THE WORLD URBAN FORUM 2006

Vancouver Working Group Discussion Paper

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Turning Ideas into Action

In preparation for the 2006 United Nations World Urban Forum (WUF), the Vancouver Working Group (VWG) was created as a partnership of public and private agencies and civil society. It was mandated to initiate a series of research inquiries resulting in the *Vancouver Working Group Discussion Papers for the World Urban Forum.* These papers were prepared by members of the VWG with relevant experience and well-developed resources. It is hoped that these papers will contribute to the development of a thematic framework for WUF 2006 by articulating the concept and content of urban sustainability.

WUF will focus on urbanization as an all-encompassing global phenomenon and attempt to recommend effective actions to achieve a sustainable process of global urban transformation by balancing social, economic, environmental and political goals: *Turning Ideas into Action.*

The Vancouver Working Group Discussion Papers for the World Urban Forum are open-ended segments of a conceptual whole. Each of them will strive towards sustainability thereby transforming urban life into a productive, inclusive and environmentally balanced range of activities. These segments taken together will characterize sustainable human settlements. Sustainable urbanization can only be achieved through a mosaic of sustainable components that will add up to more than the sum of their parts.

All papers received comments from independent peer reviewers and this contribution is gratefully acknowledged.

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These papers continue the international dialogue on human settlements that began with the first UN Human Settlements Conference in Vancouver in 1976. They provide an initial analysis of diverse aspects of the current urban situation and create a basis for an informed discussion and development of ideas and relevant issues leading up to WUF 2006.

The purpose of the Forum is to engage people worldwide in discussions about urban issues and to stimulate significant change across generations in the field of sustainable urban development. The United Nations has challenged Canada to develop a more interactive and participatory Forum. Consultation, dialogue and conclusions formed prior to and during the World Urban Forum will also contribute to Canada's urban agenda and will help to create a long-term legacy of knowledge and action around sustainability issues in Canada and the World.

The papers contributed to Canadian efforts in Barcelona at the 2004 WUF. Ministers and Canadian officials held informal consultations with domestic and international stakeholders while in Spain. The WUF 2006 Secretariat will take into consideration all input received from interested stakeholders to ensure that Canada meets the challenge from UN Habitat in making the WUF 2006 more interactive and participatory.

These papers have been developed with the financial support of Western Economic Diversification Canada. The views expressed herein are solely those of the authors of this paper and do not necessarily reflect the official position of the Government of Canada.

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FOREWORD

This paper is part of *Turning Ideas into Action*, a themed series created in preparation for the 2006 World Urban Forum. Together, this series forms a mosaic that sheds light on a common focus: the city. On a global scale, cities have become the dominant form of human settlement, socially, economically, environmentally and politically. The papers begin to examine how cities can continue to be dynamic and inclusive places in which to live and thrive. By illustrating explorations of the city with powerful stories of promising practices, the papers emphasize the assets from which cities draw their strength, and highlight dynamic participatory processes in action. Research for each paper draws on extensive experience in planning and managing cities. Selected lessons provide knowledge to achieve locally relevant solutions and supportive policies at the regional, national and global levels. They demonstrate the complexities of how cities evolve and transform, and challenge assumptions that are often taken for granted. Finally, the papers encourage the reader to view the world from different perspectives and discover successful and innovative solutions appropriate to their relevant conditions.

WUF 2006 will build on Canada's historic leadership in bringing the UN Conference on Human Settlements to Vancouver in 1976. It will also benefit from Canadian experience in improving human settlements at home and abroad. The 1976 UN meeting pioneered a participatory process of member nations and NGO's, and created a worldwide focus for human settlements issues through the establishment of the UN Centre for Human Settlements in Nairobi, now known as UN-HABITAT. WUF 2006 is part of an historic trajectory of UN Conferences and represents the 30th anniversary of HABITAT '76. These papers are intended to initiate an informed dialogue on the scope and scale of the evolving urban agenda through *Turning Ideas into Action* locally, regionally, nationally and across the world.

This paper is one of a series of discussion papers prepared in anticipation of the World Urban Forum 2006.

The papers in this series include:

The Capable City

The International Centre for Sustainable Cities

This paper examines non-traditional forms of governance with an emphasis on consensus that has emerged in a Canadian context and responds to three questions. Are there models of cooperation across jurisdictions that might provide lessons for city regions that do not require mergers? Are there models for management of global common goods – such as watersheds, that do not involve legislative powers? Are there models based on consensus and voluntary agreements across sectors that show promise for influencing decision making related to sustainability? Three Canadian cases are presented: the Greater Vancouver Regional District; the Fraser Basin Council; and the National Round Table on the Environment and Economy. The models are assessed using UN-HABITAT's criteria for good governance. The findings, along with pertinent literature and experience on governance and capacity building, yield observations and recommendations about their application to other cities.

The Ideal City

Department of Art History, Visual Art and Theory, University of British Columbia

This paper explores the history and force of ideal city planning and the related literary and visual genres of Utopian -- and Dystopian -- speculation. The Ideal City represents a highly significant aspect of human thought and endeavour, usually conceived in response to actual problems as well as intended to effect substantive improvement in the daily social lives of individual citizens. Linked to a thematic knowledge resource intended to establish an interactive website, this paper reviews the main constituents of the Ideal City tradition, examines its impact on the design of urban settlement, including across Canada and in Vancouver, and indicates how such conceptual approaches to the building of a better civic environment and society can contribute to the creation of more sustainable, habitable and civilized cities in the 21st century.

The Learning City

Simon Fraser University

The learning city is a city that approaches sustainable development as an ongoing educational process. This paper focuses particularly on the role of universities and colleges in the learning city, examining the different dimensions of sustainability education and best practices from British Columbia, across Canada and internationally. Lessons from this are applied to envisioning a new Centre for the Learning City in Vancouver's new Great Northern Way Campus.

The Livable City

The International Centre for Sustainable Cities

This paper is a case study of the Greater Vancouver Regional District (GVRD) in Canada, the host region for the World Urban Forum 2006. Drawing on the literature on livable cities and the region's efforts to bring this concept into practice, the paper poses two central questions: What key factors affect the livability of a city and how does livability relate to sustainability? Livability is defined as "quality of life" as experienced by the residents within a city or region, and the paper concentrates on a case study of

planning for Greater Vancouver including the Livable Region Strategic Plan, the Sustainable Region Initiative, and the cities^{PLUS} 100-year vision for the GVRD. The paper provides lessons for other cities and regions, and concludes that for Greater Vancouver, livability, sustainability and resiliency are three intertwined elements that together will define the quality of life of current and future residents.

