would probably result in, at best, a scenario of "short term gain in exchange for long term pain".

Likewise, the "no growth or slow growth" option would also be seen to be very costly, in the broadest sense of that term, particularly in respect to revitalizing the District's downtown area and in promoting additional commercial, industrial, and other employment-based activities.

Neither the urban containment approach or the annexation option have any direct, at least short term, negative impacts on achieving optimum economic growth objectives. Obviously if the annexation option is to be pursued, it would be best to have such lands brought into a state of urban settlement only when such additional lands are deemed to be required or warranted. Premature utilization of annexed lands would simply be a manifestation of the above-noted dispersal or sprawl option.

The remaining three options, namely the village approach, the greenways concept, and the downtown first approach, are deemed to be all potentially valuable as a "hybrid" option – one which should result in more efficient utilization of land, lower infrastructure costs, an early and heightened level of livability, and with other attributes that should lend themselves to the pursuit of a strong and healthy economic growth scenarios. Indeed, the downtown first option is recognized as being of great importance in restoring some value to the significant, current under-utilized infrastructure that could, and should, support a much more intensive utilization of land with attendant increases in economic activity, improved assessment values, and increased municipal revenues.

Environmental Implications

A preliminary qualitative evaluation of the seven growth options was conducted from an environmental perspective. The evaluation was based on the basic objective in the District's 1998 Official Community Plan to preserve and protect the natural environment. The options were also analyzed based on their ability to support minimizing the consumption of resources (focusing on land, energy, and materials).

For the analysis, the No Growth/Slow Growth option and the Annexation option are treated separately as they are not directly comparable to the remaining options. The Annexation option is not analyzed here. It would not occur until build-out is approached in the District of Squamish. The actual annexation option location would need to be known before conducting such an evaluation. A No Growth option (interpreted as no population growth) would result in essentially no significant increase in the urban area. This option does not necessarily protect natural areas and greenspace outright, but provides *de facto* protection of these areas through not needing to convert these areas to urban uses. A slow growth option similarly provides *de facto* protection of natural areas and greenspace. This option would result in per capita resource consumption (energy, water, and materials) rates that are similar to the status quo.

The Dispersal option would result in the highest risk of unprotected natural areas being converted to urban uses and would result in the greatest amount of greenspace and habitat fragmentation. It would also result in the greatest amount of land being required for development to the assumed lower densities and higher share of single-detached housing units. It would significantly increase the levels of automobile dependency in the District. This in turn would result in increased energy consumption (for housing, transportation, and infrastructure), higher air emissions from vehicles, and increased greenhouse gas emissions.

From the perspective of preserving and protecting the natural environment, the two options that would best accomplish this objective are the greenways concept and the urban containment concept. The Greenways Concept results in the greatest amount of natural areas protected and the greatest level of protection for these lands out of the seven options. As the greenways include both recreational and ecological greenways, they provide both natural habitat protection as well as recreational opportunities. The establishment of a greenbelt, or alternatively large contiguous areas of protected greenspace would be beneficial for providing a core area of sufficient size to support habitat and may better support ecosystem integrity. The Urban Containment approach also would afford a strong level of protection to natural habitat and greenspace that is located outside the urban containment area by not developing these areas to urban uses. It would also result in much less fragmentation of greenspace compared to the dispersal option.

The Downtown First approach and the village approach are also highly compatible with preserving and protecting the natural environment. In particular, the Downtown

First approach would result in a large portion of growth being focused into the Downtown area through infill development and redevelopment of former industrial lands. This would direct growth away from the unprotected greenspace and natural areas on the fringes of the existing urban area. Similarly, the village centres would also result in higher densities and would therefore result in less urban land required. However, the Village approach would have a more marginal impact compared to the Downtown First approach.

The Downtown First approach results in the lowest levels of resource consumption. The Downtown First approach would result in lower levels of land being required for development as much of the growth would be focused into infill and redevelopment sites in the Downtown. The Downtown First option would also result in the lowest level of energy and water consumption for buildings due to the high level of multi-unit dwellings that would be developed downtown, which are more energy and resource-efficient per occupant than standard single-detached homes. This option also supports lower levels of automobile dependence and hence lower levels of energy consumption for transportation vehicles as the downtown would have jobs, housing, shops, and services all within close proximity. The Village approach would also reduce energy consumption for housing and transportation due to the nodal form and developing the neighbourhoods into more complete communities whereby trip lengths may be shorter. Finally, the greenways concept supports increased transportation choice through the recreational greenways connecting the neighbourhoods and downtown. However, the greenways concept may also increase the total amount of land developed for urban uses through reducing the potentially developable area. Therefore, the greenways concept has the risk of increasing and contributing to the dispersal of development in the District. However, if this option used increased net residential densities, then the same or higher gross neighbourhood densities could be achieved.

From an environmental perspective, any of the options can be combined with the greenways concept which would help support the preservation and protection of the natural environment. The preferred option would be one that combines the urban form from the urban containment option with the increased densities associated with the village and downtown first approach and overlays this with a greenways and protected areas network. This would both support the preservation and protection of the natural environment while minimizing resource consumption.

Land Use

The present OCP was structured in anticipation of continued growth pressures experienced between 1986 and 1996, possibly at 3% and 4%. Quality of life goals, importance of open space and trails, sustainability and the desire to manage growth in a responsible, controlled manner to a population of 30,000 was the intent. To that end, well-intended policies include a balance of intensification of existing zoned land,

and a significant amount of land in the Limited Use category subject to the preparation of Sub Area Plans and mandatory Development Permits and Guidelines.

Despite the District's best policy efforts and intentions, outside forces and trends resulted in a levelling off of population growth, and a lack of demand and growth in all sectors of land use. The resurgent BC economy together with the 2010 Olympics, the Highway 99 upgrade, sudden significant land decisions around the Oceanfront (Nexen) and Interfor lands, and the potential build out of Whistler have all combined to severely test, and pressure existing OCP policies and zoning capabilities.

The 7 growth options provide the community with a range of diverse scenarios which was intended to revisit community objectives and aspirations concerning community health and future growth, evaluate existing policy approaches, and confirm a positive direction that provides for more proactive and less reactive land use decision making.

Under the dispersal option, land use decisions would likely continue pretty much as they do now – a status quo approach. While OCP policies are well intended there is little in the way of implementation guidance in strengthening the Downtown, nor is there the ability to focus on particular sectors of the community. Development occurs based on land owner and market desire with existing policy having to be largely reactive. The No Growth/Slow Growth option would see even a status quo approach constrained resulting in the retention of Limited Use lands as is, modest infill opportunities and little response to the need to strengthen and densify the Downtown or the Business Park.

The Urban Containment approach provides for development within existing boundaries reinforcing the need for densification, but there is a back-of-mind sense that the boundary is potentially unbreachable which can hamper flexibility in future land use choices as Squamish nears its chosen population thresholds. While the Annexation option could provide a companion tool to the Urban Containment model, it doesn't assist with the necessary focus required to meet Squamish's existing land use decision-making needs.

The Village (Communities) approach reinforces the present OCP intent of promoting community identity, livability and health, and the team heard the various stakeholder groups strongly endorse the continuation of this objective with future land use decisions and growth choices. There was also strong support for the Downtown First concept, (one stakeholder suggested this be called the Downtown Too concept), once again building on the OCP's policies of residential mixed use in support of increased and revitalized commercial and office growth. Put in the proper policy action framework, a sound set of principles and tools such as the present Smart Growth on the Ground (SGOG) Concept Plan exercise for the Downtown has the potential for land use decisions and direction that meet the community's goals and desires for livability.

The Greenways approach also reinforces the community's ongoing efforts to protect and enhance the environment in and around the District, also seen through a good policy base in the present OCP. This approach is not mutually exclusive to either the Communities Approach or in fact the Downtown First concept. There is the potential for a hybrid approach which would combine the strengths and aims of all three of these approaches.

Housing

To house an anticipated population of 30,000, the present OCP contemplated the need for 5,500 additional dwelling units (2,000 to the 20,000 population, and an additional 3,500 units to the 30,000 level). The distribution of those units was expected to occur in the Downtown, Garibaldi Estates & Highlands area and north and east of Valleycliffe. While the policy intent is to encourage densification in future residential development, there are no clear targets or measuring tools established to guide community expectations or react to market pressure or lack of demand.

As a result, land use and housing decisions are largely the result of what land development and buyer demand proposes, and the community can negotiate based on well-intentioned stated OCP principles, but lacking in a strong implementation support framework in high-demand times, or inducements to proceed in low-demand times. This is particularly important given the scarcity of demand for housing development over the last 10 years, which is now quickly turning into significant pressure as the economy starts to take off, and Squamish is discovered or revisited by a broader spectrum of potential new residents as a desirable and potentially more "affordable" place to live.

Prior to the present "spike" in interest in residential land development opportunities, housing supply basically met minimal demand. More recently, while there is considerable activity in land acquisition and strong activity of potential product in various stages of the District approval process, the housing product that has become available, both single-family and multi-family, is quickly sold and prices have been rising steadily. As a result two issues are at the forefront – the ability of the District to have an impact on the availability of "affordable" housing product, as well as the ability to strongly influence the provision of lot size and variety and resulting house size and choice given the demand pressures from land developers and the buyers the marketplace is trying to serve.

It must be borne in mind that forecast of housing demand, and attendant requirements of additional developable land, are dependent on anticipated absorption rates which are in turn subject to many variables – those that can be described as "internal" (local economic and employment growth dynamics) and external (interest rates, housing and land prices in the Greater Vancouver Regional District, competing projects in outlying areas, etc.). It bears repeating that one of the anticipated singular changes impacting on local absorption rates will be the degree to which

developments are designed or oriented to accommodate expanding secondary home demand. Here again, some of the “external” market dynamics include the potential build out “cap” in the resort community of Whistler compounded by Whistler’s relatively high land and housing prices.

Accordingly, the 7 growth scenarios result in a range of capability for the District to affect affordability, housing variety and in the end community health and livability. The Dispersal or status quo approach once again places the District in the position of having to react to land owners and market pressures, notwithstanding OCP policies, guidelines and zoning, constantly having to juggle impacts on servicing capabilities without a comfortable guide as to the long term impact on the community with respect to community housing needs as well as affordability.

The No Growth/Slow Growth option does not assist with housing affordability as demand in today’s market will consistently impact supply resulting in escalating prices. In addition, housing availability is also impacted and does not necessarily result in the best use of land resources or in the best use of land. Similarly, the Containment Approach would have a similar impact on housing supply and housing prices in the long run, unless there was an early commitment by the District to implement a coordinated and aggressive land annexation policy with support from the SLRD and Province.

The Downtown First option would work well, particularly if the SGOG Concept Plan and principles presently under preparation are supported and implemented by the community. Similarly, the Community of Communities approach would have a positive result in terms of housing variety and price ranges, providing a Smart Growth approach is followed. The Greenways concept also has the potential of reinforcing housing affordability, density and choice aims provided alternative engineering standards and other Smart Growth principles are followed. A hybrid approach combing the best aims of all of these options as recommended earlier would also support such housing desires as well as community livability, neighbourhood identity and health.

Commercial & Office

Existing OCP policies anticipated forecasted continued demand and growth in all portions of the commercial sector, including retail, office and service uses, and in particular, tourism where significant opportunity for growth was anticipated, all based on a detailed consultant review and the Squamish Tourism Development Plan.

From 1972 to the mid-1990’s commercial sector square footage had increased by 82% to 420, 000sq. ft., with a forecast for further growth to around 740,000 sq. ft. by 2004 based on 4% annual population growth. While that population growth increase did not materialize the commercial growth did reach 700,000 sq. ft. in 2004. Present forecasts anticipate an additional demand of up to 950,000 sq. ft. of commercial retail

space, including the contemplated Wal-Mart and Home Depot proposals, and 390,000 sq. ft. of additional office space. These buoyant forecasts are based on increased traffic volumes on an upgraded Highway 99, increased tourism in the area, increasing population in and around Squamish, and the emergence of new retail concepts and marketing approaches. Achieving this kind of growth requires retention of sufficient land base, coupled with supportive housing and density, and other compatible land use approaches, together with a balanced, sustainable approach to parking supply.

The dispersal approach, as with previous land use categories, is driven by market demand and does not lend itself to orderly growth, nor does it guarantee a consistent supply of commercial space in tune with residential growth. In addition, a status quo approach does not necessarily reinforce timely revitalization of the Downtown. A No Growth/Slow Growth scenario would stifle forecasted demand and result in lost job growth opportunities. Urban containment may not immediately affect commercial space growth, but in the long term could affect economic and job growth unless supported by an appropriate Annexation approach.

Providing the Village approach incorporates only a modest supply of neighbourhood commercial nodes to meet only basic retail needs, this concept can be very supportive of all aspects of commercial growth in the Business Park and the Downtown, and other designated commercial areas. The Downtown First approach is a best-fit scenario for optimizing commercial land use growth, providing it is augmented with a balance of supportive residential use supply, which in turn has a balance of recreational, cultural and open space opportunities. The Greenways approach could also be an effective reinforcement to optimal commercial land use provided it was implemented in a balanced fashion, and would be particularly supportive in a hybrid concept combined with the Community/Downtown First approaches, providing strong interconnectivity between living, employment and service areas.

Other Land Uses

Parks and Recreation

Parks and recreation assets are mandated through Provincial statutes, and created and controlled through the OCP and Parks and Recreation Master Plan policies and requirements. Squamish policies strive for a provision of a minimum of usable neighbourhood open space of 1.4 ha per 1,000 persons, and the combination of Sub-Area Plan requirements for new area development, together with the District's unique topography and geography often ensures that the community's parks and recreation as well as open space and trail aspirations and needs are met and often exceeded. The Master Plan is tasked with addressing deficiencies in existing neighbourhoods.

Generally, all of the options can meet the community's parks and recreation needs in the long run. However, the Community, Greenways and Urban Containment options would arguably provide for the most cost effective, orderly and optimal supply of parks and recreation facilities, while the Dispersal and Annexation options would be less effective in meeting these needs in a coordinated cost effective manner. The Downtown First and No Growth/Slow Growth options would be the least productive in meeting these needs.

Social, Cultural and Institutional

Squamish is blessed with a very active cultural and arts community with a modest availability of facilities. Cultural and entertainment events occur consistently throughout the year all supported by countless volunteer hours and community based fund raising.

As Squamish continues to grow and evolve, community health and diversity can be reinforced through a strengthened cultural and entertainment community with state of the art facilities, which in turn can add to a revitalized Downtown. Several of the stakeholder sessions mentioned the need for a Performing Arts Theatre as well as a multi-purpose Convention Centre.

The Dispersal option, the No Growth/Slow Growth approach and the Urban Containment option do not provide the necessary support to the growth of the cultural needs of the community, and can in fact lead to the loss of existing and potential sites for cultural venues due to market pressure on event lands. The Community, Greenways and Downtown First options and related policies can all be very supportive of social, cultural and institutional fabric of the community and its facility needs.

Transportation, Communications and Utilities

All of the transportation sector, communication support services and utility infrastructure and the related capital and operating costs necessary to meet a growing community's needs can also be impacted by the pattern and nature of the community's growth. As with most BC communities, Squamish relies on a combination of sources such as development cost charges, developer contributions, latecomer agreements, capital reserves, energy suppliers, private/public partnerships, government cost sharing and municipal taxation to meet their servicing needs.

Generally, all of the options can adequately support these necessary infrastructure essential services. However, the Downtown First, Community approach and No Growth/Slow Growth and Urban Containment options would arguably provide for the

most cost effective and optimal design results, while the Dispersal and Annexation options would be more expensive and not necessarily optimal in design.

Employment

The same comments expressed above, in reference to the economic implications of alternative Growth Management Strategy options apply equally to concerns respecting employment considerations. Accordingly, while the dispersed option might result in some heightened employment activities, particularly of a construction orientation, in the longer term, this option is not seen as having net advantages, particularly in terms of balanced employment opportunities throughout the District. Presently, there are grossly unsatisfied employment opportunities in the District's downtown area, particularly in the field of retail, entertainment, general purpose office, and even in social/cultural sectors – all of which would benefit appreciably from the benefits attending a downtown first option.

On balance, a village approach, coupled with the greenways and downtown first concepts, should result in much improved employment growth advantages for the District. For example, a community of communities (the village approach) should lead to the derivation of commercial, socio/cultural, and related job opportunities, albeit on a small scale, but in the centres of existing and planned new communities. On balance, the combined options of the greenways concept (heightened livability), the village option (new suburban jobs — many of a starter orientation), and the downtown first option, properly promoted and implemented, should result in optimum programs of employment opportunities.

Infrastructure

A preliminary infrastructure evaluation was completed for the two preferred growth options. The evaluation focused on the capacity of the existing water, sanitary and storm drainage infrastructure to service future growth; as well as the overall implications and infrastructure improvements required for the growth options. Generally, infrastructure improvements (i.e. system upsizing, upgrading or replacement) are often separated into three categories:

- General Capital Projects: These are projects required to improve the level of service of the existing infrastructure system such that it supports existing development, regardless of future growth requirements. These projects are funded through general revenue and taxes;
- Development Cost Charge (DCC) Projects: These are major capital projects required to service multiple (two or more) large development areas. Funding for these projects is obtained through DCC's paid by each development during the subdivision application process. The intent of the DCC's is to have new

developments finance their share of the costs of major new infrastructure services;

- On-Site Infrastructure: This is local infrastructure required to service one development area only. Funding is not obtained for these projects as the sole development is responsible for financing and constructing this infrastructure upfront as a subdivision servicing requirement.

For the purposes of the preliminary infrastructure evaluation, and consistent with growth management plan strategies, only DCC projects (trunk level) are addressed herein.

From an infrastructure perspective, growth Option 1 (dispersal), Option 2 (no/slow growth), Option 5 (Downtown First) and Option 6 (Urban Containment) are similar with respect to the overall capital infrastructure costs because each option requires infrastructure servicing to be extended to the extremities of the District Limits. The primary difference between these options is the prioritization/timing of the projects, as under dispersal some projects may be required by 2021 whereas under the no/slow growth option the infrastructure works may not be required to 2031.

Likewise, Option 3 (Village/Neighbourhood) and Option 4 (Greenways) are very similar with respect to infrastructure costs because development under these options will be slightly more “compact” and densified, resulting in the required infrastructure works extending to similar servicing limits (i.e. not extending to the District’s extremities).

Option 7 is a unique growth option with respect to infrastructure servicing works because within the current District’s boundary the required infrastructure will be very similar to that required for Option 1. However, outside of the District’s boundary (i.e. Regional District, Porteau Cover, Britannia Beach, etc.) the extent of infrastructure works required for Annexation cannot be determined at this time and requires a more in-depth review. This in-depth review is not recommended as the Infrastructure Costs of Option 7 will be significantly greater than all of the other 6 options.

Options 3/4 (neighbourhoods and greenways option), most of the developable land within the District ranges between Downtown and Garibaldi Highlands. Continued development in these areas is expected due to the fewest constraints, as well as the presence of an extensive infrastructure system presently servicing the area. As development and growth continue to occur in the central and southern areas, DCC infrastructure improvements will be required to service and sustain future growth. For the most part, the required DCC improvements will be common to Growth Options 1 to 6, as such these projects are herein referred to as the Core DCC Projects.

The Core DCC Projects can further be defined as projects that are required regardless of whether Option 1, 2, 3, 4, 5 or 6 (or combination thereof) is the preferred growth option,. While Options 3 and 4 focus on higher density

developments, a higher density does not necessarily dictate larger infrastructure is required. For example, a 40-unit apartment may require a looped 200mm watermain for fire protection, and if the number of units is increased to 80 this same 200mm watermain would likely still be adequate. However, if the unit count is increased to 400 then a larger watermain would likely be required.

For each major infrastructure component (water, sanitary and storm drainage), the Core DCC Projects have been identified and are discussed below. In addition to these core projects, additional infrastructure projects unique to each growth option are presented on a preliminary basis, including a fiscal analysis for all identified projects.

Water Supply and Distribution

The water supply and distribution system was assessed using the criteria presented in the "District of Squamish OCP" and the "Updated Water Capital Plan", prepared in 1999 by Kerr Wood Leidel.

Water Supply

The primary water supply source is the Powerhouse Springs well system, which is often at maximum capacity during peak summer demand conditions. During these periods the well system is supplemented with water from the Stawamus River and Mashiter Creek surface water sources.

Continued optimization and extraction of water from the groundwater aquifers is the preferred potable water source because of the less stringent water treatment requirements; which will become even more critical when Provincial and Federal Drinking Water Treatment Standards become legislated, within the next 1-2 years, requiring filtration and a multi-barrier treatment approach on surface water sources.

While groundwater sources are typically more advantageous, some disadvantages include: the requirement for well head pumps, elevated mineral levels and quantity limitations. Conversely, while surface water sources often have more than adequate quantity, high levels of turbidity during rainfall events and snowmelt conditions can result in onerous and expensive levels of treatment required.

The following is a prioritized list of key issues and Core DCC Project, related to water supply, that should be followed to allow growth and development to proceed:

- Explore and install a fourth well at the Powerhouse Springs well-field to provide sufficient water supply for the 2011 population projections;

- Commission a Water Supply Optimization study to complete a life-cycle cost analysis of groundwater supply versus surface water supply, taking into consideration water treatment legislation;
- Investigate and install groundwater wells in the Mamquam well-field, to supply a sustainable yield on the order of 225 L/s (subject t o results from the Water Supply Optimization Study); and
- Construct water treatment facilities as required for the surface water sources (subject t o results from the Water Supply Optimization Study).

Overall, there is sufficient water supply available from the Powerhouse Springs wells, Stawamus River, Mashiter Creek and future Mamquam wells to service the projected 2031 population. If all four sources were utilized, the Powerhouse Springs and Stawamus River would primarily supply Valleycliffe, Downtown and the Industrial Park. Whereas the Mamquam wells (via a booster station) and Mashiter Creek source would supply the Garibaldi Highlands, Brackendale, Dl 510 and DL 511.

Water Distribution System

The District's water distribution network is a grid system, consisting of multiple pressures zones, looped watermains in the Downtown area and single feeder mains to Brackendale. The District's 2004 Water Model (WaterCAD 7.0) was used to assess servicing requirements and improvement works for the projected growth horizons.

Based on our analysis, and in conjunction with recommendations from the 1999 Capital Plan, the existing watermain network has limited capacity and is undersized to provide the fire flow requirements for the projected 2011, 2021 and 2031 growth horizons. In particular, sufficient fire storage, fire flows and residual pressure cannot be met for future developments within the Downtown, Industrial Park and Garibaldi Estates areas.

Several water system improvement projects have been identified to ensure adequate system pressures and fire protection requirements can be met throughout the District. The improvement projects focus on increasing feeder main capacity from the supply sources (Powerhouse Springs and Stawamus River zones) to the Downtown and Garibaldi Estates areas, as well as adding reservoir storage (for fire protection) in both of these areas.

Figure 4-1 illustrates the general location of each project, with a description of the project, the prioritized timeline and the benefiting development area summarized in Table 4-1.

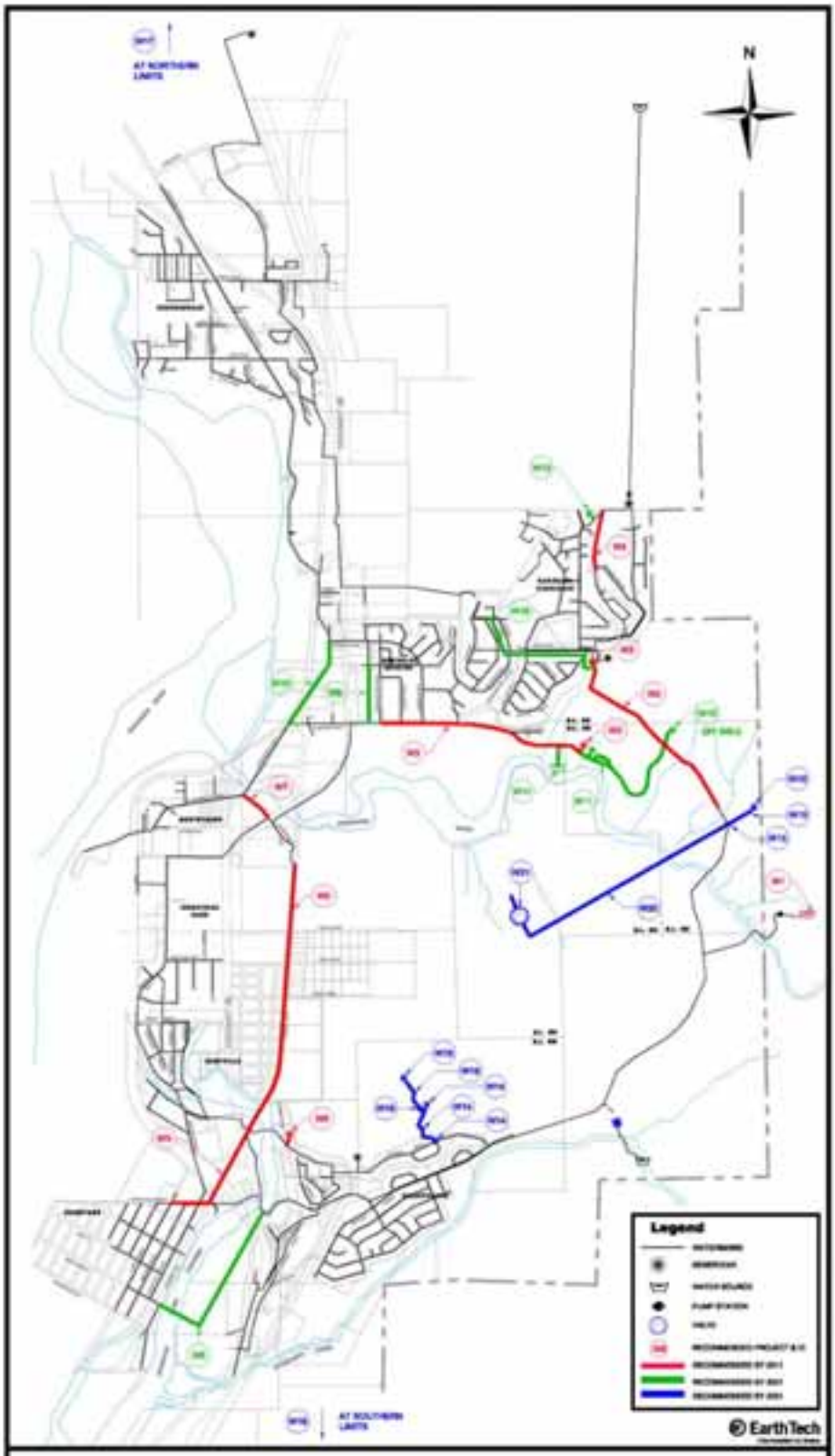


Fig. 4-1: Water System Improvements

Table 4-1 – Water System Improvement Projects

Project ID	Description	Req'd For Growth Option	Time-line	Benefiting Area	Capital Cost
W1	Additional Well at Powerhouse Springs	1 - 7	2011	General	$250,000
W2	North Stawamus Main Upgrading & Boulevard Pump Station Upsize	1 - 7	2011	DL510 / DL511 / SSU	$2,800,000
W3	Garibaldi Estates Reservoir & 450mm Mamquam Feeder	1 - 7	2011	Garibaldi Estates, Highlands, DL 511	$3,000,000
W4	Thunderbird Ridge Main	1 - 7	2011	Thunderbird	$225,000
W5	Loggers Lane Feeder Main (Pemberton to Centenniel)	1 - 7	2011	Downtown, Garibaldi Estates & Industrial Park	$1,500,000
W6	Downtown Reservoir	1 - 7	2011	Downtown, Block R & Waterfront	$3,000,000
W7	Centennial Way Watermain (Highway 99 to Government)	1 - 7	2011	Garibaldi Estates & Northyards	$100,000
W8	Interfor Feeder Main (from Loggers Lane)	1 - 7	2021	Interfor & Waterfront	$750,000
W9	Tantalus Feeder Main	1 - 7	2021	Garibaldi Estates	$250,000
W10	Government Rd Watermain	1 - 7	2021	Garibaldi Estates	$300,000
W11	Mamquam Well Field & Booster Station	1 - 7	2021	Garibaldi Estates	$2,200,000
W12	Powerhouse Reservoir (To be delivered by University)	1 - 7	2011	Garibaldi Highlands, DL 513	$0
W13	Perth Dr. Reservoir	1 - 7	2021	Garibaldi Highlands	$1,000,000
W14	Lower DL 515 Pump Station, Reservoir and Supply Main	1 - 7	2031	DL 515	$2,000,000
W15	Ring Creek Booster Station and Reservoir	1 - 7	2031	DL 513	$3,000,000
Total Core DCC Water Projects		***1 - 7***	***2031***		***$20,375,000***
W16	Brackendale Feeder Main	1, 2, 5, 6, 7	2021	Brackendale	$750,000
W17	Water Supply and Reservoir for northern Squamish	1, 2, 5, 6, 7	2031	DL3033, DL1519, DL1250	$2,000,000
W18	Water Supply & Reservoir for southern Squamish	1, 2, 5, 6, 7	2031	Watson Point Area	$1,500,000
Total Other Project for Option 1,2,5,6,7		***1,2,5,6,7***			***$4,250,000***
Total Water Costs for Options 1,2,5,6,7 (Core DCC + Other Projects)					**$24.6 Million**
W19	Upper DL515 Pump Station, Supply Main and Reservoir	3 & 4	2031	DL515	$1,800,000
W20	DL 514 Ring Cr. Feeder Main	3 & 4	2031	DL514	$500,000
W21	DL 514 Ring Creek PRV	3 & 4	2031	DL514	$200,000
Total Other Projects for Options 3 & 4		***3 & 4***			***$2,500,000***
Total Water Costs for Options 3 & 4 (Core DCC + Other Projects)					**$22.9 Million**

Sanitary Sewer System

The sanitary collection and treatment system was assessed using the criteria presented in the "District of Squamish OCP" and the "Updated of Sewer Collection System Capital Plan", prepared in 1999 by Kerr Wood Leidel.

