

Regional District of North Okanagan

Regional Growth Strategy

Growth Issues Discussion Paper

Version 3.0

1/21/2009

January 21, 2009

Introduction

The North Okanagan, and the entire Okanagan Valley, is experiencing rapid growth and residential development. That growth has not been confined to the urban areas, but is influencing smaller communities and the electoral areas. The issues that have arisen due to growth pressure affect the entire Region, converting farmland to residential and commercial, increasing the cost of living, putting pressure on road and service infrastructure, increasing rural-urban conflicts, decreasing water quality and quantity, and numerous others. The success and attraction of our Region, to new and existing residents, visitors, and recreational property owners, may be eroding the very natural and community amenities that drew people here. The challenges of growth are multiple and complex and this paper will provide a brief overview of each issue identified by the Regional District of North Okanagan Board of Directors.

Background

The entire Okanagan Valley is experiencing rapid development and with it, rapid increases in the costs of living, pressures to convert farmland to other uses, and replacement of important habitat with urban, rural and resort development. The pace and form of recent growth has increased pressure on the limited land base in the valley bottoms, on hillsides, along watercourses and around lakes. While growth is necessary for communities, if undirected, it also can have several negative impacts such as fragmentation of critical ecosystems for native species, visual quality impacts, and pressure on water supplies, increasing land use conflicts, increased reliance on imported food supplies, costly extension of infrastructure, increased reliance on fossil fuels, increased greenhouse gas emissions and decreased air quality. This is not just a North Okanagan problem but one shared by many regions in British Columbia. The following is an excerpt from the

Regional Growth Strategy from the Regional District of Nanaimo:

“Population growth projected for the region will undermine the very attributes of the region that residents value if growth patterns are accommodated through continued urban expansion into farms, forests and countryside.”

The same warnings apply to the Okanagan. While the local impacts of development are obvious to residents, there are also larger, more global factors that contribute to the challenges in the North Okanagan. Complicating the consequences of these challenges is the uncertainty around the long term impacts of climate change and its consequences on forest and agricultural production, impacts to water quality and quantity, looming energy supply challenges, housing affordability, challenges of an aging workforce, and access to health care. The cumulative impact of these matters will have serious consequences on the quality of life in this region if not proactively addressed through some strategic level policy initiatives that transcend local administrative boundaries.

Climate Change and Land Use

The purpose of the Regional Growth Strategy is to help realize this vision through the commitment of the Regional District and its member municipalities to a twenty year plan of action, to guide regional growth and change toward common goals. Reducing greenhouse gas emissions has become integral to long-range

“The purpose of the Regional Growth Strategy is to achieve the positive benefits associated with growth and to minimize the negative impacts, particularly those associated with the phenomena commonly called “sprawl”.”

(Holland Barrs Planning Group 2008)

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planning initiatives and all the growth issues represented contribute to the greenhouse gas emissions profile of the Regions

The consumption of energy in the Region is shaped by land-use practices, transportation systems, the energy efficiency of building stock, and the source of energy (i.e., the systems and fuel used to generate electricity). Land use planning is one of the single most important determinants of a community's greenhouse gas emission footprint. Integrating energy use and GHG emission considerations at early stages in land use planning processes will have long term benefits in terms of reducing energy consumption and increasing the livability of the region.

Issues of climate change cannot be separated from other issues that will be addressed during the Regional Growth Strategy process. Specifically, actions taken on urban containment, transportation, service provision, environmental concerns, and other growth issues, have implications for greenhouse gas emission reduction. In some of those cases, the best options for climate change, such as compact development and sustainable transportation initiatives, are already priorities and are likely to find continued support within the Region.

The Regional Growth Strategy is just one of several tools available to local government to reduce greenhouse gas emissions and strive to meet reduction targets. For example, local governments can reduce emissions through:

- land-use, energy, and transportation planning to create more sustainable and less-energy intensive forms of development;
- green infrastructure which looks for opportunities to mitigate and adapt to climate change through the design of local government infrastructure;
- green procurement whereby environmentally friendly (and therefore less wasteful or energy intensive) products are sought;
- building retrofits to reduce energy use;
- water conservation to reduce the energy involved in treatment and distribution;
- solid waste diversion to avoid emissions related to collection and landfills; and
- renewable energy use and promotion.

By promoting policies that encourage certain patterns of development, the Regional Growth Strategy may be able to create greenhouse gas reduction situations that benefit all Regional jurisdictions. The Regional District of North Okanagan and the majority of our member municipalities have signed on to the Climate Change Action Charter, which commits local governments to the development of strategies and taking action to achieve three goals: becoming carbon neutral within their operations by 2012, measuring and reporting on their community's GHG emissions profile; and creating complete, compact, more energy efficient rural and urban communities. Regional cooperation on greenhouse gas emission reduction initiatives will be a major focus of the Regional Growth Strategy.

What is meant by 'Growth'?

The process of 'growth is complex, diverse, and multi-faceted. Growth is not restricted to the physical landscape, but involves the social, cultural and economic dimensions of our communities. Growth is most desirable when it is achieved with a view towards health, well-being, and local and regional sustainability. Sustainable growth also requires a comprehensive understanding of the wants, needs, abilities, capacities, issues, practices, and goals as we move into the future.

A sustainable community fulfills the needs of its residents while maintaining the flexibility needed to change as new issues, constraints, and opportunities arise. As we approach the development of the Regional Growth Strategy, we must be willing to look at the issues that face our community and identify new opportunities that may not have been considered before. Our past practices may no longer serve the best interest of our communities and the Region, and this is an excellent opportunity to explore the issues that may limit us as we move toward a healthy and sustainable Region. We can look within ourselves and our communities, instead of outside the Region, for solutions to growth pressures. As we take a comprehensive look at the dominant regional issues, we can once again focus on our communities and plan for sustainable and healthy growth.

What is 'Sprawl'?

Sprawl is the term used to define the biggest problems of growth. The nine key problems that define with "sprawl" include (Holland Barrs Planning Group 2008):

- Single use homogeneity over large areas
- Low density
- Limited local commercial & institutional uses mixed into neighbourhoods
- A high level of vehicle dependency due to lack of alternative modes
- Infrastructure and service inefficiencies
- Loss of agricultural, resource and ecological green space
- A dominance of private space
- Low quality public realm
- Placelessness

The above problems of sprawl are the primary challenges to sustainable and healthy growth, although other issues can be identified as well. Managing growth in a sustainable manner must address the impacts of sprawl in order to order to avoid the problems that growth can bring if not handled strategically.

What is Sustainability?

The definition of sustainability can depend on the point of view of the person using it. For example, a producer may see sustainable agriculture as farming in a way that ensures the land continues to meet his or her long-term needs. Some business owners may define sustainable as increasing profits, reducing environmental impacts, and improving the lives of people. Others may describe sustainable as living in a way that does not disturb nature.

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One of the most quoted definitions of sustainability was developed by the United Nation's World Commission on Environment and Development, in which sustainable development was "Development that meets the needs of the present without compromising the ability of future generations to meet their own need." Sustainability integrates economic, social (including cultural), and environmental aspects that must be addressed and coordinated to ensure the long-term viability and enjoyment of our Region. Whatever definition is used, it is important that we all understand that our decisions and actions today will directly impact the world we will leave for the future.

Why a Regional Growth Strategy?