The Planning City

The Canadian Institute of Planners

This paper looks at sustainability as a dynamic, continuous process of sharing and exchanging knowledge and experiences, and of learning through action. It contributes to this learning process by reviewing key trends and challenges that confront those responsible for planning cities in Canada and overseas. Examples of urban planning innovations and experimentations are drawn from a sample of cities and taken from the perspective of the urban planner who is usually a central actor in efforts to articulate, plan for and implement urban sustainability. The paper concludes with key findings, and offers direction about processes, structures and methods that could enhance the effort to achieve urban sustainability.

The Resilient City

Ministry of Community, Aboriginal and Women's Services, Government of British Columbia

This paper explores the resiliency of small Canadian communities dependent upon single resource industries by examining how they have coped with the economic and social pressures arising from the closure of their industries. It summarizes how they have managed their transition from communities existing to serve resource exploitation exclusively to communities based on a different, broader economy and suggests lessons from the Canadian experience that may be transferable to resource-based communities around the world.

The Secure City

Liu Institute for Global Issues, UBC

This paper focuses on three key issues: traditional pillars of urban security, threats and forces shaping cities in the 21st Century, and a research agenda to explore relationships between adaptive security, preventive security and human security. Action is called for to advance current concepts of capacity building, resilient design and adaptive planning. Integrated risk assessment that is responsive to community needs for prevention and precaution is recommended, and an enhanced role for individual responsibility and community participation to expand social capital is advocated. The Secure City sets a context for Canada's emerging national urban agenda and a policy framework for global strategies to improve human security in cities throughout the world.

The Youth Friendly City

The Environmental Youth Alliance

This paper explores what opportunities exist for the greater recognition of the rights and needs of children and youth in urban settings through a significantly enhanced role in urban governance and community building. By enabling children and youth to participate fully in their own development and environment, this paper demonstrates the potential among youth for building capacity, and for becoming insightful resources in developing strong and thriving local neighbourhoods and cities.

EXECUTIVE SUMMARY

This paper is a case study of the Greater Vancouver Regional District, the host region for the third World Urban Forum in 2006. Drawing on the literature on livable cities and the Greater Vancouver Regional District's efforts to bring this concept into practice, this paper poses two central questions:

What key factors affect the livability of a city?

How does livability relate to sustainability?

Livability is herein defined as 'quality of life' as experienced by the residents within a city or region. To avoid obscuring the tensions that exist in achieving diverse goals while striving for livability, the paper concentrates on a case study of planning for the region. It focuses on the development of the Livable Region Strategic Plan, the Sustainable Region Initiative, and the cities^{PLUS} 100-year vision for the GVRD. Each of these planning processes shed new light on the concept of livability and sustainability.

Harry Lash, Director of Planning for the region, introduced a participatory planning model in the early 1970's to articulate the region's concept of livability. This resulted in the first "Livable Region Proposals" in 1976. In the 1990s, this vision was updated in "Creating our Future" and the land use and transportation aspects formalized in the "Livable Region Strategic Plan". The Plan focused on protecting green space and natural resources, creating complete communities based on regional town centres, achieving a compact metropolitan region, and increasing transportation choice through a transit-supportive and automobile-restrained transportation system. The assumption was that quality of life would be enhanced by creating compact and complete communities surrounded by protected natural areas and farmland.

Over the past five years the GVRD has advanced livability by the introduction of a Sustainable Region Initiative. Using the three fold lens of improving economic, environmental and social well-being, the region has focused additional effort on the social and economic side. To do so it has relied heavily on the involvement of local partners such as the Business Council of BC, Smart Growth BC, the United Way of the Lower Mainland and the Fraser Basin Council, among others. cities^{PLUS} – an award winning project to develop a 100 year plan for a sustainable urban system for the region, has added another dimension – that of resiliency. The new lens of several generations increased uncertainty and demonstrated the need for adaptive management that would encourage a learning and feedback model.

The overall conclusion for the Greater Vancouver Region is that livability, sustainability and resiliency are three intertwined elements that together will define the quality of life of current and future residents. The paper concludes with an exploration of the implications and applications of the lessons for other cities and regions.

TABLE OF CONTENTS

INTRODUCTION

> *When livability became the key word for our regional planning, we knew we would have to find effective ways to deal with many problems…Producing a plan and regulations would not be enough. We had to deal with long-term future livability, but also with people's ongoing satisfaction, their day-to-day experience of living in the region. Tomorrow's livability needed as much attention as the attainment of a better future. "The proof of the planning would be in the living."*
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> Harry Lash, Director of Planning,
> Greater Vancouver Regional District 1969-1975,
> *Planning in a Human Way*. 1976, 48[1]

It took a full year before the planners of the Greater Vancouver Regional District looked beyond the goals, computer models, livability indicators and program plans they had created and decided to ask the public to define livability. The year was 1972 and the livability concept had become the central focus of the GVRD's planning but nobody really knew what that meant. What does a livable city look like? What are the qualities of a livable city? The planners thought they should have the answer but a year of struggling led them to a realization that defining livability required a broader discussion with the public. It wasn't easy to convince the politicians or the staff of the Planning Department that engaging people to express their opinion about livability would lead to a worthwhile outcome but the result of the participatory process was more insightful than either the planners or the public expected and eventually led to the development of the Livable Region Strategic Plan. This paper traces the journey that politicians, planners and citizens of the Greater Vancouver region have made over the last 30 years in their search for livability and poses two central questions:

What key factors affect the livability of a city?

How does livability relate to sustainability?

This paper presents the history and evolution in thinking within planning for the Greater Vancouver area. An initial emphasis on physical land use, density and transportation issues led to a recognition of the need to expand to include a focus on issues of social equity, economics, and sustainability, and, more recently, to explore the resiliency of urban systems in light of long-term, complex, dynamic processes. The framework presented within this paper strives to illuminate this evolution in thinking by describing the process by which these initial approaches were formed and by which subsequent shifts in approach have taken place. The paper analyzes the evolution of planning through an approach that emphasizes the interdependent and interconnected nature of the city as an urban system. Planning in the Greater Vancouver area has been an award-winning

[1] Full references for quotations can be found in the References section of this paper.

process; thus, the focus of the paper is on describing the details of this success. Weaknesses and challenges are also presented and 'lessons learned' are summarized in the closing section. The authors encourage other cities and regions to document their planning processes in the lead-up to the 2006 World Urban Forum in order to facilitate the sharing of experiences and the amassing of case studies for analysis.