The District's sanitary sewer system consists of gravity sanitary sewer pipes, sanitary lift stations, pressure forcemains and two WWTPs. Currently the District does not have a sanitary system hydraulic model but does have a Geographic Information System (GIS) hydrographic model to assess development impacts using future population distribution data.

Based on our analysis, and in conjunction with recommendations from the 1999 Capital Plan, the existing sanitary sewer system has limited capacity and is undersized for the projected 2011, 2021 and 2031 growth horizons. In particular, there is insufficient hydraulic capacity for future developments within Valleycliffe, Downtown, Garibaldi Estates, and District Lots 515 and 514.

Several sanitary sewer system improvement projects have been identified to ensure adequate system capacity throughout the District. The improvement projects focus on increasing trunk sewer capacities from the Valleycliffe and Garibaldi Estates areas to the upgraded Mamquam WWTP.

At present, the Mamquam WWTP (secondary treatment process) is being upgraded to a design capacity of 18 ML/day, or equivalent to service a population of 30,000 people. This design capacity is adequate for providing sewage treatment for the projected 2031 population horizon, and additional plant capacity can be optimized if Inflow and Infiltration (I&I) reduction measures are implemented. In conjunction with the Mamquam WWTP upgrade, the existing Central WWTP in Downtown is being decommissioned and replaced with a major lift station, which discharges sewage from the Downtown area to the newly upgraded Mamquam plant. Construction of the upgraded Mamquam Plant and the Central lift station will be completed in late 2005.

Figure 4-2 illustrates the general location of each project, with a description of the project, the prioritized timeline and the benefiting development area summarized in Table 4-2.

The following is a prioritized list of key issues and Core DCC Projects, related to the sanitary sewer system, which should be followed to allow growth and development to proceed:

- Upgrade Mamquam Rd trunk sewer from Highlands Way South to Government Road;

- Upgrade 750mm/900mm trunk sewer on Government Rd, from Harris Rd to the Mamquam WWTP, eliminating Lift Station M6;
- Install a gravity sewer along Cheakamus Way, Tantalus Way and Garibaldi Way to Government Rd;
- Extend the Mamquam Rd. trunk Sewer from SSU to Highlands Way South; and
- Install the new 750mm Downtown Trunk line from east end of Pemberton Ave to Central Pump Station.

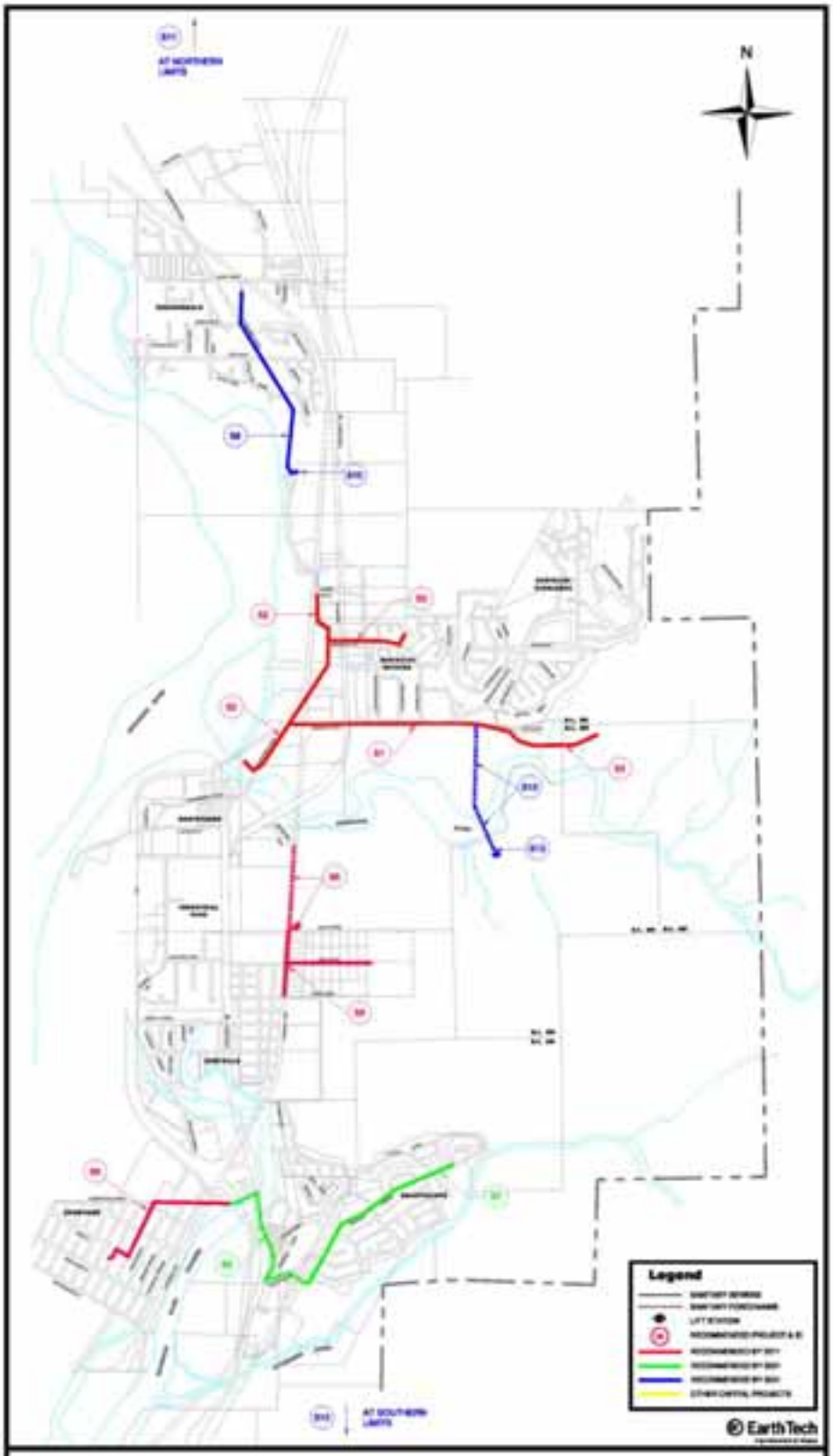


Fig. 4-2: Sanitary Sewer System Improvements

Table 4-2 – Sanitary Sewer Improvement Projects

Project ID	Description	Req'd For Growth Option	Time-line	Benefiting Area	Capital Cost
S1	Mamquam Rd. Gravity Sewer Upgrade	1 - 7	2011	Garibaldi Highlands, SSU, DL514	$1,000,000
S2	Government Rd. Gravity Sewer Upgrade (Harris Rd. to Mamquam WWTP)	1 - 7	2011	Brackendale, Garibaldi Estates	$1,500,000
S3	Garibaldi Way / Cheakamus Way Gravity Sewer	1 - 7	2011	Garibaldi Estates	$550,000
S4	Mamquam Rd. Trunk, East of Highlands Way	1 - 7	2011	SSU, DL513	$650,000
S5	Loggers Lane Gravity Sewers, Lift Station and Forcemain	1 - 7	2011	Raven Dr and Finch Road, east of Loggers Lane	$1,500,000
S6	Downtown Trunk Main east end of Pemberton to Central P/S	1 - 7	2011	Downtown, Block R & Waterfront	$1,800,000
S7	Valleycliffe Collector, Gravity Sewer on Westway	1 - 7	2021	Valleycliffe, Amon Lands, DL515	$500,000
S8	Valleycliffe Collector Siphon below Hwy and Mamquam BC	1 - 7	2021	Valleycliffe, Amon Lands, DL515	$1,500,000
Total Core DCC Sanitary Projects		***1 – 7***	***2021***		***$9,000,000***
S9	Government Rd. Gravity Sewer Upgrade (Peterson to M1 Pump Station)	1, 2, 5, 6, 7	2031	Brackendale	$1,300,000
S10	Replace M1 Pump Station	1, 2, 5, 6, 7	2031	Brackendale	$600,000
S11	Sanitary Trunk Sewers & Treatment for northern Squamish	1, 2, 5, 6, 7	2031	DL3033, DL1519, DL1250	$750,000
S12	Sanitary Trunk Sewers & Treatment for southern Squamish	1, 2, 5, 6, 7	2031	Watson Point Area	$750,000
Total Other Projects to Options 1,2,5,6,7		**1, 2, 5, 6, 7**			***$3,400,000***
Total Sanitary Costs for Option 1, 2, 5, 6, 7 (Core DCC + Other Projects)					**$12.4 Million**
S13	DL514 Inverted Siphon under Mamquam River	3 & 4	2031	DL514	$800,000
Total Other Projects to Options 3 & 4		***3 & 4***			***$800,000***
Total Sanitary Costs for Option 3 & 4 (Core DCC + Other Projects)					**$9.8 Million**

Storm Drainage System

"Preserve and protect the natural environment" is one of the five basic objectives in the District's OCP that must be of utmost importance when considering development growth in the District. There are many sensitive ecosystems located in the new development areas that can be adversely impacted by municipal stormwater. Much of the existing development areas are located in high hazard flood and debris flow zones and future development in these areas must be minimized.

Several components of the storm sewer infrastructure needs are common to both growth options. Storm sewer infrastructure is necessary for new development areas and should be designed to integrate into the existing storm sewer network where possible. During the preliminary approval and subdivision application stages, each development should be responsible for preparing the following engineering analysis and design:

- At the preliminary approval stage, Stormwater Management Plans should be prepared for each major development, taking into consideration future development adjacent to the subject property. The Stormwater Management Plan should identify the capacity of the downstream drainage system and overland flow routes for both the minor and major rainfall events.
- Delineation of appropriate setbacks required for development near rivers, creeks, and marshes. No net loss of wetlands and riparian areas shall occur, and the extent of wetland/riparian setbacks should be quantified during the neighbourhood planning or subdivision stages.
- During the subdivision stage, site grading, erosion protection and overland flow paths should be designed.
- Best Management Practices to reduce non-point source pollution at new industrial and commercial locations.

The use of innovative technologies to reduce quantities of stormwater runoff and increase groundwater infiltration should also be considered and promoted for new developments. This is particularly important in the recharge zones for the groundwater wells, to ensure a sustainable groundwater supply is available. Examples of innovative infiltration measures include permeable materials for driveways and parking lots, as well as stormwater infiltration trenches and ponds.

In order to accurately assess storm drainage improvements, a complete and thorough Master Drainage Plan (MDP) needs to be completed for the entire District. It is recommended that the District commission a study to complete a District wide MDP to assess the stormwater implications of future development, as well as develop a detailed stormwater servicing scheme for future development. This MDP would be similar to the Drainage Study completed in 2004 for the Downtown area.

Based on our preliminary review of previously completed drainage plans and development of capital works plans, a series of Core Drainage DCC Projects have been identified and are summarized below in Table 4-3 and illustrated in Figure 4-3. Each improvement project is common to all Growth Options and should be completed by 2011.

Table 4-3 – Storm Drainage Improvement Projects

Project ID	Description	Req'd For Growth Option	Time-line	Benefiting Area	Capital Cost
D1	Master Drainage Plan (District Wide)	1 - 7	2005	General	$200,000
D2	Queens Way Gravity Storm Sewer	1 - 7	2011	Industrial Park, Northyards	$400,000
D3	Yekwaupsum Pump Station	1 - 7	2011	Industrial Park, Northyards	$700,000
D4	Mamquam Blind Channel Sea Dyke Raising	1 - 7	2011	Downtown, Nexen	$5,000,000
D5	Cattermole Slough Pump Station	1 - 7	2011	Downtown	$1,200,000
D6	Mamquam Road Gravity Storm Sewer	1 - 7	2011	Garibaldi Highlands	$600,000
Total Core DCC Drainage Projects		***1 - 7***	***2011***		***$8,100,000***
D7	Judd Rd Gravity Storm Sewer	1,2,5,6,7	2021	Brackendale	$500,000
D8	Judd Slough Pump Station	1,2,5,6,7	2021	Brackendale	$300,000
Total Other Projects for Options 1,2,5,6,7		**1,2,5,6,7**			***$800,000***
Total Drainage Costs For Options 1,2,5,6,7 (Core DCC + Other Projects)					**$8.9 Million**
D9	DL515 & 514 Gravity Storm Sewer and Detention Pond	3 & 4	2031	DL515, DL514	$1,000,000
Total Other Projects for Options 3 & 4		***3 & 4***			***$1,000,000***
Total Drainage Costs For Option 3 & 4 (Core DCC + Other Projects)					**$9.1 Million**

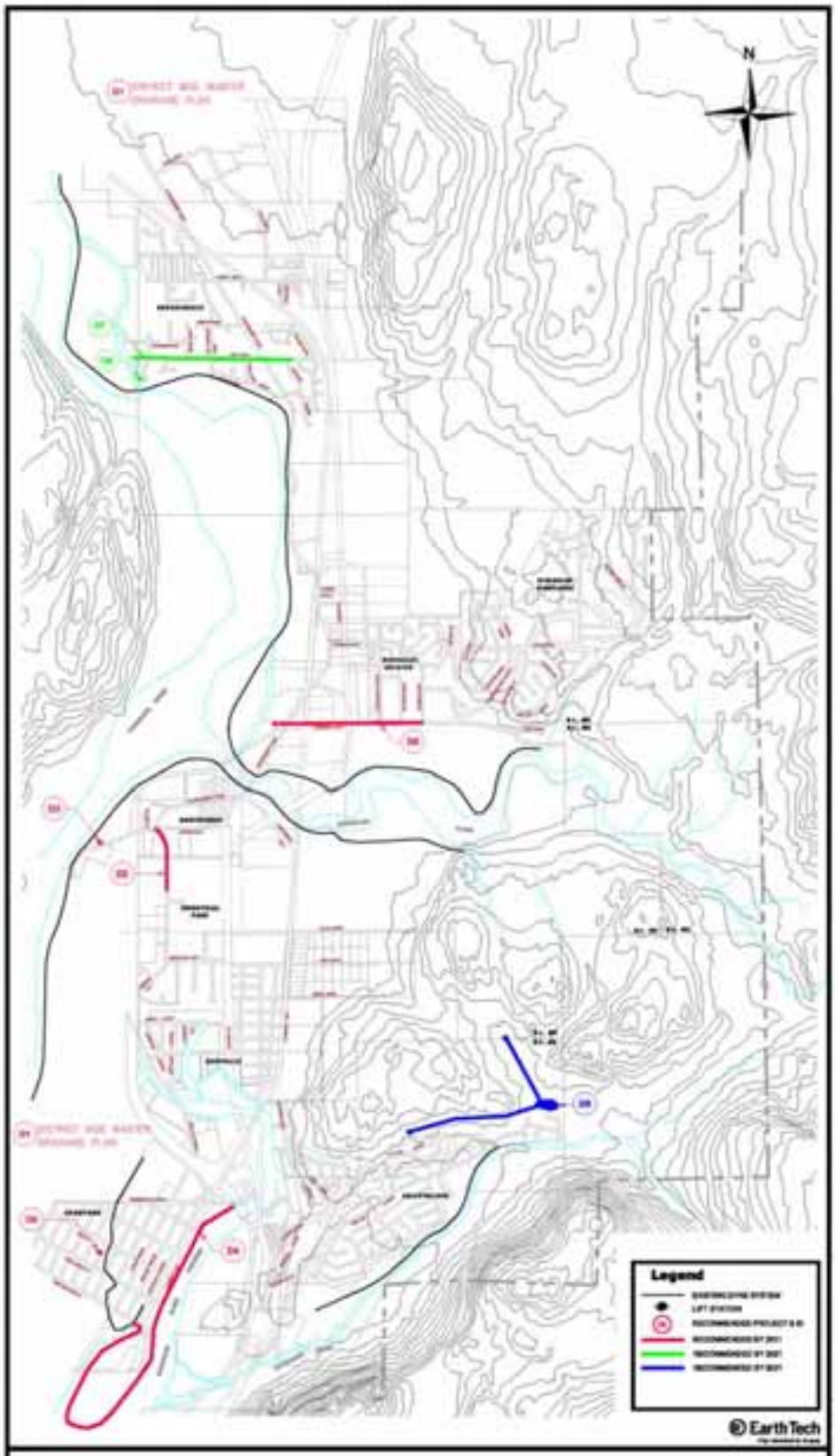


Fig. 4-3: Storm Drainage Improvements

Transportation

Earth Tech has completed a review of previous reporting on road network planning issues to fully appreciate the current arrangement of the road network in Squamish and the existing planning for its further development. A number of discussions have also been held with representatives of the District of Squamish, the Ministry of Transportation (MoT) and other interest groups, in addition to a number of site visits.

Documents reviewed as part of this exercise are shown below:

- District of Squamish, Official Community Plan Update 1997, Transportation Study by Bunt & Associates;
- Traffic Operations and Projections – Highway 99 North Conceptual Design Study, Urban Squamish by Ward Consulting Group on behalf of SNC Lavalin;
- Traffic Impact of Squamish Industrial Park (2004) by Ward Consulting Group on behalf of the District of Squamish;
- Garibaldi Village Impact - Study Fourth Update (2001) by Reid Crowther on behalf of Canadian Properties (BC) Inc;
- 1999 Traffic Intersection Counts in the District of Squamish, by Creative Transportation Solutions Ltd on behalf of the District of Squamish; and
- District of Squamish - Roads Development By-Law, Capital List of Projects.

Although the Bunt report of 1997 is now relatively dated, it remains a useful guide to future road development in Squamish. The report is based on the consideration of population growth horizons of 20,000 and 30,000 which were included in the Official Community Plan (OCP). Much of the District's current road network planning is derived from this study. Given the population forecasts developed in this Growth Management Strategy, the projections in the earlier study remain valid. The second significant report reviewed as part of this exercise is a Traffic Operations and Projections Study (TOPS) for Highway 99. This was completed as part of the Highway 99 North: Conceptual Design Study for Urban Squamish. Analysis in this report is based on a design year of 2026 with a population level of 23,400, i.e. 20,000 (lower OCP population horizon) plus 3,400 people from the university development. The Traffic Impact of Squamish Industrial Park Study of 2004 is a more recent investigation of a significant development proposal adjacent to the Highway, with implications on access requirements onto the road.

Recommendations for transportation improvement projects are summarized in Table 4-4 and graphically presented in Figure 4-4. These recommendations are an amalgamation of those provided in the Bunt report of 1997 and the Traffic Impact of Squamish Industrial Park of 2004 report together with other proposed road improvements included in the District's List of Capital Projects.

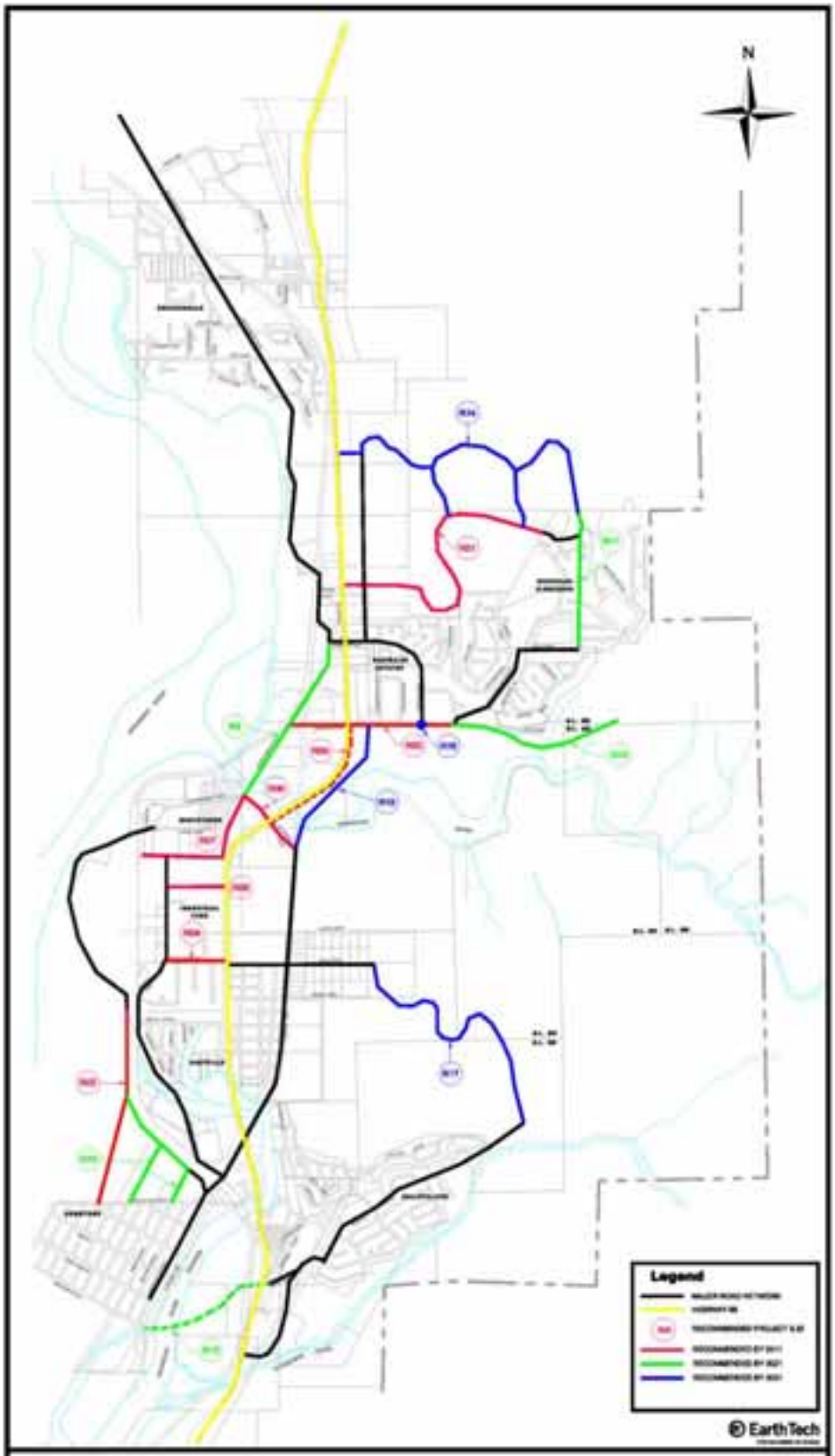


Fig. 4-4: Transportation Improvement Projects

Table 4-4 – Transportation Improvement Projects

Project ID	Description	Req'd For Growth Option	Time-line	Benefiting Area	Capital Cost
R01	Newport Ridge Dr Connection to Highway 99 at Pia.	1 - 7	2011	Garibaldi Highlands	$3,500,000
R02	New Road along BCR Tracks to Downtown	1 - 7	2011	Industrial Park/Downtown	$2,100,000
R03	Widen Mamquam to 4 lanes between Government and Tantalus	1 - 7	2011	Garibaldi Estates/ Industrial Park	$1,800,000
R04	Widen Industrial (4 lanes) with 2 eastbound left turn lanes at Hwy 99	1 - 7	2011	Industrial Park	$1,200,000
R05	Upgrade Highway 99 to 4 lanes	1 - 7	2011	General	$0 (MOTH)
R06	Widen and Signalize Centennial (two eastbound left turn lanes)	1 - 7	2011	Industrial Park	$1,400,000
R07	Pioneer Way Connector and Signalize at Government Rd.	1 - 7	2011	Industrial Park	$1,700,000
R08	New Road and Intersection at Hwy 99 (two eastbound left turn lanes)	1 - 7	2011	Industrial Park	$1,600,000
R09	Widen Government Road Garibaldi Way to Centennial Way	1 - 7	2021	Brackendale/ Garibaldi Estates	$1,100,000
R10	Extend New Road along BCR Tracks to Cleveland & Pemberton	1 - 7	2021	Downtown/ Industrial Park	$2,200,000
R11	Perth Drive Widening	1 - 7	2021	Garibaldi Highlands	$850,000
R12	Raised Interchange on Hwy 99 at Clarke Dr, Overpass above BCR, Downtown connector through Interfor (4-lanes), New Bridge over MBC (intersection at Loggers Lane)	1 - 7	2021	Downtown, Valleycliffe, Intefor, Nexen	$24,000,000
R13	Widen Mamquam to DL 513	1 - 7	2021	SSU, DL513	$1,900,000
R14	New Road to Garibaldi north with Signalized Intersection at Hw 99	1 - 7	2031	Garibaldi Highlands, Merill Ring	$5,100,00
R15	Local Road & New Bridge across Mamquam River	1 - 7	2031	General	$10,000,000
R16	Signalization of Mamquam and Garibaldi Rd	1 - 7	2031	Garibaldi Estates	$75,000
R17	Connection of Finch to Valleycliffe	1 - 7	2031	Valleycliffe	$3,200,000
Total Core DCC Transportation Projects		***1 – 7***	***2031***		***$56,625,000***
Total Transportation Costs					**$56.6 Million**

Implications of Growth on the Road Network

Review of the previous assessments suggests that the projected population growth now anticipated in the District of Squamish poses a number of challenges to both the District and the Ministry of Transportation. The three principle reports reviewed indicate that the four lane upgrade will approach its' capacity at some point in the future. The Bunt report behind current planning on the road network, completed in 1997, considered a higher population horizon of 30,000. The TOPS investigation on the Highway upgrade assumed lower populations for Squamish (23,600) although reflected the higher through traffic volumes on Highway 99 and the development which has taken place since the 1997 Bunt report.