The Regional District has been developing and changing quickly, with a population that is increasing and aging, an economy that is shifting, and a growth pattern that will continue to impact our communities, natural landscape, and quality of life. With the growth challenges that must be addressed, both by our communities and the Region as a whole, as we plan for our future development, a regional-level common vision must provide guidance.

The purpose of the Regional Growth Strategy is to provide strategic direction and to define, at the Regional scale, shared objectives and establish a policy context for the RDNO, the member municipalities and electoral areas, the Province and First Nations in the areas of land use, housing, transportation, economic development, Regional District services, and environmental quality.

The purpose of a Regional Growth Strategy is, as stated in Part 25 of the *Local Government Act*, "to promote human settlement that is socially, economically and environmentally healthy and that makes efficient use of public facilities and services, land and other resources".

The identification of the growth issues summarized in this paper were informed by this legislation and were used to explore the impact of present growth pattern if they continue into the future.

A Sustainable Long-term Strategy and the Local Context

The challenges represented by the growth issues that have been identified will be addressed through the Regional Growth Strategy process. Although the Regional District consists of six member municipalities and five electoral districts that face unique future growth situations, a common long-term strategy will equip all levels of local government with a sustainable and long-term strategy. "**Smart growth**" principles will guide the future discussion regarding the goals, objectives, and strategies to address the growth issues that face the Region. The following smart growth principles ensure that growth is fiscally, environmentally and socially responsible and recognize the connections between development and quality of life.

1. **Mix land uses** - Each neighbourhood has a mixture of homes, retail, business, and recreational opportunities.
2. **Build well-designed compact neighbourhoods** - Residents can choose to live, work, shop and play in close proximity. People can easily access daily activities, transit is viable, and local businesses are supported.

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3. **Provide a variety of transportation choices** - Neighbourhoods are attractive and have safe infrastructure for walking, cycling and transit, in addition to driving.
4. **Create diverse housing opportunities** - People in different family types, life stages and income levels can afford a home in the neighbourhood of their choice.
5. **Encourages growth in existing communities** - Investments in infrastructure (such as roads and schools) are used efficiently, and developments do not take up new land.
6. **Preserve open spaces, natural beauty, and environmentally sensitive areas** - Development respects natural landscape features and has higher aesthetic, environmental, and financial value.
7. **Protect and enhance agricultural lands** - A secure and productive land base, such as BC's Agricultural Land Reserve, provides food security, employment, and habitat, and is maintained as an urban containment boundary.
8. **Utilize smarter and cheaper infrastructure and green buildings** - Green buildings and other systems can save both money and the environment in the long run.
9. **Foster a unique neighbourhood identity** - Each community is unique, vibrant, diverse, and inclusive.
10. **Nurture engaged citizens** - Places belong to those who live, work, and play there. Engaged citizens participate in community life and decision-making.

Smart growth strategies are intended to integrate land-use and infrastructure planning, fiscal and taxation measures, sustainable energy and regional governance. The effective implementation of smart growth policies can generate mutually reinforcing benefits, such as reduced greenhouse gas emissions, improved air quality, the protection of ecologically significant areas and prime agricultural lands, reduced energy, water, and resource use, reduced infrastructure costs and increased transportation efficiencies.

Identified Regional Growth Issues

The North Okanagan has continued to grow rapidly over the last twenty years, and this trend is expected to continue into the future. As Canada's, population ages, the region's combination of natural, recreational, and cultural amenities, mild climate, agricultural heritage, and rural character will continue to attract amenity migrants and ex-urbanites. As urban and rural growth are experienced by our communities, the impacts of that development become more obvious, including transportation congestion, reduced air quality, water quality and availability concerns, loss of agricultural lands, an increase in rural-urban conflicts, and development sprawl.

As we move forward, there are fourteen matters that the Regional Growth Strategy must address, based upon the *Local Government Act* (Government of British Columbia 2008):

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- avoiding urban sprawl and ensuring that development takes place where adequate facilities exist or can be provided in a timely, economic and efficient manner;
- settlement patterns that minimize the use of automobiles and encourage walking, bicycling and the efficient use of public transit;
- the efficient movement of goods and people while making effective use of transportation and utility corridors;
- protecting environmentally sensitive areas;
- maintaining the integrity of a secure and productive resource base, including the agricultural and forest land reserves;
- economic development that supports the unique character of communities;
- reducing and preventing air, land and water pollution;
- adequate, affordable and appropriate housing;
- adequate inventories of suitable land and resources for future settlement;
- protecting the quality and quantity of ground water and surface water;
- settlement patterns that minimize the risks associated with natural hazards;
- preserving, creating and linking urban and rural open space including parks and recreation areas;
- planning for energy supply and promoting efficient use, conservation and alternative forms of energy; and,
- good stewardship of land, sites and structures with cultural heritage value.

As well, any other growth issues may be explored if they are considered a concern or priority which cross local government boundaries and cannot be addressed by any one jurisdiction. The selection of broad growth issues has been done through the lens of the *Local Government Act* and the unique situations and growth challenges facing our member municipalities, electoral areas, and the Regional District as a whole.

Several growth issues have been identified by our elected officials, the broader community, stakeholder groups, and planners throughout the Region. Although this is not an extensive list, these preliminary issues categories attempt to capture the major concerns, related to the impacts of growth that must be addressed within the Regional Growth Strategy. As our Region moves into the future, we must consider the issues that will affect our quality of life, our enjoyment of our communities and our regional identity.

“In 1997, The North Okanagan had approximately 1,643 acres (665.2 ha) of industrially zoned land...the amount of industrial land today is believed to be approximately 100 (40.5 ha) acres less than 1997 levels.”

(Sunderman 2006)

Economic Development in the North Okanagan

Within the North Okanagan there is a real need to develop a comprehensive Regional economic development strategy to ensure that employment and investment will continue to be attracted to our Region. Although the Regional economy is diversified, the supply of future industrial lands has slightly decreased under the pressures of residential and commercial growth. The City of Vernon and the District of Coldstream currently has a limited supply of future industrial lands and the Regional District has limited future industrial lands due to natural constraints, incompatible uses, and the prevalence of ALR lands throughout the valleys. The identification, location, and servicing of new industrial lands is considered a priority for continued facilitation of economic growth. These industrial clusters, when faced with the natural constraints of the region, must be sustainable, efficient, and accessible to ensure long-term economic viability of the industrial sector.

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The movement of goods and the movement of people (commuters) within the Regional District, especially within the Greater Vernon area, can lead to localized pollution, traffic inefficiencies, and the an overall reduction in quality of life. As well, the very transportation infrastructure and connections that provide a competitive economic advantage in the Region may lead to employment clusters in locations that increase the commuting population. There is currently a significant amount of inter-regional work force movement, with some of the commuter traffic clogging portions of the regional highway system. This is the direct result of workers living in one community and working in another, and the trend will continue with our current growth pattern.

Economic development throughout the Okanagan Valley is increasingly influenced by environmental conditions, particularly the availability of land, water, and energy. As the population continues to grow, competing land uses will increase the environmental constraints on economic development. Without a cohesive regional economic development plan, focusing on efficiency, sustainability, and

The North Okanagan with as become increasingly dependent on pension, investment and non-employment sources of income. Many communities have been catering to exurban retirement populations and this trend is likely to continue into the future. Private sector employment growth and the attracting youth to the Region will reduce dependence on retirement and investment income. An economic and industrial development strategy will require a very strategic deployment of land and resources to maintain the quality of life, regional attributes and community character.