Defining a Livable City

What is a city? Surely not a municipality, but the whole urbanized area in an urban region. What is livability and what elements compose a livable city? As is apparent in Item 1, definitions of livability include an array of different issues that are underpinned by a common set of guiding principles: accessibility, equity, and participation that give substance to the concepts of livability. The quality of life experienced by citizens living in a city is tied to their ability to access infrastructure (transportation, communication, water, and sanitation); food; clean air; affordable housing; meaningful employment; and green space and parks. The differential access of people within a city to the infrastructure and amenities highlights questions of equity. The livability of a city is also determined by the access that its residents have to participate in decision-making to meet their needs.

For the purposes of this paper, livability will be defined as 'quality of life' as experienced by the residents within a city or region. In this context sustainability is the ability to sustain the quality of life we value or to which we aspire. In operational terms it is often viewed as enhancing the economic, social, cultural and environmental well-being of current and future residents.

Item 1: Definitions of Livability and a Livable City

Livability refers to an urban system that contributes to the physical, social and mental well being and personal development of all its inhabitants. It is about delightful and desirable urban spaces that offer and reflect cultural and sacred enrichment. Key principles that give substance to this theme are equity, dignity, accessibility, conviviality, participation and empowerment.

cities^{PLUS}, 2003. *A Sustainable Urban System: The Long-term Plan for Greater Vancouver*[i]

…there are those social groups for whom a livable city is one where those elements have been preserved or renewed which have always been an integral part of people friendly places. These are, as Peter Smithson once beautifully said 'relationships between streets and buildings, and buildings amongst themselves, and trees, and seasons of the year, and ornamentation, and events and other people.'

A. Palej, 2000. "Architecture for, by and with Children: A Way to Teach Livable City"

A livable city is a city where I can have a healthy life and where I have the chance for easy mobility – by foot, by bicycle, by public transportation, and even by car where there is no other choice…The livable city is a city for all people. That means that the livable city should be attractive, worthwhile, safe for our children, for our older people, not only

for the people who earn money there and then go and live outside in the suburbs and in the surrounding communities. For the children and elderly people it is especially important to have easy access to areas with green, where they have a place to play and meet each other, and talk with each other. The livable city is a city for all.

D. Hahlweg, 1997. "The City as a Family"

The livable city as a link between the past and the future: the livable city respects the imprint of history (our roots) and respects those who are not born yet (our posterity). A livable city is a city that preserves the signs (the sites, the buildings, the layouts) of history… A livable city is also a city that fights against any waste of the natural resources and that we must leave intact for the humankind, that is, for our posterity… Therefore a livable city is also a 'sustainable city': a city that satisfies the needs of the present inhabitants without reducing the capacity of the future generation to satisfy their needs….In the livable city both social and physical elements must collaborate for the well being and progress of the community, and of the individual persons as members of the community… A livable city is a city where common spaces are the centers of social life and the foci of the entire community. A livable city must be built up, or restored, as a continuous network – from the central areas to the more distant settlements – where pedestrian paths and bicycle-paths bind together all the sites of social quality and of the community life.

E. Salzano, 1997. "Seven Aims for the Livable City"

Livability means that we experience ourselves as real persons in the city.

A. Casellati. 1997. "The Nature of Livability"

The coin of livability has two faces. Livelihood is one of them. Ecological sustainability is the other. Livelihood means jobs close enough to decent housing with wages commensurate with rents and access to the services that make for a healthful habitat. Livelihoods must also be sustainable. If the quest for jobs and housing is solved in ways that progressively and irreparably degrade the environment of the city, then the livelihood problem is not really being solved. Ecological degradation buys livelihood at the expense of quality of life, with citizens forced to trade green space and breathable air for wages. To be livable, a city must put both sides of the coin together, providing livelihoods for its citizens, ordinary as well as affluent, in ways that preserve the quality of the environment.

P. Evans, ed. 2002. *Livable Cities? Urban Struggles for Livelihood and Sustainability*

Item 2: Principles of a Livable City

The following principles are suggested as basic to the livable city:

* One, in the livable city, all can see and hear each other. It is the opposite of the dead city, where people are segregated and isolated…

* Two…dialogue is important…

* Three…the public realm offers many activities, celebrations, festivals that bring all of its inhabitants together, events that bring opportunities for its citizens to be together, not in the specialized roles and functions that they usually occupy, but as full human beings…

* Four, a good city is *not* dominated by fear, *not* by a conception of fellow human beings as evil and subhuman…

* Five, a good city offers the public realm as a place of social learning and socialization that is indispensable for children and young people. All of the inhabitants of the community serve as models and teachers…

* Six, cities must meet many functions – economic, social and cultural. In so doing, however, there has been a trend for the modern city to over-specialize in one or two functions; other functions are being sacrificed…

* Seven…all inhabitants confirm and value each other.

* Eight…aesthetic considerations, beauty, and meaning of the physical environment must have high priority. The physical and social environment are two aspects of the same reality. Just as it was a mistake to think that city inhabitants can have a good civic and social life in an ugly, brutal and physically inhospitable city.

* Finally…the wisdom and knowledge of all inhabitants are appreciated and used. People are not intimidated by experts, whether architects or planners, but show a sense of caution and distrust of those who make decisions about their lives.

H. L. Lennard. 1997. "Principles for the Livable City"

Viewing the City as a Living Organism

> *We must treat the city like a living organism… the urban phenomenon then, like life, is founded on a subtle balancing act. If we want a city to function properly as a society, then that balance must not be upset.*

B. Cools. 1997. "The Future of the City"

The metaphor of the city as a living organism is exemplified in the quote above and emerged from two decades of international research, dialogue, and literature on livable cities. The search for definitions of a livable city has drawn together scholars and practitioners around the world. The biennial International *Making Cities Livable Conference* has convened academics, professionals and city officials since 1985 "to broaden their understanding of the city as an organism, and how urban policies affect inhabitants' quality of life."[ii]

Using this metaphor - the brain and nervous system of a livable city refers to participatory processes by which a city develops visions and plans, monitors the implementation of its plans and adjusts to changing circumstances. The heart is the common values and public space of a city that define its essential identity. The neighborhoods, industrial clusters, downtown, parks and other hubs form the organs of a

city. Similar to the circulatory system and neural networks that weave connections within a living organism, transportation routes, infrastructure, waste disposal, communication lines, water flows, and green space connect these nodes.

