



Advancing the Sustainable Region

Issues for the Livable Region Strategic Plan Review

DRAFT

March 15, 2005

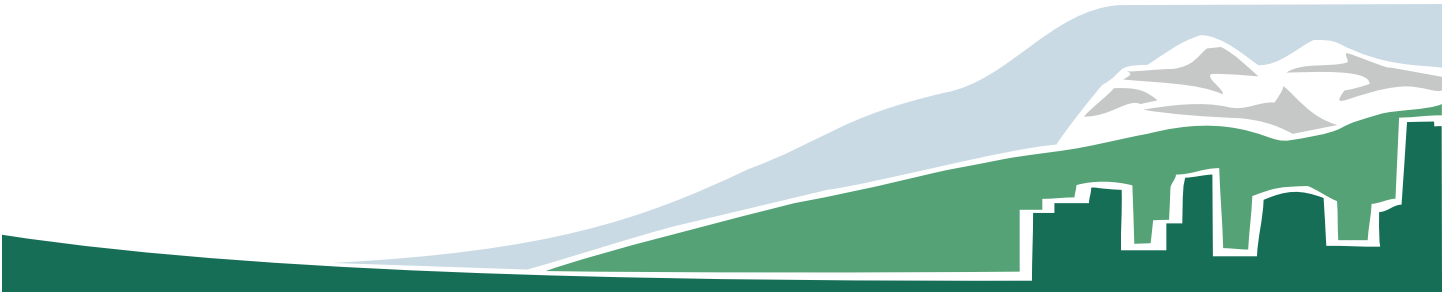
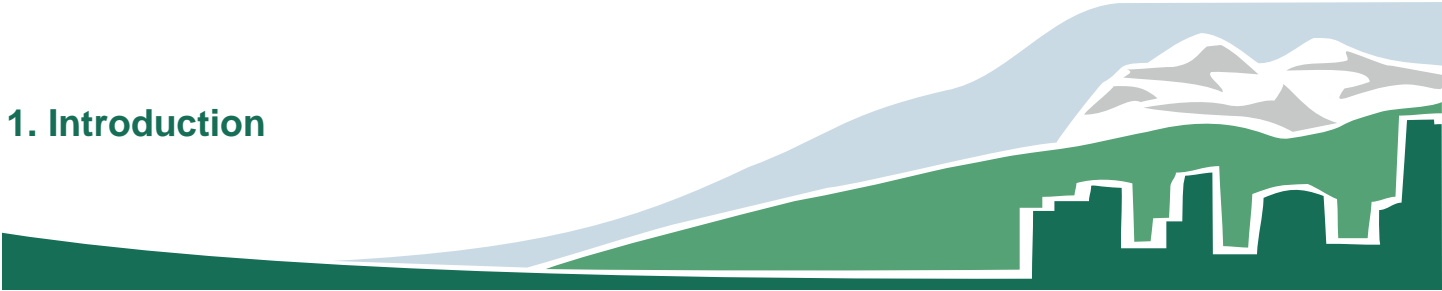


TABLE OF CONTENTS

1 Introduction	1
2 Looking Out to 2031	7
3 Key Challenges	
3.1 Accommodating Growth and Conserving Our Resources	15
3.2 Supporting a Sustainable, Competitive Economy	24
3.3 Advancing the Green Region	36
3.4 Designing for Sustainable Communities	45
3.5 Connecting Growth Management and Transportation	51
3.6 Delivering Effective Regional Growth Management	60

1. Introduction



1.1 Purpose

The GVRD Board resolved that a review of the Livable Region Strategic Plan and other regional mandate plans should be undertaken using the principles of sustainability. The purpose of this document is to identify issues that should be considered in the review of the plan and initiate dialogue and debate about what direction and scope renewed growth management policies should take. The Livable Region Strategic Plan has been in place since 1996. The passage of almost a decade gives the regional partnership the opportunity to see if the Plan is achieving what it set out to do, while the Sustainable Region Initiative (SRI) provides the prospect to renew and reinvigorate the Plan using sustainability as a key building block. The regional partnership has the prospect to put in place more efficient land use patterns and transportation systems for the entire region and to continue to protect our rich natural assets, advance livability and support economic competitiveness for current and future generations.

Growth management has a long legacy in Greater Vancouver, with successive plans guiding growth and development for over 40 years. The regional growth management strategies have always been contentious and will continue to be, simply because they matter. Growth management deals with many critical issues and choices that have the potential to affect a large number of people over a long period of time.

Earlier regional plans have focused on livability, responding to the challenge of accommodating rapid and considerable growth and at the same time preserving the region's high quality of life. The Vancouver region has earned a world-wide reputation for livability. Regional and local plan-making have helped earn that reputation by articulating what our region's citizens value collectively and then putting in place the tools to protect natural areas and agricultural land, build a regional transportation system, provide high quality infrastructure, build a vibrant downtown and a network of centres, as well as high quality neighbourhoods.

These past plans provide a solid foundation for this next regional challenge-how do we maintain livability *while* advancing sustainability? Pursuing a more sustainable region is all about protecting the environment, reducing per capita consumption of natural resources, while at the same time advancing economic prosperity and community and cultural well-being for present and future generations.

Growth management is a critical dimension of sustainability for a number of reasons. The pattern of urban development has an impact on how much land is needed, how we protect our natural resources and air quality, and

how much energy we need to travel around our neighbourhoods and the region. How we build the region influences our economic competitiveness in ensuring the region remains an attractive and efficient region to do business and attract a skilled labour force. How we build the region also influences the cost of infrastructure in roads, utilities and in community services. Finally the development decisions we collectively take affect our ability to make places work well for all the region's residents whether it is helping the poor and disadvantaged, or allowing a diversity of cultures and customs to flourish.

The growth management plan is one of a number of plans designed to address sustainability under the umbrella of the Sustainable Region Initiative. For example the Drinking Water Management Plan, Air Quality Plan, and the Regional Parks Plan each have mandates that help advance sustainability. The growth management plan is seen as a way to deliver the spatial plan for the region and set a framework for the delivery of transportation and utilities. It does not try to encompass all of the elements of transportation, housing, social, economic, or energy conservation plans. Instead, it addresses how growth management can help deliver on these multiple objectives and it also identifies linkages to other plans and mandates.

Member municipalities know that development in one part of the region has implications for other parts. At the same time, preserving local autonomy has often taken precedence over achieving common regional interests. In reviewing the issues and directions presented in this paper, it will be important to consider what can best be accomplished at the individual municipality level and what issues need to be solved collectively, for the benefit of the region as a whole. To be successful the growth management plan is going to need a shared long-term vision in combination with workable implementation actions.

This paper begins by providing background to the Sustainable Region Initiative and proposes some guiding principles. Section 2 describes some key drivers of growth and change as the region looks out to the year 2031. In Section 3, six key challenge areas are put forward. For each of these challenge areas the following elements are provided for discussion:

- the key issues, as well as an evaluation of implications of trends, forecasts, and the obstacles and opportunities in advancing sustainability;
- an analysis of the current growth management policy framework;

1.2 The Sustainable Region Initiative

The GVRD Board resolved that a review of the Livable Region Strategic Plan and other regional mandate plans should be undertaken using the principles of sustainability. This marked the beginning of the Sustainable Region Initiative.

The Sustainable Region Initiative (SRI) is a comprehensive approach to realigning current projects and practices, and longer term plans and strategies, to ensure a sustainable future for the region and its citizens. It is explicitly recognized that this cannot be achieved by the GVRD and its member municipalities alone. There are important roles for other levels of governments, government agencies, community groups, business groups, non-profit groups, interest groups, academia, and individual citizens. For example, to achieve growth management objectives, working with the development industry to identify and advance common objectives is critically important. Finding ways to make projects profitable and at the same time achieving local and regional benefits in the long run is a key challenge.

The SRI process has included the formation of the SRI Partners Group, the establishment of a three-level approach to sustainability (corporate, GVRD mandates, broader region), the exploration of sustainability issues in conferences and workshops with key partners and other interested parties, and Issues Group reports identifying sustainability actions for specific regional issues.

The SRI Partners Group, is a small advisory group made up of environmental, social, and economic interests, and they continue to meet. The BC Business Council, SmartGrowth BC, the Fraser Basin Council, and the United Way are represented. The Issues Groups conducted their work throughout 2003, and were composed of interested individuals drawn from business, labour, academic institutions, governments and their agencies, non-governmental organizations, and other organizations. They discussed sustainability issues and recommended actions that would move Greater Vancouver towards regional sustainability. The Issues Groups particularly relevant to the LRSP review were Growth Management, Agriculture and Habitat, Economic Strategy, Housing, Air Quality and Greenhouse Gas, and Parks. In addition, the Technical Advisory Committee (Planning Directors) has had several discussions and workshops which have contributed to the identification of the issues included in this paper.

The Sustainable Region Initiative Framework

The framework consists of three components, each containing three elements:

*The first component comprises the **three dimensions** of sustainability: economic, social, and environmental. This is sometimes referred to as the “three-legged stool,” recognizing that each element is critical to the sustainability of the whole, and that to focus on only one dimension, whether it be an economic strategy, an environmental strategy or a social strategy, without regard for the others may create more problems in the long run than it solves in the short run.*

*The second component comprises **three planning horizons**: (a) long term goals and outcomes; (b) medium term strategies and plans; and (c) immediate actions, programs and projects. These have to be linked. Goals and plans without actions and projects to implement them are empty rhetoric. Actions and projects, when not driven by strategies to achieve goals, are random events without intelligence as to their ultimate consequence or purpose.*

*The third component comprises **three overlapping levels of ownership** reflecting the understanding of the nature of sustainability and its relationship to different groups and government mandates, described above: (a) the corporate level which focuses on the practices of the GVRD as a corporate body; (b) the level of regional mandates and services, i.e., the responsibilities given to the GVRD by its municipal members and by law; and (c) the level of the region as a whole, in which the GVRD is but one of many players (along with local, provincial, federal governments, the private sector, the non-government and volunteer sector) responsible for some areas of activity, a participant, partner or facilitator in some others, and simply an observer in others.*

1.3 Sustainability Principles

This section proposes a number of sustainability principles that can help guide growth management decisions. These principles are used to help frame the challenges and issues identified in the following sections.

Enhance Livability

Create a sense of place and build safe, vibrant, healthy communities with a diversity of housing and community services to meet all needs. Recognize cultural vitality as one of the region's strengths.

Promote Accessibility

Ensure that Greater Vancouver region residents in all socio-economic strata have access to the jobs, services and activities integral to their daily lives, while minimizing the negative environmental, equity, economic and health impacts of travel.

Reduce Resource Use

Work toward a regional land use and building pattern as well as a transportation system that supports the reduced use of land, water, and energy.

Build a Prosperous Region

Keep the region a great place to work and invest in. Provide quality infrastructure that will last, is affordable, and meets long term needs. Get the most out of existing infrastructure.

Advance Regional Environmental Stewardship

Accept responsibility for the protection of the spectacular natural setting and ecology of the region by conserving, restoring and managing resources for present and future generations. Recognize and find ways to avoid and/or mitigate the potential impacts of continued urban growth on the region's ecology over the long term.

Build Partnerships

Build more effective and innovative working relationships, including new ways to identify and advance shared objectives and integrate decision-making. Find new ways to work with partners, including senior levels of governments, the private sector, and the non- government and voluntary sector.

Incorporate the Sustainability Framework into Decision-Making

Use sustainability criteria to evaluate the short and long term impact of developments and infrastructure. Monitor progress toward achieving targets and objectives.

2. Looking Out to 2031 Growth Management Trends and Projections



By 2031, Greater Vancouver will be a region approaching 3 million people, with about 1.4 million jobs, and an estimated 1.3 million households. This chapter includes a scan of trends and key drivers which will directly impact on the regional growth management mandate, such as population, job and household projections and how the composition of our population will change. This chapter also flags other trends that may impact on the spatial plan of the region. For example, energy shortages might well influence how we are able to travel around the region by 2031. Telecommunication advances, however, may continue to reduce the demand for travel.

Working toward a sustainable future for Greater Vancouver will require consideration of many issues that are beyond the scope of a regional growth management mandate, but will influence the future of our communities. The globalization of the economy, the region's economic competitiveness, competition for labour, climate change, biodiversity preservation, public health, food security, housing affordability, and access to education are all issues that can influence the region's spatial plan or conversely be influenced by the spatial plan.

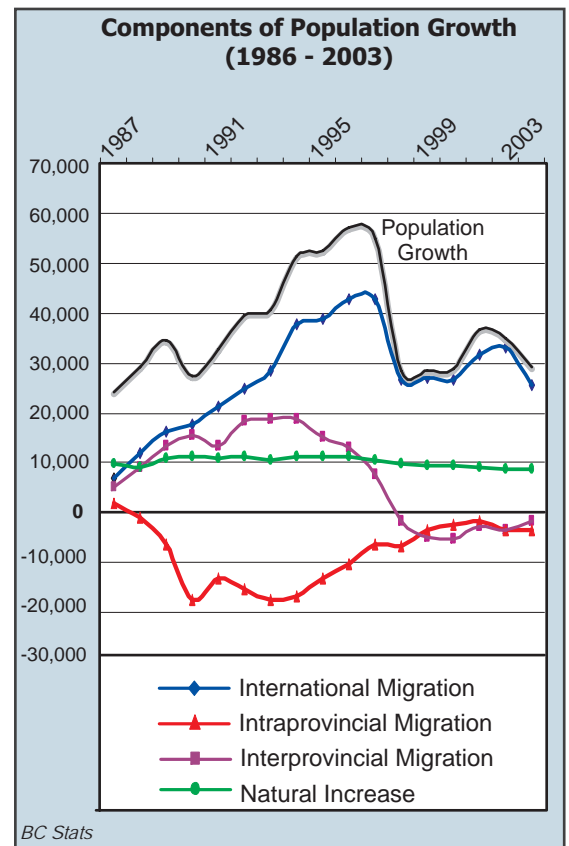
Population will grow by about 30,000 each year

In the 30 years between 1971 and 2001, the population of Greater Vancouver grew from about 1.1 million to 2.0 million, an average annual net increase of 30,000 new people each year. The latest projection from the provincial statistical agency, BC Stats, indicates that the region can be expected to grow similarly by an annual average 30,000 per year over next 30 years, reaching a population of about 2.9 million in 2031.

The current population is about 2.15 million, so the region is expected to grow by about 750,000 people (or by 35%) to 2031. That is, for every three people in the region today, there will be four in 2031.

Key challenges:

A large additional population will need to be accommodated within the geographic and jurisdictional constraints faced by this region. Given that the region



has both geographic and jurisdictional constraints on development, how and where will this large additional population be accommodated?

Local and regional infrastructure systems will need to be able to adapt sustainably and cost-effectively to the increased demand for services.

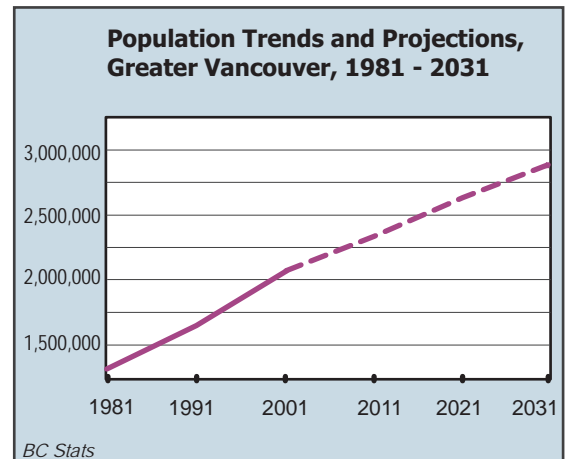
The region's rich, diverse natural areas, important for both habitat preservation and recreation, will need to be protected from pressures created by continued population growth.

Immigration will continue to drive population growth

Currently, there are more births than deaths annually in the region, resulting in a “natural increase” of more than 9,000 per year. However, this equation is expected to reverse itself and shift to a “natural decrease” over the next 30 years as fertility rates continue to decline and the large Baby Boom subgroup enters into retirement (and beyond).

The population will also change with people moving to and from the rest of the province (intraprovincial migration) and the rest of the country (interprovincial migration). Intraprovincial migration is usually negative, with more people leaving the region to the rest of B.C. than arrive here each year. Interprovincial migration is highly variable and usually depends upon differing provincial economic strengths and weaknesses around the country. For most of the 1990s, net interprovincial migration from the rest of Canada to Greater Vancouver was very strong. From 1997 to 2003, this national flow reversed as more people left the region than arrived, but at a smaller scale. Currently (2004), the flow between the region and the rest of Canada is in approximate balance -- that is, for every person who leaves, another arrives.