Cooperation and coordination, at the Regional level, is necessary to manufacture and maintain economic development within our communities. Each of our member municipalities and electoral areas contains a diverse set of strengths and skills, economic focus, and identify. The advantages of cooperating on economic development strategies and goals, instead of competing, are multiple. Municipalities have identified similar economic targets – tourism, agriculture, natural resources, high technology, industrial development and retirement. If there is a presumption that communities are playing to their strengths, then it is individual communities, through coordination and cooperation at the regional level, which should set the context for economic development policy. Economic development efforts that potentially compete, rather than cooperate, at the regional level could be encouraging poor land use choices. Communities should be encouraged to focus on their real competitive strengths and values by taking direction on retail, commercial and industrial land use and other economic development strategies from a coherent regional perspective.

As our population grows and ages, sustainable, rewarding, efficient, and appropriate economic development, including industrial development, must be encouraged in such a way as to service our communities, support our electoral areas and continue to diversify and localize our economy.

Managing the Environmental Impacts of Growth

Regional growth has numerous negative environmental effects, which can be placed into two broad categories; *pollution* and *natural lands fragmentation and loss*. In the North Okanagan, these two categories are inter-related, as land use patterns can result in increased air, water, and land pollution, while reducing our natural land area and potentially eliminating environmentally sensitive areas.

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Community growth that exhibit low-density residential development increases private automobile usage and the amount of impermeable surfaces required, which result in greater natural lands fragmentation, production of more green house gases and other air pollutants, increases in storm water runoff and pollutant load, decreases groundwater recharge rates, and increases possibilities of soil, surface water and groundwater contamination.

Natural Lands Fragmentation and Loss

Greenfield development (areas that are agricultural or natural habitat) on fields, within forests, along streams or on hillsides, along with the infrastructure that services them, reduces the amount of natural lands, including environmental sensitive areas and critical habitats. The result is a fragmented natural habitat that increases wildlife/human conflicts, impacts the viability of important terrestrial and aquatic habitat, reduces animal and plant survival, and impacts environmental services (the environment's ability to provide water, nutrients, pest control, and remove pollutants). AS WELL, non-native plants and weeds, introduced by urbanization and agriculture, are now a significant issue and is increasing in severity due to growth pressure.

The extent of land development, the type of development, and the location of infrastructure has direct and long-lasting implications for ecosystems by interrupting feeding, dispersal, and breeding patterns. Fragmentation negatively affects wildlife by interfering with wildlife travel, decreasing habitat size, and reducing interaction with other wildlife communities. Fragmentation produces declines in both the number of species (diversity) and populations (abundance) within an area. A single roadway that cuts through wilderness can affect the population and diversity of species across a wide area (EPA 2001). The North Okanagan has a range of ecosystems types, ranging from alpine forests to semi-arid sensitive grasslands that are important to our economy (i.e. agriculture, tourism, recreation, resource industries, and viewsapes). These ecosystems, including our environmentally sensitive areas (grasslands, wetlands, and endangered species habitat) are important for ecological health, but are also part of the identity of our communities and Region.

Healthy, diverse and connected natural systems and areas are important in a climate change context for several reasons.

- A healthy, diverse, and connected natural system has a greater ability to adjust to climate change.
- Protection of water systems/wetlands will buffer the impacts of extreme weather events and drought.
- Forests and wetlands act as carbon sinks (they store carbon which would otherwise become GHG emissions) and are important mitigation tools,
- Natural landscapes in the urban area can reduce energy demands and the urban heat island effect (whereby the urban area, with the dominance of pavement and roof-tops, is warmer than the surrounding, more natural, landscapes).
- Ability for flora and fauna to adjust and move (fragmentation of the natural environment make species more vulnerable and combined with climate change, creates ecological stress)

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Natural lands also include the green spaces within our communities, such as parks, forested lands, trail systems, and 'urban' recreational lands. Green space is an amenity for our communities that add value to the quality of life of residents. Green space also has significant economic values, since it is prized by developers and land values are higher in areas that have preserved green space. Green space has a multitude of roles, including recreation, ecological integrity, providing wildlife habitat and improving quality of life.

Pollution

The continued urban growth within the North Okanagan and through the entire Okanagan Valley has presented challenges to maintaining air, water, and land quality. Air quality issues are considered a priority issue with our Region due to the impact of poor air quality on our quality of life, our health, our economy, and our enjoyment of our communities.

Development can have significant implications for water quality. The construction of impervious surfaces such as roads and rooftops leads to the degradation of water quality by increasing runoff volume, altering regular stream flow and watershed hydrology, reducing groundwater recharge, and increasing stream sedimentation and water acidity. A one-acre parking lot produces a runoff volume almost 16 times as large as the runoff volume produced by an undeveloped meadow. (EPA 2001).

Pollutants from commercial, industrial, and residential activities that may appear insignificant at their source are transported by rain and snowmelt into storm drains that flush the wastes into rivers and lakes. Sediment loads from erosion on construction sites can be 10 to 20 times greater than those from agriculture (Government of British Columbia 1999). In developed areas, surface runoff is increased by changes in slope due to landscaping and increasing impermeable surface area of pavement and buildings. Contaminants accumulated during dry periods are picked up by the next rainfall and quickly moved to the drainage system. Highway stormwater runoff combines the worst of industrial and residential runoff, with a variety and high concentration of metals, particulates, and petroleum compounds deposited by vehicles. Although stormwater runoff is generally more contaminated in urban areas, it also poses concerns in towns and rural areas, where erosion and sedimentation from roads, road-dust abatement chemicals, and road salt contribute to pollution (Government of British Columbia 1999).

Air pollutants affect the health and well being of all residents and can affect vegetation, crop values and tourism. Reports from the British Columbia Ministry of Environment have shown that there are periods of poor air quality in the North Okanagan, mostly as a result of particulate matter, such as smoke, dust, and soot (RDNO 2008). Particulate matter (PM) is considered the worst public health problem from air pollution in British Columbia, with the number of hospital visits increases on days with increased PM levels. Fine particles enter the lungs, making it difficult to breathe, and lead to diseases such as bronchitis. Depending on the source and chemical composition of the fine particles, effects can be severe enough to cause cancer and premature death. The main sources of PM are from combustion (motor vehicles, woodstoves and fireplaces), industrial activity, garbage incineration, and agricultural burning. Particulate matter is the main source of haze that reduces visibility, taking

"Cities are spreading out despite the availability of land for development within the existing urban envelope. This includes large former industrial sites whose redevelopment potential is compromised by soil contamination."

(Tomalty 2005)

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takes hours to weeks to settle out of the air. Particulate matter can make lakes and other sensitive areas more acidic, causing changes to the nutrient balance and harming aquatic life (Environment Canada 2008). In addition to particulate matter, green house gas pollution has become a significant regional, provincial, and global issue. With the adoption of Bill 27 by the Provincial Government, the Regional District, through the Regional Growth Strategy, must develop targets for reducing greenhouse gases and strategies to achieve these targets.