Metaphors should always be used with caution as they can hide as many aspects of an idea as they illuminate; however, the metaphor of a city as a living organism can serve as a powerful conceptual framework. It enables the examination of different critical components of 'livability' and at the same time focuses attention on the interdependence of the components and the importance of a nurturing environment.

LIVABLE CITY METAPHOR	COMPONENTS	DESCRIPTION
The brain and nervous system of the Livable City	Governance and Participation Monitoring, Measuring, Learning	A livable city engages the active involvement of a diversity of citizens in visioning, planning, implementing and monitoring regional plans and place-based solutions to challenges. The monitoring capability of a livable city is equivalent to the nervous system in a living organism. A livable city develops the capability to measure progress towards its goals, to encourage experimentation and test new ideas, to learn from experience, to adapt strategies in order to take into account dynamic circumstances and shifting priorities, and to quickly respond to opportunities and challenges.
The heart of the Livable City	Common Values, a Sense of Identity and Place	A livable city contains an active public realm for reflecting the essence of itself, for creating and reinforcing a common identity, for dialogue about common values, for remembering history, for celebration and festivals, and for socialization of children and young people.
The organs of the Livable City	Complete Communities, Vital Downtown Core, Industrial Clusters, Green Space	A livable city contains complete communities with mixed-use and affordable housing close to shopping, employment, cultural centres and pedestrian-friendly transportation networks; a vital downtown core with public spaces and economic activity; industrial clusters with shared infrastructure; and green space including agricultural lands and parks.

The circulatory system of the Livable City	Natural Resource Flows, Green Corridors, Energy Grids, Communication, Transportation	A livable city is connected through the flow of resources that sustain its activities including water, materials, sewage, and waste; through access to energy resources; through green corridors for biodiversity habitat and recreation; through access to the communication systems including information and communication technologies; through a transportation network that prioritizes walking, public transportation and efficient movement of goods, and enables pedestrian-friendly communities.

The Case Study: Planning for the Greater Vancouver Region

Greater Vancouver, as host of the World Urban Forum in 2006, should be a living example and focal point for participants at the event. This case study allows an intimate look into the story of the region's efforts to transform the broad concept of 'livability' into an action plan and implement it in the region. As Lash[iii] points out, livability has been a defining central focus of the Greater Vancouver Regional District (GVRD) since the 1970s. The GVRD's search to define and nurture livability within Greater Vancouver has had both successes and failures; these combine to provide a rich case study for examining 'livability' in action.

The paper focuses on the development of the Livable Region Strategic Plan, the Sustainable Region Initiative, and the cities[PLUS] 100-year vision for the GVRD. Each of these planning processes shed new light on the concept of livability. The Livable Region Strategic Plan (LRSP) was developed as a direct result of the *Choosing Our Future* process that involved the public in deciding on livability goals for the region and led to the document *Creating Our Future*. The LRSP focused on applying these goals in a plan for growth management and transportation, protecting green space and natural resources, creating complete communities with high density based on regional town centres, achieving a compact and dense metropolitan region, and connecting the region through a transit-supportive and automobile-restrained transportation system. The assumption was that quality of life would be enhanced by creating compact and complete communities surrounded by protected natural areas and farmland.

Currently, a review of the LRSP and other GVRD plans is being undertaken under the Sustainable Region Initiative (SRI). Within this context, it has become apparent that aspects of the quality of life of the Greater Vancouver region such as social issues, affordability, economic development, and aesthetics have not yet been adequately addressed. The SRI uses a sustainability lens to look at the livability of the region in terms of economic, social, cultural and environmental objectives.[iv]

In parallel with the Sustainable Region Initiative, the region participated in a competition sponsored by the International Gas Union to create a 100- year plan for sustainable urban systems. The Canadian entry, which focused on Greater Vancouver, won the grand prize and was called cities^{PLUS}, an acronym for Cities Planning for Long-term Urban Sustainability. The project was led by a consortium representing four sectors: the Sheltair Group, a private sector consulting firm, The Liu Institute for Global Issues, based at the University of British Columbia, the International Centre for Sustainable Cities, an NGO working with cities in Canada and the developing world and the GVRD. The lens of time adopted in the process of developing the cities^{PLUS} vision required an understanding of long-term trends such as climate change, population growth, natural resource scarcity, technological developments and globalization that will have impact on the quality of life and sustainability of the region. The conclusions pointed out the necessity for adaptive management and the importance of resiliency in light of these trends.[v] The insights from this process are currently catalyzing discussions of livability, sustainability and resiliency as fundamental themes for the Greater Vancouver region.

This paper explores the evolution of the theme of 'livability' within the context of planning for the Greater Vancouver region. As the table below illustrates, livability remains an essential objective for the GVRD; however, livability has been joined by sustainability and resiliency as additional key themes that have emerged in the past five years. These additional themes have stimulated renewed discussions about livability and led to a reassessment of the factors that determine the region's quality of life.