Tables 4-5 and 4-6 from the TOPS investigation of Highway 99 upgrade options are reproduced below and provide an indication of traffic volume forecasts for key links in the road network and performance indicators of a number of intersections. Option 2.1 represents the planned upgrade of Highway 99 and included the four laning from IR 24 to Depot Road with a number of important municipal connectors. These included the new crossing of the Mamquam River at Glenalder, the Industrial Park - Brackendale Connector, and the Valleycliffe Downtown Connector which provides a connection at Highway 99 from Clarke Drive to Pemberton Avenue in Downtown Squamish.

Table 4-5 provides an insight in the use of key links as predicted by the traffic model for the 2026 Design Year. Growth in traffic is clearly demonstrated by the Table; AADT for the Highway north of Cleveland is shown as 31,000 vehicles per day (vpd) in 2026 compared to 23,000 vpd in 2002. At the Mamquam River volumes of 34,000 vpd are shown crossing on the Highway, up from 23,000 vpd, with an additional 13,000 using the new Glenalder crossing, and 7,000 vpd on Government Road. The study findings demonstrate some preference for the north-south connection east of the Highway as opposed to the western route. Future traffic volumes on Government Road remain unchanged from 2002 volumes while the 13,000 vpd shown using the Glenalder crossing represent new trips (outside of Highway 99 traffic growth has been accommodated by the new north-south route to the east of the Highway) Option 2.1 retained existing signal intersections on the Highway and, we assume, Centennial retained as a right-in/right-out intersection only. Signalization of Centennial, allowing all movements, may further increase the attractiveness of the Glenalder connection.

Table 4-6 indicates that the key signal intersections are operating in excess of their practical capacity, i.e. their ratios of volume to capacity are in excess of 0.85. For Design Year purposes, this is the traditional determination of an intersection achieving the limit of its practical capacity. The significance of this Table is that it shows that this practical capacity will be achieved, or exceeded, on the municipal road approaches to these intersections by 2026 using lower population forecasts than are now anticipated. Implications of these findings to the Growth Management Strategy are that some key improvements to the municipal road network will be required in advance of 2026. The 1997 Bunt report had previously suggested some

improvements in the higher (30,000) population forecasts that are clearly now required much earlier. Previously the new connection across the Mamquam River was required, along with the Highway upgrade, at the 30,000 horizon, and the Downtown South Connector was not required until later.

Table 4-5 – Estimated AADT From Model's Predicted Volumes

	Hwy N of Clarke	Hwy N of Cleveland	Hwy at Mamquam R.	Govt. at Mamquam R.	Glenalder at Mamquam R.	Hwy 99 N of Garibaldi	Bypass
2002 Base*	22,000	19,000	23,000	7,000	-	12,000	-
2026 Base	33,000	23,000	33,000	20,000	-	18,000	-
Option 1.1	26,000	19,000	17,000	11,000	19,000	25,000	8,000
Option 1.2	29,000	24,000	28,000	21,000	-	16,000	4,000
Option 1.3	29,000	22,000	26,000	22,000	-	14,000	5,000
Option 2.1	30,000	31,000	34,000	7,000	13,000	20,000	-
Option 2.2	30,000	38,000	47,000	7,000	-	20,000	-
Option 3	29,000	29,000	25,000	15,000	15,000	25,000	-
Option 4	20,000	21,000	23,000	11,000	20,000	18,000	-
Option 5	30,000	43,000	38,000	16,000	-	20,000	-
2010 Base	26,000	21,000	26,000	11,000	-	14,000	-
2010 Opt. 2.1	22,000	25,000	27,000	4,000	7,000	14,000	-
2010 Opt. 5	23,000	32,000	32,000	7,000	-	14,000	-

* 2002 base volumes as established in TModel calibration.

*Source: Traffic Operations and Projects Study (Ward Consulting Group)

Table 4-6 – Intersection Analysis Summary LoS (v/c) for P.M. Peak Hour

Option	2026 Base	2026 1.1	2026 1.2	2026 1.3	2026 2.1	2026 2.2	2026 3	2026 4	2026 5	2010 Base	2010 2.1	2010 5
(a) Garibaldi												
Overall	C (0.91)	n.a.	C (0.90)	C (0.86)	C (0.93)	C (1.00)	n.a.	C (0.88)	C (0.82)	B (0.80)	B (0.69)	B (0.75)
NB thru	D (0.90)	n.a.	D (0.82)	C (0.65)	C (0.69)	B (0.35)	n.a.	C (0.88)	C (0.66)	C (0.54)	B (0.34)	B (0.35)
SB thru	C (0.32)	n.a.	C (0.51)	C (0.48)	B (0.40)	B (0.24)	n.a.	C (0.48)	C (0.39)	B (0.46)	B (0.23)	B (0.28)
(b) Mamquam												
Overall	E (1.17)	n.a.	D (1.08)	D (1.11)	C (0.89)	D (1.01)	n.a.	B (0.83)	C (0.97)	D (1.03)	B (0.81)	B (0.79)
NB thru	F (1.17)	n.a.	E (1.07)	D (1.03)	C (0.86)	D (0.94)	n.a.	B (0.83)	D (0.90)	D (0.97)	C (0.66)	B (0.77)
SB thru	B (0.57)	n.a.	C (0.68)	B (0.70)	C (0.62)	C (0.72)	n.a.	B (0.68)	C (0.66)	B (0.56)	B (0.47)	B (0.54)
(c) Finch												
Overall	B (0.75)	B (0.78)	B (0.75)	B (0.75)	B (0.90)	C (1.13)	n.a.	B (0.66)	C (0.91)	B (0.65)	B (0.83)	B (0.70)
NB thru	B (0.72)	B (0.40)	B (0.57)	B (0.51)	B (0.65)	C (0.90)	n.a.	B (0.43)	C (0.91)	B (0.44)	B (0.60)	B (0.70)
SB thru	B (0.34)	B (0.41)	B (0.34)	B (0.31)	C (0.70)	C (0.58)	n.a.	B (0.49)	n.a.	B (0.32)	B (0.49)	n.a.
(d) Cleveland												
Overall	C (1.11)	C (0.91)	C (0.92)	C (0.96)	C (0.89)	C (0.85)	n.a.	B (0.72)	B (0.73)	B (0.86)	B (0.63)	B (0.56)
NB thru	A (0.46)	B (0.45)	B (0.51)	A (0.49)	C (0.78)	B (0.64)	n.a.	B (0.58)	n.a.	A (0.41)	B (0.62)	n.a.
SB thru	D (0.88)	C (0.66)	C (0.86)	C (0.75)	C (0.69)	C (0.59)	n.a.	C (0.62)	B (0.73)	C (0.72)	C (0.59)	B (0.56)
(e) Clarke												
Overall	E (1.13)	C (0.92)	C (0.98)	C (0.97)	C (0.86)	C (0.94)	n.a.	B (0.89)	C (0.86)	D (0.96)	B (0.75)	B (0.76)
NB thru	F (1.12)	D (0.92)	D (0.96)	D (0.96)	C (0.86)	B (0.68)	n.a.	C (0.89)	C (0.86)	D (0.94)	B (0.69)	B (0.70)
SB thru	F (1.13)	D (0.90)	E (0.98)	E (0.97)	B (0.40)	B (0.30)	n.a.	B (0.60)	B (0.40)	D (0.96)	B (0.29)	B (0.28)

* Analysis based on models predicted volumes
LoS = Level of Service
v/c = Volume to capacity ratio

*Source: Traffic Operations and Projects Study (Ward Consulting Group)

Discussions held as part of this exercise have indicated some acknowledgement that the four lane upgrade of Highway 99 will ultimately require further enhancement. This has been recognised in the documents reviewed;

- The 1997 transportation study was completed in accordance with the OCP at the time and assumed a population level of 30,000 by 2016; increased capacity on Highway 99 was envisaged beyond that date.
- The more recent review of Highway 99 (completed in 2002) was based on a Design Year of 2026 and assumed a population of 23,600. Analyses contained in the report indicate values for volume to capacity ratios at intersection approaching limiting values in 2026. The analysis made demonstrates the importance of key municipal improvements to the performance of Highway 99. The population forecasts produced as part of this growth management strategy show maximum populations of 21,000 by 2011, 30,000 by 2021 and 41,000 by 2031.
- The most recent insight into the timeline for capacity issues on the Highway was demonstrated in the impact study for the industrial park (dated 2004) which indicated capacity issues should be anticipated at the Centennial intersection by 2015, assuming a four leg signalized intersection is provided. This was based on the lower population projections used in the review of Highway 99 upgrade options. The latest population forecasts suggest that over capacity may be achieved sooner than anticipated.

North of the Mamquam

A major issue in this section of Highway 99 is the potential for a new crossing of the Mamquam River. This proposal was contained in the 1997 study although some doubts about its future construction have been expressed by the District. This issue is of significance to both the District and the Ministry. The requirement for this new crossing is influenced by a number of factors; the largest population growth forecasts are contained in the Garibaldi Highlands area and include the planned university, the 1997 study demonstrated the strong desire for peak hour travel movements from the area to Downtown Squamish and the Lower Mainland resulting in a high demand for left turn movements to the south from Mamquam, and Garibaldi, onto Highway 99; the Garibaldi Village development has further increased demand for turning movements at these intersections.

The TOPS review of potential Highway upgrades provides an indication of the importance of the new crossing to both the municipal road network and to Highway 99. The assessment of the four lane option for the 2026 design year showed that traffic volumes on Highway 99 will increase significantly without the new crossing. Option 2.2 (a six lane Highway with only the Downtown Connector as a new link) shows 47,000 vehicles crossing the Mamquam River using Highway 99 as opposed to 34,000 in Option 2.1. Therefore, if the new crossing is not provided performance of the upgraded Highway in this part of the urban section through Squamish traffic

movements will deteriorate at a faster rate than has been anticipated. Not providing the connection will clearly have an adverse effect on the Mamquam and Garibaldi intersections on Highway 99.

From the municipal standpoint the crossing is a key part of its strategy to provide alternative north-south routes for local traffic avoiding the use of the Highway. To the west of Highway 99 an alternative route is provided largely by Government Road, however, the analyses reviewed suggests a strong preference for the eastern alternative using Loggers Lane and the new crossing. The TOPS analysis of the Highway upgrade showed no growth in traffic volumes on Government Road with the additional north-south traffic, other than that on the Highway, using the new river crossing. It should be noted that the focus of that particular analysis was to assess traffic on the Highway and not the municipal network. The results may, however, be an indication of the need for the District to review its priorities for the planned improvement to the road network. The widening of Government Road from Depot Road to the Pioneer Connector is a particular project of interest given the suggested future traffic volumes on Government Road shown in the 2002 analyses; this is the largest scheme in the District's Capital List of Projects with a value of $5,520,000.

The location for the new crossing had previously been shown along the Tantalus alignment on the basis that this would be developed to provide the alternative north-south route north of the Mamquam. This is no longer possible following development of Garibaldi Village. If the new bridge over the Mamquam is to be built alternative locations may need to be identified. Consideration will likely include the intersections of Garibaldi Way and Highlands Way South with Mamquam Road. These alternative locations will provide a good alternative route for much of the traffic from Garibaldi Highlands, the university and the area DL 512 to gain access to the Highway or the alterative Route south via Loggers Lane.

Further north, completion of Newport Ridge Drive from Highway 99 to Pia is required. This connection is currently not in place, although development is proceeding in the general vicinity of the planned link. This is currently a high priority for the District to ensure effective distribution of traffic in the Garibaldi Highlands area. There are, however, some DFO issues associated with the link and some mitigation measures will be required. The District is currently seeking to secure this route. Access is needed here to limit traffic implications on the municipal road network in the area and the Mamquam and Garibaldi intersections on Highway 99.

South of the Mamquam

South of the Mamquam River the District and the Ministry again share some common concerns over requirements for the road network. As with the Mamquam intersection, the Centennial intersection appears to warrant careful consideration. Based on a relatively low growth forecast for the future population in Squamish, as compared to forecasts in this study, the impact study for the industrial park suggests problems may arise at the intersection by 2015. The investigation gave some brief consideration to the potential for an overpass or grade separated interchange, although both were discounted. Given the growth in population north of the Mamquam and east of the Highway, the limitations of the Mamquam intersection and the potential new crossing of the river, it is considered that the potential for future major modification to this intersection should not be ruled out. These options, together with the new crossing of the Mamquam River, provide for significant increase in intersection capacity and access to the highway, potentially delaying requirement for upgrade of the Highway through this part of the urban section of Highway 99.

Further south a new connection to Highway 99 is required to provide access to the industrial park. Plans reviewed as part of this process indicate that the access arrangements onto the Highway are "under discussion" and this includes the Industrial/Finch intersection. Clearly the outcome of these discussions will have implications to the District's plans for the municipal road network. The new connection to the Highway is required to provide access to the industrial park. The impact study suggests the Centennial, new link and Industrial intersections on Highway 99 will all experience increases requiring intersection upgrades, i.e. two eastbound left turn lanes onto the highway. Failure to provide the new access for the industrial park from Highway 99 will increase traffic movements at Centennial and, to a lesser degree, Industrial. The implication to Centennial is that improvement to the intersection would likely be required in advance of 2015 as suggested above.

The Industrial /Finch intersection is an important intersection and when the Valleycliffe to Finch connection is constructed it will provide an alternative route for residents of Valleycliffe to gain access to Highway 99 towards the north and to the new industrial park. This route has been confirmed as the primary means of access to this residential development area in Valleycliffe. The connection is included in the 1997 study for the 30,000 population horizon on the basis that the development in the Amon Lands was a longer term prospect when the report was written. We note that applications for development in that area have now been received by the District. The extent to which existing Valleycliffe residents will use the new route is likely to be influenced by the situation at the Clarke Drive intersection. As with the Garibaldi Highlands area, peak hour journeys from Valleycliffe are associated with Downtown Squamish and the Lower Mainland hence the Clarke intersection is likely to remain the preferred route for many of the peak hour movements from the area. Therefore, the current investigation by the Ministry and the District into the potential grade separation of the Clarke intersection is likely to result in substantial benefits to

Valleycliffe residents. This will continue to provide for most of the vehicle movements from the area.

The potential new connection to the waterfront and Downtown was identified in the review of the transportation implications of the previous OCP in 1997. The connection offers benefits to both the District and Ministry. At present, other than the route via Government Road, access to Downtown is restricted to the Cleveland intersection. This intersection provides for much of the traffic movements into and out of the Downtown area. The route also has to cross the BCR tracks and we are aware that at times during closure of the track crossing, queues can extend onto the Highway. In the review of Highway upgrade options referenced above, the road network assumed for analysis included the proposed Valleycliffe-Downtown Connector. On this basis Table 4-6 from that report, shown above, indicates the overall intersection capacity in excess of practical capacity (v/c = 0.85) and approaching a volume to capacity ratio of 1.0, i.e. demand equal to capacity. Clearly the inference from this analysis is that if the new connection to Downtown is not provided, vehicle demand at this intersection will exceed its capacity before 2026. Even with the new connector in place the demand at the intersection is shown to remain relatively high. Analysis shows that the intersection will be close to capacity by 2026 with a 23,600 population level. Clearly, the new connector will have a considerable role in postponing the requirement for further upgrade of the Highway.

The improved capacity for access to the Downtown area will benefit the District and Ministry. Further benefit for the District is the potential impetus for development that a new connection to the Downtown core will provide. The current access arrangement effectively provides a cul-de-sac arrangement for the southern end of the Downtown area. Allowing “through” or circulating traffic to access this area will help promote development in the downtown area. One clear benefit in this respect is the Waterfront development. The connector will give access to this development while other District road improvements will complete the route to Downtown. The Waterfront development will further assist in generating the through traffic movements within the southern Downtown area.

Future Upgrade of Highway 99

The review of previous reporting has shown that at some point another major upgrade of Highway 99 will be required through Squamish, and this appears generally understood by the individuals and organisations consulted as part of this study process. Discussion with a number of groups has indicated an interest in the potential for a ring road. Some believe that, ultimately, this approach will provide the final solution for the road network in Squamish.

The relative merits of building a ring road against “six laning” along the existing corridor are not clear at this time. From the Ministry’s perspective the economic cost of the ring road would be high given the terrain through which any route would pass.

Similarly the proposal would likely have significant environmental consequences. For the likely level of traffic that a ring road would receive it is far from certain that a strong economic case would result in any benefit cost analysis. For the District, benefits associated with the ring road option are also unclear. While the ring road would remove the through traffic from the existing route significant volumes would remain. On the basis of predicted population growth, traffic volumes on the existing route, following the construction of a ring road, would likely be approaching the Design Year volumes used for the current upgrade, i.e. environmental and community benefits of removing the through traffic element from the existing Highway corridor through Squamish are unclear. However, the removal of the through traffic will have economic consequences on the District. The ring road versus "six lane" upgrade requires some careful consideration and evaluation before a commitment is made either way.

While it is not possible from this review to provide guidance on the requirement for building a ring road, the growth expectations for the town, combined with the increasing volumes of through traffic on the Highway and existing plans for development, suggest that a thorough evaluation of the future upgrade options may now be warranted. The likely alignment for any ring road will be to the east of Squamish where the majority of the new residential development north and south of the Mamquam River is located. Planning for connection to a future ring road as these developments proceed has obvious benefits for the District. Similarly, the potential future upgrade on the existing alignment may have implications to future development along the Highway 99 corridor and vice versa. It will also influence further improvement of the municipal road network. A confirmation of the longer term plans for Highway 99 through or around Squamish will be advantageous to both the District and Ministry.

Transportation Summary

From our review of previous investigation and reporting on the road network in Squamish and in consideration of the proposals contained in this growth management strategy, we can conclude the following:

- The planned upgrade of Highway 99 will achieve its capacity on the basis of the population growth forecasts in this study.
- The review of upgrade options shows the upgrade near capacity by 2026, assuming a population of 23,600, compared to current projections of 31,000 by 2031. Further, some key municipal road improvements have been assumed in the assessment made for the upgrade.
- A new access is required onto Highway 99 from Newport Ridge Drive. This will reduce traffic implications of development on the municipal road network and the Highway 99 intersections of Mamquam and Garibaldi.

- The most recent investigation of capacity was made for the planned industrial park to the west of Highway 99 which suggested that the Centennial intersection would require upgrade by 2015. This assumption is again based on the lower population forecasts and, we understand, key municipal road improvements.
- The potential crossing of the Mamquam River is a significant issue. Analysis of the Highway upgrade, assuming the crossing in place showed the Mamquam and Garibaldi intersections operating at or above practical capacity by 2026. Therefore, the implication is that if the crossing is not provided the limiting capacity of these intersections will be achieved sooner, i.e. upgrade of the Mamquam and Garibaldi intersections will be required before 2026.
- The original location for this new crossing was on the "Tantalus alignment" although the north-south route using Tantalus is no longer possible. Alternative locations may warrant some consideration. Connection of a new crossing at the intersections of Garibaldi Way or Highlands Way South would still provide good connection for much of the Garibaldi Highland area, the university and area DL 512. The District will need to address the question of the new bridge, whether it should be built and, if so, the alignment used.
- Development in the Garibaldi Highlands area will change conditions on Garibaldi Way as a result of increasing traffic volumes and conditions at the Mamquam and Garibaldi intersection.
- The assessment made for the Highway upgrade suggests a review of priorities for the Municipal Road Improvement Program. Analysis suggests strong demand for road capacity to the east of the Highway rather than the west.
- The Centennial intersection has been identified as potentially requiring further upgrade by 2015. The intersection is strategically located close to the planned industrial park and potential Mamquam crossing options. Grade separation at this location has discounted in the industrial park study. Given the intersections location, and the capacity limitations to the north this option should not be precluded at this stage.
- A new access onto Highway 99 from the Industrial Park is required. Failure to provide this intersection will increase demand at other intersections, particularly Centennial.
- The Highway 99 intersection with Industrial and Finch is an important connection for the planned expansion of the Valleycliffe residential area. The new road connections through Amon Lands development will provide an important new link to Valleycliffe, although use will be influenced by potential changes at Clarke Drive intersection.
- The Cleveland Way intersection is shown at practical capacity levels in 2026, and this assumes the Valleycliffe - Downtown Connector is provided. The Connector clearly postpones upgrade of the Highway although the analysis suggests further upgrade will be required beyond that date.

- The Downtown connector will provide access to the waterfront development and promote development of the Downtown area.

It is not possible, on the basis of information reviewed, to determine the most appropriate future upgrade to Highway 99 following the planned four-laning. The advantages and disadvantages of six-laning the existing highway or building a ring road require more detailed evaluation. However, it is apparent that Squamish is reaching a stage of development where determination of the best solution would be advantageous to both the Ministry and the District.

Infrastructure Cost Summary

Planning projected cost estimates have been developed for the various Growth Options to assist with evaluating the various options and determining the preferred Growth Option. As previously mentioned, the trunk Infrastructure Cost Estimates for Options 1 (dispersal), 2 (no/slow growth), 5 (downtown first) and 6 (containment) are expected to be very similar because all of these growth options are based on development continuing to occur (at varying timelines/rates for each option) and extend to the District boundary, resulting in the trunk servicing limits being relatively the same.

Variations on the local servicing network (alignment and scheme) are expected to occur between the growth options, but the overall cost difference is negligible and these local servicing works will be funded by developer proponents as part of the subdivision and development process.

Table 4-7 summarizes the Trunk Infrastructure Costs for the 7 growth options.

Growth Option	Total Water Costs	Total Sewer Costs	Total Drainage Costs	Total Transport. Costs	Servicing Costs Outside of District	Total Infrastructure Costs
Option 1 (Dispersal)	$24.6 M	$12.4 M	$8.9 M	$56.6 M	$0	$102.5 Million
Option 2 (No/Slow Growth)	$24.6 M	$12.4 M	$8.9 M	$56.6 M	$0	$102.5 Million
Option 3 (Village Concept)	$22.9 M	$9.8 M	$9.1 M	$56.6 M	$0	$98.4 Million
Option 4 (Neighbourhood /Greenways Concept)	$22.9 M	$9.8 M	$9.1 M	$56.6 M	$0	$98.4 Million
Option 5 (Downtown First)	$24.6 M	$12.4 M	$8.9 M	$56.6 M	$0	$102.5 Million
Option 6 (Containment)	$24.6 M	$12.4 M	$8.9 M	$56.6 M	$0	$102.5 Million
Option 7 (Annexation)	$24.6 M	$12.4 M	$8.9 M	$56.6 M	unknown	more than $102.5 Million

4.4 Two Shortlisted Growth Management Options

Based on feedback from the stakeholder workshops in March 2005 (Refer to Appendix C) and discussions with the OCP Review Citizen's Advisory Committee (see Appendix D), and District Council the Consultant Team narrowed the number of options to two:

1. Dispersal Option
2. Neighbourhoods and Greenways Option

Option 1 (the dispersal option) is thought to be the closest representation to a business-as-usual approach in the District.

Option 2 (neighbourhoods and greenways option) is a hybrid of some of the original concepts, including the village approach, a large portion of growth being directed to downtown, and the greenways concept. In the dispersal option, it is possible for it to also contain a greenways network. However, under Option 2 the greenways network would be more integrated and complete than under Option 1.

A visual representation of the two options in terms of what the District could look like in 2031 if the District was developed under each of these two options is included in Figures 4-5 and 4-6. Under both Options, the Nexen lands and the Interfor lands are assumed to be used for residential or mixed residential and commercial uses. In order to allocate the land use demand to the available supply, a land use allocation model developed by Natural Resources Canada for use in hazards assessment was used to project and allocate the projected population to 2031.

In Option 1, it is assumed that there is a higher share of new single-detached units (60% of the new housing stock), new residential development occurs at lower densities, less growth occurs downtown, and growth does not necessarily occur contiguously. Therefore, the remaining potentially developable land is consumed quicker under this option. The main advantage of this option is that it better accommodates the demand for single-detached houses than Option 2.

In Option 2, downtown receives a high share of growth, there is a lower share of new single-detached units (ranging from 45% to 53% over the 30-year period), new residential development is more mixed and occurs at medium densities. As development occurs more efficiently under this option, more greenspace is actively protected. Under Option 2, new Residential Neighbourhoods are only allowed to occur south of Alice Lake Provincial Park and north of the Stawamus River. The pros of this option include a higher portion of greenspace being protected, the available land base being used more efficiently, the cost of municipal infrastructure being less, housing being more diverse and affordable, and a wider range of transportation choices being viable.