By far the largest component of regional population growth in any given year is and will be international immigration, mostly from Asian and Pacific Rim countries. Immigration levels will be affected by changes occurring in other parts of the world. Between 1993 and 2003, the average annual increase due to immigration in Greater Vancouver was about 33,300 people. A regional population that is already diverse, multicultural, and increasingly international will become more so.



Key Challenges:

The region must remain a welcoming and attractive place for newcomers and will need to look for ways that land use, urban design, and the location of services can help cultures flourish.

A changing population will require new or different housing and services from its communities.

The population will have larger numbers of middle-aged and retired persons

Between 2001 and 2031, all age groups will increase in size, but to different degrees. Age groups under 35 will change only marginally, whereas age groups over 35 and especially those over 55 will expand substantially. There are many contributing factors to the gradual aging of the population profile, including better health and longer average lifespans; lower fertility rates and delayed family formation; and a steady stream of immigration composed largely of working age adults. This age-shift will occur throughout the entire industrialized world, and more dramatically elsewhere than in Greater Vancouver, which will likely continue to receive a regular influx of younger people.

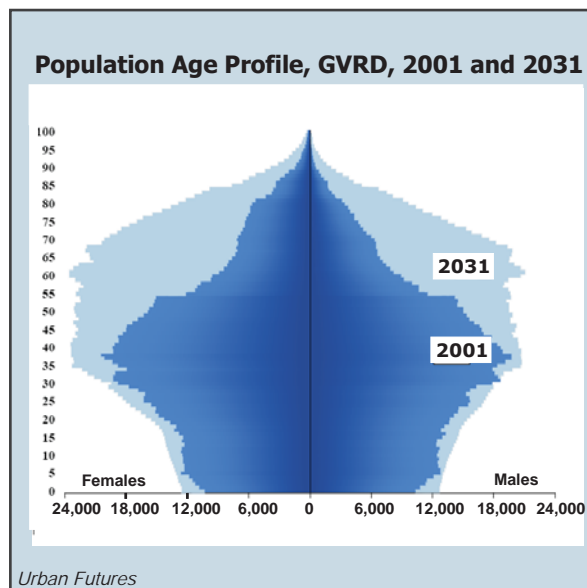
The regional population in 2031 will have more retired seniors, but may have a higher proportion of healthier seniors who continue to work. Viewed as a labour force, the population will have a much higher proportion than today of senior, experienced workers between 40 and 65. Some social change is anticipated, but the scale, scope, and impact of the change is difficult to predict. Other countries (e.g., Italy, Japan, Russia) will experience this age shift sooner than Canada, and their experience could provide on-going insight and advance warning about coming social impacts associated with an older population.

Key Challenges:

The region will need to be able to support an older population making greater economic demands on health and social services.

Local communities will require more local health and lifestyle services for seniors.

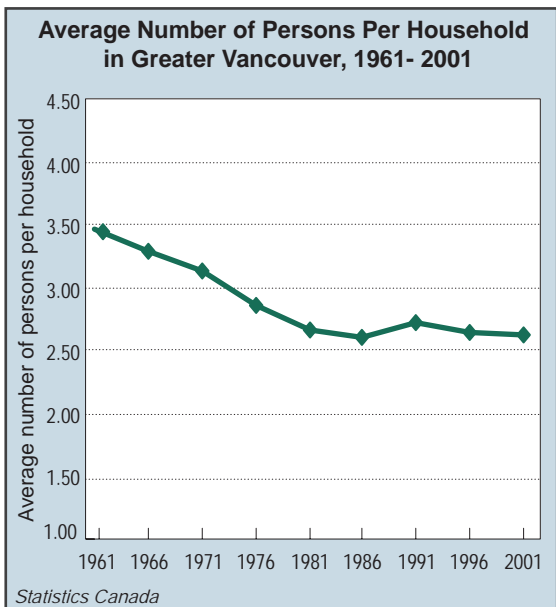
the physical design of our communities will need to work well for a much larger population of seniors, such as by providing more housing and transportation choices.



Communities may need to adapt services to the needs of a growing proportion of poorer seniors.

The number of people per household expected to continue to decline

Between 1961 and 1981, the region's average household size declined dramatically, from 3.45 to 2.66 persons per household. This reflected significant changes in Canadian society: a lower birth rate, a delay in family formation, a rise in the number of women living independently, and more. Since 1981, the average household size has remained relatively constant at 2.66 persons (+/- 0.06). However, since in future the population will contain larger numbers of people in the senior age groups, it is expected that the average household size will once again begin to decline. The extent of the decline is unknown, but even a relatively small shift to 2.4 persons per household to 2031 would greatly increase the need for more dwellings in the region (by over 100,000), especially smaller and more affordable dwellings (e.g., apartments). In 2001, there were 796,100 dwelling units in Greater Vancouver. It is estimated that an additional 470,000 dwellings will be needed by 2031.

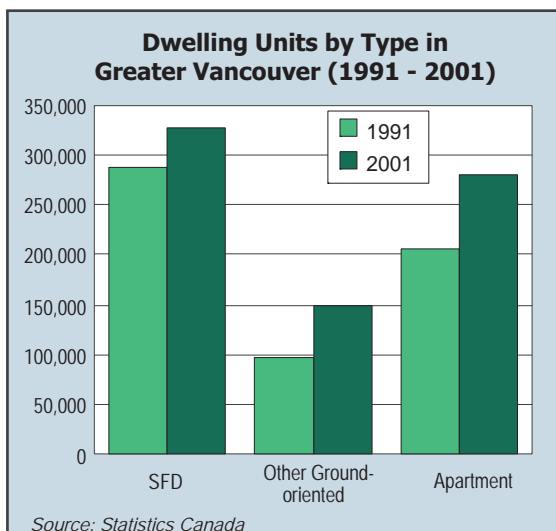


Key Challenge:

Given that many more dwellings will be needed for a given regional population, communities may need to find ways to reduce per capita land consumption. Regardless of the potential need for additional land, communities will need to find additional capacity within existing developed areas.

The long term trend towards apartments and townhouses will continue

For several decades, the housing market in Greater Vancouver has gradually shifted from an overwhelming majority of single-detached houses to a majority of multi-family units in both apartments and townhouses. Between 1961 and 2001, the proportion of single-detached houses dropped from 76 per cent to 43 per cent, and the proportion of apartments increased from 15 per cent to 37 per cent of the total occupied housing stock. The proportion of other ground-oriented housing (townhouses, duplexes, houses with suites) has similarly more than doubled from 9 per cent to 20 per cent.



Given the limited land base for new single-detached housing, the high average cost of single-detached houses (the highest in Canada for over a decade), and the success of apartment and townhouse products in the marketplace, this gradual process of change is likely to continue. Single-detached houses will continue to be an important component of the overall regional housing market, but an ever greater proportion of occupied dwellings in the region will be apartments and townhouses.

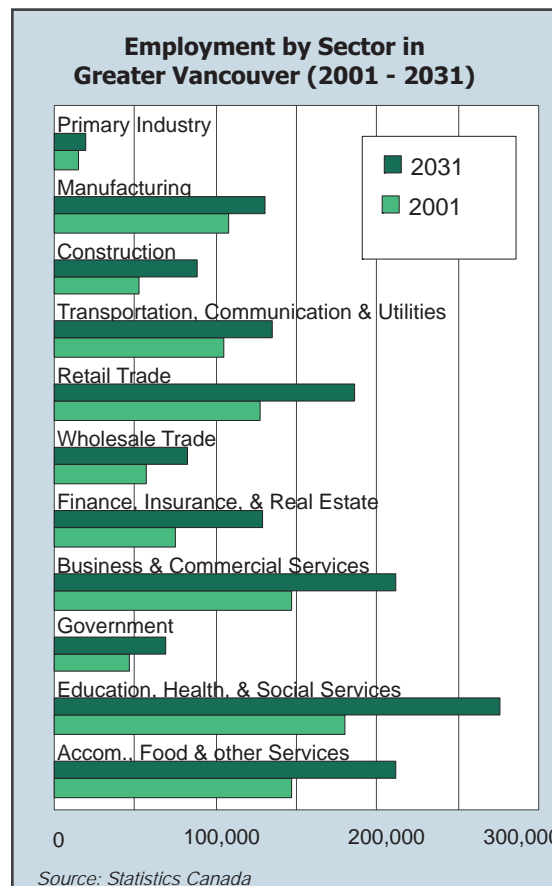
A recent projection by Urban Futures Incorporated indicates that the demand for ground-oriented housing could continue to rise, based on a recognition that the future population will contain large numbers of people in the mature age groups that have previously chosen and been able to afford ground-oriented housing. This suggests that the townhouse component of the future housing market could be very successful.

Key Challenges:

The continuing rise in land and housing prices will affect future housing affordability and housing choices. The demand for single-detached and other ground-oriented housing may result in greater numbers of households leaving the core of the region for the periphery, or leaving the region altogether.

The regional economy will continue the shift to service sector jobs

The long-term future of the regional economy and the sectoral profile of regional employment are harder to predict than the future of population growth, since there are more external factors beyond local control (e.g., large interest rate fluctuations, trade barriers, changes in technology, shifting international patterns of trade and unrest in other parts of the world could all create shocks to the regional economy). However, in general, Greater Vancouver appears to be well-positioned for the future with a diversified and trade-oriented economic base, a well-educated workforce in a stable society, immediate connections to a resource-rich provincial hinterland, and international connections to the economic potential of the Asia-Pacific region.



A recent projection by *Urban Futures Incorporated* indicates that, based on a continuation of several current trends, Greater Vancouver will add just under 400,000 jobs and will have a total of approximately 1.4 million jobs in 2031. The largest sectoral increases will likely be in service-oriented jobs (as opposed to goods-producing jobs), following long-run patterns established in the latter half of the 20th century.

Key Challenges:

The region requires sufficient land or redevelopment capacity to accommodate 400,000 more jobs, including continued increase in sectors requiring industrial land. The distribution of a diversity of jobs throughout the region will continue to be a challenge.

Commuting patterns will continue to become more complex

As the region adds 750,000 more people and 400,000 more workplaces, the volume of daily trips could increase by 30 per cent or more. Based on past trends, the private vehicle population could rise from 1.28 million in 2004 to 1.75 million in 2031. Since at least the 1960s, the journey-to-work commuting pattern in Greater Vancouver has been shifting from a Metropolitan Core-oriented to a multi-destination pattern. This shift is expected to continue as more new jobs locate in municipalities outside the traditional employment core of the region (i.e., outside Vancouver, Burnaby/New Westminster, and Richmond).

The transportation system will be under progressively greater stress. The degree to which jobs and housing can be steered to locations served well by regional transit (the Metropolitan Core and regional town centres) will be an important factor in relieving this stress. Locating shopping and other activities in places where driving can become an option rather than a necessity will also become increasingly important to ensure adequate capacity for goods movement and transit priority.

Key Challenges:

Already busy local and regional transportation networks must continue to adapt to major increases in trip-making for work and all other travel purposes. Land use patterns will also need to evolve to help decrease travel times and distances

Additional local and regional trip-making will continue to affect air quality, public health and safety, and noise levels.

Impact of telecommunications difficult to predict

It was predicted that the availability of personal computers and internet technology would allow many more people to work from home. While the number of people working at home has increased, there has not been dramatic change. In 1991, 58,000 residents in the Vancouver region worked from home, or 7.1 per cent of the employed labour force. By 2001, 80,280 were working at home, or 8.1 per cent of the labour force. Technology does offer important flexibility, however, and can help people stagger work hours to avoid peak hour travel, allows a “virtual office” for many self-employed people, and has most likely cut down the need for face-to-face meeting in some sectors.

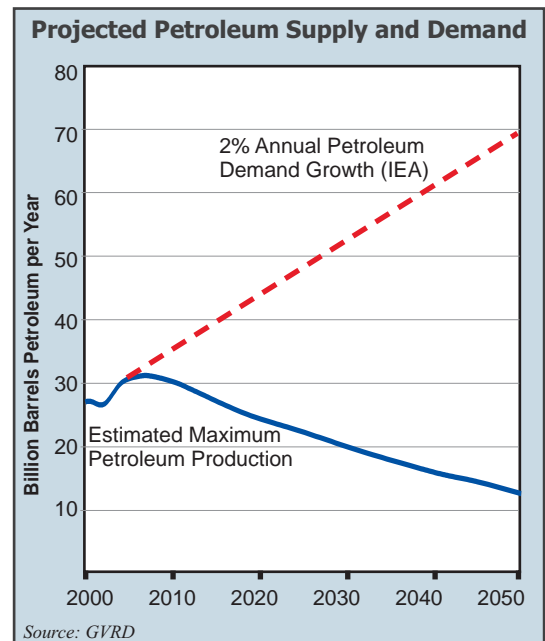
We were supposed to be ordering our groceries on the internet by now. While this has not happened, internet shopping continues to increase, and many people save trips by researching the products on the internet rather than driving from shop to shop. On the other hand, internet sales have boosted courier movements.

Key challenge

The region will need to respond to the spatial impacts of a growing reliance on the internet and telecommunications.

The regional energy future is uncertain

As the region's population grows, the regional demand for energy of all types is expected to increase. Vehicles need fuel and buildings need to be heated, and as the number of vehicles and the number of buildings both increase over time, so will the regional demand for fossil fuels. Despite the search for alternative energy sources and for ways to use energy more efficiently, the large demand for gasoline, natural gas, diesel, and other fossil fuels will likely still exist to 2031.



Worldwide, it is expected that these fossil fuels will become increasingly scarce and therefore increasingly expensive over the coming decades. (Some commentators feel this may already be happening.) This could have a significant negative impact on the region to 2031. Private vehicles will be more expensive to use, and large buildings will be more expensive to heat. The economics of energy may begin to influence where people live and how much they want to travel for work or other purposes.

Key Challenges:

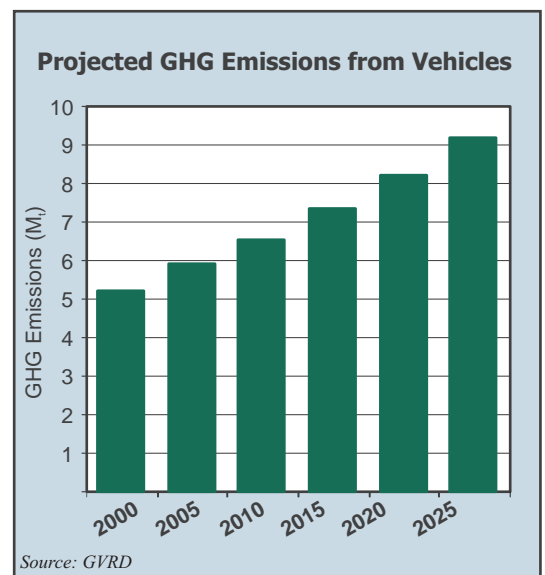
- Increasing energy costs will affect the market value of automobile-dependent communities and auto-oriented land uses in the region, especially those farthest away from the regional core
- The region will need to become more resilient in the face of fossil fuel energy shortages and explore ways to produce energy locally.
- Auto-dependent communities will need to evolve into more walkable and more transit-friendly places.
- The demands on the public transit system will increase substantially as fuel becomes more expensive.
- Higher costs to heat and cool homes may lead to changes in dwelling types and space requirements.

Impact of Climate Change

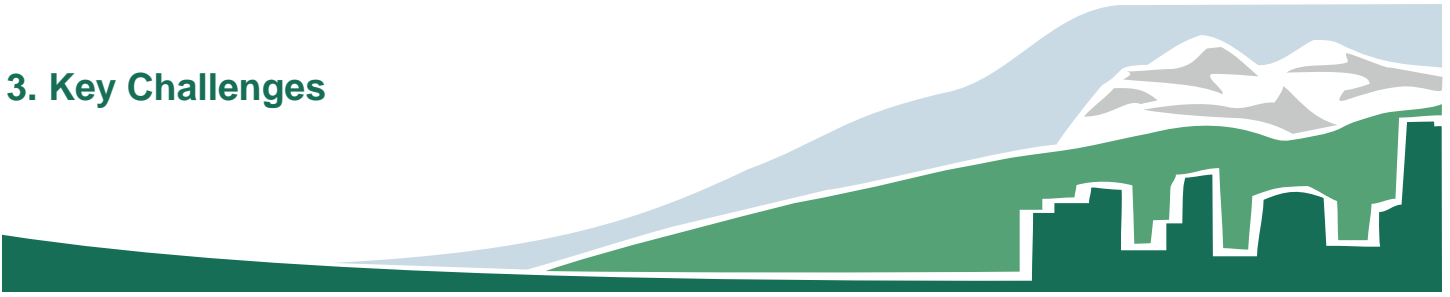
Climate change could have substantial impacts on the region. There is uncertainty about the timing, location, rate, and magnitude of impacts. Possible impacts could include flooding of low lying areas as a result of rising sea levels, an increase in spring and summer precipitation, frequency and intensity of extreme weather, and decreased snow pack. These changes could impact the availability and storage of drinking water, the function of infrastructure (storm sewers, low lying roads), agricultural and forest productivity, and occurrence of plant and pest infestations.