ACTIVITY	PERIOD	THEME	COMPONENTS
Various Livable Region Programs and Activities	1970-1983	Livability	Extensive consultations and the introduction of a participatory planning process throughout the region Public protests stop construction of a freeway into the core of Vancouver Hosting of Habitat Conference in 1976 highlights region's innovation
The Dark Ages of Planning in British Columbia	1983 -1989	Economic Restraint and Less Government	Province amended Municipal Act to eliminate regional planning as a statutory function. Inter-municipal planning activities were voluntarily undertaken under the guise of development services, until 1989 when permission for development services as a regional mandate was granted.
Choosing Our Future	1989-1996	Livability	Planning was restored and consultations were undertaken (Choosing our Future) to

			develop a forward looking document in keeping with the Brundtland Commission. 'Creating Our Future' document adopted in 1990 with updates in 1993 and 1996. Regional growth strategies were mandated in 1995.
Livable Region Strategic Plan (LRSP)	1996 – present	Livability	Land use and growth management Strategies: • Protect the green zone • Build complete communities • Achieve a compact metropolitan region • Increase transportation choice
Sustainable Region Initiative (SRI)	2001 – present	Livability Sustainability	An integrated urban system Social, environmental and economic dimensions
cities^{PLUS} – Cities Planning for Long-term Urban Sustainability	2001 – 2003	Livability Sustainability Resiliency	Temporal dimension – future generations Adaptability to dynamic long-term trends Multi-stakeholder process Adaptive Management framework 8 Catalyst Strategies

The Structure of this Paper

The Livable City paper is divided into five sections. The first section sets the context for the case study of the Greater Vancouver Region. The following three sections examine the planning processes described in the Livable Region Strategic Plan, the Sustainable Region Initiative and the cities^{PLUS} process. These sections analyze the evolution of the theme of livability as it is perceived through a sustainability lens and later through the lens of a 100-year time horizon. The paper concludes with the lessons learned from the case study of the Greater Vancouver region and a discussion of the implications for other cities striving to improve their livability and sustainability.

1. THE GREATER VANCOUVER REGIONAL DISTRICT

1.1 The Region in Context

The Greater Vancouver region is internationally known for its spectacular setting on the southwest coast of Canada at the edge of the Georgia Strait, bounded to the north by the Coastal Mountain range, to the south by the United States and to the east by the Fraser Valley Regional District. The natural setting within which Greater Vancouver is situated also frames the opportunities and constraints within the region. Greater Vancouver is part of the Fraser Basin whose headwaters lie deep in the north east of central British Columbia. It is also part of the larger Georgia Basin/Puget Sound bioregion that includes southeast Vancouver Island, the Lower Mainland and parts of Washington State in the United States.

Fig. 1: The Greater Vancouver Region

The natural surroundings, the economic opportunities and the quality of life in the area have drawn a steady stream of people into the region. In the 1970s, the Greater Vancouver area contained less than 1 million people. Over 2 million people currently live in the region and future projections suggest that there will be 2.7 million by 2021. Vancouver has received numerous international awards and ranks amongst the most livable cities in the world. The William M. Mercer quality of life survey has named Greater Vancouver in the top three of the most livable cities for the past four years and *The Economist* recently did the same. Maintaining this quality of life will be a significant challenge particularly in the face of population pressures, changing social demographics, industry dynamics, demands for housing and economic opportunities, and climate change.

1.2 The Greater Vancouver Regional District (GVRD)

Fig. 2: The GVRD

The Greater Vancouver Regional District came into existence in 1967, incorporating the preexisting regional bodies that focused on delivering utilities including sewerage and drainage services (1914) and water (1926). The GVRD, a federation of the region's 21 municipalities and one electoral area, extends from the US border to Lions Bay, and from Bowen Island to Langley Township. The aim of the federation is to meet the needs of the residents of the region, to help protect the quality of life in the region, and to efficiently and cost-effectively deliver the region's services. The GVRD serves as a collective voice and a decision-making body that strives to achieve these purposes. There are a number of issues that the municipalities and electoral area have mandated the GVRD to address. These include growth management plans, water supply, solid waste management, sewerage and drainage, air quality monitoring and regulations, regional parks, affordable housing (through the Greater Vancouver Housing Corporation), emergency telephone system, and labor relations services. The Greater Vancouver Transportation Authority (TransLink) was formed in 1998 as an associated body to the GVRD and as the central agency for coordinating and carrying out the transportation plans and services for the movement of people and goods in the region.

The GVRD Board is the governing body of this regional partnership and comprises 35 elected members of the participating municipal councils and electoral area. The members

elect a chair who determines the Board committees, stipulates the issues and policies that these committees will review, and selects the committee members. The GVRD has standing committees that propose recommendations to the Board; advisory committees that provide information and advice to the standing committees; and public advisory committees that are composed of people with specific interests and areas of expertise. The GVRD also invites the involvement and participation of interested members of the general public.[vi]

1.3 Creating Our Future

> *Greater Vancouver can become the first urban region in the world to combine in one place the things to which humanity aspires on a global basis: a place where human activities enhance rather than degrade the natural environment, where the quality of the built environment approaches that of the natural setting, where the diversity of origins and religions is a source of social strength rather than strife, where people control the destiny of their community; and where the basics of food, clothing, shelter, security, and useful activity are accessible to all.*
>
> GVRD. 1990. *Creating our Future: Steps towards a More Livable Region*

The poignant vision presented in the quotation above was created as part of an early planning process in Greater Vancouver and continues to inspire and guide planning in this region. Regional planning built on the work of the Lower Mainland Regional Planning Board, which existed prior to the establishment of the GVRD and adopted the region's first Official Regional Plan in 1966. Following a period in the 1980s when regional planning was eliminated a statutory function, in 1990, in a move to restore cooperative momentum, the Board developed *Creating our Future: Steps to a More Livable Region*. It was a process and document that framed the vision of long-term development in the region. Patterned after the successful Livable Region Program in the 1970s, *Creating Our Future* responded to concerns over the rapid population growth and the resulting threats to the region's quality of life and environmental quality. It engaged more than 4,000 residents in a public consultation process through public meetings, and gathered information through interest group discussions, written submissions and a survey. It culminated in 1990, when the Board of Directors of the Greater Vancouver Regional District adopted the above vision statement.

The over 200 issues identified in the process became 54 actions listed within the *Creating Our Future* document adopted by the GVRD Board. These actions were categorized under five main themes that define how the elected representatives, residents and planners of the Greater Vancouver region framed quality of life and the livability of their region. As will become apparent below, these themes have recently been expanded to include a wider range of issues including social equity. The five main themes are:

1. Maintaining a healthy environment
2. Conserving land resources

3. Serving a changing population
4. Maintaining the region's economic health
5. Managing the region

A process emerged to translate these visions, actions and guiding themes into implementation strategies. When the member municipalities reviewed the document, they posed questions about the affordability of the visions and the role of the regional body in responding to local objectives. The GVRD was influenced by these reviews and embarked on an action strategy that included a reorganization of the GVRD administration, a continued refinement of the *Creating Our Future Program*, and the creation of a series of GVRD plans. The plans were divided into functional plans and programs and regional growth plans. Functional plans were developed in the areas of liquid waste, solid waste, water supply, air management, major parks and health care, and the regional growth plans focused on transportation and on growth management. The regional growth plan became the Livable Region Strategic Plan in 1996. The early planning processes and their resulting documents have laid a solid foundation and have become a dynamic link to past aspirations for planning in the Greater Vancouver area.