Affordable Housing

The term “attainable housing” has two different meanings. In a narrow sense, attainable housing conforms to the standard definition of affordable housing, developed by Canada Mortgage & Housing Corporation, in which housing is affordable (attainable) when it consumes no more than 30% of a household’s gross, pre-tax income. In a broader sense, the term attainable housing is used to describe the ability of households to enter, and graduate to successively higher levels of, the local housing market. Implicit in this usage of attainability is the idea that a range of housing options (type, size, tenure, cost) exists in the local market. Households at various income levels can find and secure suitable housing, and can ultimately advance to a different level (NWCI 2007). This broader definition is consistent with a definition of attainability used by the BC Government, in which attainable housing is “market housing that is affordable to households with a range of incomes, but most often at the low or moderate end of the scale; provided without ongoing senior government subsidy”

The North Okanagan has experienced rapid population growth and residential development. The desirability of the Region will continue to put pressure on the existing residential land base, as well as increased the demand for recreational properties. Local governments are beginning to experience the impacts of this amenity migration and the proliferation of second homes. With limited supply of land for development, especially for recreational properties and second homes, the market will likely continue to be relatively strong well into the future, even with the current economic uncertainty. The current trend of in-migration from mainly western Canadian metropolitan areas is expected to continue, especially with the natural amenity attraction of mountains, natural areas, and abundant lakes, an agricultural heritage, a mild climate by Canadian standards, and large open spaces.

The influx of affluent amenity and ex-urban migrants, as well as a limited growth area, has increased housing value and impacted affordability, as well as increase the number of renters within the Region. The Regional District’s high median age, relatively low incomes, low diversity in housing stock (majority single-detached), high median ownership prices, and very low rental availability have increased the severity of the housing affordability issue.

In 2006, according to the last Census, 26% of Northern Okanagan households were spending over 30% of their income on shelter, with the greatest impact on home-owners (at 60%). Although approximately 30% of North Okanagan residents are renters, the very limited supply of rental housing has resulted in vacancy rate approaching 0 (Vernon’s rental rate is 0.3%, with the entire Okanagan Valley coming

“The 2007 median sale price for a single-detached home was \$375,000; assuming a 10% down payment, 6.5% 30 - year mortgage, and a dedication of 33% of income to housing costs, a household income of \$98,000 would be required”

(Neilson-Welch Consulting 2007)

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in at under 1%) In the North Okanagan, some rents have increased 25% since 2007, with 2-bedroom units renting anywhere from \$750 to \$900 per month, which approaches the \$922 British Columbia average for a 2-bedroom apartment. Housing prices have increased as much as 17% in some communities over the last year, removing many middle-income families from the possibility of home ownership.

With the issue of housing affordability impacting the renter and owner population, regional policy direction will be instrumental in providing coordinated action at the local level.

Governance

Regional districts do not constitute a separate, second tier of local government in British Columbia. Regional districts exist, instead, as federations of individual jurisdictions. With few exceptions, such as v solid waste management planning, regional districts act only in response to the expressed needs, interests and instructions of their constituent municipalities and electoral areas. As a result, efficient and effective shared governance and service delivery strives for consensus from all members (NWCI 2004). First and foremost, regional districts are local government service providers. The Regional District services in three important roles (NWCI 2004):

- **Local:** The local government for the electoral areas, responsible for providing basic local services such as community planning, water supply, fire protection and nuisance regulation;
- **Inter-jurisdictional:** Provide local government sub-regional services across jurisdictional boundaries to different combinations of municipalities and electoral areas
- **Regional:** Responsible for providing important regional services to all regional communities

The Regional District has established and provided local, sub-regional and regional services in direct response to the expressed needs, desires and instructions of the municipalities and electoral areas. The Regional District Board of Directors, on which all electoral areas and member municipalities are represented, serves as the political forum in which these needs, desires and instructions are expressed.

The Regional District was incorporated in 1965, with a total population of 27,500. As the Region has grown, with over 77,000 residents, the governance and service needs and issues of the member municipalities and electoral areas has changed and evolved. With such socially, economically, and demographically diverse communities, service provision and governance concerns can become problematic and contentious. As a result, examining governance needs, level of transparency, efficiency, and avenues for cooperation is considered a priority.

The Regional Growth Strategy will provide a formal framework to address shared service delivery and governance challenges with all regional participants and hopefully develop strategic level policy that can resolve long-standing concerns.

Infrastructure and Service Delivery

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One of the primary economic arguments against sprawl is that it makes inefficient use of space and infrastructure and consequently drives up the costs of providing public services. The reason for this is quite simple: by increasing the spatial extent of development the capital costs of building roads, laying water and sewer systems and other public infrastructure dramatically increase, as do the long-term costs associated with maintenance of this infrastructure. *Inefficient infrastructure provision is a leading cause of rising municipal taxes* (Couroux et. al. 2006).

It is obviously more expensive to lay sewer, water and gas pipes, and build roads and electric grids over longer distances than shorter ones. It is also more expensive to provide police, fire, sanitation, snow removal and transit services to large low-density areas. The cost of providing services increases with distance and decreases with density. Using smart growth principles lowers public and private capital costs of infrastructure by 16 per cent, or approximately \$5,300 (1995 dollars) per unit. Infrastructure replacement, and operating and maintenance costs are cheaper by almost 9 per cent or almost \$11,000 per unit over a 75-year period (Essiambre-Phillips-Desjardins Associates 1995).

For a community of 7000 dwellings, CMHC estimated a life-cycle savings of \$77 million or over \$1 million annually. More than 70 percent of the savings are public, attributable to increased density, which spreads costs over more units, and to the increase in land-use mix, which reduces the residential share of costs. The largest cost savings are for roads, followed by stormwater management, transit, water, policing, and sanitary sewers (Essiambre-Phillips-Desjardins Associates 1995).

It is widely recognized that operating and maintenance costs increase because of sprawling development and represent a plethora of hidden costs that remain largely uncalculated. Operating costs can include services such as fire services, water and wastewater treatment, trash collection and provision of public transit. Furthermore, the long-term costs associated with the spatially extensive infrastructure required to support sprawling development are rapidly rising. The Federation of Canadian Municipalities (2005) estimates the backlog of unfunded infrastructure maintenance and replacement (commonly referred to as the infrastructure debt) at more than \$60 billion dollars.

The rapid increase in infrastructure maintenance and replacement costs is largely because 59% of the public infrastructure in Canada is now more than 40 years old, an age when maintenance costs typically begin to exceed the cost of replacement (Vander Ploeg, 2004). As communities continue to grow in a low-density, infrastructure-intensive fashion, they lock themselves into further long-term cost increases. If the cost of infrastructure replacement is beyond the financial capabilities of local governments, then serious social and environmental impacts may result as service levels decline in order to maintain balanced budgets (TD Bank Financial Group, 2004).

Water

Water is arguably the most important natural asset found in the North Okanagan. It is essential for crop irrigation, household use, industrial, commercial and recreational uses. The large lakes provide the scenic backdrop essential to the beauty of our landscapes that continue to draw tourists to the region year after year. Lakes and groundwater provide for the bulk of the water needs in the valley.

The large lakes in the region give the impression of water abundance; however it is important to

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recognize that this is a semi-arid region that experiences droughts on regular basis. Most of our lake water is very old, with only the top 1-2 metres replenished by stream flow every year. With so much water remaining in our lakes for up to 80 years, coupled with a reliance on this water for drinking, recreation and tourism; and use and growth management policies and regulations must be considerate of the overarching need to protect this critical recourse; protecting the quality and quantity is essential. Groundwater is also very slow to replenish and much less is known about the volume of water stored in aquifers in the valley, recharge rates, recharge areas, and how much is sustainable to remove for personal, agricultural, commercial and industrial uses.