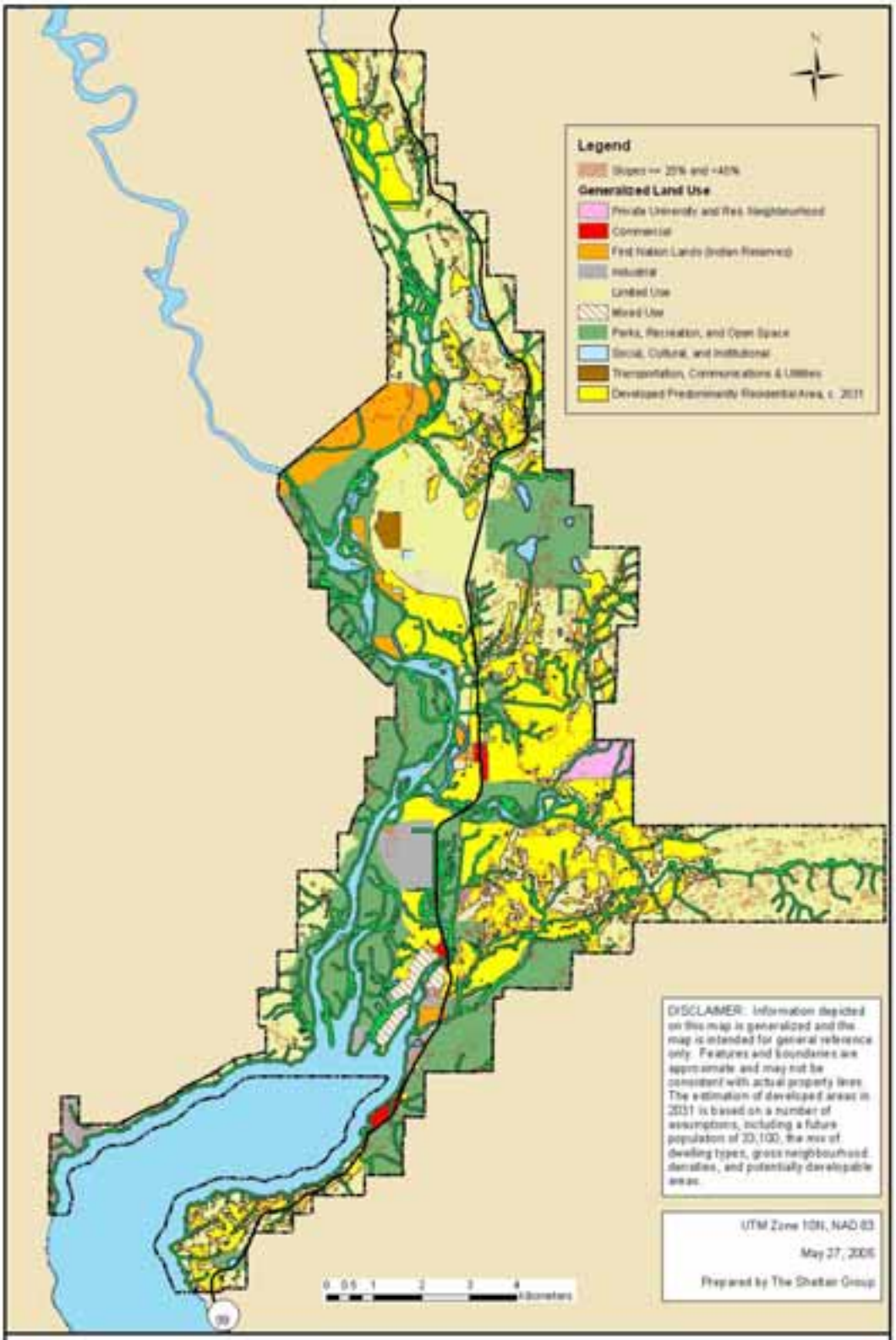


Fig. 4-5: Option 1 (Dispersal), c. 2031

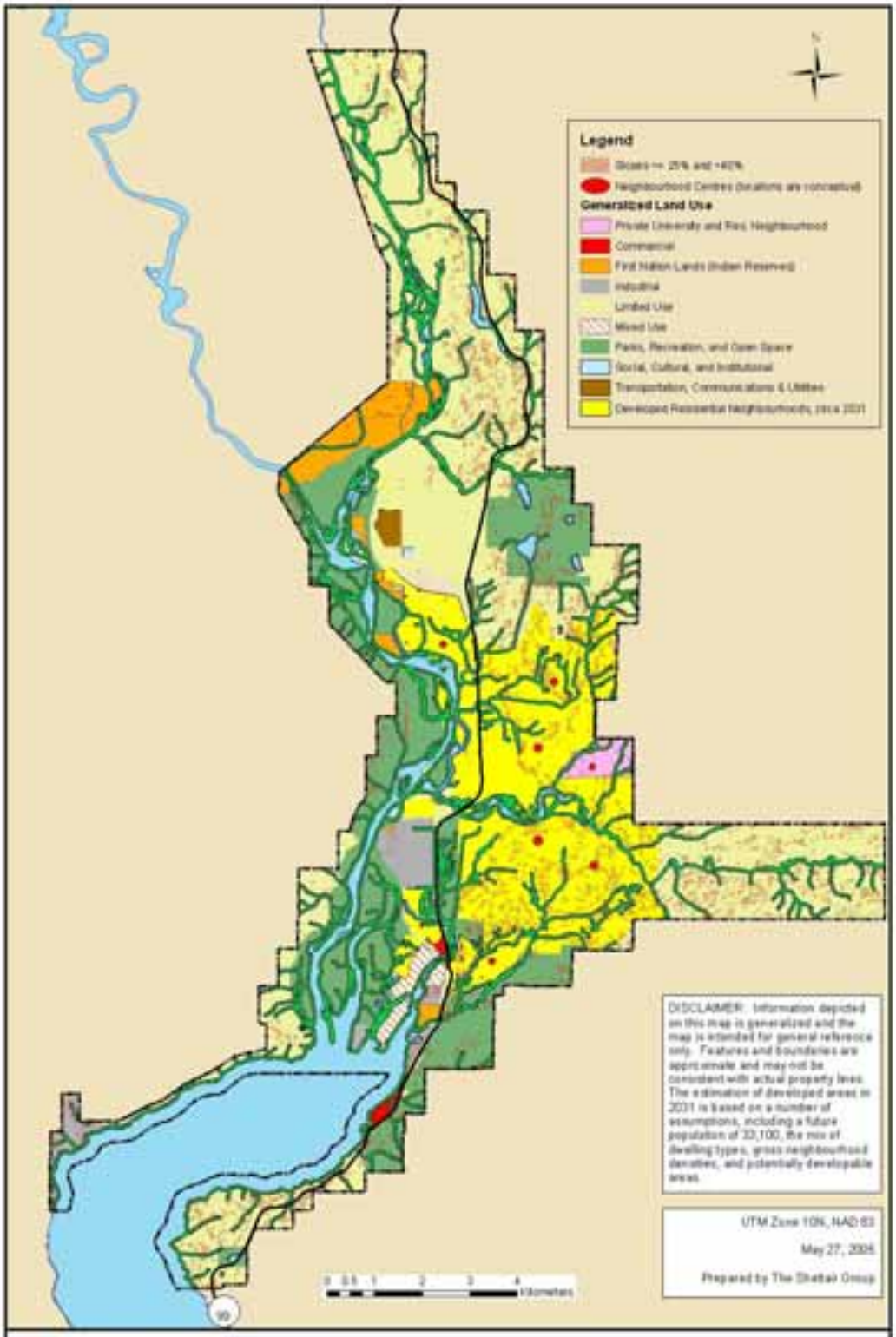


Fig. 4-6: Option 2 (Neighbourhoods & Greenways), c. 2031

4.5 Best-fit Growth Management Option

A series of four workshops were held in March 2005 attended by the same four stakeholder groups (land developers and key property owners, downtown interests, government-related interests, and environment and trails) as the previous workshops held in February, together with sessions with the OCP Review Citizen's Advisory Committee, and District Council.

The two options were presented and the options were discussed in detail. The individual workshop meeting notes are attached as Appendix C and D.

The overwhelming majority of participants in all workshops, the OCP Committee and Council preferred Option 2, the Neighbourhoods and Greenways Option.

The following is a list of what workshop participants felt were the positive attributes and benefits that Option 2 – The Neighbourhoods & Greenways Option, offered over Option 1 – The Dispersal Option:

- Emphasis on greenways is important to the community
- More protective of wildlife and environment
- More neighbourhood friendly
- Increased livability
- More potential for increased quality of life
- Potentially more focused on the management of Downtown growth

- It was indicated that some of the benefits of Option 2 (neighbourhoods and greenways concept) are:
    - The higher densities allow more green space protection
    - It creates a higher level of livability
    - It supports and is tied into recreational opportunities
    - It is sensitive to wildlife
- Another benefit of Option 2 is that it allows the District to expand its urban area later since it does not use as much land for urban uses as Option 1
- Option 2 better directs growth to downtown than Option 1
- Suggested making a link to affordable housing in Option 2
- From a health point of view, Option 2 is the better option

    - Seniors want to use trails
    - Allows people the option to not drive
- Suggested having wellness clinics in the neighbourhood villages
    - These satellite clinics would reduce demand on emergency rooms
- Discussed the idea of neighbourhood identity
    - Results in community pride

In the end, all stakeholder workshops, the OCP Review Citizens Advisory Committee and Council were nearly unanimous in their support of Option 2 – The Neighbourhoods & Greenways Option.

On March 22, 2005, District Council endorsed Option 2 as the preferred approach for managing future growth. Option 2 was therefore used as the basis for preparing the recommended Growth Management Strategy.

5.0 GROWTH MANAGEMENT STRATEGY

5.1 Land Use Concept and Main Elements

The population projection for Squamish is for 33,100 people by 2031, almost doubling the population that currently resides in Squamish. In order to accommodate this growth in a manner that best meets the needs and aspirations of the community, it is recommended that the growth be accommodated through the Neighbourhoods and Greenways Concept. This concept was selected from the public input at the workshops held in early 2005, has many benefits according to the technical evaluation of the growth options, and was endorsed by Council. The concept is consistent with the principles of sustainability and Smart Growth.

The benefits of the Neighbourhoods and Greenways Concept include:

- Efficient use of the limited land base
- Protecting the natural environment and natural resource base
- Revitalizing downtown Squamish
- Increasing transportation choice
- Better utilizing existing municipal infrastructure
- Minimizing municipal infrastructure costs, and
- Conserving natural resources.

The Neighbourhoods and Greenways Concept is based on five distinct elements: compact urban form, protected areas and ecological greenways and blueways system, commuter and recreational trail and greenway system, downtown first, and mixed use neighbourhood nodes.

Compact Urban Form – The land use for the growth management strategy is envisioned to have a compact urban form. Urban growth is intended to be focused on the downtown, existing neighbourhoods through infill, and into new predominantly residential neighbourhoods that are contiguous to the existing urban area. As the capacity of the lands currently designated in the OCP for residential development are believed to be insufficient to accommodate the population of 33,100 by 2031 (even with significant downtown and oceanfront development), it will be necessary to expand the urban area. The long-term vision for the land use is for the urban area of Squamish to be located away from areas of natural hazards. The protected areas, ecological greenways, natural hazards, and ocean act as a de facto urban containment boundary. The long-term urban area for Squamish is envisioned to generally be located south of Alice Lake Provincial Park, east of the Squamish River, north of the Stawamus River, and west of the District's municipal water supply source and steep slopes and high elevations.

Protected Areas, Ecological Greenways and Blueways System – This element involves the maintenance and extension of a network of core protected natural areas and ecological greenway and blueway corridors in Squamish. The purpose of the system is to provide and protect terrestrial and aquatic habitat, maintain biodiversity, and to provide connections for wildlife movement. The building blocks of the core protected areas are the network of provincial parks and ecological reserves, the Squamish estuary, Smoke Bluffs Municipal Park, and the riparian areas of Squamish's major streams, rivers, and wetlands.

The intent is to expand the protected areas and greenway and blueway system to include additional important natural areas and sensitive ecosystems and to avoid fragmentation of habitat areas. In addition to providing habitat for wildlife, the protected areas system also provides passive and active outdoor recreational opportunities, although some areas may have restricted access in order to protect habitat values.

Greenway System, Commuter and Recreational Trails – The already extensive recreational trail system is envisioned to be formalized, enhanced, and extended and include additional trails and commuter routes that are connected and integrated. The trail system would primarily occur along existing rights of way or follow the recreational greenway corridors. The intent is for the greenway to be of sufficient width to provide a natural setting for the trails with natural vegetation on either side of the trail. The purpose of the trail system is to provide recreational opportunities in a spectacular natural setting, connect with major activity nodes and trip generators, and provide oceanfront access. In particular, additional trails and recreational greenways would be developed connecting the neighbourhood mixed use nodes with each other and with downtown Squamish. The hubs of the trail system would be downtown, Brennan Park, and Smoke Bluffs Municipal Park. In addition, the proposed Sea-to-Sky Trail would provide a potential spine for the recreational trail system. The trail system is intended for multiple uses with portions of the trail system designated for specific uses in order to minimize conflict between trail users.

Downtown First – This element involves significantly revitalizing the downtown and adjacent oceanfront area through mixed use residential, commercial, and institutional development. A key feature of the concept is to open up the oceanfront to public access and to provide public amenities in the downtown and oceanfront area. Not only is the downtown and oceanfront area to be the heart of Squamish, it is also to be the regional commercial and institutional centre for the Sea-to-Sky corridor. The downtown is also intended to be the location of a multi-modal transportation hub.

The concept is to focus the majority of commercial development and multi-unit residential growth in the downtown and oceanfront area through mixed use development. In addition, the downtown is to be the location of predominantly all new institutional buildings. The downtown first concept entails accommodating as many appropriate activities, programs, and facilities (social, arts, cultural, educational, institutional, civic, entertainment, transportation terminals, etc.) in downtown as

possible in order to make the downtown a strong and multi-faceted regional destination. Development is intended to be of high architectural design and building quality and to incorporate principles of sustainability to reduce energy, water, and material consumption. An attractive urban form, streetscape, and public art complement the development in downtown. In its totality, the downtown is to become the economic, cultural, institutional, and social hub of Squamish and the Sea-to-Sky corridor as well as an attractive destination for tourists and visitors.

Mixed Use Neighbourhood Nodes – A series of mixed use neighbourhood nodes distributed throughout the urban area of Squamish is envisioned. The nodes are intended to provide neighbourhood-scale retail shopping, services, and institutional uses in close proximity to housing for each major neighbourhood in Squamish. The scale of the nodes would be of the size to only service the surrounding neighbourhood and higher order services would be located in downtown Squamish. In addition, there would be a diversity of housing types interspersed within or surrounding the commercial node. The purpose of the mixed use neighbourhood nodes is to support the development of more complete communities whereby residents can undertake a wider range of daily activities closer to home and to support the use of walking, cycling, and transit for these trips. The location of these nodes could either be where an existing commercial or hub of the neighbourhood has already been established or could be identified in consultation with the residents of each neighbourhood.

5.2 Implementation Strategies and Recommended Policy Directions

In order to support the realization of the Neighbourhood and Greenways Concept, the policies and initiatives of the District and its partners need to be supportive and consistent with the concept. The Growth Management Strategy is structured around five fundamental strategies – one for each element in the concept plan:

- Maintain a compact urban form
- Develop a protected areas and ecological greenways and blueways system
- Develop an interconnected recreational trails and greenways system
- Develop a vibrant downtown core and oceanfront
- Develop mixed use neighbourhood nodes and complete communities

5.2.1 Maintain a Compact Urban Form

The land use pattern intended by the growth management strategy for Squamish is a compact urban form. Residential growth is envisioned to be focused on downtown and the oceanfront lands, infill development in residential neighbourhoods, and new residential neighbourhoods that are contiguous to the existing urban area. The overall intent is to have a balance of growth occur in each of these areas, with the priority being given to growth in the downtown. The purpose is to protect greenspace, provide infrastructure efficiently, and support public transit, walking and cycling through minimizing trip distances.

Currently, the designated areas in the official community plan are insufficient in terms of capacity to accommodate the 33,100 population projected for Squamish. There will therefore be some new areas designated for accommodating residential growth.

Key Containment Options and Definitions:

There are a variety of options for keeping urban settlement compact. The three main policy options that the District has are *de facto* urban containment, a generalized urban containment area, or establishing an urban containment area or boundary.

A) *De Facto* Urban Containment
The *de facto* urban containment strategy is based on containing urban growth through using natural hazards, high elevations, parks, and natural boundaries, such as the Squamish River, to contain growth in the absence of any formal containment policy. This option requires the least level of effort by the District but has the

disadvantage of being more difficult to direct and control growth. Growth would likely occur more incrementally under this option.

B) Generalized Urban Containment Area
The second urban containment option is to establish a generalized urban containment area, either in text or map form. For example, the Squamish River and the conservation area and Squamish Estuary act as the de facto urban containment boundary on the western side of Squamish. This could be described as the western boundary for the urban area. This would provide some policy direction but does not provide a specific line on a map and therefore could be subject to interpretation.

C) Delineated Urban Containment Area
A delineated urban containment area is an area contained within a regulatory boundary (e.g. an urban area boundary), delineating areas defined as urban that are intended to be serviced with municipal water and sewer, and non-urban areas, such as rural and resource lands. It would include a specific area and line on a schedule in the District's Official Community Plan. Generally the urban containment area would contain sufficient land to meet the needs of the population for a 20-year period. Alternatively, a permanent urban containment boundary can be established.

Criteria:

The following are a set of criteria that are intended to assist the District in establishing the location of growth and new urban areas. Growth in new urban areas should be pursued only in conjunction with focusing significant growth in the downtown and some growth in existing urban areas.

The following are criteria for areas that are to be avoided for new urban growth areas:
- Areas with significant natural hazards, including:
    - Flood debris areas
    - Steep slopes
    - Flood plain (areas where no development is permitted)
    - Areas at high risk of damage from seismic hazards (liquefaction, ground motion amplification, and slope instability)
- Areas of land-based renewable resource use, including lands in the Agricultural Land Reserve
- Parks, ecological reserves and conservation areas
- Areas located above elevations of approximately 300 metres due to difficulty of servicing and supplying of municipal water based on existing water reservoir elevations
- Areas discontiguous to the existing urban area

The following are criteria that are considered desirable for new urban growth areas:
- Adjacent to existing urban areas
- Proximity to downtown Squamish

- Proximity to Highway 99 and other major road infrastructure, such as arterials and collectors
- Availability of nearby municipal infrastructure, including municipal water, sewer, and utility lines
- Proximity to existing school sites
- Proximity to fire hall within standard response time
- Avoiding unprotected environmentally sensitive areas

Based on the above criteria, the following are offered as policy directions to the District of Squamish. They are based on accommodating the projected population of 33,100 in 2031 in a manner that satisfy the criteria and meet other objectives of the community such as protecting natural areas, increasing transportation choice, and minimizing municipal infrastructure costs.

Policy Directions:

1. Continue policy of encouraging development outside flood hazard areas and recognizing the historic exempt areas (OCP Policies 4.4) or incorporate appropriate planning and engineering mitigative measure

2. Avoid human settlement in areas of high hazard, including areas of debris flow, steep slopes

3. For lower risk natural hazard areas of require appropriate planning and engineering mitigative measures

4. Limit urban level development to elevations less than 300 metres above sea level and indicate the conditions above this elevation where development would be allowed

5. At a minimum, define a generalized urban containment area for Squamish. It is recommended that this area be defined as:
    - East of the Squamish River (and east of adjacent designated greenways and adjacent conservation areas, including the Squamish Estuary)
    - South of Alice Lake Provincial Park and south of the hazard areas of the Cheekye Fan
    - North of the Stawamus River
    - West of the municipal water supply source and the high elevations and steep slopes in the eastern portions of the District

6. If the District desires a delineated urban containment area, define this boundary following completion of the multi-hazard risk assessment being undertaken by Natural Resources Canada and the proposed mapping of the sensitive ecosystems in association with the constraints mapping identified in Appendix A of this document.

7. Designate the newly annexed lands on the east of Squamish as Limited Use (formerly SLRD Area “D”) due to their steep slopes, high elevation, proximity to the municipal water supply source and distance from Highway 99 and other major roads and infrastructure

8. Re-designate the Oceanfront (Nexen) lands and Interfor lands in the OCP to allow for mixed use residential and commercial development and facilitate the redevelopment of these sites

9. Identify downtown Squamish and the Oceanfront lands as the preferred location for new multi-family, commercial, and institutional development

10. Locate mixed use development at relatively higher densities in downtown, the Oceanfront lands, and in neighbourhood nodes that respect the character of the area and view corridors

11. Increase residential densities in new residential neighbourhoods by increasing the share of multi-unit dwellings, providing a greater range and mix of lot sizes for single-detached homes, and specifying minimum net or gross densities.

12. Identify the amount of infill development that could realistically be accommodated in existing residential neighbourhoods and develop a strategy for encouraging infill development that is sensitive to the context of the neighbourhood

13. Re-designate lands that are currently designated Limited Use in the area north of Garibaldi Estates and Garibaldi Highlands to Residential Neighbourhood to accommodate the 33,100 population. This area would include District Lots 509 and 510 (the Merrill & Ring) property as well as the developable portions of District Lot 513 (Fast property). These areas satisfy the criteria for desired urban growth locations as the current capacity of the OCP is insufficient to accommodate the projected population growth. This change would also ensure an adequate supply and balance of residential dwelling types, particularly single-detached units, on a phased/controlled basis.

14. A future growth corridor north of District Lots 509 and 510 may be required over the long term as a future growth corridor; however, the Residential Neighbourhood designation should not extend north of the southern boundary of Alice Lake Provincial Park, with the exact northern and eastern boundary being determined by a study conducted by the District of Squamish, considering the amount of land required to accommodate the population projection to 2031, natural hazards, elevation, and environmentally sensitive areas.

15. Remove OCP Policy 4.5.12 from the OCP, based on the understanding that the Merrill & Ring lands will require approval of a Sub-Area Plan before any zoning or development occurs and that the Sub-Area Plan will incorporate a phasing program – reflecting not only market forces but the rate at which other developments are being absorbed.

16. Develop a policy to not allow municipal sewer and water servicing in areas designated Limited Use and other non-urban areas, unless for public health reasons.

Recommendations for Further Research and Studies:

1. That the District develop and maintain a residential capacity system to maintain and monitor an estimate of the existing amount of residential land developed and the remaining residential land supply based on land use designations in the OCP and the zones in the zoning bylaw

2. That the District develop hillside development guidelines and update its residential capacity estimates based on the guidelines that are established

5.2.2 Develop a Protected Areas and Ecological Greenways and Blueways System

Squamish is blessed with a rich natural endowment of habitat and a diversity of terrestrial and aquatic ecosystems and wildlife. The habitat located in the District is of regional, provincial and national significance. For example, the Squamish estuary and the Brackendale Eagles Provincial Park are of national significance as these are the wintering home to thousands of bald eagles that congregate on the shores of the rivers surrounding Brackendale to feast on the abundant spawning salmon. There are also several provincial parks in the area, including Murin, Shannon Falls, Stawamus Chief, Alice Lake and Tantalus Provincial Parks.

Currently, over 20% of the District of Squamish is designated as park, greenway, or ecological reserve. However, there are many sensitive ecosystems located in the District which are situated outside the designated park status. With the pressures of population growth and associated development facing the District over the next decades, these areas are at risk of becoming lost or negatively impacted by these developments. Many of these environs are what make Squamish a desirable place to live. Preserving these areas in perpetuity is a legacy that the District can leave for future generations to enjoy.

The purpose of the protected areas and ecological greenways and blueways system is to protect terrestrial and aquatic habitat, maintain biodiversity, and provide connections for wildlife movement.

Definitions:

The key geographical "building blocks" of a protected and sensitive natural areas strategy include:

- ***Core Habitat Areas*** – These areas contain the most important habitat features and are of sufficient size to maintain ecosystem integrity and protection from disturbances. The core habitat areas could include the existing large parks with a nature focus (e.g. the provincial parks), the conservation area, ecological reserves, and the Squamish Estuary.

- ***Ecological Greenway and Blueway Corridors*** – These are linear greenway corridors that are primarily maintained for ecological purposes and include linkages between core habitat areas. They include important wildlife movement corridors and do not necessarily have recreational access. They also include corridors connecting to the ocean. The blueway corridors include linear corridors associated with watercourses.

- ***Recreational Greenway and Blueway Corridors*** – The recreational greenway corridors contain trails with a right of way that includes natural

landscaping. The recreational blueway corridors are similar to hiking or cycling corridors for greenways in that they provide canoeing and kayaking recreational opportunities along linear routes.

- ***Unprotected Sensitive Ecosystems -*** These are ecosystems that are currently unprotected and are sensitive to disturbance from development pressures. The sensitive ecosystems include sensitive aquatic ecosystems, such as wetlands.

In addition, there are two other categories of greenspace that are important for land use in the District and are part of the "green" infrastructure. These areas are primarily intended to provide a renewable resource capability but may also provide multiple benefits such as providing habitat and include:

- ***Lands in the Agricultural Land Reserve –*** These lands are regulated by the Agricultural Land Commission and the intent is for high-capability agricultural land to be used for agricultural purposes. The lands can also provide habitat value.

- ***Community Forest Land*** – While there is no longer a Forest Land Reserve in BC, the District has identified that it will pursue a community forest in its OCP. This land could also provide habitat value if managed using sustainable forest management practices.

Criteria:

The intent is to expand this system of protected areas and greenway and blueway system to include additional important natural areas and sensitive ecosystems and to avoid fragmentation of habitat areas. In addition, it is also desired that a naturalized ocean coastline be maintained and enhanced to allow wildlife access along the shoreline.

The following are the criteria for selecting additional areas to include in the protected areas network:

- Areas identified as an Important Natural Area of Squamish (from the Federation of BC Naturalists Important Natural Areas and Streams of Squamish)
- Identified as a sensitive ecosystem
- Identified as a core habitat area
- Coastline areas
- Containing rare and endangered species
- Adjacent to a core habitat area
- Wetlands
- Municipal water supply area

The following are the criteria for selecting additional areas to include in the *ecological* greenways and blueways network:

- Riparian areas of major streams and rivers, particularly valuable habitat for fish and wildlife
- Provides a connection between core habitat areas
- Provides connections to wetlands
- Provides linkage between upland areas and the ocean

The following are the criteria for selecting additional areas to include in the *recreational* greenways and blueways network:

- Provides opportunities for outdoor recreation
- Provides connection and linkages to existing recreational greenways and blueways
- Provides linkages to recreational facilities
- Provides marine access to oceanfront and shorelines
- Provides linkages to downtown
- Provides linkages between neighbourhood nodes
- Provides separation between neighbourhoods

Policy Directions:

The District's OCP, bylaws, and other tools, are intended to protect the biodiversity of Squamish, significant ecological areas, and major outdoor recreational areas. The following are policy directions for consideration by the District:

1. Change the land use designation of "Greenways[1]" in the Official Community Plan to a category that provides greater clarity and indication of the level of protection afforded to the lands, such as a category of "Parks and Ecological Reserves" and "Conservation and Open Space" (OCP Policy 4.1.1).

2. Continue implementing the Squamish Estuary Management Plan (1999) (OCP Policy 4.2.9).

3. Update Schedule "C" of the District's OCP, which shows the District's Environmentally Sensitive Lands, following completion of the proposed sensitive ecosystem mapping inventory

4. Update Schedule G#1 of the District's OCP, the Development Permit Area for the Protection of the Natural Environment, to include key sensitive ecosystems as defined by the proposed sensitive ecosystems inventory (OCP Policy 4.3.8 and Policy 6.1)

5. Use the parkland dedication provision of the *Local Government Act* to require 5% of land be dedicated as parkland or money in lieu be put towards parkland

[1] The Greenways land use designation in the 1998 OCP applies to green space networks permanently set aside for parks, recreation and environmental protection purposes including Provincial Parks, Ecological Reserves, conservation areas, major municipal parks, golf courses, and open space areas.

acquisition elsewhere in the District (provide greater clarity in Policy 4.2.6 of the OCP)

6. Continue requiring identification of environmentally sensitive sites and proposed protective measures as part of preparing sub-area plans (OCP Policy 4.1.12)

7. Continue to pursue establishing a Community Forest (OCP Policy 4.13.6) and that this area be managed using sustainable forest practices that maintains natural habitat values

8. Partner with other levels of government and non-governmental organizations, such as conservation organizations and land trusts, for the acquisition of important habitat areas and dedicate these as parkland or ecological reserves

9. Work with the provincial government to identify surplus government lands that have been identified as sensitive ecosystems and negotiate the dedication of these lands as park, ecological reserve, or inclusion as a conservation covenant

10. Use innovative tools and incentives to encourage conservation covenants and stewardship on private lands

Recommendations for Further Research and Studies:

For the protection of environmentally sensitive areas, there are a number of data sources that can be used to identify and map these areas. In addition to the District's OCP, a Sensitive Habitat Atlas has also been developed for the Sea-to-Sky Corridor, including Squamish. This GIS-based tool includes streams, roads, trails, land parcels, fish and wildlife habitat, parks and protected areas, and aerial photography.

It is recommended that:

1. A Sensitive Ecosystems Inventory (SEI) be conducted identifying the rare and fragile ecosystems in conjunction with the data from the Sea-to-Sky Corridor Sensitive Habitat Atlas

2. The District review the standards for sensitive ecosystem mapping and consider conducting the SEI using these standards.

3. The District seek funding to cost-share the SEI from other levels of government and foundations

4. Develop a protected areas and greenways and blueways strategy in consultation with the community and in conjunction with the update of the

Parks and Recreation Master Plan, including identification of priority areas to protect

5. Prepare an implementation and funding strategy for the protected and sensitive natural areas strategy and identify partnerships for implementation

6. Establish a parkland acquisition fund to be used to acquire parkland through partnering with other levels of government, non-governmental organizations, and land trusts.

5.2.3 Develop an Interconnected Recreational Trails and Greenways System

Closely related to the identification and protection of habitat areas is the development and maintenance of a trail system. It is envisioned that the already extensive trail system in Squamish be formalized, enhanced, and extended and include additional trails and commuter routes that are connected and integrated with the existing system. The purpose of the trail system is to provide recreational opportunities in a spectacular setting, connect with major activity nodes and trip generators, and provide oceanfront access. In addition, the recreational trails would connect the mixed use neighbourhood nodes with each other and with downtown Squamish. The hubs of the trail system would be downtown, Brennan Park, and Smoke Bluffs Park.

Squamish will be the gateway and trail head of the proposed Sea to Sky Trail, which will be a regional trail approximately 150 kilometres in length, stretching from Squamish to D'Arcy. The regional trail is envisioned to be a multi-use recreational trail for cyclists, pedestrians, equestrians, and potentially cross-country skiers. The benefits of the trail include use by local and regional trail riders and will be a destination for trail-based tourism. This trail can form one of the spines of the District's master trail system.