> *Creating Our Future is woven into the very fabric of the GVRD. It is a living document, requiring encouragement and nourishment and of course, discipline. But the final goal remains unchanged – an outstanding quality of life for the region's residents.*
>
> GVRD. 1993. *Greater Vancouver… The Livable Region*

2. THE LIVABLE REGION STRATEGIC PLAN (LRSP)

2.1 An Overview of the LRSP

Livability remains the central guiding theme for the Greater Vancouver Regional District and this is embodied in its regional growth management strategy, the Livable Region Strategic Plan (LRSP). The Livable Region Strategic Plan was adopted in 1996 by the GVRD's Board of Directors and has formed the regional growth strategy and framework for planning decisions made by the GVRD's member municipalities, the provincial government, other agencies and the private sector. The LRSP focuses on land use including the Green Zone, regional town centres and higher density centres including downtown Vancouver, and on transportation policies. Other important issues such as social equity concerns and economic development would only later become central in the Sustainable Region Initiative. The LRSP provides the framework for the Greater Vancouver Transportation Authority (TransLink) and for municipalities. Its aim is "to help the region develop in a way that maintains and protects the environment and at the same time guide the location of urban activities to create a high quality of community life."[vii] In order to achieve the continued livability of the region, the Livable Region Strategic Plan's growth management focused on four strategies:

- Protect the Green Zone
- Build Complete Communities
- Achieve a Compact Metropolitan Region
- Increase Transportation Choice

These interconnected strategies reinforce each other. By encouraging dense housing combined with employment opportunities within complete communities and concentrated growth areas, the LRSP releases pressure on the Green Zone of parks and agricultural land and concentrates people and goods in areas that can be served by transportation and urban services. Clear objectives have been outlined for each of these strategies and the GVRD has engaged in partnership with a variety of actors to pursue this growth management framework. Progress on the Livable Region Strategic Plan is monitored using a set of 29 indicators. Of these 29, 8 key indicators have been identified and these correspond to the four strategies (see Item 3). Taken together, the indicators provide guidance as to whether the GVRD is moving towards or away from its desired objectives. This is essential to enable the GVRD to adjust its strategies and actions to achieve its intended goals.

Item 3: Key LRSP Monitoring Program Indicators

Protect the Green Zone

- Area of the green zone

- Area of the agricultural land reserve

Build Complete Communities

- Number and proportion of total and new dwellings in municipal and regional town centres

- Proportion of office floor space in municipal and regional town centres

Achieve a Compact Metropolitan Region

- Population growth share of annual population growth, for the Growth Concentration Area and the Vancouver Region

Increase Transportation Choice

- Vehicle ownership per household

- Total and per capita transit ridership

- Growth in total and per capita transit capacity

2002 Annual Report: Livable Region Strategic Plan.

The LRSP also guides research and policy development and the creation of public documents, statistics and maps regarding the region's growth and development.

The Livable Region Strategic Plan has contributed significantly to the shape and design of the region's land use. Livability goals were defined in response to demographic and natural resource pressures. The central assumption was that past development trends of "low density sprawl, interspersed with pockets of higher density unconnected by effective transportation services" with "pressures on green space, traffic congestion and declining air quality" lacked "regional vision and coordinated actions."[viii] The LRSP's strategy to achieve quality of life in the region was to designate certain areas as green space and to encourage the concentration of residents and amenities into complete communities and a compact metropolitan area.

In 2002, the LRSP was honored with the Dubai International Award for "Best Practices to Improve the Living Environment".[ix] It was also recognized as an Ambassador Project in the 2002 Stockholm Partnerships for Urban Sustainability Awards competition. Municipalities in Canada and around the world refer to the LRSP and consult with staff from the GVRD about it. The Province of British Columbia showcases the LRSP as a model Regional Growth Strategy.

The plan's success was in large part due to a legacy of participatory involvement of a diversity of Greater Vancouver actors and institutions in defining livability and in participating in the *Choosing Our Future* initiative that formed the conceptual framework for the LRSP. When Vancouver hosted the first United Nations Conference on Human Settlements in 1976, planners from around the world came to learn from the GVRD's leading edge work in participatory planning. The planners in the GVRD and its member municipalities and electoral area had come to the realization that involvement of those who have a stake in planning and decision-making leads both to better results and greater acceptance of the outcomes of the process.

> *The question is not whether to have participation; the question is rather what form of participation you are to have. Will it be responsible and constructive, or inflammatory and destructive? The answer is largely in the hands of the politicians. Provided their bureaucrats understand what it's about, the politicians can determine whether the participation will be positive or disruptive. What they cannot change is the prickly nature of the beast. That will not change until we have a much longer collective experience of participation, until enough good experience has accumulated to wash away the cynicism and bad faith…Planning should include the citizens from the beginning, people can then feel that they have helped build a new vision of the future. Only when they feel that way will they back the efforts and decisions of government.*
>
> Lash, H. 1976. *Planning in a Human Way*

In his book *Planning in a Human Way*[x], Harry Lash, first Director of Planning of the GVRD, describes the shift in the GVRD's approach from perceiving planners as experts and sole decision-makers in creating regional plans to recognizing the importance and value of involving other actors including the private sector, civil society and the general public in designing regional plans. For a large part, the shift was triggered by the strong reactions of the public to plans that had become more pervasive in their impact and to local government that was perceived as not being held accountable to the people. As is evident in the quotation above, Lash and the GVRD found that participatory processes were invaluable and essential for the legitimacy of the process but also very difficult to undertake. Creating trust amongst actors to engage in a productive way is a long-term and constant process. Lash emphasizes the importance of engaging people at the start so that all actors can be involved in designing the decision-making process itself as well as the plan, implementation strategies and monitoring procedures.