Water resource management in the North Okanagan is complex, with systems originally built to serve an agricultural community now under pressure from urban demand. The hydrology is characterized as highly variable from year to year and susceptible to droughts. However, the overriding issue facing the area is lack of a strategy to enhance water availability, while protecting water resources in the North Okanagan. Compounding the issue is a lack of information about the link between surface and ground water flows, and a lack of shared information between land use and water resource decision makers.

Land use patterns, the amount of impermeable surface that is the result of development, and the area of natural and agricultural lands converted to residential, commercial, and industrial uses has a major effect on the hydrological processes of a region, including rainfall interception, infiltration and groundwater recharge, and can seriously affect downstream water quality. Altering the hydrology of a region potentially alters ecosystem processes important to local wildlife populations, and, in the long term, can also produce a water supply crisis for human residents.

The traditional, supply-oriented, approach to water management in the Okanagan Basin is being strained by rapid population growth, pollution, increasing demands by residents for sustainable approaches and the uncertainty of a changing climate. The region's changing economic priorities is another significant stressing factor. Emerging regional economic reliance on tourism and a shift from lower value agriculture to more specialized organics, fruit crops and wineries, focus attention on water security and emphasize the need for a new approach to water management in the Basin.

In this period of rapid change many water supply systems in the Okanagan may not be able to meet future projected demands based on their current supply capacity. Building bigger dams, deeper wells, and complex treatment plants may simply not be ecologically sustainable in the long term. (Brandes et. al. 2007)

Recent droughts are examples of short-term extreme events that have affected water supply, water demand and perceptions of risk in the region. The drought of 2003 saw the emergence of local water conflicts and the implementation of both emergency and longer term conservation measures. Droughts raised awareness about climate sensitivities, and possibly about vulnerability to climate change. When coupled with anticipated population growth and long-term directions in regional development, the implications of future climatic change become significant issues.

Urban Containment

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Sprawling, land-consumptive development is increasingly recognized as a growing problem that entails a wide range of social and environmental costs. The social costs of sprawl include higher costs for the provision of public infrastructure, more vehicle miles traveled, less cost-efficient transit, and a variety of negative quality of life impacts. Sprawling development patterns are a significant obstacle to moving toward sustainable communities and sustainable development in general. (Bengston and Youn 2006)

Urban sprawl has become an important policy issue in both Canada and the United States. It is receiving much attention not only because it is a characteristic of urban form in North American communities but also because it raises issues of sustainability: how to accommodate future growth, how to pay for it, and how to minimize the negative impact on natural resources.

Sprawl, it is generally characterized by relatively low-density development that expands in an unlimited and non-contiguous (leapfrog) way outward from the solidly built-up core, with a spatial segregation of land uses. Residential development (single-family housing scattered in outlying areas), non-residential development (shopping centers, retail strips, warehouses, and industrial and office parks and institutional development (schools, municipal offices, and so on) are separated from each other. Sprawl consumes agricultural lands as well as environmentally sensitive areas. Finally, one of its key characteristics is its forcing almost total reliance on the automobile as a means of getting around for business and recreation.

Research has also connected sprawl and automobile reliance to increased levels of obesity, associated health issues and increased greenhouse gas production. It has been recognized that this matter may need some interim policy development to address pressure to sprawl before the RGS is developed.

The Regional District of North Okanagan member municipalities are growth nodes, in which investments in infrastructure and services have been made. These communities, with their established amenities, infrastructure, and services, are the logical choice for cost-effective, efficient, and sustainable growth areas. Several growth management options must be explored to facilitate growth in a sustainable, compact, efficient, and fiscally responsible way, including growth management boundaries which have been mentioned in several Regional Official Community Plans

Regional and municipal planning should work towards avoiding urban sprawl and ensuring development takes place where facilities exist or can be provided in a timely, economic and efficient manner. Since the end of the Second World War, the North American model of growth based on assumptions of continuous supplies of relatively cheap land, cheap food supplies and even cheaper fuel have encouraged sprawling communities. These assumptions will not continue to apply within the time frame of this plan, especially in the North Okanagan.

The attributes that make the Regional District an attractive and desirable place to live have led to inherent conflicts between the rural landscape characterized by widely-spaced single-family housing and increasingly important environmental and visual values. Sprawl is now adversely affecting the very attributes that residents and visitors deem so important.

As an indication of the effectiveness of urban growth boundaries in achieving smart growth, the population of Portland increased by 31 percent between 1990 and 2000, while the area within the urban growth boundary increased in size by only 3 percent..

Transportation

Transportation options provide the linkages between our homes, our neighbours, our employment, our recreation, and our commercial activity. The way we experience and interact with our communities and our region are influenced by our transportation possibilities. Although other modes of transportation, such as public transit, walking and cycling, are becoming more prevalent, the vast majority of trips within the Region are by single-occupancy vehicle. As a result, road infrastructure and parking space must be continually expanded to respond to the increasing demand.

Roads pose an additional financial challenge for municipalities compared to other forms of infrastructure such as water, wastewater and even transit. These other forms of municipal infrastructure recoup at least some of their operating expenses through user fees, but roads are entirely paid for through a variety of indirect taxes. This form of infrastructure provision often results in hidden cost subsidies that perpetuate unsustainable development practices.

Some communities highlight typical examples of sprawl: Kelowna has almost twice as much space devoted to roads per household as Vancouver. As well as facilitating unsustainable development, car dependence consumes land. Walking-oriented cities typically devote less than 10 per cent of land to transportation, while automobile-oriented cities devote up to 30 per cent for roads, and another 20 per cent or more to off-street parking. Overdependence on the car carries a commercial cost, as congestion increases expenses for businesses shipping goods on roads. The reliance on the automobile, especially within an urban environment, can have a significant impact on the built and natural environment, including:

- degradation of the natural environment in and around our communities;
- diminished local air quality leading to poorer health for residents;
- higher cost of living;
- less access to economic and social opportunities for low-income residents;
- decreased opportunity for social interaction
 - unpleasant pedestrian environments that reinforce automobile-dependency

“In the last 25 years, Canada’s population increased by one-half, but the number of automobiles doubled to almost 20 million. More than 80 percent of all commuting trips in Canada are by private automobile.”

(Tomatly 2005)

Reducing vehicle use has a number of intangible benefits: more people-friendly cities and a greater sense of community as streets become safer and calmer places for pedestrians, cyclists, and children. It leads to less air pollution, fewer traffic accidents, less land devalued by adjacent traffic, reduced noise pollution and vibration, and less water pollution from road run-off. To develop smart transportation systems, there needs to be an integration of land use and transportation planning. Smart transportation systems and complete communities are also linked with the other environmental or social goals such as protecting neighbourhoods, improved air and water quality, protection of fish habitat and reduced greenhouse gas emissions.