Key Challenges:

- Climate change is a global problem and the region needs to do its part to reduce greenhouse gas emissions.
- The region needs to find ways to make itself more resilient to of climate change impacts.



3. Key Challenges



3.1 Accommodating Growth and Conserving Our Resources

Challenge: *As the region's population continues to grow, we need to accommodate more housing, jobs, and services. How can we grow in a way that protects the non-urban areas that we all value, such as the agricultural areas, the mountain slopes, the stream and river valleys, and other areas of rich resource, habitat and recreational value? How can we grow in a way that also makes best use of existing and planned infrastructure?*

Key issues

The Greater Vancouver region is anticipated to grow by about 30,000 people per year for the next 25 years. The population of the region is expected to reach 3 million by about 2031. One of the key challenges of the growth strategy is to accommodate population growth while protecting our natural and agricultural areas. Protecting the region's spectacular mountains, ocean, rivers and forests for their ecological and recreation attributes is a core value expressed in countless surveys of Vancouver region residents and visitors.

Up until the 1970s, Greater Vancouver grew by developing hundreds of acres of valuable agricultural land each year on the fringe. People were so concerned by this loss of agricultural land that the Provincial government stepped in and created the Agricultural Land Reserve. As a result, Greater Vancouver has had a legacy not shared by many North American cities, of finding ways to accommodate growth without having to give up its valuable food-producing lands.

As we protect our natural areas, at the same time the residents of Greater Vancouver expect the regional partnership to make best use of infrastructure, such as utilities, transportation, and community services. Taking a regional perspective helps achieve the efficient delivery of services and keeps costs down for all residents.

A sustainable growth strategy needs to recognize an eventual limit to the urban expansion process and to recognize urban

land as a finite resource. The benefits of concentrating urban growth are clear. Intensifying urban development in established areas is usually more efficient and less expensive to service than in peripheral areas that require new services and infrastructure. Cost savings can be realized by using existing water and sewer mains rather than extending the system outward on the fringe. By containing the spread of the region, road capacity and public transit can be delivered more cost-effectively than in areas where development is dispersed. In a contained urban area, distances between origins and destinations are shorter and more trips can be made by walking and cycling. Shorter trips use less fossil fuel and generate less pollution. Compact development means there is less pressure to convert surrounding agricultural and environmentally-sensitive lands to urban uses.

Two key issues have been identified in relation to this challenge:

- 1) The region faces difficult strategic choices on how to accommodate the next 1 million people.
- 2) Does the region have the growth management tools it needs to manage growth?

1) The region faces difficult strategic choices on how to accommodate the next 1 million people.

Growth can be accommodated in a number of ways:

- a) intensification of development in established areas
- b) expansion in newly developing areas identified as urban in the LRSP
- c) expansion into the Green Zone
- d) expansion outside the Vancouver region into adjoining regions

The extent the region can intensify in established urban areas will in a large part determine how much more land will be needed in newly developing areas, and how much pressure that will be for development to spread into the Fraser Valley Regional District and in the Squamish corridor.

Potential for established areas to increase densities

By many measures, the region has been successful in growing in a compact way:

From 1991 to 2003, 35 per cent of the dwellings built in the region (72, 078) were single detached dwellings and 65 per cent were multi units (135,963);

From 1991 to 2001, the population of the regional town centres and Metropolitan Core grew by 68,250 residents, a growth rate of 41 per cent. During the same period, the region grew by 442,575, a growth rate of 29 per cent;

The population density within 1000 metres of the Expo Line rose from 34 persons per hectare in 1986 to 51 persons per hectare in 2001;

65 per cent of the population of the region resided in the Growth Concentration Area (GCA) in 2001. The overall density of the GCA was 32.5 people per hectare in 2001, compared to 13.4 people per hectare for the rest of the GVRD.

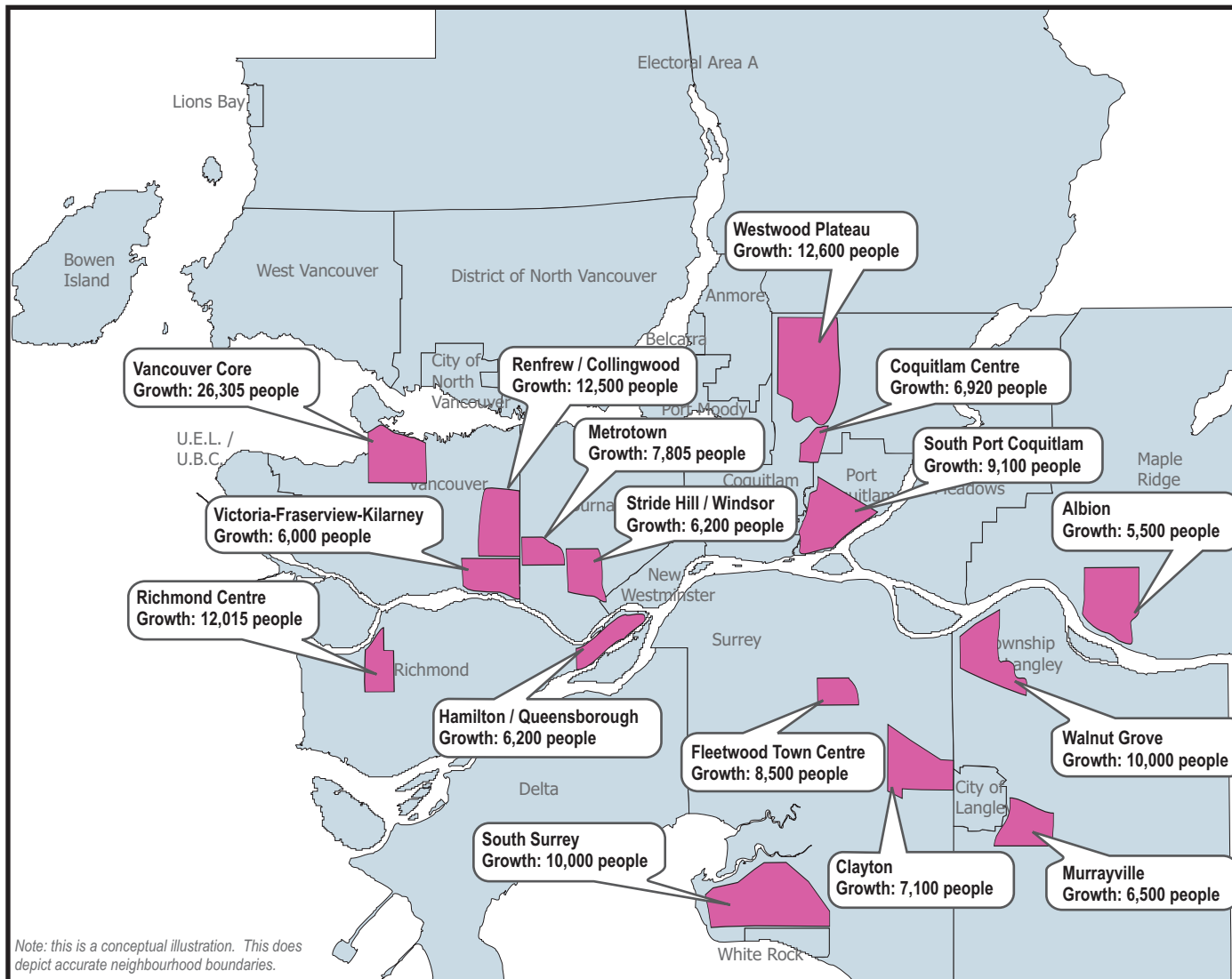
For the GVRD as a whole, densities increased from 18 people per hectare in 1991 to 22 people per hectare in 2001.

The established urban areas have capacity to continue to absorb increases in population and dwellings. The existing commercial lands along major arterial roads can redevelop to include significant residential densities. There is considerable potential in the rapid transit corridors at many transit stations as well. The accompanying map on page 17 shows the location of major developments within established areas and in newly developing areas from 1991 to 2001.

Throughout the region, detached dwelling areas occupy a large proportion of total land area. It is estimated that 90 % of residential land is zoned for single detached dwellings. Looking out to 2031 and accommodating an additional 750,000, it is likely that ways of intensifying the use of land currently reserved for single detached dwellings will become necessary and economically feasible as the land supply on the fringe diminishes, as housing affordability continues to be a problem, and as aging residents look for more housing choices in their own neighbourhoods. The challenge will be to add a variety of housing and still maintain the character and amenity of these neighbourhoods. Providing adequate community services, parks and sporting facilities, and transportation may be a challenge in some areas.

Many municipalities are finding ways to improve housing choice in established areas, through such methods as

Areas of Significant Population Growth, 1991 - 2001



reducing minimum lot sizes, allowing secondary suites, and allowing semi-detached and duplex housing. Some single detached housing areas have been rezoned to accommodate multi-unit dwellings.

For non-residential uses, development outside of the town centres continues to be largely car-dependent, usually in the form of large retail complexes with acres of surface parking. As mentioned in the economy chapter, some office uses which could locate in centres are choosing car-dependent business park locations and using much more land due to the low density of development. In the suburban areas, both retail and office densities are generally around 0.3 FSR, while the inner and middle ring areas are generally achieving

over three times the density, usually developing at a minimum of 1 FSR.

However, there are encouraging trends which suggest more intensification of commercial uses. For example, many large format stores are looking for sites closer to the population and where transportation choices are available to their customers. The large format retailing along Broadway, and in Coquitlam Centre and Metrotown are examples. In some neighbourhoods taking on significant residential growth such as Brentwood and High Gate in Burnaby and Newport in Port Moody, retailing has been integrated with the residential development.

Should the regional partnership provide more strategic guidance on where within the established areas, population and jobs should be increased to make best use of infrastructure? And should they provide guidance on where they should not be increased as well?

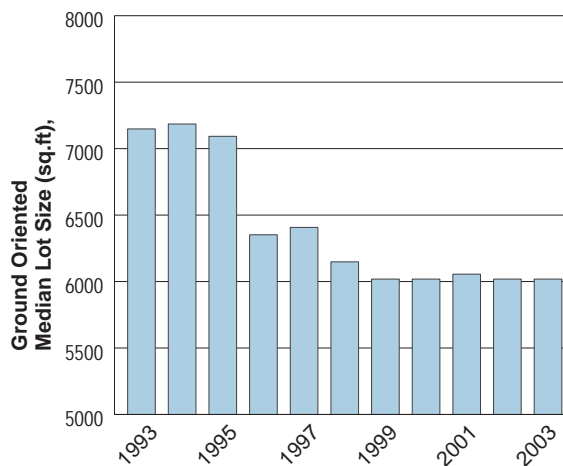
Expansion in newly developing areas

Most of the land used for new residential neighbourhoods are the result of the assembly of rural residential parcels ranging from ½ acre to several acres in size. There are eight large remaining areas slated for urban development that will take a large proportion of the growth in newly developing areas. In addition to these areas, there are a number of smaller areas around the region.

These eight large urban release areas could accommodate approximately 30 per cent of the forecast population growth (228,400 by 2031) at current density estimates. If the GCA continues to absorb 65 per cent, or 488,000 additional people (including NE Coquitlam), that leaves an additional 33,600 to be located in non-GCA areas. Preliminary figures from municipalities show that it could be a considerable challenge to increase the GCA population by 488,000. (See map on page 19)

Data on ground-oriented residential lot size shows trends across the region toward smaller lots. In 1991, ground-oriented housing was averaging 5.6 units per net acre (building parcel only) but by 2003, densities had increased to 6.4 units per acre. The accompanying graph shows that median lots sizes in suburban areas have declined from just

Suburban Ground-Oriented Residential Development in Greater Vancouver, 1993-2003



1. Suburban, for the purposes of this analysis, is defined by the Greater Vancouver areas lying South of the Fraser River (City of Surrey, City of White Rock, Corporation of Delta, City of Langley and Township of Langley), in the Northeast Sector (City of Coquitlam, City of Port Moody, City of Port Coquitlam, Village of Anmore, Village of Belcarra) plus the District of Maple Ridge and District of Pitt Meadows.

Ground-oriented residential development includes single family, single family with secondary suites, duplexes and row housing. For the purposes of this analysis, suburban lots are considered to be 2 acres (or less) in size.

Expansion outside the Vancouver region into adjoining regions

One of the consequences of the diminishing supply of land in the Vancouver region is increased pressure for growth in Squamish and in the Fraser Valley. The table below shows the change in the number of commuters from the Fraser Valley and Squamish Lillooet Regional District working in the Vancouver region. There has been virtually no increase in the numbers commuting from Squamish Lillooet to the Vancouver region (1,380 in 2001) However, the number of workers commuting from Fraser Valley Regional District to the Vancouver region continues to increase and totaled 23,830 in 2001.

There will likely be increasing pressure to release land from the Agricultural Land Reserve within the Vancouver region. It is argued that these land releases would help prevent further low density development in the Fraser Valley. However, the release of land in the Vancouver Region is unlikely to check low density development in the valley. Regardless of the level of land/housing prices in the Vancouver region, there will always be cheaper land in the adjoining municipalities. A focus on building complete communities (local jobs) in Squamish and the Fraser Valley, combined with managed residential growth and managed road capacity in these regional districts is a more sustainable long term growth strategy for the Lower Mainland.

2) Does the region have the growth management tools it needs to manage growth?

The regional partnership has the LRSP policies, the Agricultural Land Reserve, and transportation infrastructure as its growth management tools. The issues has been raised in SRI debates on the possible use of utility provision as a growth management tool.

The Growth Concentration Area as a Policy Tool : The accompanying map shows the area covered by the Growth Concentration Area as identified in the LRSP. The plan established a target of 70 per cent of population and jobs to locate within this area. The GCA makes up 46 per cent of the total urban area within the region. In preparing regional context statements, member municipalities are required to

Number of Jobs Located in the Vancouver Region Occupied by Persons Living in the Fraser Valley and Squamish-Lilloet Regions

	1991	1996	2001	Change 1991/96	Change 1996/01
Fraser Valley RD	15,835	19,390	23,830	3,555	4,440
Squamish-Lillooet RD	n/a	1,360	1,380	n/a	20

Source: Statistics Canada

Population Living in the Greater Vancouver, the Fraser Valley and Squamish-Lilloet Regions

	1991	1996	2001
Greater Vancouver RD	1,308,960 (89 %)	1,647,382 (88 %)	2,073,662 (88 %)
Fraser Valley RD	135,718 (9 %)	191,107 (10 %)	247,916 (11 %)
Squamish-Lillooet RD	19,512 (1 %)	25,067 (1 %)	34,533 (1 %)
3 Regions - Total	1,464,190 (100 %)	1,863,557 (100 %)	2,356,112 (100 %)

Source: BC Stats

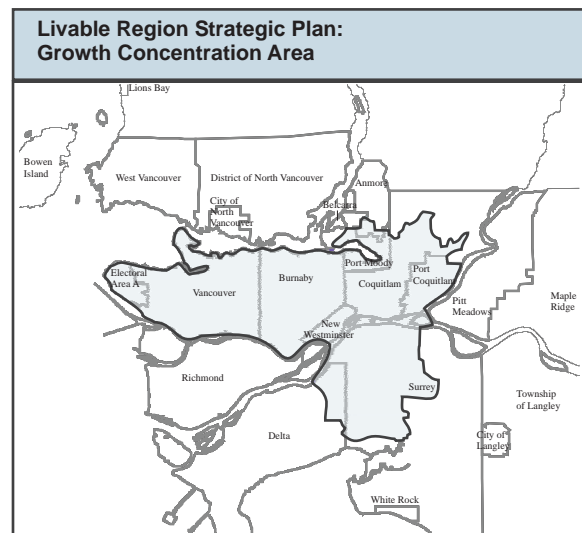
demonstrate how they will contribute to achieving this target. The rationale behind selecting the GCA boundary was to minimize pressure on the Green Zone, slow the rate of urban land consumption, create a better balance of jobs and housing, reduce development on hazard-prone land, minimize the need for bridge crossings, and make best use of costly urban infrastructure. The LRSP transportation network delineates the main rapid transit spines serving the Growth Concentration Area, as well as a spine connecting Richmond Centre.

At the time the LRSP was being prepared, it was estimated that only 50 per cent of all new dwellings would locate within the GCA, if past trends continued. As of the 2001 census, 65 per cent of the population resided within the GCA.