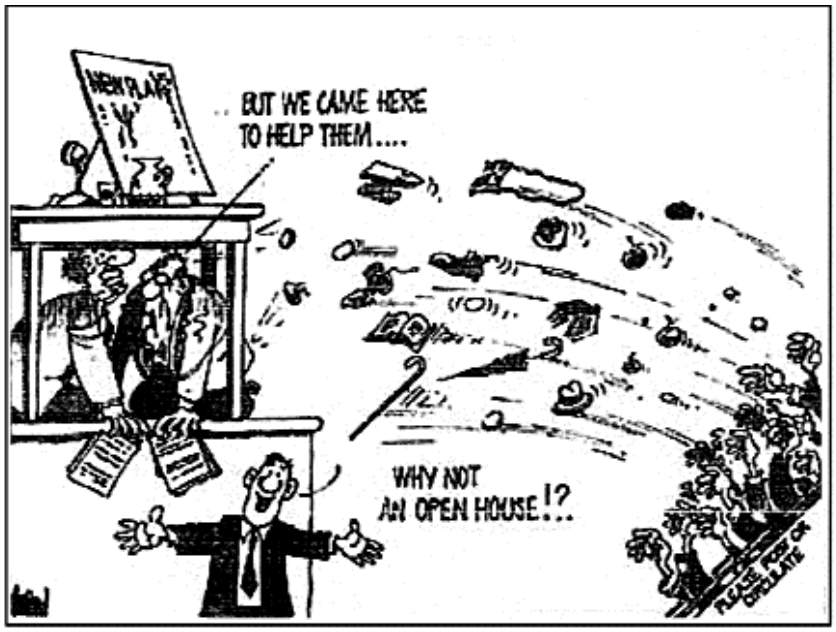


Fig. 3: Participation

This tradition within the GVRD of creating participatory processes and democratic engagement of citizens in regional development planning has continued over the years. The Dubai Award nomination emphasized that "the value of the comprehensive consultation process and partnerships that resulted through the development and endorsement of the LRSP is perhaps the greatest lesson learned."[xi] The meaningful involvement of municipalities and other partners was essential to the ability of the plan to address sensitive issues such as the allocation of growth in different parts of the region. Since the early nineties, however, the process has evolved to one of engaging stakeholder representatives and not massive public participation.[xii] While the process remains open, fewer residents or experts are actually involved than in earlier years. Recognizing that participation methods range from participants simply being informed about a decision-making process, to consultation, to involvement, to collaboration, and to empowerment, planners need to select the method that is appropriate for the objective being sought.[xiii] This can also include the involvement of decision-support systems that "provide tools to enhance decision-making capabilities by combining expert knowledge, public values, and scenario-testing capabilities that provide the necessary information to enable planning for uncertainties."[xiv] In the end, for the GVRD the central objective is better decisions, plans, and implementation, and not participation for its own sake.

2.2 Complete Communities

Accessibility to basic amenities is a central factor in achieving livability. Instead of urban sprawl that separates housing from other functions, complete communities mix housing with other uses such as shops, businesses, restaurants, public spaces, offices, schools,

parks, libraries, police stations, and entertainment venues. The ability for people to live a well-rounded life without having to travel distances in a vehicle is essential for creating strong communities with local character. By placing these amenities within walking distance, streets become social spaces that enable easy regular human contact in addition to the usual role of streets for moving people and goods. Through building structures such as shop/houses, the shops on the ground floor provide public space for interaction, while the inclusion of private housing on the floors above ensures that there are 'eyes on the street'[xv] that monitor and encourage appropriate social behavior. The neighborhoods are decentralized units that are vital for weaving people's public and private lives together. When complete communities are designed to be safe, healthy and livable for all, the city (and larger region) becomes a community of communities.

The LRSP encourages the development of complete communities and also recognizes that there is a balance to be struck at the regional level between the effectiveness and efficiency of decentralization and maintaining certain amenities in a centralized location within a city. Although cultural spaces can be created at the neighborhood level, art galleries, symphony halls, sports stadiums and museums are better suited to be centralized. Similarly, a centralized downtown economic core of activity is important for the development of a livable city. Economic development in a city may also require certain industrial activities to be clustered. The provision of energy at the neighborhood scale may be less efficient than centralizing an energy system within a region. In order to be resilient to possible problems and malfunction, these centralized energy systems will need to build in a level of redundancy to ensure that if there are problems with the main energy infrastructure the region has back-up systems to supply energy. The tension between decentralization and centralization is one of the balancing acts facing the GVRD. Part of resolving this tension lies in creating nodes or organs within the region in the form of growth concentration areas and compact communities.

2.3 Compact Development

One of the central strategies within the LRSP focuses on achieving a compact metropolitan area with higher density in order to concentrate growth in particular areas. There is a designated Growth Concentration Area (GCA) that comprises 46% of the total urban area in the region. The GCA has been designated in order to reduce pressure on the Green Zone, balance the jobs/housing ratio in these areas, and concentrate settlement for more effective access by transportation systems and infrastructure. The LRSP set a target of approximately 70% of total population and employment to occur in the GCA by the year 2021 and it is effectively moving in this direction. "As of the 2001 Census, 67 percent of the population resided within the GCA. From 1996 to 2001, the GCA population increased by 112,800 residents, accommodating 73 percent of the region's population growth."[xvi]

To achieve the goal of building compact communities, eight regional town centres were identified as principal locations for building complete communities of "high density residential, with region-serving employment, retail, cultural and community facilities."[xvii]

The strategy has been successful in that 17,000 new dwelling units have been added to the regional centres between 1996 and 2001 and almost 17,000 units to the Metropolitan Core.