Agriculture and Food Systems

The North Okanagan has always had a strong identity based in agricultural

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production and pride. Each decision to exclude, subdivide or convert agriculture lands to a non-farm use is made without appreciation for the incremental impact on the ability of society to produce its own food in a sustainable and secure manner. The land base that is capable of producing food, (the Agricultural Land Reserve), particularly adjacent to urban areas in the North Okanagan is under pressure by market forces to be converted to other uses because of its proximity to infrastructure and services, and because of its low cost relative to urban development values. However, given looming future energy constraints and the potential impacts of climate change, it is becoming apparent that maintaining options for local food production is prescient public policy

In BC, fertile land is a valuable, scarce resource. Only 5% of the province is suitable for agriculture; and only 1% of the province is prime agricultural land. Prime areas such as the Okanagan Valley; contain some of the highest quality agricultural land in Canada. These areas are also highly populated. Seventy-nine percent of British Columbians live in or adjacent to the agricultural areas responsible for 78% of BC's farm receipts. The Province's agriculture sector supplies less than half of BC's food requirements. The statutory Agricultural Land Reserve system has worked well to preserve agricultural land. Yet, agricultural land faces many threats: ranging from residential, recreational or commercial development pressure to unsustainable agricultural practices. Since the creation of the Agricultural Land Reserve, an overall decline of has occurred within the North Okanagan. Between 1974 and 2008, our Agricultural Land Reserve has declined from 70,283 hectares to 65,873. Maintaining a secure agricultural land base provides British Columbians with numerous benefits:

- food security as agricultural land declines world-wide due to urbanization, desertification, soil erosion, and salinization;
- soils and arable land is a form of natural capital responsible for life-support functions of the ecosphere;
- local food supply options (including small scale agriculture and niche markets such as organic produce); local economic opportunities;
- wildlife habitat, amenity and cultural values including green space, visually pleasing landscapes, recreational opportunities, agricultural heritage and other cultural values; and
- agricultural areas are vitally important to the provincial agricultural industry and local economies

Despite these benefits, agricultural land is threatened by urban sprawl, incompatible land uses, land speculation, and, in some cases, unsustainable agricultural practices. Complicating the shortage of agricultural lands within the Region is the juxtaposition of agricultural resources next to centres of population growth. The competition for flat, well drained lands has resulted in pressure for agricultural land displacement by higher value residential or commercial uses. As the North Okanagan's population grows, so too do the land requirements for housing people as well as the need for schools, industrial and commercial facilities and a host of other related land uses. But population growth also equals mouths to feed. Our reliance on food imports from the rest of Canada and internationally, have risen from just 3% in 1946 to 52% in 2006

“Historically, British Columbia has by necessity, always imported foodstuffs....With a burgeoning population and shrinking amounts of agricultural land, this has escalated sharply...In 1946, the province required food imports of 3%, by 1955, the deficit has risen to 29%, and current (1979) agricultural imports amount to between 55 to 60%.”

(Malzahn 1979)

“As of 2001, BC farmers grew 48% of all foods consumed in British Columbia”

(Government of British Columbia 2006)

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(see sidebar). B. C.'s Food Self Reliance report (Government of British Columbia 2006), says that the area of farmland with access to irrigation in B. C. would have to increase by nearly 50 per cent by 2025 to provide a healthy diet for all British Columbians. Just maintaining our current level of food self-reliance in 2025 would require a 30- per- cent increase in agricultural production.

“Low-density suburban development is more energy and GHG intensive by a factor of 2.0 to 2.5, than high-density urban core development on a per capita basis”

(Norman et. al. 2006)

“In many BC communities, energy expenditures are often more than \$3000 per capita per year”

(BC Climate Action Toolkit 2008)

Historically, urban centres have expanded into surrounding agricultural areas. Urban sprawl, created by poorly planned subdivisions, transportation corridors, and industrial and commercial operations permanently remove land from agricultural production. Rather than choosing urban expansion, communities can decide to re-zone for increased density and housing capacity, infill and brownfield redevelopment.

Edge conflicts occur when land adjacent to agricultural land is developed in a way that threatens the practice of agriculture, such as conflicts over farm odours and machinery noise may occur when a residential subdivision is located next to farming operations. Buffers between different uses can help solve this problem. It is important that planning along the agricultural interface be undertaken from the perspective of a “shared responsibility,” in which means to contribute to compatibility are considered on both the farm and non-farm sides of the edge. Protection of agricultural land is important for several reasons:

- Provides some resiliency and less reliance on distant food sources, which may be at risk through climate change
- Maintains options – takes advantage of new conditions resulting from climate change, which could improve productivity for some crops
- Provides for more local sources of food, thereby reducing the need for long-range transport of goods, a significant component of GHG emissions and our ecological footprint

It is becoming more evident that as a society, we must continue to support effective and sustainable programs like the Agricultural Land Reserve, and explore other innovative ways to make land use decisions that protect farmers and farmland and maintain the potential for local food production. The plan should also explore strategies to ensure agricultural remains a driver within the local economy.

Community Energy

In British Columbia, climate change has been recognized by the Provincial Government as an issue of critical importance. Green house gas (GHG) emissions are the primary cause of climate change, and reducing them is one of the foremost challenges of the next few decades. Provincial legislation adopted in 2007 calls for reducing B.C.'s GHG emissions by at least 33% below 2007 levels by 2020, and by 80% below 2007 levels by 2050. Provincial legislation (Bill 27) adopted in 2008 requires all local governments to identify GHG reduction targets, policies, and actions in their Official Community Plans (OCP) and Regional Growth Strategies (RGS). It has been estimated that nearly half of GHG emissions are under the influence of B.C. local governments and it is expected that regional districts and municipalities will play a

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major role in achieving GHG reduction goals. As of September 2008 more than 130 local governments, including the Regional District, have signed the British Columbia Climate Action Charter, committing to carbon neutral operations by 2012 (Community Energy Association 2008).

In many BC communities, energy expenditures are often more than \$3000 per capita per year. For a community of 10,000, that amounts to \$30 million per year. Approximately 80 percent of that leaves town. For many communities, this insight helps generate interest in energy efficiency and renewable energy. This interest has been compounded recently by the rising cost of electricity, natural gas and notably transportation fuels. Many people are seeking opportunities to reduce energy costs by driving less and in some cases explore new working or living locations (BC Climate Action Toolkit 2008).

Community energy planning addresses:

- Land Use Planning and Transportation - to develop compact complete land use patterns where a variety of uses are mixed to increase alternatives to automobile travel;
- Infrastructure Efficiency - to increase the use of energy-efficiency of infrastructure, and to increase the production of energy from regional or municipal facilities; and
- Alternative Energy Supply - to increase local and high efficiency energy supply options.

External Influences

The identification of growth issues within the Regional District of North Okanagan, as identified by elected officials, stakeholders, First Nations, concerned residents, and local and regional government is a result of examining our collective concerns and priorities. Each issue that has been summarized is affected by external forces and factors that may confound favorable outcomes during the Regional Growth Strategy process and implementation. A brief summary of some of these external factors and their potential influence on the identified growth issues is provided below.

Actual Migration Patterns and Population Demographics

Growth issues are a direct result from real and anticipated population growth within the Regional District. Slower than expected growth within a municipality or electoral area, or a redistribution of growth within the District, could put less or differently anticipated growth, resulting in outcomes that may result in a different series of growth issues and priorities. Less growth could less pressure on land use, the servicing, housing affordability, and economic development. Greater than expected growth would intensify pressures but might also be linked with broader economic options. Redistributed growth could result in the emergence or intensification of issues that were not anticipated or planned for, such as densification, increased residential, commercial, and/or industrial land requirements, housing affordability, increased infrastructure requirements, and opportunities to select among more and less desirable economic paths.