Municipalities have generally followed the GCA targets in establishing capacities in their Official Community Plans. However, some municipalities outside the GCA are showing excess capacity in their Official Community Plans, which if developed, would make it difficult to achieve targets.

Is the Growth Concentration Area still a valid concept? If so, is the target of 70 per cent still valid? To achieve a 70 per cent target by 2031, the GCA would need to absorb 81 per cent of the 2001-2031 population growth. One issue often raised is that the regional town centres outside of the GCA have been identified as growth centres for jobs and housing but are not explicitly acknowledged as part of the Growth Concentration Area (Richmond, Lonsdale, Langley and Maple Ridge). Should this be made an explicit policy? Or should the focus for regional growth be accomplished via a different mechanism, such as subregional housing and job targets?

The Green Zone as an urban growth boundary: The Green Zone is comprised of lands identified by member municipalities as lands worthy of protection from urban development. It contains agricultural areas, natural areas, and recreation areas. Overall, it would seem that the Green Zone, in conjunction, with other strong protection tools in individual Official Community Plans and the Provincial Agricultural Land Reserve Act, has assisted in containing the large scale spread of the urban area. Will the Green Zone continue to adequately serve as an urban growth boundary?



Does the regional partnership need to be more explicit about where urban development can occur and what type of urban uses are allowed in the Green Zone?

Transportation infrastructure as a tool to achieve growth management objectives: Transportation, both roads and transit, can play a major role in reinforcing growth management objectives. The LRSP identifies a rapid transit system that serves the GCA as well as a spine to Richmond Centre. Given the large investment committed for rapid transit, should the regional partnership be setting any direction to require host municipalities to direct more housing and jobs at transit stations?

Changes in road capacity can reinforce or detract from growth management. The City of Vancouver, for example, has a policy of not expanding vehicle capacity into the City so as to protect livability and encourage transit and walking. The possibility of expanding vehicle capacity on the Port Mann and Hwy #1 is a significant regional issue in the context of working toward a compact region. Before a decision is made, the region will need to know if any combination of growth management policies and transit capacity can help avoid the need to expand road capacity in this corridor.

Utilities as a growth management tool: The Greater Vancouver Sewerage and Drainage District (GVS&DD) controls the extension of sewer services by regulating a formal “sewerage area.” Only areas within a sewerage area may hook up to the local or regional sewer system, and this allows the Board to examine development proposals at the fringe to determine whether or not they constitute a breach of LRSP policies. A few proposals have come forward to the Board and these proposals have been judged on their merits and some have been approved while others have been rejected.

There has been some debate about whether sewerage area boundaries should be used as a way to control urban growth on the fringe. Regional growth strategy legislation (Local Government Act, Section 865) states that works and services undertaken by Board must be consistent with the growth strategy. However, there is also the view that regional planning regulation should provide the lead direction and utilities should reinforce these decisions. Under the current

system, where municipalities do not need to refer rezonings or OCP amendments to the GVRD, the only trigger for regional review is the sewerage area extension application.

The Current Policy Approach

The LRSP has a number of policies to address urban containment:

Establishment of the Growth Concentration Area as the focus for growth and infrastructure, with a target of approximately 70 per cent of population and

employment growth to be located within this area;

growth distribution capacities and OCPs required to demonstrate how share of regional growth is accommodated;

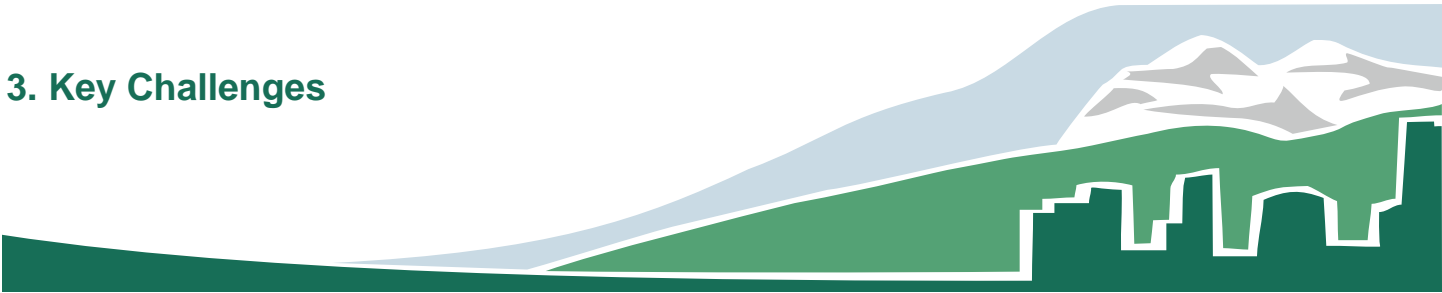
target maximum for vehicle volumes crossing the eastern boundary of the GVRD;

building a network of centres as nodes for jobs and higher density housing;

the Green Zone as an urban growth boundary.

(An evaluation of the success of the key policies have been provided in the preceding section.)

3. Key Challenges



3.2: Supporting a Sustainable, Competitive Regional Economy

Challenge: *How can growth management policies help support a sustainable, competitive and dynamic region by steering economic activity to locations which provide good access to jobs for workers, efficient good movement, and make the best use of infrastructure and land resources?*

Key Issues

The location of jobs is an important catalyst in the shaping of metropolitan regions. The spatial pattern of employment has a strong influence on the pattern of transportation demand generated from the labour force (length of trip and mode), on goods movement, as well as on place-making. The geographic jurisdiction of the GVRD encompasses almost the entire commuter shed and provides an effective spatial context to manage regional employment distribution and accompanying transportation needs. Four key issues have been identified in relation to how regional growth management can help support a competitive economy, improve access for workers and goods movement, and make best use of resources:

- 1) Ensuring An Adequate Supply of Industrial Land
- 2) Dispersal of Office Employment Outside of Centres
- 3) Achieving a Better Balance of Jobs and Labour Force Throughout the Region
- 4) Improving Goods Movement Efficiency

1) Ensuring An Adequate Supply of Industrial Land

Concerns have been raised about a future shortage of industrial land in the region. Industrial areas provide manufacturing, distribution, storage, repair, and a range of city-serving jobs. Current estimates of industrial land supply show approximately 8,500 acres available in total throughout the region. Based on trends of industrial land consumption over the last 10 years, this is the equivalent of about 25 years supply. However, this inventory is currently being examined as part of the LRSP review to get a more accurate picture.

**Jobs in Major Industrial Areas
GVRD, 1996 - 2001 ***

	1996	2001
Industrial Areas		
Annacis Island	10,270	11,085
Big Bend	5,435	7,075
Cambie/Clark	21,265	21,945
Cape Horn	7,270	7,845
Crestwood/Bridge	19,010	21,975
Gloucester	300	1,135
Port Kells	7,075	11,340
Still Creek	20,170	21,945
Tilbury	6,205	9,110
YVR	15,800	19,265
Total for Industrial Areas	112,800	132,720
% of GVRD total Jobs *	13.6%	14.7%

* Place of Work data excludes employment with 'no fixed workplace.'

There is considerable development pressure in many parts of the region, particularly in central areas, to rezone industrial land to a land use which yields higher real estate returns such as housing, retailing, or office developments. However, many industrial users have chosen these central locations to be near workers, markets, and transportation routes, etc. The rezoning of centrally-located industrial lands to non-industrial uses may impact on competitiveness of some industries, create longer trips for goods, services, workers and clients.

The majority of undeveloped industrial land is in Richmond and in Surrey. In Surrey, a major supply of industrial lands is being opened up in Campbell Heights. While, new supply is important, there is concern that this location in the region will create long trips for workers and for goods movement.

There have been recent proposals to remove land from the Agricultural Land Reserve both in Greater Vancouver and in the Fraser Valley in order to provide more industrial land supply. The agricultural areas are important economic generators in their own right.

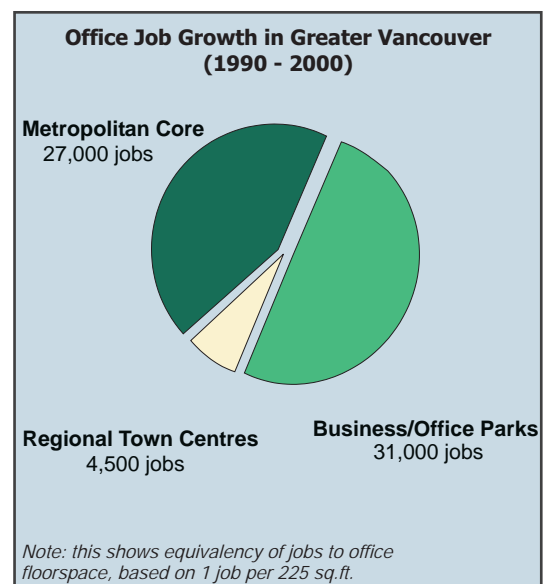
With more emphasis on conserving land supply, should ways of encouraging more industrial activity on existing industrial lands throughout the region be explored? Should measures be taken to reserve industrial lands for those industries that cannot locate in centres? Should the region become more active in identifying and protecting the supply of industrial land in the region or should the onus continue to be on individual municipalities to decide how much land to zone for industrial purposes?

2) Dispersal Of Office Employment Outside of Centres

A significant proportion of office employment that could locate in the Metropolitan Core and town centres is dispersing to locations outside these centres.

An analysis of the distribution of office floorspace constructed between 1990 and 2000 showed that of the 14 million square feet constructed:

- 46 per cent of the office space located in the Metropolitan Core



7 per cent located in Regional Town Centres
 47 per cent located outside of these centres, largely in
 business parks

A campus setting, cheaper land and construction, large floorplates, and free parking are the main attractors of out-of-centre office locations. Individual municipalities could choose to not permit these office uses outside of their centres but often choose to allow them in order to capture more jobs within their municipality and to build up their commercial tax base. The concern is that if the office use was restricted to the town centre location, it might cause businesses to locate in another municipality.

However, from a sustainability perspective, dispersed office locations have a number of impacts at the individual, local and regional level:

Travel Demand Problem: Offices located in industrial areas/business parks pose a significant travel demand problem. Their locations require most workers to depend on a car. They detract from the efficiency of the transit system, by depriving the system of potential customers, and drive up transit service delivery costs by running routes where they are not cost-effective. They increase the demand for road capacity throughout the region, and on a local scale, they add many more vehicles to industrial areas and interfere with goods movement.

Approximately 50 per cent of all transit trips made for work purposes in the region are to jobs located in the Metropolitan Core or in Regional Town Centres.

The accompanying table shows the poor performance of office parks in enabling workers to take transit or walk to work compared to the Metropolitan Core and Metrotown. Over 90 per cent of work trips to office parks are made by car, compared to about 70 per cent in Metrotown and less than 50 per cent in the Metropolitan Core.

Census data also show that work trips made to office parks are longer on average than trips made to jobs in town centres or to the Metropolitan Core, as shown in the accompanying table.

**Job Location Affects Transit Use:
How workers get to work**

Travel Mode	Metro Core	Metrotown	Office Park
Auto driver	43%	64%	85%
Auto Passenger	6%	7%	7%
Transit	39%	21%	5%
Walk/bike	12%	9%	3%

Statistics Canada Census 1996

**Workers in business parks
have longer work trips**

Job Location	Median Commute Distance
Metropolitan Core	7.1 km
Metrotown	7.5 km
Richmond Centre	5.4 km
East Richmond Business Park	10.1 km
South Burnaby Business Park	10.9 km

Statistics Canada Census 2001

Urban Space Consumption: On average offices in business parks are achieving densities of about 0.3 to 0.5 FSR when all parking is provided at grade. There are example of offices in business parks achieving more than 1.0 FSR with some structured parking. However, floorspace densities for office buildings with underground parking located in a town centre are generally much higher. Less parking is required in centres as more workers are using transit or walking to work.

Environmental Impacts: Some office park developments have created important environmental benefits as the land is moved from industrial to office uses. The land value uplift allows the rezoning process to capture some environmental improvements, such as greenways and parks. However, there are also negative environmental impacts, largely associated with air quality. Higher levels of common air contaminants and green house gas emissions result from car-based employment locations. In addition, the large surface parking lots create considerable storm run-off.

Economic/Fiscal Impacts: Office parks offer a range of choice of sites not available in town centres, especially for offices wanting to have large floorplates. They generally offer lower cost /rent alternatives than town centres and provide parking on-site.

Municipalities seek to capture offices for their commercial tax base. A change of use from industrial to office usually, but not always, results in more tax revenue. However, attracting offices to centres yields much higher tax returns than office park locations. An analysis of property tax revenues from office developments in town centres compared to office parks showed that taxes levied in centres on a *building* square foot basis were 80 % higher in the centre (\$4.60 versus \$2.60 per square foot buildable) and 20 times higher than on a *site* square foot basis. (\$18.00 versus 0.90 cents per square foot).

Looking for Ways to Minimize the Impacts of Business Parks

TransLink has been investigating ways to provide cost-effective transit to the business parks and are working directly with employers and employees. For business parks located near SkyTrain stations, it is likely that some progress can be made. For those away from SkyTrain, it will be

Jobs in Metropolitan Core and Regional Town Centres, 1996 - 2001 *

Centres	1996	2001
Metropolitan Core	160,780	165,950
Regional Town Centres		
Coquitlam Centre	7,145	9,595
Langley Town Centre	15,440	16,725
Lonsdale	13,530	13,895
Maple Ridge Centre	4,565	5,110
Metrotown	17,245	19,270
New Westminster	6,435	7,190
Richmond Centre	25,960	27,510
Surrey City Centre	11,530	13,305
Regional Town Centres plus Metropolitan Core	262,630	278,550
% of GVRD Total Jobs*	31.7%	30.9%

* Place of Work data includes 'work at home', excludes employment with 'no fixed workplace.'

Approximately 50 per cent of all transit trips made for work purposes in the region are to jobs located in the Metropolitan Core or in Regional Town Centres.

difficult as it will often take the workers two or three bus/train transfers to get to work.

The location of offices near industrial users may provide some opportunities for industry to provide their waste heat to their office neighbours.

There are recent examples in the United States, of attempts to reduce the impacts of office parks by transforming them into more mixed use developments, with housing and retail uses. However, adding housing may not be a practical solution in Greater Vancouver as some of the office parks have a mix of industrial uses and goods movement requirements. The remote location of the existing business parks could also pose a problem in providing community services, schools, etc for new residents. For retailing, municipalities could choose to locate retailing in these areas now but retailing needs over and above the needs of the workers would result in car-based shopping and may compete with existing centres.

There is evidence that the market for office parks is changing. A recent office market report by Avison Young (July 2004) stated:

Most companies cannot afford to offer everything their employees want on site. These office tenants will look to the surrounding community to provide amenities...These amenity requirements are increasingly pulling many tenants away from isolated business parks and toward downtown, town centres, and other highly urban areas (such as West Broadway). Transit access is also a concern or even a requirement for many companies.

Some real estate experts predict that many factors will contribute to an increase in the attractiveness of town centres in the longer term. As congestion increases, the price of energy increases, road tolls are put into effect, transit use becomes more important in location decisions, and companies look for town centre amenities to attract labour in an increasingly competitive environment, it is predicted by some that office parks will lose their current competitive edge.

The savings from cheaper land and construction costs associated with office park locations accrue to the tenant and owners of these buildings. The higher costs of travel fall partly on the workers, but higher transportation infrastructure costs and congestions affect all regional residents. Should the region look at some sort of tax-basing sharing mechanism to help reduce inter-municipal competition for commercial assessment?

To protect community investment in centres and transportation infrastructure, and minimize environmental impacts, should the region take measures collectively to make centres more attractive working /investing environments and discourage out of centre locations? Or should the region continue to let the office market decide where they want to locate, regardless of short and long term local and regional impacts? What proportion of office space could locate outside of centres without undermining growth management objectives? What role can local/regional government play in catalyzing development in preferred locations?

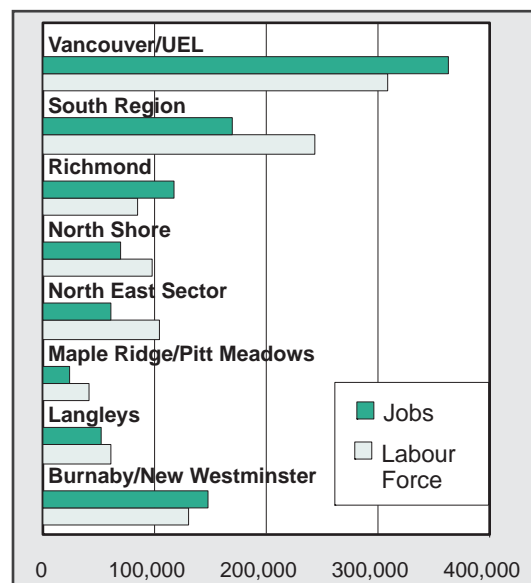
3) Achieving a Better Balance of Jobs and Labour Force Throughout the Region

There is a concern that current employment distribution trends are working against achieving a jobs/housing balance in all parts of the region.