The trails may follow the recreational greenways corridors or be located elsewhere. A set of trail standards is currently being developed by the District.

Definitions:

Recreational Greenways – recreational greenways are linear corridors that allow recreational trails and retain natural landscapes

Recreational Blueways – recreational blueways are linear ocean channels, rivers, and lakes that allow recreational kayaking, canoeing, and boating.

Criteria:

The "official" trail system is depicted in Schedule "I" of the OCP. The on-the-ground trails in Squamish consist of both official trails, as well as unofficial trails. The District of Squamish is developing a Trails Master Plan. In addition, a Mountain Bike Management Plan has been prepared by the Squamish Off-Road Cycling Association which is being considered by the District.

The following are the criteria that are proposed for the establishment of the official trail system in Squamish:

- Provides a non-motorized trail network connecting one end of the Squamish Valley with the other – preferably on each side of Highway 99
- Connects the designated neighbourhood nodes with one another
- Connects the designated neighbourhood nodes to Downtown Squamish
- Connects with major trip generators
- Provides waterfront access and riverfront access, including access along the dyke system
- Integrates with the Brennan Park Recreation Centre
- Integrates with Smoke Bluffs Municipal Park
- Integrates with the proposed Sea-to-Sky Trail
- Integrates with the cycling network, and
- Minimizes conflict with different trail users, through design, separate pathways, or other means.

Policy Directions:

The following are policy directions for consideration by the District:

1. That during the process to identify the mixed use neighbourhood nodes, that trail connections between the proposed nodes be identified

2. That the Trails Master Plan being developed by the District be incorporated into the updated OCP.

3. Work with the SLRD in identifying the appropriate trail alignment through the District as part of the Trail Master Plan.

4. That the Sea-to-Sky Regional Trail be developed as a spine of the District's trail system

5. That the trail connections to downtown, Brennan Park, and Smoke Bluffs Park be reinforced

6. That east-west trail connectivity across the highway be reviewed with possible trail overpasses being included

7. That the Squamish Mountain Bike Management Plan be implemented

8. That the District continue working with the Squamish Trails Society and the Squamish Off-Road Cycling Association to continue to develop and maintain the trail network in Squamish

Recommendations for Further Research and Studies:

1. That a recreational blueways strategy be developed focused on ocean channels, rivers, and lakes and be integrated with the Trails Master Plan and recreational greenways network

5.2.4 Develop a Vibrant Downtown Core

The intent of the Growth Management Strategy is to revitalize the downtown and oceanfront area through significant amounts of mixed use multi-family residential, commercial, and institutional development. The concept of downtown first entails priority being given to appropriate residential, commercial, institutional, arts, and cultural facilities locating downtown as possible. This would entail a much higher retail, office, and institutional presence in Squamish. It would also have a much higher population and residential dwelling units.

Smart Growth on the Ground is developing a Downtown Concept Plan, a draft of which is to be released in August 2005. Smart Growth on the Ground has conducted a detailed analysis, developed indicators and targets, held a multi-day design charrette, and is developing an implementation strategy for the downtown. This work supports the Growth Management Strategy by providing the vision and detail to make the concept of a vibrant Downtown Core a reality.

A key thrust will be to increase the residential capacity in the downtown and Oceanfront lands which is currently estimated at only 400 dwelling units. Smart Growth on the Ground estimates that the capacity for the downtown and Oceanfront Lands is approximately 4,850 units, or a 10-fold increase over present levels.

Description and Definitions:

A revitalized downtown would physically entail significant mixed use residential and commercial development, including multifamily dwellings. The existing single-detached housing stock would primarily remain but the number of new single-detached housing units would be limited. Mixed use buildings would have retail on the ground floor, with office, professional, or institutional use on the second level with residential above. The downtown first concept entails accommodating as many appropriate activities, programs, and facilities (social, arts, cultural, educational, institutional, civic, entertainment, transportation terminals, etc.) in downtown as possible in order to make the downtown a strong and multi-faceted regional destination. Development is intended to be of high architectural design and building quality and to incorporate principles of sustainability to reduce energy, water, and material consumption. An attractive urban form, streetscapes, and public art complement the development in downtown.

A map of the downtown and Oceanfront lands are shown in Fig. 5-1. The map also shows the location of the two former industrial lands – Oceanfront (Nexen) and Interfor. In addition, the map shows the location of Block “R” northwest of the downtown.

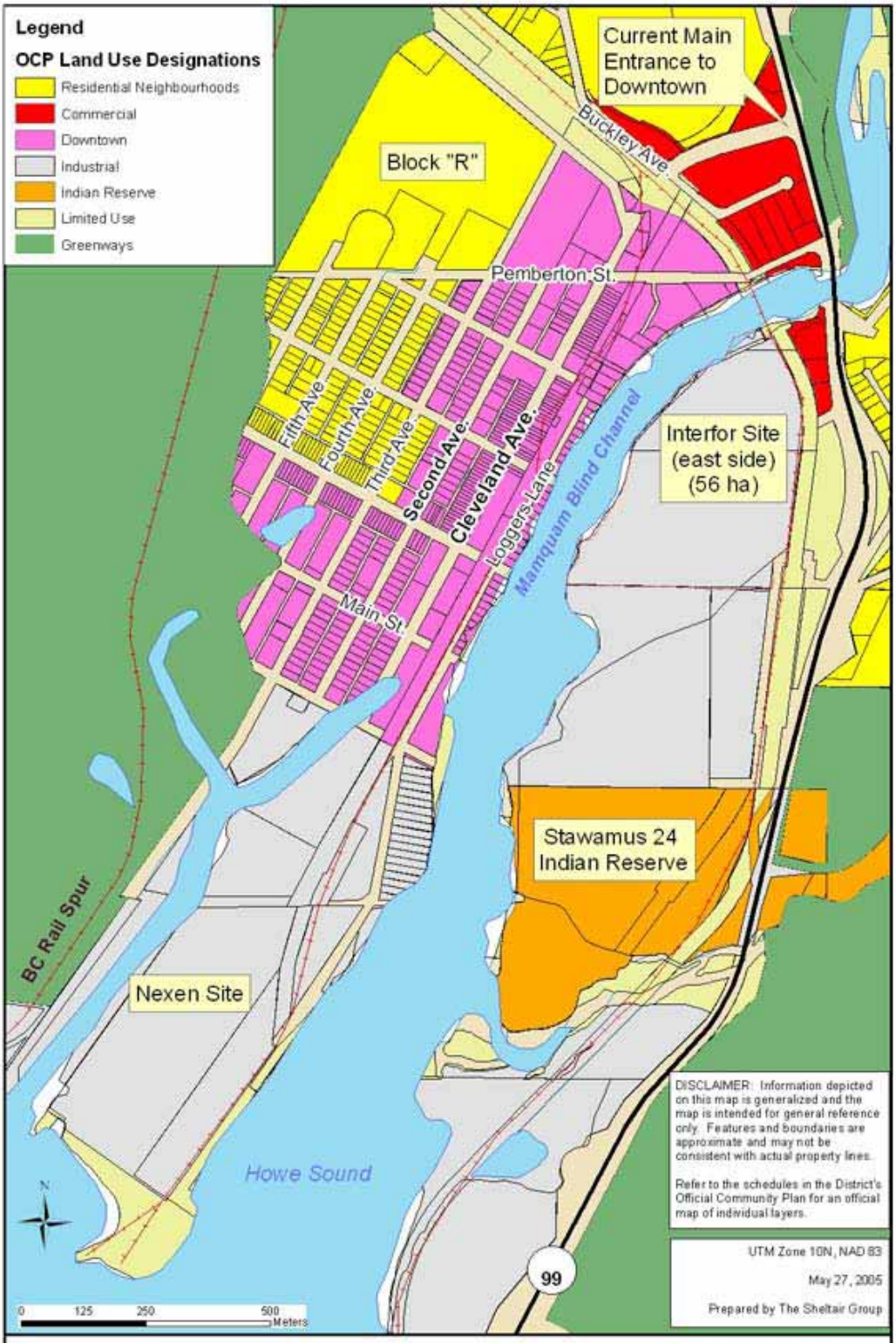


Fig. 5-1: Downtown Squamish

Criteria and Priorities for the Location of New Developments and Community Facilities:

The following are proposed as a set of locational criteria for new development in Squamish:

- Downtown and the Oceanfront lands are the location of predominantly all new institutional buildings
- Downtown and the Oceanfront lands are the preferred location for multi-family residential development, with phasing of multifamily curtailed or slowed in other parts of the District while multi-family units are coming on stream downtown and on the oceanfront lands
- Limited amounts of new single-detached homes are to be located in Downtown Squamish and the Oceanfront lands
- Downtown and the Oceanfront lands are the preferred location for entertainment, educational, arts, and cultural facilities in the District
- Downtown and the Oceanfront lands are the preferred location for tourist accommodation
- The District's resources are primarily focused on the downtown, including provision of public art and community-wide amenities

Existing Downtown Area:

The downtown area has an abundance of under-utilized lands and buildings in addition to a substantially completed road and utilities/services infrastructure. Fully exploiting and leveraging these resources should be seen as having the highest priority, particularly in terms of attracting private investments, commercial traffic-generators, and other programs leading to a revitalization of Squamish's downtown area.

A key development site is Block "R" which is well advanced in terms of its conceptual planning and it is anticipated that final District approval for this relatively large, mixed-use and relatively high-density development will proceed as the earliest major enclave of urban development on the fringe of Squamish's downtown core. This expanded population base should lead to additional patronage for the existing central business district area.

Oceanfront Development Area:

The availability of two former industrial sites with oceanfront access - the Oceanfront lands (Nexen) and Interfor site – have the potential to make a major contribution to the revitalization of the existing downtown core of Squamish. These two sites are currently being planned for redevelopment for mixed use residential and commercial and developed with significantly public amenities.

While the Oceanfront lands (Nexen) will comprise various forms of retail and related commercial activity, many of the shopping needs of the evolving residential developments will be looking to patronizing existing and expanded retail commercial facilities in the central business district to the north. The Interfor lands are anticipated to be connected to the central business district by either or both a vehicular and pedestrian bridge thus allowing this significant mixed use project with its own substantial amount of residential development to provide further support for existing and future expanded downtown core retail and related commercial activities.

Policy Directions:

While the evolution of a strong and vibrant downtown will unfold over a considerable period of time and in various phases, there are specific strategies and incentives that should be initiated as early as possible. These are reflected in the following policy directions:

1. Ensure that the Smart Growth on the Ground process is implemented in as optimum a fashion as possible, including implementing their main recommendations

2. Redesignate the Oceanfront (Nexen) and Interfor lands to allow mixed use development and zone accordingly

3. Direct development efforts and resources to the development of the Oceanfront (Nexen) lands, Interfor Lands and Block "R", with appropriate phasing for units to come on-stream at a rate at which the market can absorb

4. Ensure that the central business district's oceanfront area is fully exploited in terms of attracting private capital investments, residential developments, amenities, and public access systems (including an oceanfront walkway) which will make for a highly active and animated waterfront area. Include waterfront recreation and related amenities, such as a marina, restaurants, recreation rental operations, ships chandlery, marine brokers, etc.

5. Facilitate land assembly in the downtown to facilitate additional civic and institutional uses including the Capilano College expansion.

6. Identify the preferred location and designate appropriate lands for a mixed-use Civic Centre that would include a Performing Arts Centre as well as other significant institutional, cultural, and civic/public amenities. This complex might best be undertaken on a private-public partnership basis or through sharing facilities with a post-secondary educational institution

7. Promote the establishment of Capilano College's Sea-to-Sky Corridor downtown campus, including finding, designating, and zoning suitable land

8. With appropriate marketing and promotions, encourage the concentration of post-secondary education facilities in the downtown area.

9. In conjunction with the Chamber of Commerce, establish a strong and appropriately budgeted Business Improvement Area

10. In partnership with the Ministry of Transportation, identify a preferred secondary access and alignment for an additional, vehicular access systems to downtown Squamish from Highway 99

11. Continue policy to reduce Development Cost Charges in the downtown relative to other areas in the District

12. Within suitable guidelines of density and building "envelopes", ensure that the downtown area has the greatest discretion provided for mixed-use developments in order to facilitate response by investors to market-driven development opportunities.

13. Ensure that the downtown area is designed to accommodate both market and non-market seniors housing facilities

14. Provide capital investment in downtown and the Oceanfront lands, including streetscape improvements, street furniture, public art, and landscaping

15. Construct a new District Hall or Civic Centre to LEED™ Gold standards to reduce energy, water, and materials consumption, and improve indoor air quality and provide municipal leadership in sustainability

16. Encourage other institutions and government agencies to construct new buildings to LEED™ Gold standards

Recommendations for Further Research, Studies, and Initiatives:

1. Initiate a Cleveland Avenue urban design study which would address such issues as: preferred building "envelope" guidelines (density, heights, setbacks, etc.); a façade improvement program; a landscape enhancement program; a comprehensive way finding program; a lighting program; traffic and parking enhancement program; a street furnishings program; location of a centrally-positioned town square, and other design and related studies resulting in the evolution of a highly dynamic, attractive, and people-friendly environment.

2. Undertake a tax-abatement study which would be designed to encourage property owners to initiate significant improvements to buildings (particularly

those of a heritage orientation) and to ensure that all retained buildings meet current national, provincial, and local building, seismic, health, and related codes and bylaws

3. Undertake a comprehensive retail market study; a tenant retention and recruitment study; and develop a retail promotional and advertising campaign

5.2.5 Develop Mixed Use Neighbourhood Nodes and Complete Communities

A series of mixed use neighbourhood nodes distributed throughout the urban area of Squamish is envisioned. Squamish is already characterized by a number of distinct neighbourhoods, including Valleycliffe, Brackendale, Garibaldi Estate, and Garibaldi Highlands. The purpose of the mixed use neighbourhood nodes is to support the development of more complete communities whereby residents can undertake a wider range of daily activities closer to home and to support the use of walking, cycling, and transit for these trips. In essence, the concept is to develop a "community of communities", which also includes fostering a sense of place and creating community.

In addition to the mixed use neighbourhood nodes, the vision is to develop a more complete community within each neighbourhood that incorporates a wider range of housing types, community facilities, and amenities. This also includes the provision of an elementary school in each of the major neighbourhoods where existing or future enrolment is sufficient.

Description and Definitions:

The neighbourhood nodes are envisioned as small scale, mixed use village centres that are intended to provide neighbourhood-scale retail shopping, services, and institutional uses in close proximity to housing for each major neighbourhood in Squamish. The scale of the nodes would generally be of the size to only service the surrounding neighbourhood and higher order services would be located in downtown Squamish. For one or two of the neighbourhood nodes, such as east of Highway 99 and north of the Mamquam River, higher order services could be included, such as a grocery store to serve a cluster of neighbourhoods. In addition, there would be a diversity of housing types interspersed within or surrounding the commercial node. It is envisioned that the neighbourhood nodes would be developed in sizes of approximately 2 to 5 acres in size (1 ha to 2 ha) depending on the population size of the neighbourhood. It is anticipated that the largest of the neighbourhood nodes that provide services for a cluster of neighbourhoods would be no more than 10 acres (4.5 ha) in size.

A market study would be required to determine the amount of commercial area that could realistically be demanded for the neighbourhood. The first floor in the neighbourhood node would be retail and the frontages of the store shops would be strongly related to the public realm. Above the first floor would be multiunit residential, professional office, or institutional uses. It is anticipated that the buildings would be between two and four stories in height. Parking would be in keeping with a village-type centre and be sensitively incorporated into the development with a focus on pedestrian-friendliness. Facilities for bicycle parking would be included in convenient locations. Cultural facilities and arts facilities would also be considered as part of the development of the neighbourhood node.

Locational Criteria for Neighbourhood Nodes:

The location of these nodes could either be where an existing commercial or hub of the neighbourhood has already been established. The District would need to conduct a public process in conjunction with the neighbourhoods to identify the location of the mixed use neighbourhood nodes.

The following are offered as criteria for assisting in determining appropriate locations for the neighbourhood nodes:

- One neighbourhood node located in each major neighbourhood
- Located in an area that is central to the neighbourhood
- For existing neighbourhoods, consider using an existing commercial area and/or multifamily area as a neighbourhood node
- Located at or near the intersection of two arterial roads or the intersection of an arterial and a collector road
- Located near where multi-family residential development is currently designated or planned
- Located along an existing or proposed bus route
- Located along a roadway connecting major activity nodes
- Located in proximity to access of the trail system
- Located in an area with sufficient access to sunlight

Policy Directions:

1. Designate lands to allow for a diversity of housing types

2. Designate the mixed use neighbourhood nodes in the Official Community Plan and in the zoning bylaw

3. Designate the area immediately surrounding such commercial nodes for multiple-family residential development for new residential neighbourhoods or if an opportunity exists in existing residential areas

4. Continue allowing secondary suites in single-family areas where there are community water and sewer systems

5. Revise the locational criteria for multifamily sites policy in the OCP (OCP policy 4.5.11) to include proximity to designated neighbourhood nodes

6. Continue requirement in the OCP that subarea plans address provision for local neighbourhood commercial needs in a central location convenient to pedestrians, cyclists, and vehicles (OCP Policy 4.1.12) and that the locational criteria above and the market study be used to inform the land use planning and site selection

7. Discourage or preclude the development of entirely single-family detached subdivisions above a specified number of units.

8. Encourage a mix of lot sizes in predominantly single-detached areas

9. Consider including pocket park and other smaller scale open space facilities as related to a neighbourhood node program.

10. In some cases, a neighbourhood node may be complemented by the inclusion of an elementary school, a recreational amenity, or some other community service/facility.

Recommendations for Further Research and Studies:

1. Conduct a planning and market study to define the preferred locations of the mixed use neighbourhood nodes, appropriate amount, size, and mix of commercial and related services, and phasing to satisfy neighbourhood/sub-district needs.

2. Conduct a neighbourhood consultation process to discuss and consider the nature and location of proposed neighbourhood nodes with neighbourhood associations, community groups, businesses, developers, and the general public

5.3 Phasing and Servicing of Development

5.3.1 Phasing of Development

The District of Squamish has a high projected population growth rate over the next 25 years. The annual compound population growth rate is projected to be 3.9% between 2003 and 2011, 2.6% between 2011 and 2021, and 2.4% between 2021 and 2031. It is projected that between 280 and 320 residential dwelling units will be required each year on average to accommodate the population growth and account for an anticipated declining average household size. The actual number of residential units in a given year will likely fluctuate due to market conditions, but this is thought to be the long-term average based on the population growth rate. In addition, there will be significant demands for commercial, industrial, institutional, and other land uses.

It is the intent of the Growth Management Strategy to guide the rate, location and servicing of development, particularly residential and mixed use development, as a means of accommodating growth in a manner that meets the District's community objectives. In particular, the Growth Management Strategy is intended to minimize municipal infrastructure costs for servicing.

A key strategy available to the District is to guide development through phasing. The purpose of phasing development is to:

- Ensure an adequate circulation system, public facilities, and municipal infrastructure services are provided in a sufficient timeframe to meet the needs of the development and community
- Ensure that development occurs in phases that can be accommodated by the traffic circulation system, public facilities, and municipal infrastructure that is existing or planned to exist at the time of completion of each phase of a major development project
- Ensure that development occurs in an orderly and efficient manner, including the cost effective provision of municipal infrastructure and public facilities
- Ensure that adequate levels of service in existing or newly developing areas are provided and maintained over the long-term

The desired vision for the phasing of growth is to direct growth to areas where existing infrastructure capacity exists as the first priority, then to areas where infrastructure services can be readily extended as a second priority, and lastly to areas requiring major infrastructure improvements. This set of priorities for phasing must also take into account the varied land use and development needs of the community. For example, new single-detached dwelling units typically require new greenfield sites due to their land extensive nature and since only some single-detached development can occur in existing areas through infill and redevelopment. Therefore, it is not possible to fully accommodate the projected growth solely within existing serviced areas.

There are a number of priorities for the District such as revitalizing downtown as part of the Downtown First priority. These are important considerations for the phasing of growth and recommendations are offered below for reinforcing this concept.

The District has a number of tools that can be used to guide the location and timing of development. These tools include the land use designations and policies in the Official Community Plan, zoning bylaw and rezoning requirements, subdivision bylaw, development permit areas, and requirements for preparing subarea plans. The redesignation of land in the OCP has been discussed in the preceding section. Discussions on the use of the zoning bylaw, subdivision bylaw, and development permit areas is beyond the scope of this project. The main focus and tool to be discussed in this section is the requirement for subarea plans.

The following are recommended strategies for implementing a phase development approach that seeks to achieve a balance between meeting the community objectives of the District and the interests of developers.

Recommendations for the Preparation of Subarea Plans:

1. That subarea plans (OCP Policy 4.1.12) continue to be used

2. That the threshold number of dwelling units for the preparation of subarea plans be reduced from 250 units to 100 units

3. That phasing of development be required above a certain minimum threshold of units, such as 100 units, or above a minimum threshold of apartment units (e.g. 50 units) for apartment units proposed outside the downtown and oceanfront lands

4. That the OCP policy include a requirement to identify the phasing of development, including showing which area of the development will be developed first and the locations of each subsequent phase, with a provision to specify the number of lots and units by structural type that are to be included in each phase

Recommendations for Density and Urban Servicing of Development

1. That the District not support urban type densities in Limited Use areas

2. That the District not support the extension of municipal water and sewer in Limited Use areas unless for public health reasons

3. That minimum gross densities for new predominantly residential developments be set for compensating for potentially large portions of land being used for greenways, blueways, and protected areas that may be undevelopable in some new developments. This is intended to ensure the efficient use of land and compact urban form.

Recommendations for Phasing of Multi-family Residential Units:

1. That priority be given to the Downtown and Oceanfront areas for accommodating virtually all new apartment dwellings in order to attract a solid residential population base for revitalizing the area

2. That development of apartment units outside the downtown and Oceanfront areas only proceed after a minimum number of residential dwelling units is reached in the Downtown and Oceanfront areas (e.g. 1,500 or 2,000 total residential units) (there are currently approximately 400 residential units downtown at present)

3. That areas designated for apartment units outside downtown and the Oceanfront areas, such as the neighbourhood nodes, still proceed over time but occur in the latter phases of a large development as part of a subarea plan

4. That the dormitory units at the Sea to Sky University and other multi-family units which are part of the development of the Sea to Sky University campus proceed to meet the housing needs of this new institution

5. That the phasing of development of townhouses strike a balance between revitalizing downtown and ensuring an absorption rate and distribution of units in the downtown, oceanfront, and newly developing areas.

Recommendations for Phasing of Single-family Units:

1. That the District provide guidance on the phasing of large single-detached developments to avoid an oversupply of product coming on-stream at the same time and to provide adequate municipal infrastructure

2. That for larger developments with subarea plans, proceed in phases with the phases closer to roads and urban infrastructure proceeding first

3. That priority order be given to single-detached areas adjacent to existing serviced areas where services can be readily extended

Recommendations for Phasing of mixed use neighbourhood nodes:

1. That the commercial components of the mixed use neighbourhood nodes be developed in response to the market or following the occupation of the surrounding residential development in new neighbourhoods. It may be desirable to phase the commercial development to bring on some commercial development if determined to be economically viable

5.3.2 Municipal Servicing of Development

A significant discussion of the servicing required for the Neighbourhoods and Greenways Concept was included in Section 4. The following is a brief summary and additional recommendations for the District's infrastructure systems.

Municipal Water System

Overall, there is sufficient water supply available from the Powerhouse Springs well, Stawamus River, Mashiter Creek, and future Mamquam wells to service the projected 2031 population. The following is a list of key issues and Core DCC projects related to water supply that should be followed to allow growth and development to proceed:

- Explore and install a fourth well at the Powerhouse Springs well-field to provide sufficient water supply for the 2011 population projection;
- Commission a Water Supply Optimization study to complete a lifecycle cost analysis of groundwater supply versus surface water supply, taking into consideration water treatment legislation;
- Investigate and install groundwater wells in the Mamquam well-field to supply a sustainable yield on the order of 225 L/s (subject to results from the Water Supply Optimization Study); and,
- Construct water treatment facilities as required for the surface water sources (subject to results from the Water Supply Optimization Study)

The existing watermain network, however, has limited capacity and is undersized to provide the fire flow requirements for the 2011, 2021, and 2031 growth horizons. In particular, sufficient fire storage, fire flows and residual pressure cannot be met for future developments within the Downtown, Industrial Park, and Garibaldi Estates area.

Several water system improvement projects have been identified to ensure adequate pressures and fire protection requirements can be met throughout the District. The improvement projects focus on increasing feeder main capacity from the water supply sources to the Downtown and Garibaldi Estates areas, as well as adding reservoir storage (for fire protection) in both of these areas. The projects and their timelines are discussed in Section 4.

The following are additional recommendations for the municipal water system:

1. Review the current Water DCC rates and determine whether an increase is necessary to fund the recommended improvement works.

2. Commission a Water Supply Optimization study to complete a life-cycle cost analysis of groundwater supply versus surface water supply, and identify an ultimate supply configuration that considers future water treatment legislation.

3. Explore and install a fourth groundwater well at the Powerhouse Springs well-field, to provide sufficient water supply for the 2011 population.

4. Improve fire flows to Downtown and Garibaldi Estates, through construction of a Downtown reservoir and upgrading the Loggers Lane feeder main

5. Require water meters in all new developments in order to conserve water and prolong the life of the groundwater supply for community wells

6. Provide a voluntary conversion program to install water meters in existing development with the intent of charging on a usage basis throughout the community

7. Designate lands around the community wellheads with a land use that ensures that the municipal drinking water quality is protected

Municipal Sanitary Sewer System

At present the Mamquam Wastewater Treatment Plant is being upgraded to provide a design capacity to service a population of 30,000. This design capacity is believed to be adequate for providing sewage treatment for the projected population in 2031, and additional plant capacity can be optimized if Inflow and Infiltration reduction measures are implemented.

The study identified the following prioritized list of key issues and Core DCC projects, which should be followed to allow growth and development to proceed:

- Upgrade Mamquam Road trunk sewer from Highlands Way South to Government Road;
- Upgrade 750mm / 900 mm trunk sewer on Government Road, from Harris Road to the Mamquam Wastewater Treatment Plan, eliminating Lift Station M6;
- Install a gravity sewer along Cheakamus Way, Tantalus Way and Garibaldi Way to Government Road;
- Extend the Mamquam Road trunk sewer from the Sea to Sky University to Highlands Way South; and
- Install the new 750mm Downtown Trunk line from east end of Pemberton Ave to Central Pump Station.

Section 4 identifies the sanitary sewer system projects and timeline.

Storm Drainage System

Storm sewer infrastructure is necessary for new development areas and should be designed to integrate into the existing storm sewer network where possible. A series of Core Drainage DCC Projects are identified in Section 4, including their timeline.

The following are additional recommendations for the storm drainage system:

1. Commission a District Wide Stormwater Management Study that reviews all proposed development plans and recommends District Wide drainage improvements and stormwater management BMP's; including detention pond sizing and site selection.

2. During the PLA and subdivision development stages, detailed Stormwater Management Plans should be prepared by the proponent and submitted to the District for review. These stormwater management plans should identify the capacity of the downstream drainage system and overland flow routes; incorporating the impacts from all future development plans in the watershed.

3. Commission an environmental creek survey to determine the fish classification of all watercourses, and delineate the appropriate setbacks required for development near rivers, creeks, and marshes.

Transportation and Circulation System

A number of specific road network improvements at the 20,000 population horizon and 30,000 population horizon are identified in Section 4.