As well, even with the anticipated population growth, population demographic shifts based upon intra- and inter-Regional migration pattern shifts may result in demand alterations for different housing types, commercial forms, or employment expectations. As an example, if the anticipated population demographic pattern does not follow the anticipated increase in elderly residents, 55+ complexes and assisted-living, and ground-oriented dwellings demand may be de-emphasized, with a shift demand to more housing for young families.

Actions of Neighbouring Regions

The proximity of the Region of North Okanagan to the Regional Districts of Central Okanagan, Thompson Nicola, Columbia Shuswap, Central Kootenay, and Kootenay Boundary where philosophic approaches and planning activities may be quite different, could serve to undermine or reinforce the Regional Growth Strategy. For example, the Okanagan Basin is comprised three Regional Districts that share a common watershed and airshed, making consistency, collaboration, and coordination on air and water issues to ensure that growth issues scoping, exploration, strategy development, and implementation lead to successful outcomes. Any growth issue that can be influenced by actions, activities, or factors outside of the Region will not be effective if the actions are not taken outside of Regional boundaries. Conversely, positive external efforts could enhance the effectiveness of the Regional Growth Strategy.

Climate Change and Long-range Pollution Drift

The influence of large-scale climate change can have a significant influence on any growth issues, from local water quality and quantity, agriculture, natural areas, and employment. A shift to a less desirable local climate, especially in an area that relies on amenity migration, agriculture and tourism, can change population migration patterns and have significant economic, social and environmental impacts.

Learning about Sustainability and Growth Management

As the rest of British Columbia, Canada and the world become more aware of sustainability issues and options, sustainability values any shift to mainstream culture, and encourage more rapid development of efficient and appropriate technologies, management tools, planning practices and civic behaviour.

Pressures for increased efficiency in resource use, such as energy and water, provincially, nationally and globally may encourage more attention to these imperatives locally. As well, innovations in process design and technology more consistent with ecological principles, and the subsequent increased availability and lower cost of such measures, will provide efficiency improvements in the Regional District and may have unintended consequences, potentially both positive and negative. Growth issues may be eliminated, resolved, or framed differently with the availability of new tools, or may lead to the identification of new growth issues, such as intensified rural residential development.

Global, Federal and Provincial Economic Factors

The Regional District of North Okanagan is economically connected to the rest of British Columbia, Canada, and the world. The issues which have been identified are influenced by economic investment and corporate decisions which affect the industry and communities within the Region. Economic sectors that rely upon exported products and decisions made outside the North Okanagan can have a dramatic affect on vulnerable communities, especially when key employers reduce their operations based upon market forces.

Economic decisions that are made outside of the Region can significantly affect the identified issues, strategies, goals, objectives and indicators of any long-range plan. The loss of a business sector or major employer may reduce locally-circulating capital, increase local and regional unemployment, and impact secondary industries that rely on these sectors for business relationships, contracts, and employment. As well, identified issues may evolve with changing economic circumstances unforeseen due to changing provincial, federal, and global economic climate and decisions made outside of the Region.

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Case Study: Owens-Illinois Lavington Bottle Making Plant

Owens-Illinois Inc. of Ohio, the largest manufacturing employer in the North Okanagan, has decided that the facility will cease operations as part of a corporate restructuring effort to reduce business costs. The facility employs over 330 residents, with approximately \$20 million in wages, which add to the Greater Vernon economy. These employees have developed a high level of skill and extensive experience in glass-making, which may not be transferable to other industries in the Region, reducing the likelihood of finding similar high-paying employment.

The closure of a major operation within the Greater Vernon area will have a major impact on secondary industries which rely on the presence of Owens-Illinois Inc, including the transportation sector, repair and maintenance firms, supply firms and local consumers of regionally produced glass. As well, the relationships that have been established and deepened through the presence of the facility will also be lost. The land will continue to be designated heavy industry after the plan closure, although re-establishing new industry on the site may be difficult depending on the state of the facility and the cost of refitting.

The closure of the facility also impacts other issue areas, such as waste management, social and community issues, and transportation. The Lavington facility is the only recycled glass bottle manufacturing site in Western Canada, impacting waste stream diversion locally, regionally, and nationally by eliminating Western Canadian reprocessing options and encouraging recycled material export.. The loss of this facility also impacts social issues such as attainable housing,

Provincial and Federal Legislative Changes

Growth issues that have been identified during Regional Growth Strategy process can be significantly influenced by changing provincial and federal regulatory and legislative environments. Provincial and federal policy shifts may change the context for the Regional Growth Strategy identified growth issues. These include cutbacks to provincial funding for municipal activities, revisions to the provincial regime for protection of agricultural lands, an amendment of fishery and forestry regulations.

Changing requirements and targets can influence how the selection, scoping, and interpretation of issues, as well as limit the policy solutions available. Coordination with the responsible ministries and agencies on these issues can result in creative solutions, although issues may be reframed to respond to legislative and regulatory constraints. The global goals and guiding principles of a Regional Growth Strategy, pertaining to issue identification and resulting policy options, may become incompatible with a changing regulatory landscape.

Case Study: Provincial Meat Inspection Regulation

In September 2004, the Province of B.C. enacted a new Meat Inspection Regulation (MIR) under the Food Safety Act. Meat sold for human consumption must be slaughtered in a provincially or federally licensed facility. Small lot and small scale production are a large proportion of the agricultural operators throughout the Region and the meat products were sold locally.

According to Statistics Canada's 2006 Census of Agriculture, 23% of farms within the Region were less than 4 hectares, and another 56% were between 4 and 52 hectares in size. Implementation of the regulation resulted in the loss of custom slaughter capacity serving the Regional District. All specialty

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poultry processing facilities have closed, eliminating chicken production for 762 producers. No poultry processors are presently operational. Four custom red meat processors have closed. Except for one local plant, the provincially licensed plants identified as serving the Thompson-Okanagan does not do custom slaughter, are not operational at present, are significant distances away, or are already booked. Small production agricultural operators will be the most significantly impacted agricultural segment of reduced slaughter capacity. Impacts include loss of farm status, reduced revenues and profit margins in the face of higher slaughter costs, and reduced production, or farm closure.

Conclusion

The economic, environmental, and social consequences of growth are inter-related, and the growth issues summarized in this report have impacts on each other. The resulting discussions that will clarify, expand, and refine these issues, and perhaps add others, must examine take an integrative approach. Attempts to address each issue in isolation will not be efficient or effective. Instead, our communities need to manage growth to achieve a pattern that has socially, economically, and environmentally sustainable outcomes. This requires managing development so as to (Holland Barrs Planning Group 2008):

- Reduce greenhouse gas and other air emissions;
- Reduce fossil fuel energy consumption;
- Reduce potable water usage and manage wastewater efficiently;
- Manage solid waste and reduce resource intensity;
- Reduce impacts on ecological systems and biodiversity and enhance these systems where possible;
- Support a more sustainable food system including increasing local food production, processing, and consumption;
- Provide stable, diverse and prosperous local economic opportunities; and
- Create healthy communities that support healthy individuals.