Creating a better balance of jobs and labour force is an important local and regional goal. The essence of this concept is accessibility: help minimize the need to travel long distances for work by bringing jobs closer to home and homes closer to work. An important dimension of accessibility is to increase opportunities for transportation choice, by ensuring as many jobs as possible are located on good transit, and if achieved, the balance can deliver important livability benefits as well as savings in transportation infrastructure. Many municipalities often translate jobs balance to “tax base” objectives and pursue a balance in order to increase ratio of non-residential properties.

For balance to be achieved, there needs to be a match with the types of jobs and types of housing, not only the absolute

Jobs and Labour Force by Subregion, 2001



Statistics Canada Census 2001

numbers of jobs and housing. The goal for most municipalities is to try and create a diversity in the jobs available locally and a diversity in housing stock to maximize the opportunities for a good jobs/housing balance.

Individual municipal boundaries are often a poor basis of determining job/housing balance. For example, the City of North Vancouver residents enjoy high accessibility to the jobs in Downtown Vancouver, while the residents in North Surrey have good access to jobs in Delta. The table below shows job and labour force growth from 1991 to 2001 by subregion. The most striking imbalances are in the City of Richmond, City of Burnaby, and the Langleys where many more jobs than residents in the labour force were added during this period. The South Region was able to improve its jobs /housing balance, there was a slight improvement in the North East Sector, while Maple Ridge/Pitt Meadows declined slightly.

To a large degree, jobs/labour force objectives can be achieved through the development of the Metropolitan Core, the network of centres, along with a good subregional

Jobs to Employed Labour Force for Greater Vancouver Subregions, 1991 - 2001

Subregion	1991 Labour Force	1991 Jobs	1991 Jobs to LF	2001 Labour Force	2001 Jobs	2001 Jobs to LF
Burnaby/New Westminster	104,270	120,735	1.16	120,680	148,580	1.23
Langleys	42,204	34,770	0.82	57,550	52,455	0.91
Maple Ridge/Pitt Meadows	28,939	17,630	0.61	39,070	23,430	0.60
North East Sector	73,720	44,695	0.61	97,100	61,370	0.63
North Shore	85,167	59,445	0.70	91,673	70,170	0.77
Richmond	66,475	85,990	1.29	79,510	117,475	1.48
South Region	169,090	113,775	0.67	226,766	169,600	0.75
Vancouver/UEL	244,180	334,395	1.37	282,971	364,025	1.29
GVRD Total	814,045	811,435	1.00	995,320	1,007,105	1.01

Notes to Table:

Jobs are "total jobs" which includes the municipal allocation of "no fixed" workplaces and the inclusion of persons who reside outside Greater Vancouver but who commute into the region for work.

Total No Fixed jobs (105,390) is the combined total of No Fixed POW of persons having a POR in GVRD (102,595) plus an estimated number of No Fixed POW persons having a POR outside GVRD (2,795).

No Fixed POW is distributed municipally based on the 2001 Census Usual Place of Work by Industry distribution -- except for Construction which is distributed on the basis of the municipal distribution of total value of building permits experienced over the 1996-2001 period.

South Region includes Surrey, White Rock and Delta

Electoral Area 'A' figures excludes University Endowment Lands

Indian Reserves figures we assigned to their adjacent municipalities

Bowen Island included in North Shore

Source: 1991 and 2001 Census of Canada

Jobs/Housing Balance? Is it still relevant?

A key concept of metropolitan planning in the Vancouver region since the 1970s has been to increase the opportunities for residents to live close to their work or work close to home. Minimizing the length and time of a work trip can be difficult for the metropolitan resident as there are many factors to consider besides job location when it comes to deciding where to live. These facts include price, type, and tenure of housing, transportation costs, location of schools, location of other household members' work, proximity to relatives, and amenities. However, information on journey to work patterns show important evidence that people will try to minimize their work trip length if the opportunity is available.

- Renters commute significantly less distance than homeowners (40 per cent of the dwellings in the Vancouver region are occupied by renters)
- Over 20,000 people walk to their jobs in the Metropolitan Core, and in Metrotown, Lonsdale and Richmond Town Centre about 1,500 residents walk to work in each of these town centres.

Tenure	Median Commuting Distance (km)
Owned	8.5
Rented	5.9
Total	7.6

Source: Statistics Canada, 2001 Census

- In a recent survey of residents living near a number of SkyTrain stations , 46 % said the proximity of SkyTrain influenced their decision of where to live. (Urban Systems, 2004)
- From 1996 to 2001 the median work trip length showed a very slight improvement moving from 7.7 kilometres to 7.6 kilometres. But the proportion of long trips decreased significantly and the proportion of short trips increased.

distribution of industrial areas. The airport, port, and major educational institutions will also continue to be important employment nodes.

The Metropolitan Core and town centres provide a focus of retail, office, and community service jobs. Their locations offer more opportunities to promote transportation choice, with their good transit access, and large number of workers living within walking distance of the centre. As “knowledge industry” and service workers continue to make up an increasing proportion of the total work force, the opportunities to capture more jobs in town centres will increase.

4) Improving Goods Movement Efficiency

Goods distribution is an important part of the economic base of the region. Greater Vancouver serves as the gateway to the Province, the rest of Canada, and the Pacific Rim. At present over 100 million tonnes of cargo pass through the region. Projections from the ports and airport forecast continued considerable growth in cargo and passengers.

Increasing levels of road congestion are causing concern about the possible impact on the economic competitiveness of the region. The Greater Vancouver Gateway Council is concerned by rising congestion levels in the Vancouver Region:

Congested roads, railways, ports and airports and outmoded equipment are deterrents to efficient carrier operations and, over time, cause carriers, and the shippers and travellers they serve, to use other more cost effective routes. Massive new US investments in transportation and an increasingly congested urban road system in the Lower Mainland region promise to erode the Gateway's ability to provide competitive and efficient connections.

Tourism also depends on efficient gateway facilities, as well as an effective transit and road system. There are approximately 8 million visitors to the region annually, resulting in \$3.5 billion in direct tourism spending, with an estimated impact of \$7.5 billion in secondary benefits and the support of 89,000 jobs.

Some road supply solutions are planned. The Provincial Gateway program is in the advanced design stages of the South Fraser Perimeter Road which would connect the industrial areas Langley, Surrey and Delta to Deltaport. The Golden Ears Bridge is expected to improve goods movement access to Hwy #1 in the eastern parts of the region. These facilities were identified in the LRSP. Transport Canada, TransLink and the Province have programs underway to improve border crossing logistics and have initiated a comprehensive goods movement study.

However, road supply solutions alone are not likely to solve goods movement problems. A combination of land use, road/rail/barge and transit supply, as well as pricing policies will be needed. Identifying and protecting industrial areas for

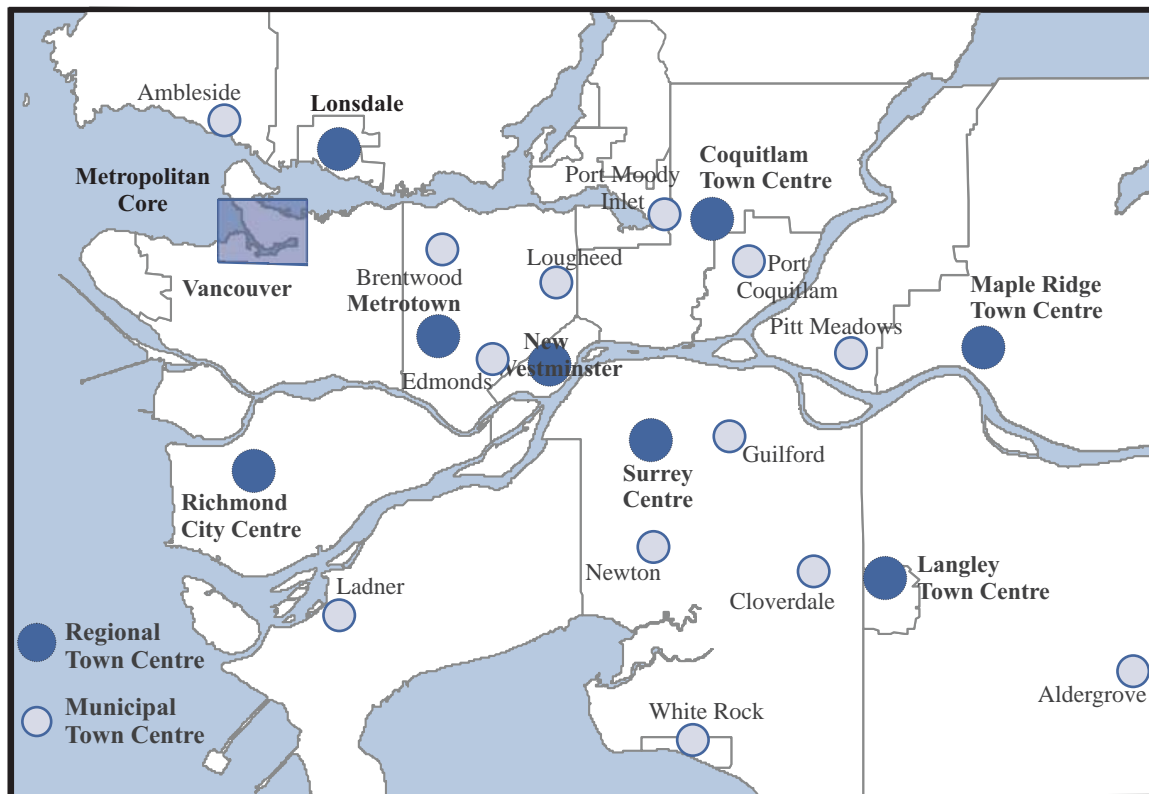
industrial uses will reduce congestion within the industrial areas and in corridors serving the region. Rail right of ways and barge nodes also need to be protected.

If town centres are able to capture a larger proportion of jobs than in the past, this will also help the goods movement problem, by shifting some work trips from car- based to transit trips. What combination of supportive land use policy, demand-side management and supply-side management is optimal from to support freight and goods movement in the region? How can we provide for more efficient goods movement, without encouraging more sprawl, auto dependence and renewed congestion that will again constrain goods movement in the long term?

The Current Policy Approach

The LRSP's spatial plan identifies the Metropolitan Core and a network of eight Regional Town Centres, as well as a number of Municipal Town Centres. This pattern of metropolitan

A Network of Centres



development is the principle means identified in the plan for advancing a jobs/housing balance - by steering jobs near homes and homes near jobs.

The plan envisions a rapid transit system connecting the Metropolitan Core and most of the Regional Town Centres. Regional Town Centres are meant to be the transportation hub for each of the subregions they serve and the focus for jobs, major institutional facilities like colleges and hospitals, major retail facilities, and higher density housing. The eight Regional Town Centres have population catchments ranging from approximately 100,000 to 200,000 people and each have a unique history, urban form and character. Municipal Town Centres are the civic and retail centres for smaller municipalities, and in larger municipalities, they serve several neighbourhoods.

The LRSP contains only general policies for the development of centres, for example “ *Seek through partnerships on complete communities the development of a network of high- quality mixed activity urban centres supported by an appropriate level of public transit and a range of community services and cultural facilities for residents and employees*”. Another policy states that the partnerships should seek “*the promotion of private sector investment in the business growth of centres.*”

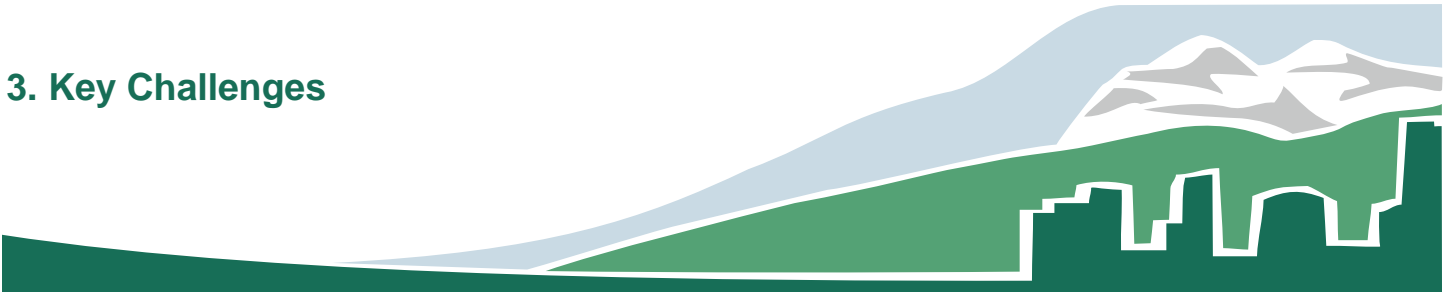
The LRSP does not provide clear signals to the private market (or public) on the significance of the centres network. The centres were not named in the body of the LRSP text, although they appear on the LRSP map as 'dots'. The LRSP does not provide any policy on less desirable locations for major employment, nor does it give any direction on the relationship of spatial planning and transit corridors other than to say “*achievement of adequate and population and employment densities to support planned transit services.*”

The LRSP contains general policies to promote jobs/housing balance..... *Seek through partnerships on complete communities: a better balance in jobs and labour force location throughout the region, a diversity of housing types...in balance with job distribution.* The network of centres is the only spatial strategy designed to advance a jobs/housing balance. The Plan contains population and household capacities for each municipality but no job targets, except for

a target figure for the Growth Concentration Area. There are no regional policies on industrial land.

A Plan policy states that priority should be assigned to goods movement over singleoccupant vehicles. One of the objectives of an auto-restrained and transit-oriented transportation is to assist in efficient goods movement by giving residents options to use public transit and walk, and therefore help save road capacity for goods movement. Some of the proposed regional transportation routes shown in the Plan are designed to provide better access to industrial areas and the port and airport.

3. Key Challenges



3.3 Advancing the Green Region

Challenge: *One of the key challenges of sustainability is to maintain Greater Vancouver's ecological integrity, its food-producing lands and outdoor recreational areas while advancing social and economic objectives. How can we manage urban development in a way that minimizes our local and global impact on natural systems and resources? How can we develop in a way that also maintains and enhances our recreational and ecological assets throughout the region?*

Key Issues

The Greater Vancouver region is endowed with unparalleled natural assets. The Fraser is the greatest salmon river in the world and its estuary provides habitat for millions of migratory birds. The estuary provides the most productive farmland in the Province supplying a healthy, secure source of food as well as important habitat and greenspace. The North Shore forests and the region's watersheds have some of the greatest biodiversity (or variety of species and ecosystems) in the Province and are home to a number of endangered species and ecosystems. These forests purify the region's drinking water and act as a major carbon sink for green house gases.

The regional mosaic of parks, open spaces, streams, greenways and urban forest enhances our communities by providing easy access to nature, cultural heritage features and a range of outdoor recreation opportunities. These areas also perform important functions such as managing our storm runoff which avoids constructing added costly infrastructure. These natural features define the character of Greater Vancouver and make it one of the most livable places in the world. With global threats such as climate change and energy scarcity, these assets are even more valuable as they provide resiliency of our natural environment and a supply of natural resources for the region. Protecting these assets while accommodating 30,000 people a year is a major challenge as we plan for the future.

There are four main issues associated with maintaining the region's natural assets:

- 1) Protecting a regional system of ecologically important lands;
- 2) Protecting the Agricultural Land Reserve and maintaining a viable and sustainable agricultural land base ;
- 3) Managing growth and development to maintain ecological functions; and
- 4) Providing outdoor recreation opportunities to meet growing needs.

1) Protecting a Regional System of Ecologically Important Lands

For many decades, residents of the region have recognized the need to protect ecologically sensitive areas that provide significant regional benefits, from development. These areas provide our drinking water, recreation opportunities, habitat for many species and contribute to the region's unique "sense of place."

About 30 per cent of the region's land base or 83,545 hectares (206,436 acres) is protected in parks, conservation areas and the GVRD watersheds. There have been substantial gains to this network of protected lands and waters in the past decade. For example, a number of important lowland and upland forested and foreshore areas, tidal flats and riparian areas have been secured through the Nature Legacy Program, the establishment of numerous Wildlife Management Areas and additions to parks. Additions to this rich reserve are continually being made. Approximately 2,140 hectares (5,285 acres) were added to the regional park system in the past year with the acquisitions of Burns Bog and Codd Island Wetlands. Paying for conserving regionally important ecological areas is increasingly challenging for local, regional and senior governments.