There are a number of additional recommendations for the transportation and circulations system as follows:

1. Establish a multi-modal transportation terminal in the downtown area

2. Encourage increased public transit service in the Sea-to-Sky corridor, with intercity public transit, intercity bus, a passenger ferry to downtown Vancouver, and rail service being the primary options

3. Improve frequency and level of service of public transit

4. Establish a secondary access to downtown

5.3.3 Fiscal Considerations and Strategy for Municipal Infrastructure and Servicing

From a fiscal perspective, the objective of the Growth Management Strategy is to:

1. minimize municipal, capital, replacement, operation and maintenance costs of servicing residential development and to generate sufficient revenues from all sources to pay for the lifecycle costs of municipal infrastructure and community services and maintain adequate reserve funds, and
2. support and reinforce the preferred land use pattern for the District.

The District's Growth Management Strategy has been designed to minimize municipal infrastructure costs through a compact urban form, directing growth to already serviced areas such as downtown, and ensuring an orderly and efficient phasing of growth that is contiguous to existing serviced areas.

The general fiscal benefits of the Neighbourhoods and Greenways Concept (estimated Infrastructure Cost of $98 Million) versus the Dispersal Option (estimated Infrastructure Cost of $105 Million) according to the order of magnitude financial assessment of infrastructure in Section 4 include:

- $1.7 million savings in water system improvements
- $2.6 million savings in sanitary sewer improvements
- Approximately the same costs for storm drainage improvements (extra $200,000 required for Neighbourhoods and Greenways Concept compared to the Dispersal Option); and
- Approximately the same costs for transportation improvements for both options.

The higher costs are primarily associated with trunk sewers, wastewater treatment, and water supply and reservoirs for providing servicing to North and South Squamish.

Changes to land use affect a variety of municipal expenditures and revenues. At the time a land use decision is made and a land use plan implemented through the development approvals process, the District assumes the cost of supporting the roads and municipal infrastructure from that plan in perpetuity. Therefore, the District needs to explicitly consider the fiscal consequences of its land use choices.

Present policy for the financing of infrastructure in Squamish is done through a range of mechanisms including DCC's, contributions from developers as part of development, latecomer agreements, capital reserve funds, private/public partnerships, senior government cost sharing and municipal taxation.

The new DCC Bylaw adopted in 2005 reflects the anticipated infrastructure expenditures between 2005 and 2014, class (residential by density type, commercial/institutional and industrial) to better reflect actual projected costs, as well as current and projected development growth activity. In addition, the Bylaw recognizes the need to differentiate between the Downtown area and other development areas so that downtown development is not deterred, reducing charges by 20%.

Recommendations:

1. That the District consider lifecycle costs for municipal infrastructure and community facilities and services when making land use decisions

2. That the District consider revenue generation and municipal infrastructure cost when making significant land use decisions with the general intent that all major developments generate more in municipal revenues than are incurred as lifecycle costs for the municipal infrastructure and public facilities and services

3. That the District require a fiscal analysis of costs and revenues to the municipality from very large developments (e.g. over 300 residential units) that are proposing to locate on greenfield sites

4. That the District continue to use Development Cost Charges to pay for off-site capital costs

5. That the District continue a policy of lower Development Cost Charges in the Downtown to support downtown revitalization

6. That for the foreseeable future, DCC's and capital projects be monitored annually and updated as considered appropriate due to the number of development projects planned or in the works

7. That an adequate municipal infrastructure capital and replacement fund be maintained to pay for the capital costs of growth and the replacement cost of aging municipal infrastructure

8. That the District establish a differential user fee for people who live outside Squamish who use the municipal services in Squamish but do not pay municipal taxes, such as for the library, recreation centres and facilities, park and playing fields, and other municipal services

5.4 Additional Strategies and Recommendations

The following are a set of strategies and recommendations that are intended to complement the Neighbourhoods and Greenways Concept. These strategies and recommendations are broader than the other recommendations and are less spatial that the recommendations elsewhere in this report (i.e. they apply to broad areas within the District).

1. Consider the recommendations from the Downtown Concept Plan being developed by Smart Growth on the Ground and adopt and implement the appropriate recommendations

2. Consider the recommendations from the Affordable Housing Strategy and adopt and implement the appropriate recommendations from the strategy

3. Complement the Affordable Housing Strategy with a policy to encourage energy and water efficiency for new home construction and renovations to reduce household operating costs for energy and water bills

4. Foster R2000 and other efficient residential design for new residential homes in the District

5. Conduct a District-wide residential market study every two or three years to ensure that there is an adequate supply of housing and to mitigate otherwise inflationary pressures on housing prices.

6. Continue the current and planned phases of the wind energy initiative and implement wind turbines

7. Work towards attracting businesses that develop or manufacture alternative energy, renewable energy, or green technologies

8. Develop a municipal utility that includes energy and land development initiatives

9. Conduct a study for the feasibility of establishing an eco-industrial park or eco-industrial network

5.5 Recommendations for Squamish Development-related Bylaws

The following are recommendations to specific Squamish Bylaws. Together with the OCP, the bylaws are tools that Squamish employs to assist in guiding and determining the most appropriate density and use of land within the District. A review of the following Bylaws was undertaken relative to the Growth Strategy conclusions and recommendations.

Zoning Bylaw No. 1342, 1995 (as amended)

The Zoning Bylaw has formed a solid base for the control and guidance of land development and been amended, and consolidated as considered appropriate and necessary during the last 10 years.

Given the present increasing land development activity, looming potential growth pressures, present review of the OCP and completion of this study, it is an opportune time to undertake a comprehensive review of the Zoning Bylaw so that staff and Council have all of the major land use tools completely upgraded to deal with future growth to 2031.

It is recommended that the District schedule a comprehensive review of the Zoning to assess the amount and nature of changes necessary relative to this Growth Management Strategy and to ascertain the need for the amount and nature of changes necessary to provide optimal control of future land development.

Subdivision and Control Bylaw No. 1767, 2003

Subdivision and Development Control Bylaw No. 1767, 2003 is a comprehensive rewrite of the previous Bylaw, but has not been adopted at the time of writing of this Study.

A review of the Bylaw relative to the Growth Strategy Study does not reveal any required technical adjustments, necessary revisions or impediments with respect to the Study recommendations.

Sign Bylaw No. 825, 2000 (as amended), and Sign Design Guidelines 2003

The existing Sign Bylaw and companion Design Guidelines are comprehensive in nature and appear to be applied with consistency. Where unique circumstances warrant or innovative design or approaches are desired, change is dealt with through variance under a Development Permit or variance request through Council. This approach is appropriate and flexible and there is no apparent impact related to or required as a result of the recommendations of the Growth Management Strategy Study.

Board of Variance Bylaw No. 507 (as amended)

A review of this Bylaw indicates that there is no apparent impact related to or required as a result of the recommendations of the Growth Management Strategy Study.

Development Procedure Bylaw No. 1049, 1994 (as amended)

A review of this Bylaw indicates that there is no apparent impact related to or required as a result of the recommendations of the Growth Management Strategy Study.

Mobile Home Park Bylaw No. 910 (as amended)

Lands occupied by or zoned for mobile home park trailers or pre-manufactured homes offer an affordable alternative and lifestyle to conventional residential dwellings. It is noted that present development pressures relative to lands that accommodate mobile trailers and modular homes are causing concerns for existing residents, as well as The District in terms of the future availability of a supply of land suitable to accommodate these units.

It is recommended that as part of the District's Affordable Housing Study, that this Bylaw and the lands designated for Residential Manufactured Home Parks under the Zoning Bylaw be reviewed in respect to existing and future land supply and location in relation to the Growth Management Strategy, and that policies and Bylaw adjustments be recommended and implemented as considered necessary to guide this use.

5.6 Annexation

Interest in Squamish land development opportunities is high, and the resulting potential for growth is evident. However, as noted elsewhere in this study and as evidenced in the District's desire to follow a Smart Growth, densification approach to accommodating development, in the near term there is little pressure or need to consider annexation of adjacent lands for growth beyond the 2031 timeframe of this report.

However, there is a lack of significant supply of long-term land suitable for development within the District boundaries. Together with the present upgrading of Highway 99, and the anticipated present and future significant growth and development throughout the corridor, particularly in nearby areas such as Brohm Ridge, Britannia Beach, Porteau Cove and Furry Creek, the District may wish to revisit the annexation in the next decade or two.

The following are recommendations for further research for annexation:

1. By 2015, that the District prepare a study concerning the medium and long term needs for developable, subdividable land for all land use categories. The study should contain policy and strategy framework concerning future supply, such as having supply for periods such as 25 years.

5.7 Regional Context Statement

The Squamish Lillooet Regional District (SLRD) is presently in the process of preparing a Regional Growth Strategy RGS) with completion anticipated in 2005 or 2006. The stated purpose of the RGS is to provide strategic direction and to define regional scale, shared objectives, and establish a policy context for the SLRD, its member municipalities, the Province and First Nations.

An RGS is required to be adopted by the SLRD under Part 25 of the Local Government Act and is intended as a policy blueprint for the further evolution of the SLRD, and to promote human settlement that is socially, economically and environmentally healthy and that makes efficient use of public facilities and services, land and other resources.

Furthermore, under Section 866 of the Local Government Act, Squamish as a participating municipality in the RGS process is required to prepare and include a Regional Context Statement to identify the relationship between the OCP and matters noted in the RGS and how the OCP is to become consistent over time with the RGS. The Regional Context Statement is prepared by the municipality as an amendment to its OCP, or as an additional section in a new OCP. Each member municipality is required to prepare a Regional Context Statement within two years of adoption of an RGS.

A Regional Context Statement is a key part of the implementation mechanism of an RGS. The legislation requires that the Regional Context Statement identify the specific policies and actions proposed that would either affect the municipality or require action on part of the municipality.

It is not possible to prepare the Regional Context Statement in advance of the adoption of the Regional Growth Strategy. It is recommended that a section near the front of the update OCP be reserved for the Regional Context Statement. When the policy direction and content of the Regional Growth Strategy become clearer, the District will want to consider the statements to include in the Regional Growth Strategy.

5.8 Coordination with First Nations

While First Nation's holdings within District boundaries are relatively small, some of those holdings are strategically located and could impact future development policies and development decisions. The current OCP addresses the need for a cooperative relationship with the Squamish Nation. Of particular importance is addressing issues of mutual concern, such as servicing.

In addition, as part of the 2010 Legacy Agreement, there is the potential for a significant allocation of additional lands outside of, but adjacent to present District boundaries, which could have an impact on future growth decisions, patterns and municipal economics. There is also the ongoing potential for future land claims and settlement agreements. Other potential impacts involving First Nations include the development of Squamish Nation lands at Porteau Cove.

With all of the growth pressures and potential for change both inside and outside of District boundaries, together with the potential for improved dialogue through the RGS, it is recommended that the District review its present approach and protocols with respect to First Nations. In particular the District should determine the nature and timing of a formal dialogue concerning both the future use of First Nation lands, and Squamish initiatives concerning lands they formally control.

6.0 MONITORING AND REVIEW

District to assess its progress and determine whether its implementation actions are moving the District in its desired direction. In addition, monitoring will also gauge trends and the rate, amount, and nature of change occurring in the District.

The most common way to conduct monitoring is through indicators. Indicators are measures that reveal a condition, trend, or an emerging issue. Indicators can reveal if the District is moving towards sustainable growth management or away from it. The District has a suggested set of indicators included in the Monitoring Section of its OCP. However, these indicators are not tracked or reported on regularly. Therefore, it is recommended that a monitoring program be established to enable this to occur regularly and efficiently.

An important step for indicators is to establish the baseline. Baseline data is information collected before a program, policy, or development begins. The baseline data are used in future years to assess the change and progress from the reference point.

It is recommended that a regular reporting publication be prepared which summarizes the results of the monitoring program. With reporting, the District will evaluate and periodically report on population, development, economic, environmental, and social trends in the District and to communicate this to elected officials, stakeholders, and the public.

To facilitate the monitoring process, it is recommended that:

- The population projection be reviewed every two years and updated at least every 5 years

- The District conduct its own census on, or in between, Census of Canada census years.

- The District select and develop a set of annual and 5-year economic, social, and environmental indicators and establishes baseline values for this, possibly for the year 2001 or 2006

- That the District report on its indicators annually (for a limited set of indicators) and every 5-years (for a complete set of indicators)

- The District continue to develop its GIS-capabilities and that this be kept up-to-date, particularly the cadastral layer and the underlying database

- The District monitor natural hazards and develops early warning systems for detecting hazard events

It is also recommended that the District researches and acquires a GIS-based system for understanding and analyzing different development options for the District. This is not monitoring, but understanding the fiscal, economic, environmental, and social consequences of different development options and choices. Some of these decision-support systems can also be used to visualize different development choices and used in public interaction processes.

Finally, it is recommended that the District develop a system for assessing the residential development capacity of the District and that this be updated as new development applications are received. This will give a snapshot of where and how much development activity is proposed. This system can then be used to track the remaining development capacity in the District and how efficiently land is being used.

By reporting back on the progress in implementing the Growth Management Strategy and trends, the District will be able to determine how well the strategy is being implemented and to identify steps to refine the implementation of the strategy based on public feedback.

APPENDIX A: Development Constraints

A constraints mapping exercise was conducted to identify areas where urban expansion is not appropriate or lands that are suited for only a limited range of land uses. A series of individual map "overlays" were generated using a Geographic Information System and a combination of all the constraints were used to determine lands that are not suitable for urban development. The residual is the unconstrained lands in the District. The following are the individual constraint "layers" which are described below. A composite map is included in the main body of the report as Figure 3-1.

First Nation Lands

The Squamish Nation was the first peoples to live in the Squamish area. The Squamish are Coast Salish people. It is recognized that the Squamish Nation have asserted within their traditional territories, aboriginal rights and title and treaty rights currently undergoing formal definition through the modern treaty process. It is recognized that the First Nation land areas may change in the future. Currently, there are six Indian Reserves that are wholly or partially located inside or adjacent to the District of Squamish boundaries, which are under the jurisdiction of the Squamish First Nation. These lands are outside the jurisdiction of the District of Squamish and are therefore treated as neighbouring jurisdictions. While there may be common agreements between the municipality and the First Nation to address issues such as servicing, these lands are outside the scope of the Growth Management Strategy.

Physical Topography: Steep Slopes and Elevations

A key feature that limits urban development is steep slopes. With Squamish's physical terrain, there are steep slopes, including cliff faces, canyons, and areas of very steep slopes. Slopes that are greater than 40% are considered unsuitable for any type of urban development. Slopes that are greater than or equal to 25% and less than 40% are considered to have a limited range of uses and would limit the densities, such as residential units that would be possible on these slopes. Fig. A-1 shows the topographical constraints and identifies these slope thresholds.

Another physical feature where development is possible, but may be significantly more expensive to develop and service in areas above a certain elevation. In addition, areas above a certain elevation may have restricted access due to the surrounding slope constraints.

The District of West Vancouver's Official Community Plan, for example, indicates that 1200 feet (366 metres) is the upper limit of development, with a process to allow for community discussion for development of lands above this level.

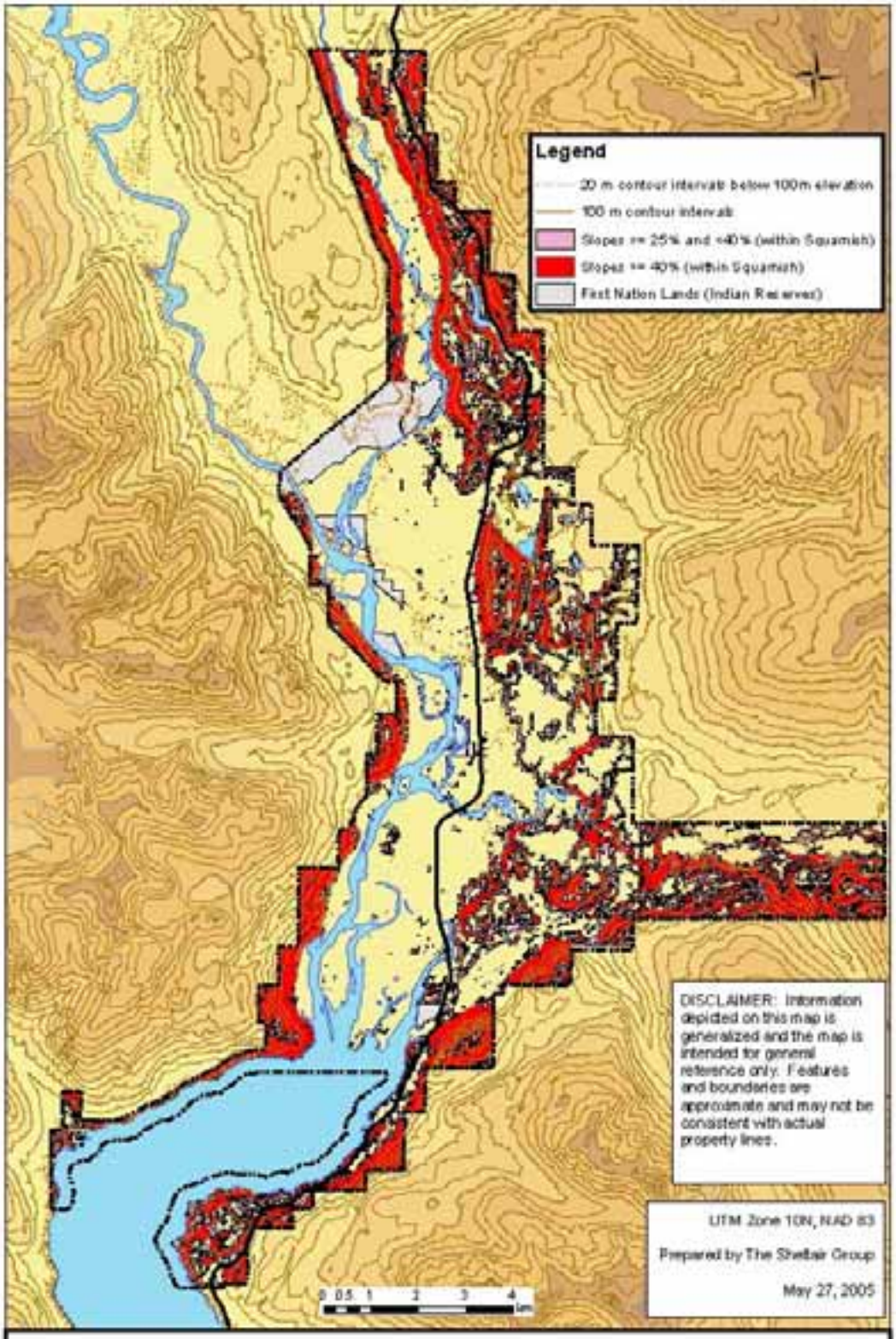


Fig. A-1: Topographical Constraints Map

The District of West Vancouver indicates that land above 1200 feet in elevation is to be preserved as forest for recreation and open space purposes.

For the purpose of identifying areas that are considered to be not suitable for urban development out to 2031, an elevation of 300 metres has been used. This also takes into account that water supply reservoirs need to be approximately 30m above the elevation of the development that these reservoirs service. While it is possible for development to occur above this to happen, it is believed that other areas of the District would be developed first due to lower costs and that these lands would not be developed before 2031.

Natural Hazards: Flooding and Debris Flow

The District contains many natural hazards as a result of its geology, topography, and geographical location.

There are five major rivers that flow through Squamish that have flood hazard potential:

- Squamish River
- Mamquam River
- Cheakamus River
- Cheekeye River, and the
- Stawamus River

In addition, Howe Sound high tides are a potential source of flooding in downtown Squamish.

Figure A-2 shows the areas that are considered to be in the 200-year floodplain. The map shows areas where development is not permitted as well as areas where development is permitted but certain restrictions apply. For more information, refer to the report Flood Hazard Management Plan by Klohn Leonoff (1994).

Another major hazard in Squamish is debris flow areas. The Cheekeye Fan area is shown in Figure A-2. There are six different management zones for the Cheekeye Fan. New development in all zones, except for Zone 4, may involve a restricted range of uses. For more information, refer to the report and Policy and Procedure Manual – Cheekeye River Terrain Hazard and Land Use Study. Natural Resources Canada is currently conducting a multi-hazard risk analysis of the District of Squamish, including the Cheekeye Fan area.

There are two other debris areas shown in Schedule D of the OCP – the area around Alice Lake Provincial Park and an area east of Mashiter Creek and north of the Mamquam River. Digital GIS files for these debris flow hazard areas were not available for the constraints overlay process.

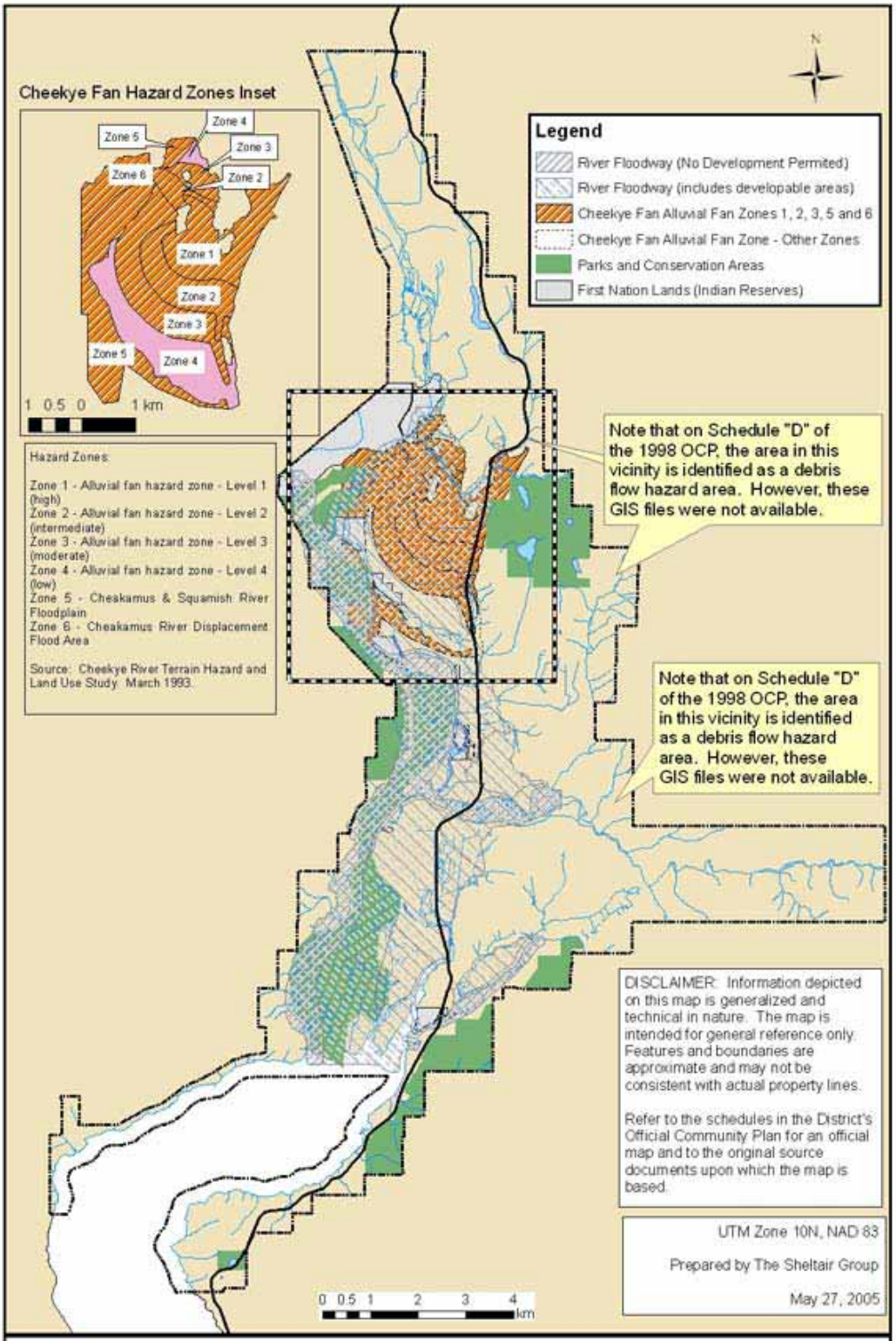


Fig. A-2: Flood and Debris Flow Hazard Areas

Natural Hazards: Earthquakes

Natural Resources Canada is currently conducting seismic hazard mapping of the District of Squamish.

While there are risks associated with potential volcanic activity, the OCP indicates that these risks are considered to be very low. These were not taken into account as part of the constraints mapping.

Agricultural Land Reserve

The District of Squamish contains 790 ha of lands that are in the Agricultural Land Reserve. These lands are regulated by the Agricultural Land Commission and the intent is for high-capability agricultural land to be used for agricultural purpose. These lands are therefore considered to not be available for urban development. The location of lands in the ALR is shown in Fig. A-3.

Protected Natural Areas and Setbacks from Environmental Features

There are constraints for future urban development due to the protection status of existing parks and conservation areas as well as natural features.

The following features are not available for any type of urban development:

- Provincial, regional, and municipal parks
- Conservation areas and ecological reserves
- Conservation portion of the Squamish Estuary

In addition, there are areas that have setbacks around environmental features that reduce the amount of available land for development. In July, 2004, the BC Ministry of Water, Land and Air Protection introduced the Riparian Area Regulation which restricts development within certain setbacks from watercourses. It will replace prescriptive setbacks with a site-specific scientific assessment of the effect of a proposed development on habitat for fish. It is to become effective in June 2005. The regulation requires a riparian assessment area as defined as a 30 metre strip on both sides of a stream and an assessment must be conducted by a Qualified Environmental Professional. This regulation applies to streams that provide fish habitat including watercourses, lakes, and wetlands.