Principles of good growth management and development to respond to identified growth problems can be summarized as follows:

- Be clear on the specific growth management issues should be examined and strategies that should be avoided and ensure development patterns supported by the Regional Growth Strategy will mitigate these;
- Protect and provide for a web of secure and protected green space— natural, agricultural, recreational;
- Conserve the rural areas to protect both its functional and aesthetic character and integrity;
- Understand the growth and development patterns that are currently occurring, their impacts on the community(s) and Region, and identify what the emergent issues are; and
- Provide very strong political leadership on growth issues and concerns.

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The above list should be viewed as the starting point for community discussions and refinement when it comes to identifying key growth management issues in the North Okanagan. It is anticipated that a facilitated workshop of key stakeholders will be held early in the process to further identify and refine the key issues that the RGS will address. A report that outlines key issues will be one of the deliverables of the first Phase of the RGS Process required under the Smart Development Partnership.

It is also recognized by the Municipalities that there is a need to develop some interim policy on 'acting while planning' to address growth pressures before the RGS is completed. This might best be addressed by developing Protocol Agreements or Memoranda of Understanding before the end of the first phase

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Bibliography

Bengston, D. N. and Y. C. Youn 2006. Urban containment policies and the protection of natural areas: the case of Seoul's greenbelt. *Ecology and Society* 11(1): 3. Available at: <http://www.ecologyandsociety.org/vol11/iss1/art3/>

BC Climate Action Toolkit. 2008. BC Climate Action Toolkit Webpage. Accessed on October 9, 2008. Available at: <http://www.toolkit.bc.ca/community-wide-situational-analysis>

Brandes, Oliver, Tony Maas, Adam Mjolsness, and Ellen Reynolds. 2007. The Soft Path for Water Case Study: The Town of Oliver, BC. Friends of the Earth Canada, Water Soft Path Project. January 2007. Available at: <http://www.foecanada.org/WSP%20Lexicon/Oliver%20Case%20Study.pdf>

Community Energy Association. 2008. Community Energy and Emissions Planning: A Guide For B.C. Local Governments. Community Energy Association and Government of British Columbia, September 2008. Available at: http://www.toolkit.bc.ca/sites/default/files/CEA_Planning_Guide_LR.pdf

Couroux, D., Keough, N, Miller, B., and Row, J. 2006. Overcoming Barriers to Sustainable Development: Towards Smart Growth in Calgary. Calgary Citizens Forum, Calgary, BC, February 20, 2006.

Environment Canada. 2008 . A Primer of Air Quality in British Columbia. Website accessed on October 9, 2008. Available at: http://www.pyr.ec.gc.ca/air/primer_e.shtml

EPA. 2001. Our Built and Natural Environments. A Technical Review of the Interactions between land Use, Transportation, and Environmental Quality. Environmental Protection Agency, Development, Community, and Environment Division. EPA 231-R-01-002, January 2001, Washington, DC. Available at: <http://www.smartgrowth.org/pdf/built.pdf>

Essiambre-Phillips-Desjardins Associates. 1995. Infrastructure Costs Associated with Conventional and Alternative Development Patterns: Summary Report. Ottawa: Canada Mortgage and Housing Corporation and the Regional Municipality of Ottawa-Carleton.

Government of British Columbia. 2008. Regional Growth Strategies. Ministry of Community Development, Local Government Department. Website accessed on October 10, 2008. Available at: http://www.cd.gov.bc.ca/LGD/planning/growth_strategies.htm

Government of British Columbia. 2006. B.C.'s Food Reliance: Can B.C.s Farmers Feed Our Growing Population?. B.C. Ministry of Agriculture and Lands, Victoria, BC. Available at: http://www.agf.gov.bc.ca/resmgmt/Food_Self_Reliance/BCFoodSelfReliance_Report.pdf

Government of British Columbia 1999. Tackling Non-Point Source Pollution in British Columbia: An Action Plan. Ministry of Environment, Environmental Protection Division, March 1999. Available at: <http://www.env.gov.bc.ca/wat/wq/bmps/npsaction.html#3>

Gurin, David. 2003. Understanding Sprawl: A Citizen Guide. The Suzuki Foundation, Vancouver, BC. Available at: http://www.davidsuzuki.org/files/Climate/Ontario/Understanding_Sprawl.pdf

Holland Barrs Planning Group. 2008. Regional Growth Management White Paper: Approaches to Growth management for Sustainable Communities in Comox Valley. Prepared for The Comox Valley Jurisdictions by Holland Barrs Planning Group and Chrislett Manson, February 2008.

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- Lemmen, D.S., Warren, F.J., Lacroix, J., and Bush, E. 2008. From Impacts to Adaption: Canada in a Changing Climate. Government of CCanada, Ottawa, ON, 448 pp. Available at: http://adaptation.nrcan.gc.ca/assess/2007/pdf/full-complet_e.pdf
- Malzahn, M. 1979.: B.C.'s Green Acres: A Look at the Future of Farmland. in BC. Urban Reader 7, 14-19.
- Neilson-Welch Consulting (NWC). 2007. Attainable Housing Strategy. Prepared by Neilson-Welch Consulting for the City of Vernon Affordable Housing Committee , December 2007.
- NWCI. 2004. Regional Districts Issues and Non-Legislative Solutions Working Group 1: Report and Action Plan. Prepared by Neilson-Welch Consulting for Union of British Columbia Municipalities, Kelowna, BC, August 2004.
- Nelson, A.C. and Sanchez, T.W. 2005. The Effectiveness of Urban Sprawl Regimes in Reducing Exurban Sprawl. In Nelson, A.C., Dawkins, C.J., and Sanchez, T.W. (eds.) The Social Impact of Urban Containment. Ashgate Publishing, July 2007, 188 pp.
- Norman, J., Maclean, H.L., and Kennedy, C.A. 2006. Comparing High and Low Residential Density: Life Cycle Analysis of Energy Use and Greenhouse Gas Emissions. Journal of Urban Planning and Development, March 2006, V. 132, Issue 1, 10-21.
- Pierce, J.T. and Furuseh, O.J. 1982. Farmland Protection Planning in British Columbia. GeoJournal 6.6, 55-560.
- RDNO. 2008. North Okanagan Air Quality Program. Website accessed on October 9, 2008. Available at: <http://www.rdno.ca/airquality.php>
- SmartGrowth BC. 2004. BC Sprawl Report. Economic Vitality and Livable Communities 2004. SmartGrowthBC, Vancouver, BC. Available at: <http://www.smartgrowth.bc.ca/Portals/0/Downloads/Sprawl2004.pdf>
- Tomalty 2005. Urban Environmental Issues: A Summary of Issues and Approaches. Canadian Environmental Grant-makers Network, August 2005, Toronto, ON. Available at: http://www.cegn.org/urbanbrief_eng.pdf
- TD Bank Financial Group (2004). *Mind the gap: Finding the money to upgrade Canada's aging public infrastructure.*
- UBCM. 2006. UBCM Advisory Service Fact Sheet #16: Regional Districts. Union of British Columbia Municipalities, Kelowna, BC, January 2006. Available at: <http://ubcm.ihostez.com/contentengine/launch.asp?ID=1769>
- Vander Ploeg, C. (2004). *No Time to be Timid: Addressing Infrastructure Deficits in the Western Big Six* (Rep. No. 30). Canada West Foundation