While a substantial portion of the region is protected in these areas, there are many regionally significant ecological areas that have been developed and lost. For example, large tracts of forested mountain slopes, bogs, wetlands and many streams and riparian areas have become urbanized. There are a number of similar areas that are planned for future development.

Aside from the loss of ecologically sensitive areas, fragmentation of habitat has the greatest impact on the

region's ecological viability and biodiversity. Fragmentation of natural areas from development creates islands of disconnected habitat that are not large enough to sustain species or ecological functions. This has resulted in a number of species and habitats being under threat from decline and extinction in the region. The Lower Mainland has the highest number of species at risk in the Province and many of these are found outside of protected areas.

Another threat to the region's ecological viability and biodiversity is the introduction of invasive species. Invasive species are non-native species introduced to an area that take over and become out-of-balance with natural ecosystems. A number of invasive species have rapidly spread within our parks and conservation areas and other parts of the region as a result of development and the movement of goods and services.

Climate change will bring many uncertainties for ecological systems. Potential impacts include: flooding, drought, forest fires, the loss and introduction of species and habitats and the loss of biodiversity. Conservation of the region's biodiversity is essential if the region is to address these threats. Consistent with international, national and provincial efforts for sustainability, conserving biodiversity should be a priority as the region plans for the future. In order to conserve biodiversity, we will need to ensure the protection of a highly functioning, connected system of natural areas and a diversity of ecosystems representative of the region's landscapes.

2). Protecting the Agricultural Land Reserve and Maintaining a Viable and Sustainable Agricultural Land Base

Maintaining an adequate supply of productive farmland is essential for regional sustainability. Agricultural lands provide a healthy, secure supply of food for the region and for export and are an important component of the regional economy. The accompanying table shows the economic contribution of agricultural lands and growth in the agricultural sector in the region.

Looking to 2031, there is significant uncertainty in our future energy sources. Oil supply is forecast to decline in the next 20-30 years bringing a marked increase in pricing and greater

**Farm Gate Sales in the GVRD,
1986 - 2001**

	1986	2001
Number of Farms	2,963	2,854
Hectares in Farm Use	37,922	39,735
Annual Gross Farm Receipts	\$273,639,800	\$698,053,400
Farm Wages Paid	\$30,830,900	\$144,422,600

Statistics Canada, Census of Agriculture

uncertainty in the market. This will have a major impact on the transportation of goods and services and the form of our cities. These factors will likely cause a greater reliance on our regional food system. Protecting the region's agricultural land base provides security for these uncertainties.

Approximately 64,700 hectares in the region are within the Agricultural Land Reserve (ALR). The ALR was established in 1973 to protect lands suitable for agriculture, based on biophysical attributes, under the *Agricultural Land Commission Act*. During the 26 year period between 1974 and 2000, the ALR has seen a total net loss of about 5,680 hectares in the GVRD. During the same period, the rate in net loss of ALR land has significantly declined and the reserve has remained largely stable during the past 10 years.

Development pressure on agricultural land is significant in some parts of the region due to various factors such as scarcity of land and the comparatively low cost of large, flat parcels of land which may attract speculation in a growing economy. Currently in Greater Vancouver, there are applications to remove in the order of 515 hectares (1,272 acres) from the ALR including applications on Barnston Island and in the District of Maple Ridge.

Protecting agricultural land from development is not enough to sustain regional agriculture. There are numerous challenges to maintaining a viable agricultural land base including:

- small size of farms affecting economic viability;
- compatibility with adjacent land uses and management of the edges on both sides of agricultural and urban areas;
- increases in rural residential development on agricultural land (primarily smaller sized undeveloped parcels zoned rural residential);
- the need for more local processing and marketing of agricultural products;
- coordination of regulations of various levels of government;
- environmental management; and
- intensification of agriculture and potential issues of loss of habitat and biodiversity, emissions management and risks of disease outbreak in the food system.

3). Managing Development to Maintain Ecological Functions.

Maintaining the region's ecological viability goes beyond protecting lands for conservation purposes. Developed areas of the region have ecological systems and functions that also need to be maintained if we want to sustain the benefits they provide. Streams and riparian areas, open spaces, tree and vegetation coverage help to regulate stormwater, microclimate, air quality and water quality and provide habitat for a diversity of species. They provide a range of recreation opportunities that contribute to the health of residents. These benefits enhance livability and property values in communities. Developers and businesses often capitalize on these assets to market housing and attract and maintain a stable work force.

Despite these values, development trends in the region have resulted in the fragmentation of natural areas and an impairment of ecological functioning. One of the greatest impacts has been on hydrological systems and aquatic habitat. Increases in impervious areas and the loss of open watercourses have resulted in increased run-off, flooding and destruction of aquatic habitat, particularly for salmon. GVRD studies conducted in developing the Liquid Waste Management Plan (LWMP), indicate urban watershed health may decline with growth of the region by 2036 if measures to maintain riparian areas and hydrological functions are not implemented. One of the policies within the LWMP (Policy 25) is for municipalities to undertake integrated planning to address stormwater, land-use and infrastructure issues on all urbanized watersheds in the region (those with =80% within the Green Zone) by 2014. Coordination with regional and local growth management policies and plans will be required for effective implementation of this policy.

Significant impacts to habitat and species result from the fragmentation of the landscape from development. Many species cannot sustain their populations in isolated habitats. Connectivity of habitat is essential to allow species to migrate, to forage and breed, and meet their needs throughout various life stages. Invasive species are a major threat to biodiversity in all parts of the region and often proliferate in urbanized and developing areas.

Most municipalities in the region have established measures to protect ecological systems as part of community development. For example, many municipalities have adopted measures to protect streamside areas and environmentally sensitive areas, undertake integrated watershed (or stormwater) management, develop recreational and environmental greenways and manage vegetation. Specific measures to protect natural systems are often required in developments. However, the costs of low impact development can be a disincentive to developers. Overall, local environmental measures tend to address areas within municipalities without adequate consideration of



broader ecological systems within the region. In order to maintain Greater Vancouver's ecological integrity, there is a need for region-wide objectives and management strategies in key areas such as biodiversity conservation, watershed management and greenways connectivity.

4) Providing Outdoor Recreation Opportunities to Meet Growing Needs

The provision of abundant and diverse outdoor recreation opportunities that meet users' needs is essential to the health, well-being and economic prosperity of the region. The regional system of parks, open spaces and greenways also serves to protect and enhance the region's ecological integrity.

With expanding recreational interests and population growth in the region, outdoor recreational needs are increasing and land and resources for these purposes are becoming scarce. Changing demographics bring specific outdoor recreation needs such as more opportunities for the rising number of seniors and a greater range of opportunities and facilities for diverse abilities and cultures. A variety of outdoor recreation opportunities in close proximity to places where residents live, work and play is required for sustainable communities. The decreasing budgets of senior governments for managing outdoor recreational lands is placing additional demands on regional and local outdoor recreation systems.

The regional system of parks, open spaces and greenways involves federal, provincial, regional and local governments, private land owners and businesses. common objectives and coordination between all of these players is needed to provide an effective regional outdoor recreation system.

The Current Policy Approach

The LRSP addresses the region's ecological viability through policies to protect the Green Zone. The Green Zone includes lands designated by member municipalities for no urbanization including: community health lands (drinking watersheds and wetlands), ecologically important lands, renewable resource lands (farmland and forest reserves), and scenic and recreation lands.

Approximately two thirds of the region, or 201,000 hectares, is within the Green Zone. Municipalities are responsible for protecting the Green Zone. Areas within the Green Zone and policies to protect the Green Zone are specified within regional context statements.

There have been no formal changes to the Green Zone boundary since the LRSP was adopted. There is a lack of clarity about the specific boundary of the Green Zone due to inadequate mapping data and there are no specific guidelines on permissible uses or the management of Green Zone areas. Staff are currently updating mapping of the Green Zone and working with member municipalities to develop a parcel-based GIS map of the Green Zone. There is significant evidence of increasing development or threat of development within the Green Zone. There is also a lack of clarity on the status of lands within the Green Zone that become excluded from the ALR.

There is a high degree of variability in the types of lands designated within the Green Zone across the region. Some municipalities designated their streams, riparian, foreshore and greenways areas in the Green Zone while others did not. This variability has affected the connectivity and the viability of the regional system of lands and waters protected from urban development.

The LRSP does not address the system of ecological features and functions that extends beyond the Green Zone or the relationship between the natural and built environment.

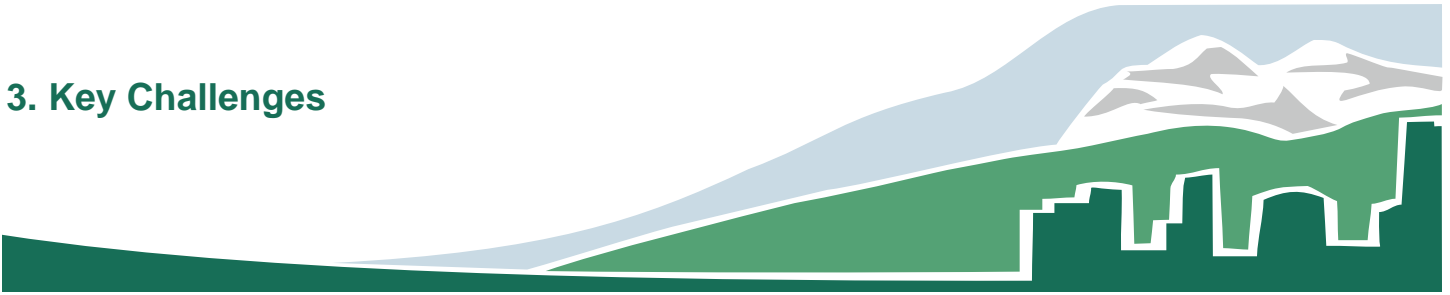
However, it does attempt to address some of the above issues through a number of policies to “seek through partnerships” :

- 4.1 *the identification of additional lands to include in the Green Zone;*
- 4.2 *the development of new tools for the protection of the Green Zone....;*
- 4.3 *increased protection for Green Zone areas at risk from urban development*
- 4.4 *the viability of agriculture through enhanced planning for agriculture....;*
- 4.5 *the viability of the region's ecology through such measures as an interconnected systems of wetlands, upland habitats and wildlife corridors;*
- 4.6 *minimization of pressure on the Green Zone through management of urban areas.*

A Parks and Outdoor Recreation System (PORS) is contained in the LRSP showing major parks and outdoor recreation areas, significant recreational or ecological coastlines, and potential recreation and wildlife corridors or greenways. Policies support the incorporation and advancement of the PORS with member municipalities, federal and provincial agencies and other parties.

A “Greenways Vision” was adopted by the GVRD Board in 1999 incorporating a system of recreational and ecological linkages between Green Zone areas. Greenways sector plans which refine the PORS concept have been prepared for much of the region. Several regional greenways have been established in collaboration with member municipalities and numerous municipal greenways have been developed in support of these plans. GVRD Parks are completing a *Regional Parks and Greenways Plan* for consideration by the Board as part of the Sustainable Region Initiative in 2005. The plan outlines the role of GVRD Parks and identifies directions for collaboration with other levels of government, non-governmental and other organizations in delivering a coordinated system of parks, conservation areas and greenways. It proposes the development of a GVRD Parks and Open Space Plan to more specifically guide land assembly for the regional outdoor recreation and conservation system, program delivery, funding and partnerships.

3. Key Challenges



3.4 Designing for Sustainable Communities

Challenge: *As the population of the region continues to grow and change, how can we ensure that we are providing healthy, well-designed, resource-efficient and safe communities that offer access to a diversity of jobs, a range of housing types, community and cultural services, and recreation?*

Key Issues

Many people's idea of a good place to live includes the notion of choice: *Can my children walk or take transit to their school and activities? Can I find a part-time job close to home? Will there be suitable housing for me in my neighbourhood when I no longer need a detached house and yard? Are we able to get rid of a car without sacrificing mobility? Where can I sit and watch the world go by?* Unfortunately, in many neighbourhoods in the region, these opportunities are very limited.

A sustainable region is made up of sustainable communities. Housing choice, good urban design, safety, walkability, a sense of community, energy and resource efficiency, transportation choice and good access to jobs, services, education, and recreation, and cultural activities are the vital ingredients.

This section focuses on three key issues that need to be addressed in building a region of sustainable communities.

1. Providing more housing diversity than is presently available to meet the changing needs of the population
2. Creating healthier neighbourhoods where driving is an option rather than a necessity, and energy and resources are conserved.
3. Creating more vibrant and inclusive neighbourhoods and centres that help foster a sense of place.

1) Providing more housing diversity than is presently available to meet the changing needs of the population

Looking out to 2031, the region will have an older, more ethnically diverse population, and the number of people per household is likely to decline. While there are encouraging trends toward more housing diversity, there is a mismatch between current housing stock and the future needs of the

population. Building and land use regulations need to respond to these needs by looking for more flexibility in both house design and neighbourhood design.

Providing housing for seniors in areas that are accessible to services and amenities will be a significant and growing challenge. For many seniors, remaining in their own neighbourhood and downsizing to a smaller home or townhouse is not an option since there is often a lack of housing choice. Most seniors will prefer to remain in their communities, requiring a greater emphasis on housing choice and increasing physical accessibility within houses and neighbourhoods so those with increased physical and sensory impairments can remain active and engaged in the community. Regional and municipal town centres and more community and neighbourhood level centres, will provide opportunities for housing that meets the wide ranging needs of seniors that is accessible to services, amenities and long-established relationships.

Housing affordability continues to be a serious problem in the Vancouver region. For renters and home owners alike, finding affordable well-located housing is becoming more difficult. Forty per cent of households in Greater Vancouver are renters. In 2001, 44 per cent of renters in the region paid in excess of 30 per cent of their income on rent. Among homeowners, 24 per cent of homeowners paid more than 30 per cent of their annual income toward their own home. All together, in 2001, 235,000 households in Greater Vancouver were paying over 30 per cent of their income for housing.

The housing affordability problem is a dilemma that goes beyond local and regional planning, but nevertheless planning policies play an important role. Regulation and cost charges, land supply, and the role of local government as enablers and/or partners in housing projects are all key parts of the solution. Creative solutions, such as the City of Vancouver's requirement for social housing in major projects, will need to be found throughout the region, especially in well-located areas with good access to jobs. The provision of small suites within apartments at the UniverCity development at Simon Fraser University in Burnaby is another example of innovation in this area. Opportunities for assisted housing or lower cost units in large infill development projects will become increasingly important.

Baby boomers are going to have lots of extra space in their homes as they become empty nesters. More flexibility in housing design which allows homes to be divided into one or more units as well as in zoning bylaws which could permit more than one dwelling unit per lot are needed. This flexibility can also assist in providing more affordable units and more diversity. Smaller units also help meet energy/resource efficiency

objectives with less area to heat/cool and less materials used in construction.

Homelessness in Greater Vancouver is a complex and growing problem and requires a regional approach. A 24 hour “snapshot” count of the homeless in 2002 found approximately 1200 people. Homeless people were found in every municipality in the region. Addressing homelessness in Greater Vancouver through a regional approach means integrating the continuum of shelter and support services and providing facilities and services throughout the region so that people can stay in their home communities.

Creating healthier neighbourhoods where driving is an option rather than a necessity, and energy and resources are conserved

During the 1960s through 1980s many neighbourhoods in the region were often comprised of low density housing, separated from commercial activity. The road pattern was designed to keep out through-traffic but as a consequence moving around other than by car became difficult. More recently, the density of residential development is intensifying, even in the fringe areas, but unfortunately road patterns still lack connectivity and non-residential uses, such as shopping, tend to take the form of sprawling, low density shopping complexes only accessible by car.

The terms used to describe new thinking in neighbourhood design, such as transit- oriented development, urban villages, and green neighbourhoods all embrace the idea that we can design communities that turn driving into an option, rather than a necessity for at least for some trips, create more energy efficient neighbourhoods, and at the same time preserve livability.

Individual Canadians account for about 25 per cent of Canada's greenhouse gas emissions. Personal transportation accounts for 51 per cent of these emissions. The next highest proportion comes from space heating which accounts for about 26 per cent of personal ghg emissions.

How cities are built is a strong determinant of individual green house gas production. Studies in several Canadian cities have demonstrated that households living in inner areas produce much less ghg emissions through their urban travel patterns than those living in the outer areas. The main reason is that in the older neighbourhoods, the cities are designed to give residents the choice of making many trips on foot or by bike or transit and consequently car ownership and use is lower. In the outer neighbourhoods, there are often no shops or facilities within walking distance, densities are too low to support good transit, and consequently car travel becomes a necessity for most trips.