For the purpose of the constraints analysis, the following simplifying assumptions were made for accounting for riparian features and setbacks. While development can still occur within the riparian area if it is shown to not be harmful, disruptive, or destructive to fish habitat, these assumptions are made to simplify the analysis:

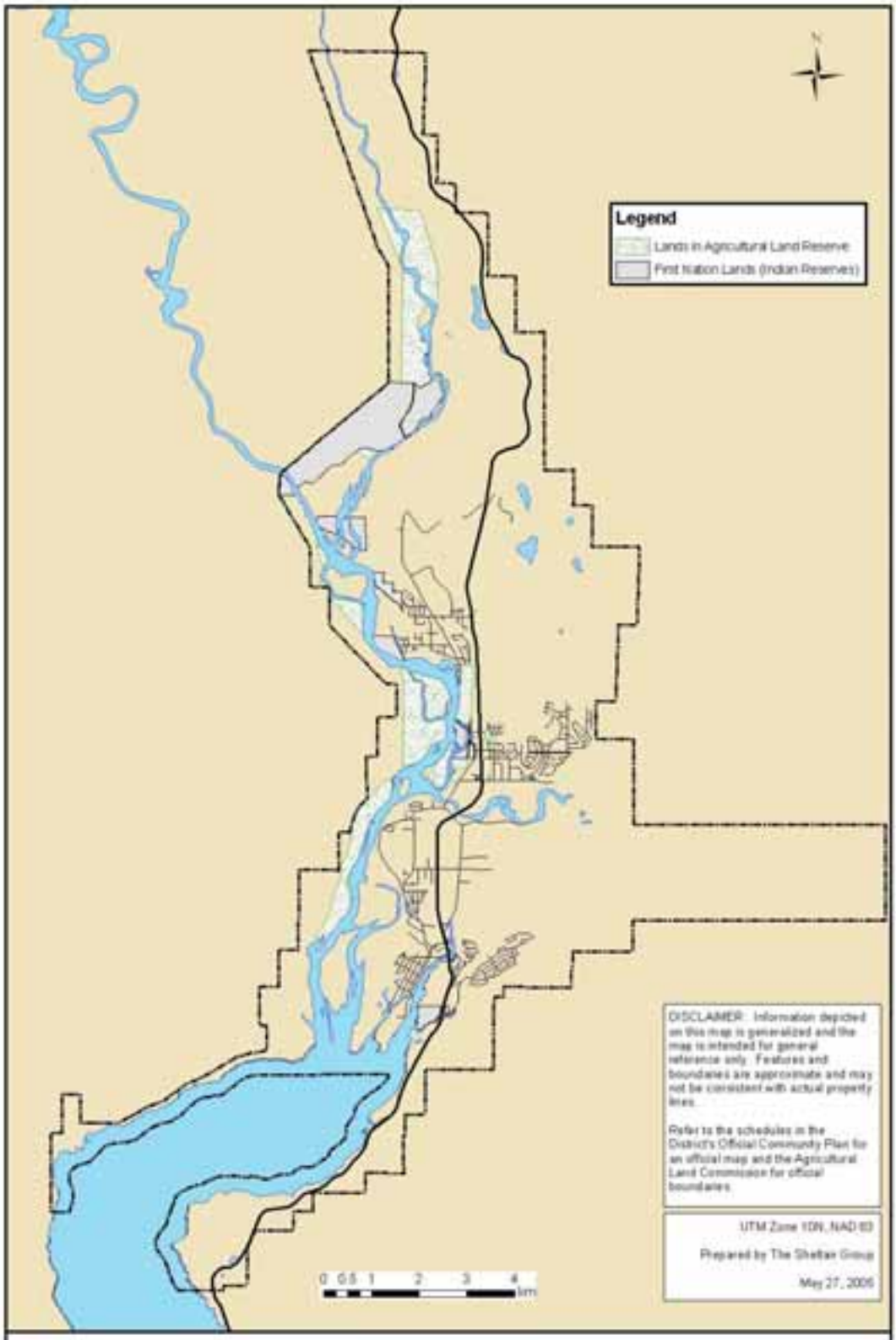


Fig. A-3: Lands in the Agricultural Land Reserve

- An assumed 15m setback on both sides of non fish-bearing streams
- An assumed 30m setback on both sides of fish-bearing streams
- An assumed 30m setback around wetlands

It should be noted that the District of Squamish is planning to update its mapping of wetlands, which will result in better mapping than currently available for this project.

Figure A-4 shows the protected natural areas and the amount of land that would be not available for development with these setbacks in place.

The map also shows 27 Important Natural Areas of Squamish that were identified by the Land for Nature initiative by the Federation of BC Naturalists (Important Natural Areas and Streams of Squamish). While mapping the spatial extent for delineating these areas and the most sensitive ecosystems was not available, the map shows important areas requiring protection. These important natural areas were not included in the constraint mapping but are flagged. It is recognized that the District would benefit from more accurate mapping similar to that conducted for the Georgia Basin's Sensitive Ecosystem Initiative.

Other Constraints

Trails are also a constraint for development. There is an extensive official and unofficial trail system in Squamish. The Official trail system is identified in Schedule "I" of the Official Community Plan.

The District of Squamish is developing Trail Standards to provide consistent guidelines and standards for trail development and maintenance for the District of Squamish and other potential trail builders in the community. It identifies several types of trails (e.g. primary/corridor, area/collector, and neighbourhood) which have specific standards. One of the standards concerns the Right-of-Way. The preferred Right-of-Way ranges from 4 to 7 metres, depending on the type of trail. A buffer assumption is included in the Land Use Allocation Model for this variable. The default assumption is that there is a 10 metre buffer on either side of a primary/corridor trail (to account for landscaping and a buffer from development), and a 5 metre buffer on either side of area/collector and neighbourhood trails.

Water Wells – According to the Province's Wellhead Protection Toolkit, the default buffer radius for the capture zone around the wellhead is 300 metres.

Finally, there are areas that may not be accessible because of steep slopes surrounding an area. For example, a plateau that is surrounded by steep slopes may not be practically accessible. These were not analyzed.

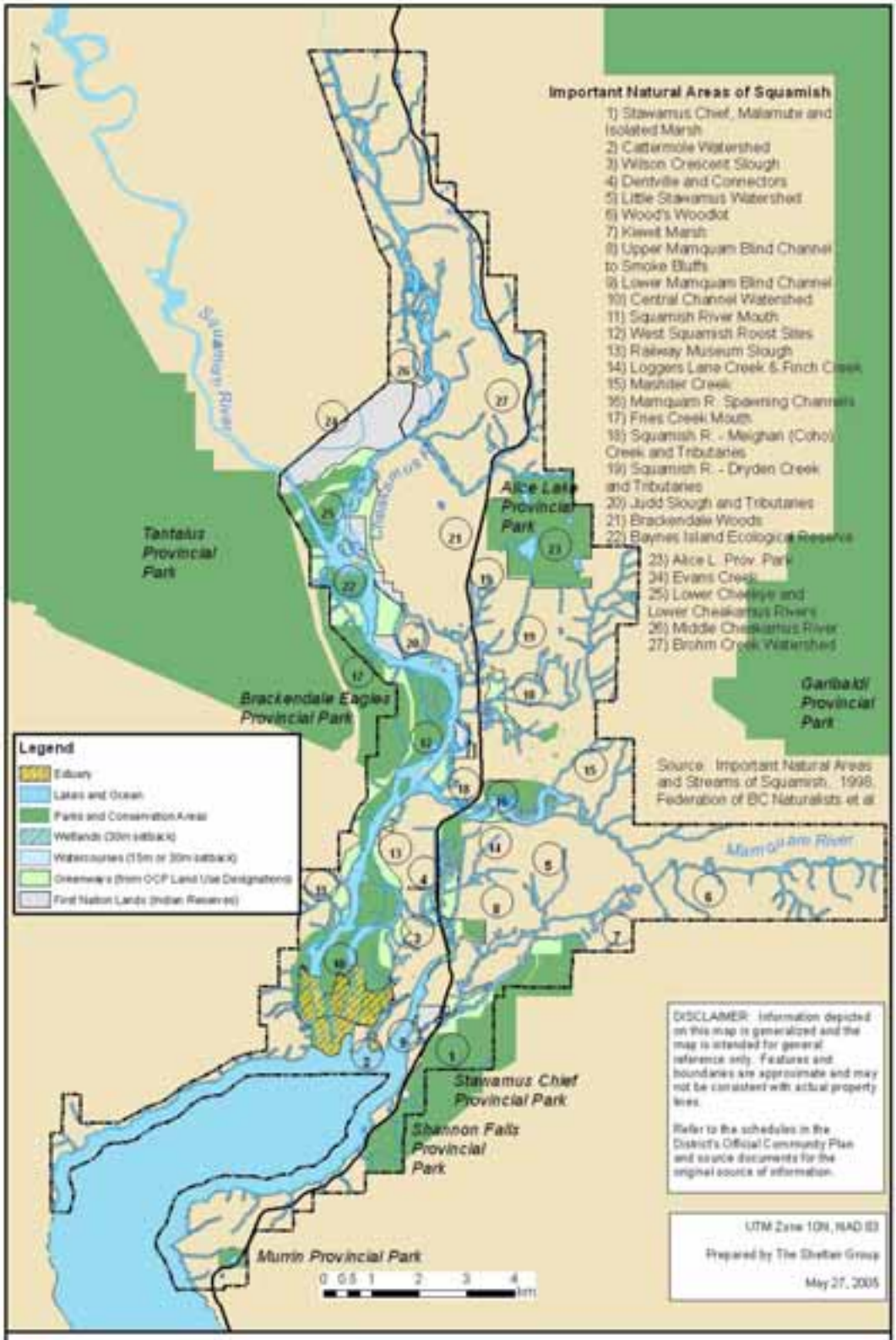


Fig. A-4: Protected and Important Natural Areas

APPENDIX B: Summary of Population Projection

Projection Name: **Base Case Population Projection**

Main Assumptions: BC Stats PEOPLE 29 for Local Health Area 48 (Howe Sound) used to underly projection
Age breakdown for Squamish is same as Local Health Area

Summary Results: Population in 2003 (Base Year): 14,954 (15,390 in 2004)
Population in 2031: **33,100**

Annualized Compound Population Growth Rate:

2003-2011:	3.9%
2011-2021:	2.6%
2021-2031:	2.4%
2003-2031:	**2.9%**

Average Additional Population Per Annum:

2003-2011:	660
2011-2021:	580
2021-2031:	710
2003-2031:	**650**

Detailed Results:

	2003		2011		2021		2031	
Total Population	14,954		20,300		26,100		33,100	
Median Age	34.2		36.5		35.9		38.2	
Pop. by Age Cohort:								
Ages 0-4	960	6.4%	1,020	5.1%	1,490	5.7%	1,880	5.7%
Ages 5-9	930	6.2%	970	4.8%	1,180	4.5%	1,740	5.3%
Ages 10-14	920	6.1%	1,000	4.9%	940	3.6%	1,460	4.4%
Ages 15-19	850	5.7%	1,250	6.2%	1,170	4.5%	1,420	4.3%
Ages 20-24	1,060	7.1%	2,000	9.9%	2,210	8.5%	2,230	6.7%
Ages 25-29	1,400	9.4%	2,000	9.9%	2,920	11.2%	2,930	8.8%
Ages 30-34	1,580	10.6%	1,450	7.2%	2,720	10.4%	3,020	9.1%
Ages 35-39	1,450	9.7%	1,630	8.0%	1,950	7.5%	3,000	9.1%
Ages 40-44	1,400	9.4%	1,710	8.5%	1,460	5.6%	2,830	8.5%
Ages 45-49	1,230	8.2%	1,770	8.7%	1,830	7.0%	2,220	6.7%
Ages 50-54	1,000	6.7%	1,570	7.7%	1,900	7.3%	1,710	5.2%
Ages 55-59	770	5.1%	1,210	6.0%	1,760	6.8%	1,880	5.7%
Ages 60-64	500	3.4%	990	4.9%	1,430	5.5%	1,790	5.4%
Ages 65-69	310	2.1%	600	3.0%	1,080	4.1%	1,640	4.9%
Ages 70-74	250	1.7%	420	2.1%	860	3.3%	1,280	3.9%
Ages 75-79	160	1.1%	300	1.5%	510	2.0%	910	2.7%
Ages 80-84	100	0.7%	190	0.9%	330	1.3%	650	2.0%
Ages 85-89	50	0.3%	120	0.6%	210	0.8%	350	1.0%
90 Plus	20	0.2%	50	0.3%	110	0.4%	210	0.6%

APPENDIX C: Public Meeting Notes

Squamish Growth Management Strategy Workshops
-February 23 and 24, 2005-
-Squamish Library-

1) Land Development and Key Property Owners Group

Date: February 23, 2005
Time: 4:00 – 6:00 p.m.

In attendance:

Name	Company	Land Interest
Wilf Dowad	W. Dowad Ltd.	Developer
Mike Fitzsimmons	Land and Water BC	Representing the Crown
Terry Partington	Sea to Sky University	University / Developer
Mohammad Afsan	Advisory Committee / Self	General
Gordon Harris	Harris Consulting	Merrill & Ring
Peter Arbuckle	Arbuckle Dev. Services Ltd.	Merrill & Ring
Michael Ferveira	Solterra Dev. Corp.	Developer
Mike Bosa	Solterra Dev. Corp.	Developer
Douglas R. Day	University Heights, Ravens Plateau	Developer
Larry Murray	Oceanfront Corp.	Developer
Kim Anema	District of Squamish	
Mohammad Afsar	Squamish Town Centre Association	

Planning Dept. Staff and Consultants in Attendance

Name	Organization
Heather Evans	District of Squamish
Phil Boname	Urbanics Consulting
Bob Heaslip	Development Planning Strategies
Lyle Walker	The Sheltair Group
Scott Neuman	Earth Tech
Brian Windle	Earth Tech

Presentation:
Phil Boname of Urbanics welcomed everyone and thanked them for their interest in the project. He introduced the Growth Management Strategy team and process, and identified the various significant physical constraints affecting the District. He also described the population and housing projections for the District.

Mr. Boname then described seven growth options for the District:
1. Dispersement (sprawl) within Existing District Boundaries (Status Quo)
2. No Growth/Slow Growth
3. Village Approach (community of communities)
4. Greenway Concept
5. Downtown First (Directed Growth) Approach
6. Urban Containment Approach(s), and
7. Annexation (Controlled Expansion) Approach.

He also noted that the next workshops are scheduled for March 16 and March 17. The group was then invited to ask questions and provide comment and discussion.

Discussion Notes:
- For the no/slow growth option, suggested not spending much time on this and not to consider further
- Village connotation
    - Indicated that there is a danger of creating different communities
    - Suggested using the name “neighbourhoods” for this option
- For annexation option
    - Indicated that we need to know how much land is needed
- Suggested taking the options in combination or creating a hybrid option
- Infrastructure and affordability
    - Need to do a cost/benefit to the district
    - Discussion re the horizontal vs. vertical “growth” concepts
    - The vertical “concepts” are the Village and Downtown First concepts
        - These concepts are more consistent with Smart Growth on the Ground
- Implementation of the concept
    - Phase developments (e.g. Langley Township) vs. ad hoc development
- Neighbourhoods are already emerging
    - Golf course neighbourhood
    - Climbing bluffs neighbourhood
    - Marina
    - Downtown
    - Shannon Falls
    - Env. / Recreation oriented pursuits
    - Want to have distinct neighbourhoods
- Discussed the role of the highway

    - The highway is one of the largest contributors to greenhouse gas emissions
    - Issue re length and width of highway
- Discussed the by-pass idea and the idea of service roads parallel to the highway and roads going East-West
- Issue re traffic bypassing the Downtown
    - E.g. Fort McLeod employed a bypass only for trucks so that the automobiles still go through their downtown
- Discussed issue of the highway retail and how it can impact or undermine Downtown
- Importance of Downtown to the economy
    - Downtown is located in a spectacular setting
    - Not much development has really been done in Downtown recently
    - Problem is that the lots are too small
    - Suggested idea of giving developers/property owners a bonus if they consolidate lots (e.g. consolidation of 4 lots or 8 lots)
- Issue re 8 storey buildings
    - These can't be built on small lots
    - Also for high rise apartments – building this type of product may not be economic due to lower rents

- For Downtown First, there is a cost
    - Won't be able to afford all infrastructure at once
- Potential models for Downtown include towns in England and Germany
- Have an opportunity to reinvent downtown
    - E.g. transform the downtown including its architecture
- Need to change bylaws and ways of doing things
- With population growth, the culture will change
- One person suggested that Downtown First is the preferred option, but it is not realistic
    - A participant suggested the idea of "Downtown Too"
- Council decisions sometimes don't support Downtown First (e.g. policies in OCP)
- Noted that Downtown Commerce will grow simply because the population in the rest of the community increases
- Densification is vital to make Downtown successful
- A social, civic, and cultural focus is needed for downtown and the whole community
- Also need to make downtown a destination (e.g. Newport Village in Port Moody)
    - However, density can create some problems; one developer wanted to see more space (e.g. yard space for homes)
    - It was noted that good design and offering different lot configurations can address some of the concerns around density
    - It was also noted that a benefit of increased density is increased greenspace

- Compared the potential of Squamish to Carmel and Tiburon in California
- Downtown needs a major protection system from the ocean (e.g. dyke)
    - E.g. threat of a tsunami
    - Need to raise vital infrastructure (e.g. mechanical systems and cables)
    - Suggested having the base building built using concrete and to potentially raise the height of land of entire blocks
    - Noted that can artificially raise the parking level (e.g. Bow Valley corridor)
- Suggested a commuter ferry service and focus on rail infrastructure
- Discussed balance between supply and demand
    - At times, developing was uneconomic in Squamish
- For non-contiguous development
    - There's an issue re servicing costs
    - There will also be social and environmental costs
- Concerned about greenspace
    - Where is it going to come from?
- Downtown parking footprints
    - Suggested having soft or hidden parking with greenspace on top
    - E.g. Block R
    - Issue re lot consolidation and parking
- Noted Central Place Theory
    - Need to find the central place of Squamish

2) Downtown-related Interests Group

Date: February 23, 2005
Time: 7:00 – 9:00 p.m.

In attendance:

Name	Organization
Donna Wall	Chamber of Commerce
Jane Iverson	Nothing Finer & VP Squamish Town Centre Association
Dan McRea	Community Futures Development Corporation

Planning Dept. Staff and Consultants in Attendance

Name	Organization
Heather Evans	District of Squamish
Phil Boname	Urbanics Consulting
Bob Heaslip	Development Planning Strategies
Lyle Walker	The Sheltair Group
Scott Neuman	Earth Tech
Brian Windle	Earth Tech

Presentation:
Phil Boname of Urbanics welcomed everyone and thanked them for their interest in the project. He introduced the Growth Management Strategy team and process, and identified the various significant physical constraints affecting the District. He also described the population and housing projections for the District.

Mr. Boname then described seven growth options for the District:
1. Dispersement (sprawl) within Existing District Boundaries (Status Quo)
2. No Growth/Slow Growth
3. Village Approach (community of communities)
4. Greenway Concept
5. Downtown First (Directed Growth) Approach
6. Urban Containment Approach(s), and
7. Annexation (Controlled Expansion) Approach.

He also noted that the next workshops are scheduled for March 16 and March 17. The group was then invited to ask questions and provide comment and discussion.

Discussion Notes:
- Squamish is developing a Business Improvement Area (BIA)
    - Still need to do a referendum
- The Chamber of Commerce recently did a field trip to Comox and Courtenay

- Other BIAs were suggested that are water-oriented and are former resource-based communities:
    - Port Moody
    - Steveston
- The group preferred the Downtown First option
    - The fear is that the Downtown might get left out of all the development activity
    - The Downtown has been disregarded for many years
- There is a concern that Block R is primarily geared to seniors and seniors tend to not spend much money at the local shops
- For the Annexation Option, it was noted that Britannia is vehemently opposed to annexation
    - They are developing brand new infrastructure for this community
- For Downtown
    - Want to have an arts and cultural district (e.g. Courtenay)
- For Village Option
    - Only the University allows a modest / moderate commercial component
    - Other new neighbourhoods only have a modest commercial component
    - Some professional services are locating in village areas
- For Downtown First
    - The key is focusing residential development downtown
    - Want to encourage a mix within blocks and within buildings
    - Results in a mix of ages and incomes
    - Used Chemainus as an example
- Also talking about a forest museum (e.g. Logger Sports / events)
- Also liked the greenways concept
    - Want to be able to access downtown by non-motorized modes of travel
    - Want to honour the sense of place and character of each neighbourhood
- Noted the issue of second homes
- Need a downtown critical mass:
    - Marinas
    - Convention Centre
    - Accommodation to support convention center
    - Want to make Downtown a transportation hub
    - Noted that there is also a railroad interpretive center
- Suggested including a group of downtown landholders / storefront property owners to include in these Growth Management Strategy consultations (the participants provided a list after the meeting)
    - These people will be invited to the next Downtown GMS workshop in March
- Discussed flood control for Downtown
    - Issue of whether the land or buildings will have to be raised

    - Noted that based on municipal policy, residential needs to be raised (including hotel accommodation), but that commercial can be at grade
    - Therefore commercial/retail on ground floor and residential above works (recognizing that the mechanical systems need to still be raised)
    - To do this well, design becomes important
- The Interfor lands are key
    - Need a bridge to provide a link to Downtown
- Rewatering the Mamquam Blind Channel
    - It's a strategy that is on the table
    - There's a lot of support for this in the community

- Parking
    - It's difficult to find parking Downtown
    - For some services, people monopolize the downtown parking lot
    - The municipal lot downtown is often empty (some people find it too far to walk)
    - Noted that the District has relaxed requirements for new buildings
- The railway is a huge detriment to downtown and a barrier that can impede traffic movement
    - Provides an argument for a second connection to the highway
- For Downtown
    - Accelerated residential development is critical
    - Can also use studio space
    - Discussed the Dundarave model
    - Suggested idea of putting a boulevard along Cleveland Ave. (there's enough space for this within the right-of-way)
    - Discussed traffic calming the area
- One of the consultants suggested allowing fingers of water into Downtown
    - Due to the size of the Peninsula, want to make sure the energy isn't lost over the size of the Peninsula
- Want to see redevelopment of Cleveland Ave. as well as new development along the waterfront
- Mentioned the proposed relocation of Capilano College campus to downtown
    - Provides an opportunity to share facilities
    - Need for a performance arts centre

3) Local Government-Related Interest Group

Date: February 24, 2005
Time: 2:00 – 4:00 p.m.

In attendance:

Name	Organization
Steve Olmstead	Squamish Lillooet Regional District
John Cavanagh	Sea-to-Sky Highway Improvement Project
Rob Bitte	Ministry of Transportation

Planning Dept. Staff and Consultants in Attendance

Name	Organization
Heather Evans	District of Squamish
Phil Boname	Urbanics Consulting
Bob Heaslip	Development Planning Strategies
Lyle Walker	The Sheltair Group
Scott Neuman	Earth Tech
Brian Windle	Earth Tech

Presentation:
Phil Boname of Urbanics welcomed everyone and thanked them for their interest in the project. He introduced the Growth Management Strategy team and process, and identified the various significant physical constraints affecting the District. He also described the population and housing projections for the District.

Mr. Boname then described seven growth options for the District:
1. Dispersement (sprawl) within Existing District Boundaries (Status Quo)
2. No Growth/Slow Growth
3. Village Approach (community of communities)
4. Greenway Concept
5. Downtown First (Directed Growth) Approach
6. Urban Containment Approach(s), and
7. Annexation (Controlled Expansion) Approach.

He also noted that the next workshops are scheduled for March 16 and March 17. The group was then invited to ask questions and provide comment and discussion.

Discussion Notes:
- Noted that the urban containment option is more of a boundary option (using the municipal boundaries) rather than an actual urban containment boundary to contain urban growth
    - Need to clarify what this means

- Some areas like Porteau Cove that are located outside the District may be more suited to development (e.g. as there are less development constraints)
- Discussed alternative transportation modes
    - Noted that the distribution of jobs and housing is important (e.g. work/live dwellings)
- Noted the importance of protecting industrial/employment lands
- Discussed issue of Squamish becoming a bedroom community and commuting to the Lower Mainland
    - Discussed idea of commuter transit
    - Want to have a competitive option to automobiles
- John Cavanagh from STSHIP provided a detailed update of the Sea to Sky Highway Improvement Project, summarized below:
    - The key drivers originally behind the STSHIP were safety, mobility (e.g. time the highway is open) and vehicle capacity concerns
    - The project was scaled down due to local concerns
    - Currently going through the final planning stages of the project
    - Have conducted an environmental assessment along the corridor and have extensive public consultations and have consulted with First Nations
    - In Squamish,
        - MoT is looking at studies for another connection to Downtown (province can cost-share) – the study is to start shortly
        - MoT is working with District of Squamish on an east-west connection to facilitate lateral movements, the business park, and SSU and how these get integrated with the SSHIP
- Discussed the issue regarding having a long-term 6-lane highway within Squamish or a by-pass
    - Noted that it is important to protect corridors in advance (i.e. the bypass)
    - It was noted that MoT have already looked at where a potential bypass could be located
    - Mentioned that ring roads are going in around Edmonton and Calgary
    - Having a by-pass would be counter to revitalizing Downtown
        - There is a timing issue that the Downtown needs to be revitalized first should a bypass ever be pursued
        - Also discussed issue of highway commercial and “big box” retail being counter to revitalizing downtown
- Development Cost Charges
    - Should the existing residents or the developers of new developments pay for upgrades to infrastructure?
- There were questions about design choices for the highway and opportunities for the public and stakeholders to provide input (especially with design for downtown access and lateral movements)
    - Noted that the Growth Management Strategy and SGOG will affect these choices
    - Noted that STSHIP will have two more sets of consultations

    - Indicated that there are different levels of choices:
        - High-level (e.g. number of lanes)
        - Detailed design (e.g. gateways, trails, and landscaping)
    - There is a base design available for the community
    - Noted that the design details (e.g. trail and greenway connections) are really significant to the community
- It was mentioned that the dispersed option from MoT's perspective may come into conflict with the province re the number of access points to the highway
- Garibaldi Ski Resort
    - It's outside the Squamish boundaries and may also be outside the growth strategy time horizon
    - If it went through, it was thought that the area would likely be annexed by the District of Squamish
- The SLRD has developed a Memorandum of Understanding for the RGS that no new development is allowed if it is not identified in the OCP
- In first week of March, the SLRD will be doing a technical session for Porteau Cove (e.g. market share study)

4) Environment and Trails Group

Date: February 24, 2005
Time: 4:00 – 6:00 p.m.

In attendance:

Name	Organization
Edith Tobe	Squamish River Watershed Society
Shannon Denny	Natural Resource Canada
Chessy Langford	District of Squamish
Mick Gottardi	District of Squamish
Mike Nelson	Cascade Environmental
Bob Brant	Squamish Trails Society

Planning Dept. Staff and Consultants in Attendance

Name	Organization
Heather Evans	District of Squamish
Phil Boname	Urbanics Consulting
Bob Heaslip	Development Planning Strategies
Lyle Walker	The Sheltair Group
Scott Neuman	Earth Tech
Brian Windle	Earth Tech

Presentation:
Phil Boname of Urbanics welcomed everyone and thanked them for their interest in the project. He introduced the Growth Management Strategy team and process, and identified the various significant physical constraints affecting the District. He also described the population and housing projections for the District.

Mr. Boname then described seven growth options for the District:
1. Dispersement (sprawl) within Existing District Boundaries (Status Quo)
2. No Growth/Slow Growth
3. Village Approach (community of communities)
4. Greenway Concept
5. Downtown First (Directed Growth) Approach
6. Urban Containment Approach(s), and
7. Annexation (Controlled Expansion) Approach.

He also noted that the next workshops are scheduled for March 16 and March 17. The group was then invited to ask questions and provide comment and discussion.