Vehicles are the prime source of common air contaminants, including particulates and ground level-ozone which contribute to smog. Measure to make neighbourhoods less car-dependent will also work toward improving the air quality of the region.

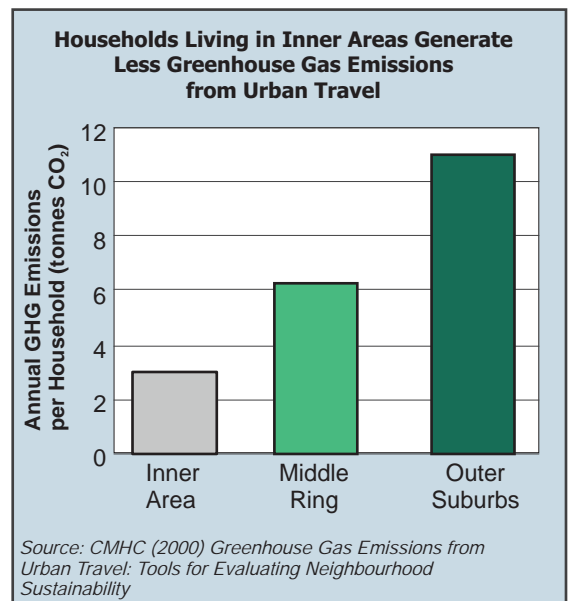
Many recent studies have also shown that over-reliance on car travel can impact personal health and fitness. Those living in the outer suburbs are making most of their trips by car and as a consequence find little opportunity to work in exercise as part of their daily routine. Studies on walkable neighbourhoods with shops and service nearby show that this urban form is more conducive to finding ways to fit in at least a few minutes of walking everyday, whether it is to the bus stop, or to the corner store. Studies have also shown that walking and cycling to school reduces the incidence of child obesity, and helps children learn healthy living habits from a young age.

The demand most buildings and communities place on resources and infrastructure such as fuel, building materials, water, sewage and stormwater is not sustainable in the long term. Buildings will need to maximize efficiencies and work to protect and use natural systems. For example, heating through solar access, on-site stormwater management and geo-exchange heating systems all utilize the benefits of natural system.

The green buildings movement is leading the way in demonstrating how we can use less energy and reduce ghg emissions in space heating/cooling and lighting. Green buildings and green infrastructure innovations also point the way to using less water and materials, and reducing stormwater run-off. Concepts such as green location, eco-industrial networks, and co-generation emphasize the need to look at energy and other resources in ways to reduce their use and make better use of waste outputs. The cost savings accrued from green buildings/green locations will become more pronounced with rising energy and material costs.

3) Creating more vibrant and inclusive neighbourhoods and centres that help foster a sense of place.

With growing congestion problems and expanding metropolitan areas, the importance of town centres has



gained renewed interest throughout North America as a key way of advancing place-making, enhancing livability, supporting transportation choices, increasing access to jobs, services, and expanding housing choices. A focus on centres is found in core principles and values in the smart growth movement as well as in planning for sustainability.

During discussions at workshops and in the working groups formed for the Sustainable Region Initiative, the issue of creating attractive urban places of lasting value was frequently raised. Discussions often revolved around the desire to be part of a neighbourhood which offered a traffic-calmed, pedestrian- friendly environment, where business districts were designed for more than just for commerce but for community gathering places, where and where arterial roads were designed for more than just the movement of cars.

A number of municipalities have been careful stewards of their urban villages, main streets, and commercial centres. However, in other cases, the impact on centres created by new stand-alone retail and entertainment developments have not been properly evaluated. Municipalities have often accepted whatever the market offered without evaluating how to make the development work best for its community in the short term and long term. There are instances where large format retailing could have been provided in an existing centre, rather than rezoning land outside the centre, often in locations only accessible by car. This creates a problem for employees reaching work who do not own a car, as well as for residents who do not have access to a car. It can also take away from the viability of existing centres, where significant community investment is at stake.

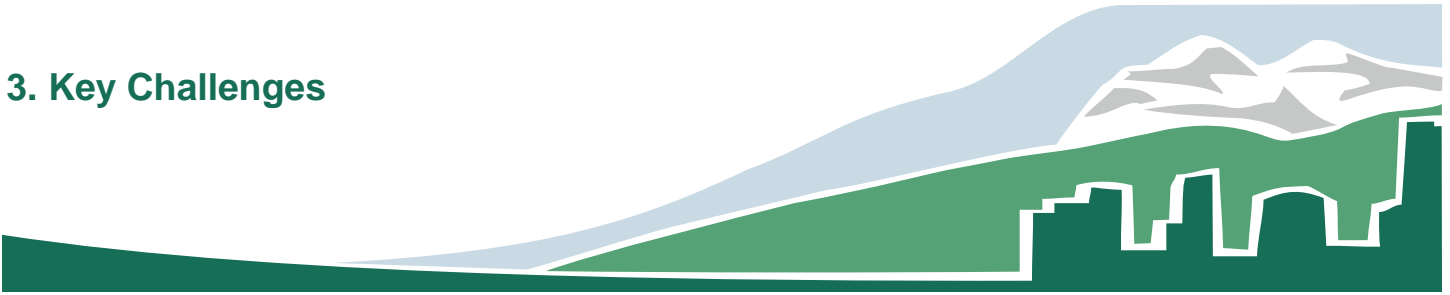
Landscapes dominated by parking and hostile arterial streets are among the features that most detract from the place-making in centres. Designing streets as part of a place, providing better transit access, and looking for ways to improve livability will all improve the quality of neighbourhoods and centres.

It is often stated that the quality of a city can be measured by the quality of its public plazas and community meeting places. Locating community services and cultural facilities in centres adds to the vibrancy of the centre and also makes these facilities accessible to youth and the elderly. Recognizing the importance of heritage, both in buildings and traditions, and fostering a wide range of cultural activities are also key elements of community building.

The Current Policy Approach:

The LRSP contains a number of policies to advance complete community objectives, some of which also respond to sustainability objectives:

3. Key Challenges



3.5 Connecting Growth Management and Transportation

Challenge: *As the population of the region grows, employment decentralizes, and the number of trips for work, shopping, school, recreation etc. continues to rise, how can we increase the proportion of trips made by transit, walking, and cycling as well as help reduce trip lengths to help reduce the negative environmental impacts of travel and how can we keep the roads working efficiently for businesses and residents?*

Key Issues

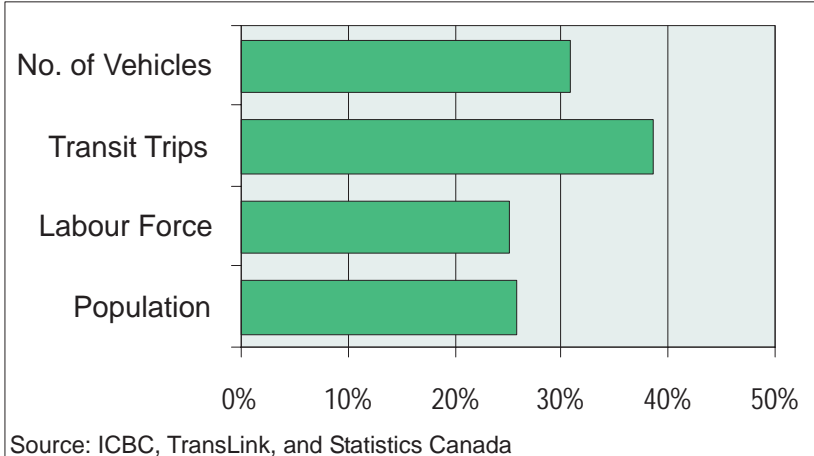
The Greater Vancouver Transportation Authority (GVTA) is responsible for the planning, implementation, and maintenance of the regional transportation system. The Province is responsible for the planning and construction of provincial highways that serve Greater Vancouver and has been an active partner in rapid transit corridor planning and financing. Transportation is rarely an “end” in itself. Rather, it is a “means” by which other ends can be achieved, by providing access to social, educational, economic or recreational services and facilities. As a result, the types of transportation demand the region experiences and the means by which they can be served are largely determined by the location of housing, employment, industry and other activities within the urban fabric.

Several of the issues raised in previous chapters illustrate the important linkages between land use and transportation. Chapter 3.2 outlined the linkages between transportation and a prosperous economy. This chapter does not attempt to provide a comprehensive overview of all transportation issues, rather its focus is on strategic issues in connecting land use and transportation.

With a projected population of almost 3 million by 2031, if past trends continue, the registered vehicle population could grow from 1.28 million in 2004 to about 1.75 million by 2031. Expanding the road network proportionally is simply not affordable, feasible, or environmentally acceptable to the region's impacted communities.

On a regional scale, we have not yet made appreciable progress in shifting a higher proportion of trips to transit, walking, or cycling. However, nor have we gone in the opposite direction of increasing car use, as have many metropolitan regions. It is estimated on a 24 hour basis for all trip purposes, about 10.8 per cent of all trips are now made by transit (2004), compared to 10.4 per cent in 1999. The accompanying graph shows how

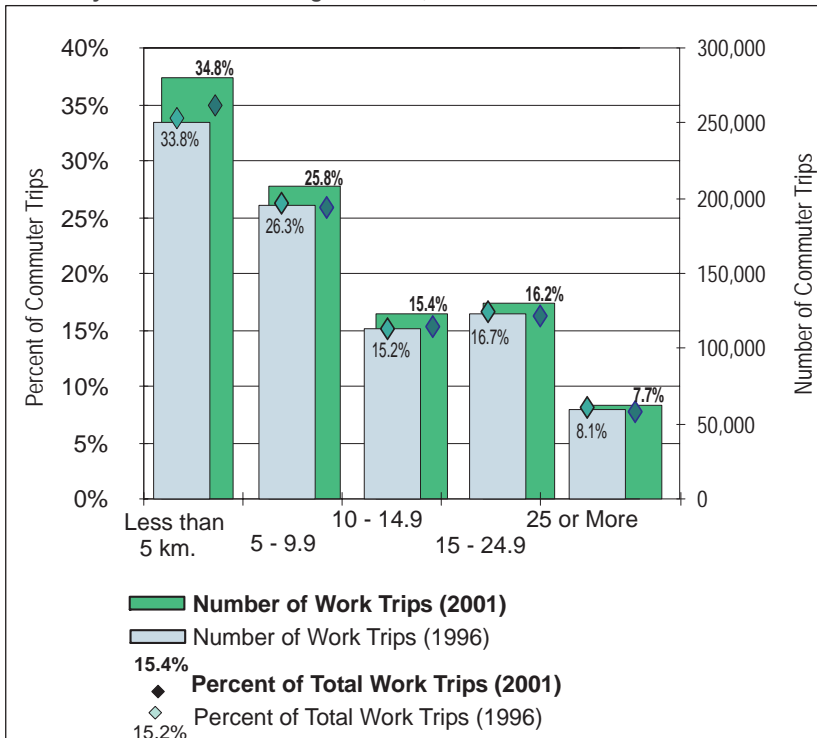
**Transit Trip Growth Outpaces Vehicle and Population Growth.
Per Cent Growth 1993 - 2003**



transit trips are growing at a faster rate than population, labour force, and the number of vehicles.

In addition, the latest census results show that the median length of the journey to work has stayed about the same. The large increase in the number of small short trips compared to the increase in the number of long trips is an encouraging sign that we are at least heading in the right direction (see accompanying graph).

Journey to Work Commuting Distance, 1996 - 2001



Source: Statistics Canada

Addressing transportation requires a simultaneous focus on three key issues:

- 1) Supportive land use patterns and urban design are essential in making alternatives to car travel more practical.
- 2) An increased focus on transportation demand management measures is necessary to achieve cost-effective transportation investment.
- 3) Transportation supply needs be managed in a way that reinforces growth management objectives as well as demand management objectives.

These three issues were the key issues identified in the region's long term plan (*Transport 2021*) and remain current today. Unfortunately, too often regional transportation planning and debate has focused on supply and individual projects while the role of land use and transportation demand management is often underestimated.

Accelerating the shift from car-dependence and an increase in transit, walking, and cycling will help reduce the current negative environmental impacts of travel in the region. Transportation (all sources) now accounts for 40 per cent of green house gas emissions in the region. Transportation is also a significant contributor to common air contaminants. Noise and injury/fatality issues associated with traffic. The expense associated with car ownership are also considerable livability and sustainability issues for the region. A reduction in car travel also has significant economic benefits by creating more road space for goods movement.

- 1) Supportive land use patterns and urban design are essential in making alternatives to car travel more practical.**

This section scans the key issues connecting transportation and land use, some of which have been covered in other chapters.

Out-of-centre auto-oriented land uses

Large trip-generating uses such as offices, retailing and entertainment complexes often choose to locate on stand-alone sites removed from centres and from transit access where land is cheaper and easier to consolidate into large parcels. The isolated sites are difficult and costly to serve by transit, not part of a cohesive neighbourhood or district, are not pedestrian-friendly and require travel by car for workers and shoppers. This in turn leads to more road congestion. They can also undermine the role of existing centres and reduce opportunities for centre residents to walk to shops and services.

Undervaluing transit-oriented development as a key tool in creating sustainable regional land use patterns

Transit-oriented development is a key tool in achieving efficient regional land use and transportation choice goals. When a significant number of trip origins and destinations are well-linked by transit, transit becomes a much more viable option. A strong network of transit-oriented centres has been a fundamental building block in successive region plans. While important progress has been made in attracting housing and retail development in many of the regional and municipal town centres, more can be done to enhance these centres as vibrant places to live, work, and play. In some cases, the importance of centres as nodes in the larger regional system are not recognized and existing regional and community investment in centres is not protected.

There is significant development potential along the rapid transit corridors

The regional rapid transit rail network is a multi-billion dollar investment. The Metropolitan Core is the transit hub of the region and regional town centres are transit hubs for their subregion and accordingly are the most accessible transit locations for jobs. Planning for these centres need to recognize and protect their key long term role as employment nodes, as well as places to live, shop, and access services and entertainment.

Beyond these centres, new communities have been created along the rapid transit lines to take advantage of the regional transportation access such as Brentwood, Joyce-Collingwood, and Edmonds. Considerable residential development potential exists at a number of transit stations on existing and planned corridors. The City of Surrey, as part of the Transport Canada/TransLink Urban Transportation Showcase Program is currently preparing plans to help realize significant transit-oriented development at Surrey Central and King George SkyTrain stations. New Westminster is also looking at development potential around several SkyTrain stations.

Some neighbourhoods continue to be designed predominantly around car access rather than promoting transportation choices

While residential densities are increasing in established areas and in most newly developing areas, many neighbourhoods continue to require a car to get around. With an aging population, the importance of alternatives to car travel will become even more important in order to give seniors the lifestyle choice of being able to walk to shops, services, and recreation. Sidewalks in good repair, safe crossings, and good lighting will become increasingly important.

Traffic engineering and street design need to respond to both travel needs and place-making

Too much emphasis is often put largely on moving cars and placing large parking lots at the road's edge. This orientation makes it difficult to create attractive, pedestrian- oriented centres.

Cost-effective transportation services for low-density areas.

In some areas of the region, both residential and employment densities are too low to be able to provide cost-effective public transportation now or in the future. The costs per rider simply cannot justify the regional transit expenditure. In 2004, the TransLink Board adopted new *Transit Service Guidelines* to work toward an objective rationale for the allocation of services, based on cost, efficiency, prospects to attract new riders etc. These guidelines have established a performance measure of minimum boardings per hour of 35 riders in peak hours and 25 boarding per hour in non-peak hours. If routes fail to meet this level of ridership, they will be reviewed and possible remedial action will be taken. These guidelines are an important planning tool for communities wanting to improve transit access and they need to be built into development review processes.

Planning for efficient goods movement

Planning for goods movement, either internal to the region or inter-regional, has not received adequate attention in Greater Vancouver. As a Pacific Rim gateway, distribution is a large part of the Greater Vancouver economy. Long term planning needs to recognize the road, rail, and water-based infrastructure requirements as well as land requirements for economic activity. TransLink, the Province and Transport Canada have recently initiated a comprehensive goods movement study for the region. The GVRD is currently undertaking the compilation of an industrial land inventory. Implementation strategies will need to include policies addressing the need to provide goods movement vehicles with greater priority on the region's roads, address sustainability objectives, and be tailored to the special conditions found in the Greater Vancouver Region.

Many municipalities have addressed at least some of these issues outlined above, but more progress is needed. Individual municipalities make these land use and traffic engineering decisions. However, the impacts are felt at the individual, local and region-wide level. For example, having jobs located off the transit system denies workers the ability to use alternatives to car travel, requires them to own a car to get to work, deprives the transit system of fare revenue, and creates pressure on the regional road system. GVTA analysis shows that in order to significantly increase the

number of trips made by transit, land use planning will need to become much more transit-oriented.

2) An increased focus on transportation demand management measures is necessary to achieve cost-effective transportation investment.

The concept of demand management is integral to all infrastructure provision- electricity, water, waste reduction, etc. Applied to transportation, the focus is on a number of strategies: What can be done to help eliminate some trips?, what can be done to shorten trips?, what can be done to switch more trips to walking, cycling, and transit?, and finally what can be done to move some trips outside of peak hours? By putting in measures to decrease demand, the regional system can work more efficiently and cost less money and time for residents and businesses.

Pricing

Pricing can be a very powerful demand management tool. For example, the introduction of a low cost transit pass at UBC and SFU combined with an increase in parking charges resulted in immediate large increases in transit ridership, in excess of 35 per cent.

Currently, the gas tax (11.5 cents a litre of the Provincial fuel tax collected in Greater Vancouver is dedicated to the GVTA, 2004) is a funding mechanism for transportation services, as well as a disincentive to car use. Tolling will be introduced for the Golden Ears Bridge. However, how it will be applied on a broader scale is a major issue yet to be resolved. As a user pay system, it has equity and demand management appeal compared to funding mechanisms such as property taxes which is paid on a household/business basis no matter how little or how much they use the transportation system. Tolls can be used to pay for specific new facilities and, more broadly, to address network needs and promote efficiency. In *Transport 2021*, it was intended that tolls and vehicle levies would help finance new road and transit infrastructure by 2006.

Need for Transit Priority

The GVTA has identified the need for more bus priority measures, including bus lanes, to improve transit service speed, reliability and cost-effectiveness. The transit system can be made more effective if significant priority is given to buses on the crowded roads in the region to allow them to bypass traffic congestion, speed the service and make it more reliable, efficient and attractive. The difficulty in most areas will be in expanding road capacity. Transit priority will therefore need to come largely from dedicating existing travel lanes or parking lanes to transit priority. The

challenge will be how to do this in a way that it does not impact communities and detract from residential amenity and business viability. Preserving the vitality of these commercial areas will in turn encourage more walking trips.

The Future of HOV lanes

The formation of carpools and vanpools has been more difficult than envisioned in *Transport 2021*, for a number of reasons related to lifestyle, child care logistics, location of jobs, parking pricing, and alternative travel opportunities available. For example, a number of surveys have demonstrated that workers will choose transit over car pooling, where transit services are adequate. Surveys also show that the price of parking is an important determinant in the level of car pooling achieved. Car occupancy rates in peak periods are currently xx compared to xx in 1996. The region's vanpool service (delivered through Jack Bell Foundation) is facing a significant challenge in maintaining and expanding the user base, and many of the existing HOV facilities feature only a 2+ occupancy requirement in part to avoid the 'empty lane' syndrome. The future of car pooling and hov lanes will need to be analyzed as part of an integrated supply, demand and pricing approach for transit and car-based travel.

Parking Management

Parking strategies, using both supply and pricing as levers, are powerful tools to help manage the transportation system. However, coordinating the supply, regulation and pricing of parking in an equitable manner across the region's diverse communities raises many issues. Many municipalities are looking for ways to reduce parking requirements for new development. The GVTA is instituting a parking stall tax. The amount of the tax is not likely to serve as a demand management tool but it is a step toward recognizing the importance of parking in demand management throughout the region.

The expansion plans for rapid transit I the Richmond/Vancouver corridor and Coquitlam will include the provision for strategic park and ride facilities to encourage transit use in these corridors. GVTA's *2005-2007 Three-Year Plan and Ten-Year Outlook* also includes the development of a regional parking strategy.

3) Transportation supply needs be managed in a way that reinforces growth management objectives and demand management objectives.

For a regional growth management strategy to be successful, decisions on transportation supply, whether it is road or transit, cannot be made in isolation of growth management directions or demand management strategies. Yet they often are, for a number of reasons:

immediate pressure to solve a traffic congestion problem;
a focus on meeting long distance trips demands over shorter distance trip demands
lack of commitment to growth management strategies, and time lag in growth management solutions being able to help solve transportation problems;
trends in the provisions of services to centralize in one large facility rather than be neighbourhood or district-based: (big box retailing, religious meeting places, sports field complexes, medical facilities, etc)
difficulty in making trade-offs in allocating road space priority;
difficulty in gaining acceptance of demand management measures.

The debate around the Port Mann/Highway #1 proposal is a good illustration of the need for growth management, demand management, and supply decisions to be made in an integrated way. Would capacity increases lead to less congestion, if so for how long, and at what cost and benefit and in what parts of the region? Before a decision is made on road capacity increases in this central regional corridor, the potential for land use decisions and pricing mechanisms to dampen vehicle-based demand need to be closely examined.

Road Supply

Several road projects identified in *Transport 2021* have been completed, such as the Barnet Highway HOV facility and HOV lanes on Highway #1, and others, including the North and South Fraser Perimeter Roads, and the Golden Ears crossing are in the planning stages. TransLink is implementing a number of investments to the regional major road network and additional investments are identified in the *GVTA's 2005-2007 Three-Year Plan and Ten-Year Outlook*.

Transit Supply

While there has been significant transit supply expansion, in many parts of the region, transit service is not at levels to offer residents a viable alternative to the automobile. Rapid buses will continue to play an important role in transit servicing. The *GVTA's 2005-2007 Three-Year Plan and Ten-Year Outlook* identifies future rapid bus routes, including a King George Highway service in Surrey.

The Millennium line was completed in 2002. An extension of this line to the Coquitlam Centre is planned for completion in 2009. The Richmond-Airport-Vancouver line is scheduled for completion in 2009. The important connection of the Millennium line to the Richmond-Airport-Vancouver line in the Central Broadway area is necessary to help complete the regional

rapid transit network. Detailed planning for this project is slated to be completed by 2013, within the broader context of servicing UBC, the second busiest transit destination in the region.

Cycling Network

The GVTA's *2005-2007 Three-Year Plan and Ten-Year Outlook* has given more attention to the importance of cycling than previous regional plans. The plan provides for capital programs to help build the regional network and matching funding for local projects. The bike racks on buses, bike storage facilities at key transit interchanges, provision for bicycles on SkyTrain in off-peak hours, are important supportive elements to transit-oriented development.

Current Policy Approach

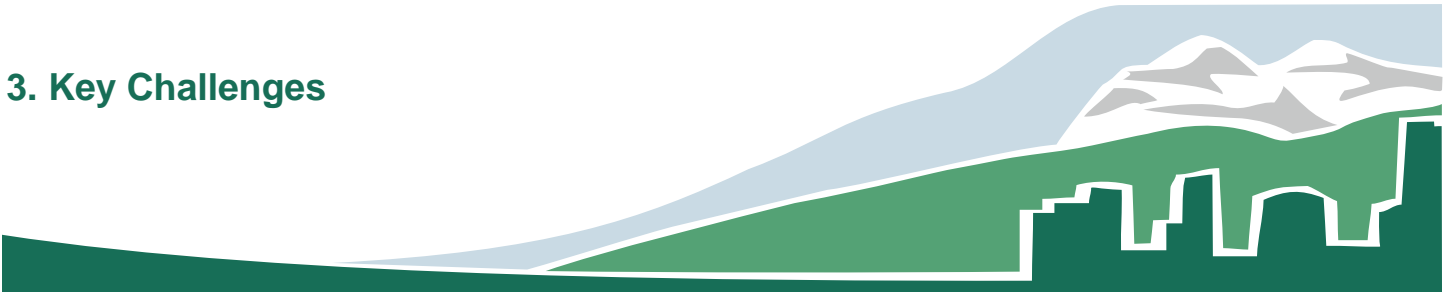
The transportation choice section of the LRSP is based on the policies derived from *Transport 2021*, a joint provincial/regional medium and long term plan endorsed by the GVRD Board in 1993. The LRSP contains general policies to work toward a transit-oriented and auto-restrained transportation system:

- the LRSP map shows transportation infrastructure to support growth management objectives;
- achievement of a compact region helps reduce trip length
- the network of centres provides a spatial organization of activity which can help reduce the length of trips, help transfer trips to transit, walking, etc through transit-oriented development;
- there is a general policy on demand management as fundamental transportation requirement, but no specifics;
- there is a general policy on goods movement- maintain appropriate level of service.

The GVTA's *2005-2007 Three-Year Plan and Ten-Year Outlook* provides a detailed short and medium term framework for transportation planning and implementation and is available at http://www.translink.bc.ca/Plans_Protects/10YearPlan/default.asp.

The Provincial Ministry of Transportation also undertakes transportation projects in Greater Vancouver. They are currently in the advanced planning stages for the South Fraser Perimeter Road and North Fraser Perimeter roads. They are also examining the feasibility of expanding the Port Mann Bridge and Highway #1 corridor.

3. Key Challenges



3.6 Delivering Effective Regional Growth Management

Challenge: *The responsibility for implementing the Livable Region Strategic Plan does not reside with the GVRD alone. The LRSP is a shared approach to growth management, and the primary implementation actions are taken not by the GVRD Board, but by municipal partners. The GVTA and the Province also have implementation roles. The supporting legislation aims for agreement and consensus, and does not provide mechanisms for compliance or enforcement. The challenge is implementing the plan when the consensus is not clear, or when differing interpretations emerge among partners.*

Key Issues

In *British Columbia Planning Law and Practice*, William Bullhozer observes that British Columbia was one of the first jurisdictions in Canada “ to recognize that local decisions on land uses and infrastructure planning are often best made in the regional planning context.” Regional planning boards were first established by the Province through the 1948 *Town Planning Act*. In 1965, when regional districts were created by the Province, the preparation of regional plans were among the district's responsibilities. However, in 1983 the Provincial government abolished regional planning in order to help deregulate development approval processes.

The regional growth strategy legislation introduced 12 years later by the Province in 1995 (Local Government Act, Part 25) needed to strike a balance between re-introducing some sort of system for regional planning but at the same time could only go so far in limiting local self-determination. Accordingly the legislation was written around consensus-building with municipalities and was careful not to establish a conventional two-tiered system of planning control.

According to the Local Government Act, regional growth management is a responsibility shared by many levels of government in British Columbia. The provincial government must ensure that local government has the tools and mandates necessary to accomplish local growth management objectives, and must ensure that provincial actions and decisions support regional objectives. Municipal governments and the Greater Vancouver Transportation Authority must not only contribute to the creation of the regional growth strategy, but must also subsequently undertake the primary actions and development decisions in support of the strategy. Municipalities

must direct the growth of their communities. Finally, the regional district must lead in the development and adoption of the strategy, and must monitor both the successes and challenges faced in the on-going implementation of the strategy. Ideally, the regional growth strategy will also rely on the understanding and support of both the regional public and the private and non-profit sectors of the economy."

The LRSP document, by virtue of needing the approval of all member municipalities also had to be crafted in a way that protected local autonomy and had to be general enough that everyone could agree. It represented a first step in the re-establishment of addressing growth management issues on a region-wide basis.

As a consequence of this legacy, the implementation of the regional growth strategy is impacted in two different ways:

- 1) The Livable Region Strategic Plan policies are subject to broad interpretation
- 2) The Local Government Act Lacks Clarity in Role of Regional Partnership

1) The Livable Region Strategic Plan policies are subject to broad interpretation

The policy language of the LRSP is frequently general and therefore subject to broad interpretation. For example, terms such as "better balance," "equitable distribution," and "adequate densities" provide a general direction but no clear outcomes. The language of shared vision and values is often less specific than the language of targets and requirements.

A similar problem exists with the plan's maps and tables. Maps of the transit and road elements of the plan illustrate corridors and some differentiation by types of facility, but very little guidance is provided on timing, technology, or even specific alignments and capacities. The numerical growth targets for population, employment, and household distribution (Table 1) provide only a crude division between a defined Growth Concentration Area and everywhere else, and do not offer any guidance on how to apportion growth at the more critical municipal scales.

If the Board and its partners want to promote specific projects, such as transportation network improvements, or to meet specific targets, such as population concentration in the core areas or in regional town centres, it may need to be more concrete in describing its intentions and objectives.

2) The Local Government Act Lacks Clarity in Role of Regional Partnership

The second barrier to plan implementation resides in the structure of the *Local Government Act*, specifically Part 25 (regional growth strategies) and to some extent Part 26 (management of development). Four particular elements of the Act are examined: the regional context statement, official community plans, the amendment process, and dispute resolution activation.

Regional Context Statement

The key problem in the Act is the reliance on the *regional context statement* (RCS) as the primary mechanism for implementation. The RCS is a linking document which describes “the relationship” between the *official community plan* (OCP) and “regional matters” dealt with by the regional growth strategy. The RCS may also describe, “if applicable, how the OCP is to be made consistent with the regional growth strategy over time.” The RCS is prepared by a member municipality, reviewed by the regional district, then lodged within the OCP.

The review and subsequent acceptance or refusal of acceptance of the RCS is the sole opportunity that the Board has to influence the form, scale, and direction of regionally-significant local development decisions.

Having municipalities think about the relationship and impact of their plans on the wider regional goals and how they can contribute is a valuable mechanism. However, the general language of the LRSP offers a wide latitude within which consistency may be argued in a related RCS. The RCS mechanism as currently used provides little assurance that municipalities will consistently contribute to realization of the LRSP.

Official Community Plans

In the Act, the relationship between the regional growth strategy and Official Community Plans was constructed in a way to avoid a two tier planning system. First, there is no requirement for the Board to review an Official Community Plan for consistency with the regional growth strategy. This is left to the discretion of council (s. 879). Second, the Act does not clearly specify that an OCP must be consistent with the regional growth strategy. Third, the RCS must specifically identify, if applicable, how the OCP is to be made consistent with the regional growth strategy over time but both the applicability and the time frame are left undefined.

It is unclear what purpose a regional context statement would serve if the Board had an opportunity to directly review and accept an Official Community Plan. Rather than linking the OCP and the regional growth strategy (as was intended), the RCS now appears to institutionalize a

separation between the two more important planning instruments. The extent to which the separation is bridged is dependent not on the qualities of the two main instruments, but solely on the depth and specificity of the RCS text.

Amendment Process

The process for amending a regional growth strategy, requiring all member municipalities to consent, is almost identical to the process of adopting a strategy, and is perceived by all parties to be a daunting prospect. The original LRSP adoption process took several years, and plan amendments for single purposes have not been pursued.

The argument has been put forward that the onerous amendment process protects the LRSP from being weakened in response to short-term crises. On the other hand, it cannot be strengthened easily and it is difficult to keep the Plan current.

Dispute Resolution Activation

During the discussions around review of the Richmond regional context statement revision, the Board expressed an interest in entering binding dispute resolution, but could not activate the process. Part 25 did not provide for this possibility. Only the municipality may do so.

The Current Policy Approach

From the adoption of the plan in 1996, the Board has implemented the strategy in four distinct ways.

First, under s. 866, the Board has reviewed the regional context statements of member municipalities. In only three cases has the Board not accepted a regional context statement (RCS): (a) the original 1998 Port Moody RCS; (b) the revised and subsequently withdrawn 2002 Richmond RCS; and (c) the most recent 2004 City of New Westminster RCS.

Second, in several regards the Board has followed the guidance of the legislation in establishing: (a) implementation agreements with the Agricultural Land Commission and Tourism Vancouver, and a Master Implementation Agreement with the provincial government (s. 868); (b) a monitoring program and an annual reporting system (s. 869); and (c) an intergovernmental advisory committee, or IAC (s. 867). These steps have not necessarily increased the effectiveness of the plan. Implementation agreements have been viewed primarily as declarations of partnership, and no substantive implementation decisions (positive or negative) appear to

have been made by the Board or partners on the basis of these agreements. The monitoring and annual reporting system is a useful communications tool, but is not intended to lead to specific implementation actions. The IAC has convened infrequently in workshops to discuss selected issues (e.g., regional economic strategy), but has not convened since 2001 and has had no discernable effect on plan implementation.

Third, the Board has used the LRSP as a framework for review and for its decisions with respect to external agencies. Since 1996, the GVS&DD Board has applied a LRSP compliance criterion to its decisions on the provision of water and sewer services outside existing sewerage areas. The Board has periodically provided formal comments to transportation agencies (the Ministry of Transportation, TransLink/GVTA) regarding the consistency of external agency plans and projects with respect to the LRSP.

Finally, the Board has frequently used the LRSP as a foundation for directing committees and staff towards further regional planning work, both within and beyond the scope of the regional growth strategy and Part 25. For example, work on social housing, promoting housing choice, and homelessness result from LRSP policies to promote housing diversity in all parts of the region.