Discussion Notes:

- Want to have a legacy of natural habitats throughout the Valley
- Don't have a good sense of which connections and corridors are used and needed for wildlife
    - Missing information and can therefore squander opportunities
    - E.g. Fish, bear, and bird movements
- Noted that the Cheekye Fan is a hazard area that is also an important east-west corridor for wildlife movements
- Currently, the District is responding to environmental concerns through regulation rather than planning
- For village concept
    - Noted that a core mass is necessary
    - Overall, the village concept is desirable
- For trails and commuter / recreational movements
    - There is a major impact from the improved highway
- One person identified that there is a threshold for a community (e.g. more than 6 traffic lights) that results in changing the nature, character, and lifestyle of the community
- Discussed the impact of the additional road crossing of the Mamquam
    - Suggested having a linear approach/trail on both the east and west side of Highway 99 (e.g. a trail going up to Bracendale)
- An important issue is to not impact more wetlands from development (and possibly even reclaim some wetlands)
    - Wetlands serve multiple purposes, including providing valuable habitat and being flood corridors
    - Noted that grant funding has been submitted for a terrestrial study and a wetlands study
- Want pure green corridors
    - Need to be careful where trails are put
- There are major mapping gaps
    - There is a major need for better wetland mapping and mapping of the connections between greenspaces
    - Wetland/sensitive habitat mapping needs to be done
- Noted that the current OCP Schedule is focused on aquatic and not terrestrial habitat
    - Suggested initiating a terrestrial mapping exercise
- Indicated that the District of Squamish is working on a comprehensive environmental bylaw that has been completed in draft form
- Noted that the District cannot identify Development Permit Areas for environmental protection because there isn't a defined boundary (due to the inadequacy of existing mapping)
- Noted that some people live here for the environmental features and recreational opportunities
- Dykes
    - Suggested identifying their role as corridors

    - Access to the dykes is a problem
    - Would like to see this resolved
- Sense of community
    - Village / downtown makes sense
    - Would like to see more support going to each community/neighbourhood
- How can we connect greenspaces and trails through downtown?
- Indicated that densification is a reality of the future
    - A major benefit of this is that it allows more greenspace
- Need to have amenities along with higher density
    - E.g. trails, greenspace, etc.
    - Even with these amenities, it can be a hard sell
- Indicated that low density is not sustainable
- A participant asked if it possible to do anything about some of the subdivision applications right now
- Some participants wanted to do greenspace corridor mapping right in the workshop
- Want to make Squamish a destination in its own right
    - Including incorporating the environmental features in this destination
- Greenspace connectivity is really important
- Want villages to be as self-sufficient as possible but want the Downtown to be the “heart” of Squamish
- Noted that the Industrial Park is difficult to access by bike or walking
- Trails / Footpaths
    - There is a need for connectivity
    - Identified that horseriders have concerns
        - E.g. the asphalt is a problem
        - Noted that Silver Valley in Maple Ridge was designed to accommodate horseriders
- There are also issues with consultation regarding First Nations
- Have a tremendous talent base in Squamish
    - Suggested developing and inventory of assets (e.g. skill sets)
    - Suggested that Squamish can position itself as an environmental knowledge base which can be exported
- Commented that not putting environmental protection in place for individual developments
    - Awareness needs to build
- Light, noise, water, and air pollution
    - Don’t want these to increase as population increases
    - Want to know how this will be addressed
    - Noted that there are “Dark Sky” bylaws
    - Also noted that SSU got alternative standards for lighting approved by the District
- Road alternative design standards

    - E.g. narrower roads and landscape standards (e.g. for dykes and meadows)
        - Different landscapes require different standards
        - This would help maintain different indigenous species
        - For alternative design standards, also need to put in place educational signage about where we are or aren't doing certain practices
- Commuter transit
    - Unclear why rail hasn't been continued and expanded
    - Also see a return to water-based transit
- Making Squamish a cycling-friendly town
    - Dedicated bike path vs. highway shoulder (e.g. Colorado)
    - Prefer a separate bike path (to Horseshoe Bay) that would be more of a tourist / recreational path
    - Recommended including a Sea-to-Sky trail in the updated OCP
- Like the idea of a greenbelt / urban containment boundary around the District

Squamish Growth Management Strategy Workshops
-March 16 and 17, 2005-
-Garibaldi Inn, Squamish-

1) Land Development and Key Property Owners Group

Date: Wednesday, March 16, 2005
Time: 2:00 – 4:00 p.m.

In attendance:

Name	Company / Affiliation
Steve Peterson	Jorden Cook Assoc./Merrill & Ring
Michael Fitzsimmons	Land & Water BC Inc.
Ted Prior	Downtown land owner/OCP
Wilf Dowad	Land owner developer
Terry Partington	Sea to Sky University
Douglas Day	University Heights
Mike Bosa	Solterra
Kyle Shury	Townline

Staff and Consultants in Attendance

Name	Organization
Cameron Chalmers	District of Squamish
Rod Pleasance	District of Squamish
Phil Boname	Urbanics Consulting
Bob Heaslip	Development Planning Strategies
Lyle Walker	The Sheltair Group
Scott Neuman	Earth Tech
Brian Windle	Earth Tech

Presentation:
Phil Boname of Urbanics welcomed everyone and thanked them for their interest in the project. He introduced the Growth Management Strategy team and process. Mr. Boname also described the considerations in the employment forecast.

Lyle Walker of The Sheltair Group presented the basic historical population growth and the population projection to 2031. Mr. Walker then presented the composite constraints map and indicated that after all the constraints are considered; only 27% of the municipality is already developed or suitable for potential development.

Mr. Boname then described seven growth options for the District that were originally considered at the workshops in February 2005:

1. Dispersement (sprawl) within Existing District Boundaries (Status Quo)
2. No Growth/Slow Growth
3. Village Approach (community of communities)
4. Greenway Concept
5. Downtown First (Directed Growth) Approach
6. Urban Containment Approach(s), and
7. Annexation (Controlled Expansion) Approach.

Based on feedback from the workshops in February 2005 and discussions by the consultant team, two options were identified and presented for discussion:

1. Dispersal Option
2. Neighbourhoods and Greenways Option

The second option is a hybrid of some of the original concepts, including the village approach, a large portion of growth directed to downtown, and the greenways concept.

The consultant team described these two options and presented maps showing what the District could look like if the District was developed under each of these two options.

The group was then invited to ask questions and provide comment and discussion.

Discussion Notes:

- It was identified that First Nation Lands within the District and adjacent to the District will have a greater impact on community growth than development in the more remote areas
- A concern for the provincial government is that there is a significant amount of provincial crown land within the municipal boundaries of the District of Squamish
    - The Province has a concern that the crown land is not designated park by default due to its ownership
    - The Province is interested in increasing economic development opportunities in the region
    - A participant noted that there was a study (possibly a land inventory) regarding provincial lands along the Sea-to-Sky corridor
- It was indicated that some of the benefits of Option 2 (neighbourhoods and greenways concept) are:
    - The higher densities allow more greenspace protection
    - It creates a higher level of livability
    - It supports and is tied into the recreational opportunities
    - It is sensitive to wildlife

- For the Downtown “too” concept, a participant indicated that they did not see this coming out as significantly in Option 2
    - There will be different areas in the District that are jockeying for development
    - There needs to be a focus in the Growth Management Strategy on how this will be managed
- Another benefit of Option 2 is that it allows the District to expand its urban area later since it does not use as much land for urban uses as Option 1
- It was noted that the nodal approach is already occurring to some degree in Squamish, particularly with large land holdings that are being developed
- It was noted that under Option 1, the land owner is restricted in the sense that the developer and land owner must wait for upstream property owners to put in services first before they can develop their lands
- There was an issue identified regarding the scale of the nodes
- One participant observed that we are living in a huge park – how much more green space do we need?
- The issue of trails alongside creeks and watercourses was discussed
    - In fish bearing streams where the setback is 30m, in some instances it is OK to have a trail between the 15 m and 30 m setback but it must be approved by DFO
    - The concern is that trail users often enjoy walking alongside the water
    - It was noted that the District of Squamish is reviewing and developing standards for trails in the District
- A participant commented that the highway network plan developed in the late 1980s was very well done and indicated that it should be used, particularly on the east side of the District
    - One of the issues may be that the road network may not fully consider the constraints in the District
- Other issues include that the north end of town needs more retail (e.g. the Garibaldi Highlands area)
    - There is a demand and need for these services
    - It was noted that the services always trail and go in after the population
- One participant thought that the proportion of predominantly residential neighbourhoods was too high on the pie chart
- There needs to be more focus on employment lands
    - Phil Boname noted that the project team will be advocating a retention of a significant portion of the employment lands
- It was also noted that it is possible to have very high employment concentrations on small parcels of land
- The participants indicated that the type of jobs that are desired are those that are high paying, requiring a well educated work force, and technical or professional jobs
- It was noted that the construction jobs will be temporary, but if the construction activity keeps going (over several decades), then this will have an impact on the local economy

- Regarding the potential bypass of Squamish, it was indicated this would have a negative impact on Downtown as people would not likely stop in Squamish or the Downtown
    - The bypass would thwart investment in the Downtown
    - There was an issue noted regarding acquiring the right-of-way for the bypass – better to do now while the land is not yet developed
    - It was also noted that the green corridors could also be used as a future bypass right of way
    - It was observed that a bypass could deter the District of Squamish investing in improving its own road system
- It was noted that 50% of the traffic using the highway is local traffic
- It was observed that Squamish is the Canmore of BC
- The majority of the group supported Option 2
    - However, one individual supported Option 1

2) Environment and Trails Group

Date: Wednesday, March 16, 2005
Time: 4:00 – 6:00 p.m.

In attendance:

Name	Organization
Bob Brant	Squamish Trails Society
Mike Nelson	Cascade Environmental
Meg Fellowes	Squamish Environment Conservation Society
Shannon Denny	NRCan
Sonia Talwar	NRCan

Planning Dept. Staff and Consultants in Attendance

Name	Organization
Cameron Chalmers	District of Squamish
Rod Pleasance	District of Squamish
Phil Boname	Urbanics Consulting
Bob Heaslip	Development Planning Strategies
Lyle Walker	The Sheltair Group
Brian Windle	Earth Tech

Presentation:

Presentation:
Phil Boname of Urbanics welcomed everyone and thanked them for their interest in the project. He introduced the Growth Management Strategy team and process. Mr. Boname also described the considerations in the employment forecast.

Lyle Walker of The Sheltair Group presented the basic historical population growth and the population projection to 2031. Mr. Walker then presented the composite constraints map and indicated that after all the constraints are considered; only 27% of the municipality is already developed or suitable for potential development. It was noted that Natural Resources Canada is conducting a more detailed risk assessment of natural hazards in the area.

Mr. Boname then described seven growth options for the District that were originally considered at the workshops in February 2005:
1. Dispersement (sprawl) within Existing District Boundaries (Status Quo)
2. No Growth/Slow Growth
3. Village Approach (community of communities)
4. Greenway Concept
5. Downtown First (Directed Growth) Approach
6. Urban Containment Approach(s), and

7. Annexation (Controlled Expansion) Approach.

Based on feedback from the workshops in February 2005 and discussions by the consultant team, two options were identified and presented for discussion:
1. Dispersal Option
2. Neighbourhoods and Greenways Option

The second option is a hybrid of some of the original concepts, including the village approach, a large portion of growth directed to downtown, and the greenways concept.

The consultant team described these two options and presented maps showing what the District could look like if the District was developed under each of these two options.

The group was then invited to ask questions and provide comment and discussion.

Discussion Notes:

- It was noted that the conceptualization of Option 1 (dispersal option) does not need to exclude the trails and greenways – these are also compatible with Option 1
- Staff noted that technically, some of the non-developable areas may become developable over time due to changes in technology or economics
- For nodes, it was identified that these should be located in strategic locations
- It was noted that the main parts of the Cheekye Fan where they are currently designated industrial or restricted industrial also are very important habitat areas
    - It was suggested this could be used for an urban forest or a working community forest
- It was noted that most of the greenways are not habitat areas
- The habitat wants to be in the potentially developable areas – i.e. lower elevation
- Need to establish the major greenway corridors
- The participants commented that the updated OCP needs to provide direction regarding trails and terrestrial habitat
- It was identified that there needs to be an implementation strategy for growth
    - It was noted that the infrastructure servicing controls this to a large extent
- It was noted that Land and Water BC Inc. holds significant crown lands within the municipal boundary of the District of Squamish
    - Some of these are important habitat areas
- The group suggested mapping out “must-have” areas for habitat
    - The group indicated that this could occur as a possible joint OCP Citizens Advisory Committee and Environment Committee meeting

- Discussed the tree bylaw in the draft Comprehensive Environmental Bylaw
- It was noted that there are other options to greenspace dedication and acquisition
    - E.g. tax breaks for property owners with conservation covenants on their lands
- It was noted that there is currently poor criteria for parkland dedication
- It was asked how do you reward people who are responsive to environmental concerns?
    - Staff replied that the best way is generally through and carrot and stick approach
- For the neighbourhood village areas, it was thought that a gateway concept could be developed
- It was noted that the District is working on a public benefits/amenities list for Downtown for things that can get developed as the Downtown develops
- It was noted that the Squamish Off-Road Cycling Association (SORCA) is an effective non-governmental organization
    - They often work with developers to retain or establish trails
- It was noted that Mike Nelson has coordinated submitting an application for ecoterrestrial mapping and that this is being considered in three phases
- It was noted that there is a process occurring in the District for the development of trails standard
- The group supported Option 2 (neighbourhoods and greenways concept)

- **3) Local Government-Related Interest Group**

Date: Thursday, March 17, 2005
Time: 4:00 – 6:00 p.m.

In attendance:

Name	Organization
Casey Dorin	Capilano College
Sue King	Vancouver Coastal Health
Larry Murray	Oceanfront

Planning Dept. Staff and Consultants in Attendance

Name	Organization
Cameron Chalmers	District of Squamish
Phil Boname	Urbanics Consulting
Bob Heaslip	Development Planning Strategies
Lyle Walker	The Sheltair Group
Scott Neuman	Earth Tech
Brian Windle	Earth Tech

Presentation:
Phil Boname of Urbanics welcomed everyone and thanked them for their interest in the project. He introduced the Growth Management Strategy team and process. Mr. Boname also described the considerations in the employment forecast.

Lyle Walker of The Sheltair Group presented the basic historical population growth and the population projection to 2031. Mr. Walker then presented the composite constraints map and indicated that after all the constraints are considered; only 27% of the municipality is already developed or suitable for potential development.

Mr. Boname then described seven growth options for the District that were originally considered at the workshops in February 2005:
1. Dispersement (sprawl) within Existing District Boundaries (Status Quo)
2. No Growth/Slow Growth
3. Village Approach (community of communities)
4. Greenway Concept
5. Downtown First (Directed Growth) Approach
6. Urban Containment Approach(s), and
7. Annexation (Controlled Expansion) Approach.

Based on feedback from the workshops in February 2005 and discussions by the consultant team, two options were identified and presented for discussion:
1. Dispersal Option

2. Neighbourhoods and Greenways Option

The second option is a hybrid of some of the original concepts, including the village approach, a large portion of growth directed to downtown, and the greenways concept.

The consultant team described these two options and presented maps showing what the District could look like if the District was developed under each of these two options.

The group was then invited to ask questions and provide comment and discussion.

Discussion Notes:

- Noted that have a blank canvas to work with for the Downtown
    - It's ready for development
- Option 2 better directs growth to downtown than Option 1
- In the past, the Downtown has been allowed to die – why did this happen and what were the pressures that fostered this?
- The group thought that Option 2 has more merit than Option 1
- There was discussion regarding alternative transportation modes, including cycling and transit
- It was noted that higher densities can help preserve more greenspace
- Suggested making a link to affordable housing in Option 2
- From a health point of view, Option 2 is the better option
    - Seniors want to use trails
    - Allows people the option to not drive
- Noted that the health facilities provide a regional service going beyond the District boundaries
- Suggested having wellness clinics in the neighbourhood villages
    - These satellite clinics would reduce demand on emergency rooms
- A potential Capilano College downtown would serve as a hub for the community and for those taking courses from the college
    - It would be a livable and green place, with interesting architecture
    - It was thought that it could be something like Emily Carr on Granville Island in Vancouver
    - The idea would be for the facility to not be self contained
    - With the campus, people could live, learn, work, and play in Downtown and Squamish
    - Also looking at Capilano College as a destination, including for foreign students
- Capilano College is putting together projections of enrollment and employment
    - Projection is roughly for 5,000 to 7,000 students in 35 years with approximately 800 faculty and staff members
    - Currently there are about 400 students

- The participants felt strongly about a mixed use downtown, including having a work-live spaces
- Suggested having a Fort Lauderdale concept where there are more canals and lagoons so more people have access to waterfront
- For seniors, it was noted that these people want to be closer to home, or remain in their homes
    - It was commented that Block R which includes seniors housing will help
- Discussed issue of seasonal residents
    - Staff commented that the District is considering conducting a residential survey
    - Regarding mixed issue, the District is trying to develop a vibrant area, but it does not work if a significant percentage of the homes are vacant
    - It was also noted that many of these people buy, but do not rent out their homes when they are not there
    - It was mentioned that there are instances in the U.S., where there are ordinances that restrict the percentage of absentee homeowners
- The group discussed a potential second entrance to Downtown
    - Staff indicated that the District of Squamish and the Ministry of Transportation are looking at options for different entrances to downtown (t be completed by mid-2005)

4) Downtown-related Interests Group

Date: Thursday, March 17, 2005
Time: 7:00 – 9:00 p.m.

In attendance:

Name	Organization
Peter Leggre	Anvil Island Design Build
Caitlin Roberts	Owner - Comm Bldg. Clevelandarm
Connie Spiers	Howe Sound Trading Co. Ltd.
Donna Wall	Garabaldi Excel Tire Services

Planning Dept. Staff and Consultants in Attendance

Name	Organization
Cameron Chalmers	District of Squamish
Phil Boname	Urbanics Consulting
Bob Heaslip	Development Planning Strategies
Lyle Walker	The Sheltair Group
Scott Neuman	Earth Tech
Brian Windle	Earth Tech

Presentation:
Phil Boname of Urbanics welcomed everyone and thanked them for their interest in the project. He introduced the Growth Management Strategy team and process. Mr. Boname also described the considerations in the employment forecast.

Lyle Walker of The Sheltair Group presented the basic historical population growth and the population projection to 2031. Mr. Walker then presented the composite constraints map and indicated that after all the constraints are considered; only 27% of the municipality is already developed or suitable for potential development.

Mr. Boname then described seven growth options for the District that were originally considered at the workshops in February 2005:
1. Dispersement (sprawl) within Existing District Boundaries (Status Quo)
2. No Growth/Slow Growth
3. Village Approach (community of communities)
4. Greenway Concept
5. Downtown First (Directed Growth) Approach
6. Urban Containment Approach(s), and
7. Annexation (Controlled Expansion) Approach.

Based on feedback from the workshops in February 2005 and discussions by the consultant team, two options were identified and presented for discussion:

1. Dispersal Option
2. Neighbourhoods and Greenways Option

The second option is a hybrid of some of the original concepts, including the village approach, a large portion of growth directed to downtown, and the greenways concept.

The consultant team described these two options and presented maps showing what the District could look like if the District was developed under each of these two options.

The group was then invited to ask questions and provide comment and discussion.

Discussion Notes:

- There is currently a small population in the Downtown
- The Downtown population could easily double in 5 years
- It was noted that the dispersal option is on the table as it is reflective of development in the past
- For both options, Phil Boname indicated that the project team is looking at minimizing the use of the highway for internal trips
- The group discussed alternative access to the Downtown
    - Staff noted that the District of Squamish and the Ministry of Transportation are looking at two options for connecting Downtown to the Highway – the study is to be completed in mid-2005
    - The group discussed various alignment considerations for the potential connection, including potentially realigning the rail line
- A participant suggested that the very best land should be used by the wealthiest people to create a high tax base
    - Then this can subsidize other areas and to build amenities in the District
- The group discussed housing affordability
    - Historically, the community has had a limited range of housing choices
    - The Downtown needs more amenities
- Phil Boname presented the pros and cons of each option
- The idea is to have a “warm beds” policy to avoid season use of homes
- Discussed some concerns about preventing the downtown from becoming a ghetto (e.g. for students and lower income)
- Discussed the idea of neighbourhood identity
    - Results in community pride
- The group identified that a waterfront walkway is important
    - Staff indicated that the District is negotiating to have a 3 to 5 metre right of way along the waterfront
    - Also, private industry is looking at expanding the marina
    - Also, the District is looking at having road “stubs” at the end of the roads to provide public access

- It was noted that the sea dyke still needs work
- Discussed buildings and flood control issues in the Downtown
- It was noted that if the “breaks” are applied to development in downtown (so that the development does not happen all at once), will developers still come?
    - It was thought that yes they would still come
- It was noted that the proposed Business Improvement Association is important
- It was noted that parking downtown was an issue:
    - Capilano College will have a large parking demand
    - Discussed potential locations for parking, including building a parkade with residential above
- It was thought that the Downtown just needs one major company or major feature to bring people downtown
- Staff indicated that they want to put together a list of improvements for Downtown that can be developed as developers build in the dowtown
- The group also discussed public safety downtown
- One participant indicated that he will be attending the Smart Growth on the Ground charrette in April – he asked for input from the rest of the participants
- The participants indicated that they unanimously support Option 2 (neighbourhoods and greenways concept)

APPENDIX D: Citizen's Advisory Committee Notes

District of Squamish Growth Management Strategy
OCP Review Citizen's Advisory Committee Workshop Notes
(NOT AN OFFICIAL RECORD)

Thursday December 9, 2004
7:00-9:00 p.m.
Council Chambers, Municipal Hall
District of Squamish

CAC Members in Attendance:
- Councillor Dave Fenn, Chair
- Ted Prior
- Bill Berg
- Erin Ellis
- Theodora Carroll
- Jason Manion

CAC Members Absent:
- Barb Wepruk
- Sehra Subhash
- Bernadine Billy
- Alfredo Verdicchio
- Nicola Kozakiewicz
- Mohammed Afsar, Deputy Chair

Staff in Attendance:
- Cameron Chalmers, Manager of Planning
- Heather Evans, Planner

Consultants in Attendance:
- Phil Boname, Urbanics
- Bob Heaslip, Planning Consultant
- Lyle Walker, The Sheltair Group

1) Introduction by Cameron Chalmers of project team and project

2) Phil Boname's presentation

Introduction

- Purpose of workshop is to present an outline of work to date on the Growth Management Strategy and to obtain feedback from the committee on the content of the work as well as the process
- Phil B. indicated that want this to be an interactive discussion
- The consultant team is here to assist the community in developing an optimal growth strategy
- Acknowledged anxiety re putting the OCP to bed
- Phil B. reviewed the internal and external influences affecting community
- No other community in BC is facing the same issue re challenges and opportunities and forces impacting growth as there are in Squamish
- Provided background re resource industry nature of the economy
- Noted economic diversification is occurring re tourism
- Referenced historical population growth figure
- Major changes
    - Becoming a commutershed for Whistler and Greater Vancouver
    - Olympics
    - Squamish is being discovered
- Identified the GMS process as a dialectical one and a visioning process to lead the community through a consensus approach to a desired vision
- It's to be a "Made in Squamish" solution
- The consultants' role includes facilitation, showing impacts of each of the options, and working with the District to obtain buy-in
- Noted the issue re the highway and bypasses

Maps

- Phil B. reviewed the constraints and opportunities using the wall maps
- Described the overlay concept with maps to identify the area that is leftover as potentially developable
- Noted issue re not all information available for slopes and habitat
- Identified issue re the Sea-to-Sky highway improvement
    - Cameron C. described how the potential highway affects the community:
        - It divides the community
        - Will the District be ready and prepared before the highway goes through?
        - Council has identified what's important (e.g. reducing speeds, east-west connectivity, including a trail parallel to the highway)
        - Noted issue re trail connections

Population

- Noted issue re population – we don't want to suggest in any way what the population will be in 2031

- Went over projected population growth and the low and high ranges for the projection
- Reemphasized that Squamish is now within the 45 minute commutershed of Vancouver

Comments:

- Are there opportunities for the council to avoid major errors in the next 9 months?
- Want to ensure that all other inhabitants (terrestrial and aquatic are considered)
- The big challenge is for Squamish to keep with the plan due to growth pressures

The Growth Options

- Phil B. described each of the growth options (and handout was provided)

1. <u>Dispersement (sprawl) within Existing District Boundaries (Status Quo)</u>

- With growth pressures and limited land, housing prices will go up

2. <u>No Growth/Slow Growth</u>

- Introduced the temporal component
- Comment: question re economic impacts of growing too slow or too fast

3. <u>Village Approach (community of communities)</u>

- Also known as the nodal approach
- Conveys more complete communities
- There's a balance re keeping the downtown strong
- Comment: restricting growth – how can growth and development be restricted?
    - Noted that the Urban Reserve is NOT in the OCP yet
    - Council has discretionary authority
    - Zoning gives a designation and what uses and densities are permissible but does not determine timing
- Comment: Would be great to have a pub in every village node

4. <u>Greenway Concept</u>

- Noted that this option is not exclusive of the other options
- E.g. Not in conflict with the village option
- Issue re a contiguous greenbelt concept

5. <u>Downtown First (Directed Growth) Approach</u>

- Noted this option is not exclusive of the village concept
- Includes developing downtown as a vibrant mixed use area
- May not work if people and the District develops however it wants
- Advantages of the Downtown (or assets that can be built on):
    - Waterfront access

    - North-south street
    - Flat
    - Scenic views
    - One of few areas with a Downtown Corporation (for developing sections of Downtown)
- Squamish is on the threshold of having a very successful downtown
- Noted concept of having residential units above
- Comment: Where to put cultural, civic, institutional, and educational facilities?
    - Noted that culture is not well developed in Squamish
    - Noted that well-aimed DCCs can help this re funding facilities
- Comment: Issue re absentee property owners
- Variety of residential choices (single family?) / Issue re achieving a balance and offering single family elsewhere in the District
- Bob H. went over the corner property advantages (used West Vancouver example)
- Noted that incentives can be provided to accelerate a more vibrant and attractive downtown
- Issue discussed re commercial sprawl along the highway
- Noted that need to have downtown as a traffic generator

6. <u>Urban Containment Approach(s)</u>
- Important in the long-term
- Lyle W. noted the distinctions for different levels of effort for urban containment, from least level of effort to greatest level of effort:
    - Do nothing
    - De facto urban containment boundary (e.g. GVRD with the ALR and other pars of the Green Zone)
    - 20 and 25 year urban containment boundary (e.g. Metro Portland and Regional District of Nanaimo)
    - Permanent UCB (e.g. ~CRD)
- Carrying capacity- water, sanitary, watershed
    - Noted issue that technology can change to render certain thresholds for population obsolete

7. <u>Annexation (Controlled Expansion) Approach</u>
- Noted the North, South and East options for annexation

8. <u>Other Approaches</u>

The Committee had the following comments concerning important factors and matters to consider in carrying out the Growth Management Strategy work:
- Culture
- Noted that Downtown Squamish needs help
- Interfor lands - commercial or residential
    - Could be a node of commercial, residential, or educational
- Downtown First-cultural, educational, residential/commercial, rec. centres
- Densification- Townhouses in valley, infill development

    - What does this mean?
    - Infill, redevelopment
    - Mix of housing
    - Using the land more efficiently
    - Issue re underused homes (e.g. seasonal use and second homes)
- Hospitality and tourism - is there an increased role for Squamish?
- Use as a constraint – employment lands protection/reduction
- Bob H. introduced the idea of an active growth strategy and tools for monitoring and assisting with implementation
    - E.g. Facet Decision Systems
- Get all the issues and pressures on the table
    - Issue re setting aside "employment" lands (suggested using word employment rather than industrial lands)
    - Squamish is becoming an increasingly knowledge-based community and mobile economy
    - Squamish has major advantages
    - Discussion of live-work
    - Issue re new airport
- Bedroom community
    - Not necessarily pejorative
    - Noted that the community is stronger socially if people live and work in the same community
    - Suggested questioning the use of "bedroom" community as a term
- Bed and breakfasts near trails
- Employment based land
- Greening of the infrastructure of buildings/LEED principles
    - Would like Squamish to be a leader
- Alternate forms of energy-wind; local energy corporations, etc.
- Pro's/con's of "bedroom community"
- Lack of employment choice
    - Challenge: keep land supply in proportion to need/demand-especially employment land
- Potential for council change each 3 years can impact the strategy
- "Safety Values" for OCP and Growth Management Strategy
- Lack of public transit
    - Want mini-buses

3) What have we overlooked?

- Change in council thinking
- Council sometimes under or overreacts to external problems

4) Closing

- Invited the committee members to send emails to Cameron re thoughts
- Indicated that the project team would like to follow up with CAC and invited them to upcoming public events

- Suggest using larger maps in future
- Noted that consultation will be swift and of high quality
- Noted that there are strong environmental and trail groups
- Discussed issues re overconsultation with so much happening
- We are developing a blueprint with the GMS process
- Reiterated having a plan in advance of the potential highway
- Staff noted the work on the environmental bylaw
- Noted that the CAC and Env. Committee should have a joint meeting re the GMS at a future date

.