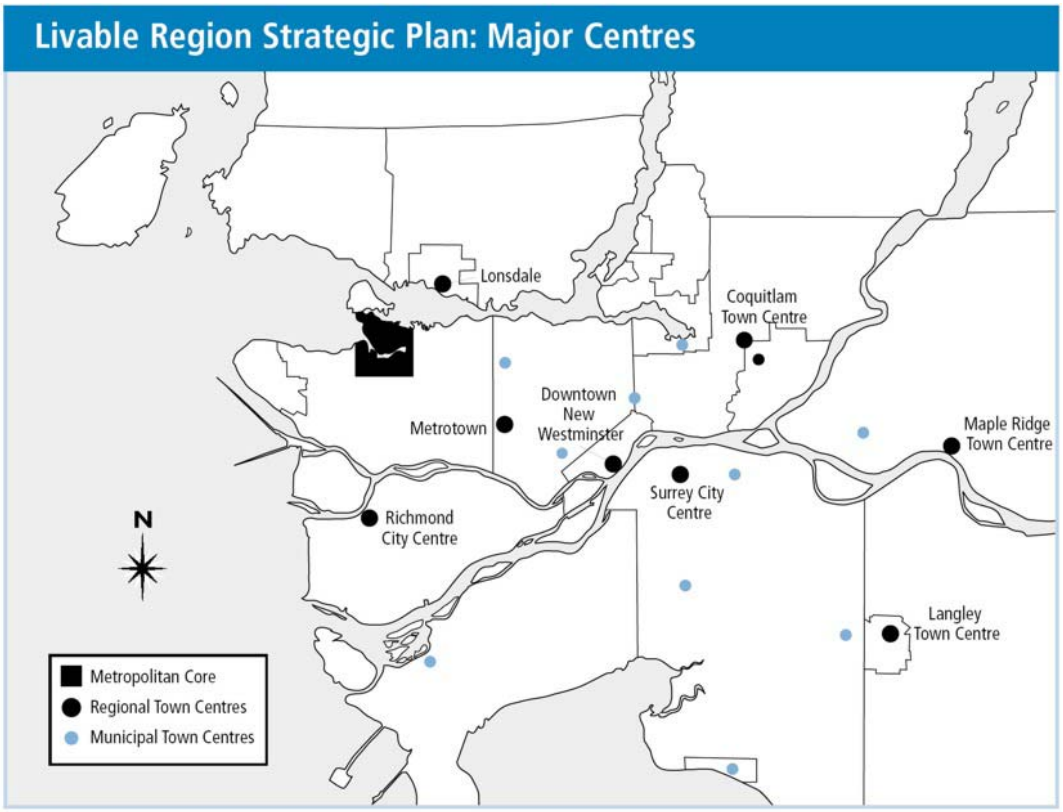


Fig. 4: Livable Region Strategic Plan: Major Centres

(from the GVRD Annual Report 2002)

Population in Regional Town Centres

Source: Statistics Canada and GVRD (2002) *Annual Report: Livable Region Strategic Plan*

	Population			Pop. Growth 1991 –2001	
Regional Town Centre	**1991**	**1996**	**2001**	**Actual**	**Percent**
Coquitlam Centre	1,560	4,460	6,175	4,615	295.8%
Langley Town Centre	8,615	10,855	13,205	4,590	53.3%
Lonsdale (North Van. City)	17,990	19,925	22,540	4,550	25.3%
Maple Ridge	3,821	3,765	3,925	104	2.7%
Metrotown (Burnaby)	16,775	21,005	24,140	7,365	43.9%
New Westminster	5,250	6,660	6,570	1,320	25.1%
Richmond Centre	17,440	23,260	28,635	11,195	64.2%
Surrey City Centre	13,790	15,735	17,165	3,375	24.5%
Total RTCs	85,241	105,665	122,355	37,114	43.5%
Vancouver Metro Core	60,685	72,985	87,695	27,010	44.5%
Vancouver CMA	1,602,590	1,831,665	1,986,965	384,375	24.0%

Office Inventory in Regional Town Centres

Source: Royal LePage 2001 and GVRD (2002) *Annual Report: Livable Region Strategic Plan*

	Occupied Office Inventory (sq ft)		Net Increase
Regional Town Centre	**1990**	**2000**	**1990-2000**
Metropolitan Core	18,689,900	24,979,600	6,289,700
Metrotown	1,265,050	1,787,250	522,200
Richmond Town Centre	845,150	875,150	30,000
Lonsdale	718,350	783,350	65,000
Downtown New Westminster	497,800	537,800	40,000
Surrey City Centre	30,000	310,000	280,000
Coquitlam Centre	50,000	50,000	--
Langley Town Centre	130,000	130,000	--
Maple Ridge	NA	NA	NA

As the tables above demonstrate, although the metropolitan core has attracted office space, there has been less success in attracting office space to the regional centres and there continues to be growth of business parks outside of these centres. This reduces the

ability of people to walk, cycle or take public transit to work and does not embrace the benefits that come with developing complete communities with employment opportunities. "The benefits of 'centre living' realized by existing and future residents are enhanced through the development of a strong job base…."[xviii] As part of the review of the LRSP, a Livable Centres Task Group was established in order to devise strategies for attracting residential development, shops and offices to the regional centres.

2.4 Green Space

The quality of life in a region is tied to people's access to green space and the protection of agricultural land. Within the Greater Vancouver region, growth was managed by the designation of distinct areas of green space that would be protected. Dispersed development in the past threatened to pave over agriculturally productive land and important ecosystems with residential and industrial development. The LRSP's protection of a green zone serves two purposes: "First it protects Greater Vancouver's natural assets, including major parks, drinking watersheds, ecologically important areas and resource lands, such as farmland. Secondly, it sets a long-term boundary for urban growth."[xix] The Green Zone provides both a sense of place for Greater Vancouver residents and environmental, social and economic benefits.

Altogether, there are 205,000 hectares comprising two thirds of the region's land base within the Green Zone. The 91,370 hectares of protected habitat area includes twenty-six regional parks and greenways. 54,000 hectares is designated as Agricultural Land Reserve (ALR). The rich alluvial soils of the Fraser River and a benign climate have provided the region with one of the best agricultural areas in Canada. Along with clean air and water, a source of agricultural products is paramount to the sustainability of a city. The preservation of the ALR in Greater Vancouver has been a success story and the focus is now shifting towards concern for the economic viability of the region's farms and the sustainability of the practices undertaken on these lands. There is currently an Agricultural Advisory Committee that is examining these issues with the agricultural community.

The process used to establish the Green Zone was a significant departure from traditional North American approaches to urban development. The 1996 designation of the Green Zone under the LRSP was built on a history of local and provincial protection of agricultural and parklands of Greater Vancouver. The Lower Mainland Regional Planning Board had described their vision of 'cities in a sea of green', a concept still relevant to the GVRD. As Ken Cameron describes in the quotation below, the process of selecting the green zone area was unique.

> *The Board knew that Greater Vancouver would grow and they wanted to maintain the green agricultural and natural areas even when the region contained millions of residents. Once the objective was established, they adopted an unconventional approach to selecting the protected land. The criteria were developed, and the municipalities and electoral area were asked to nominate lands for the Green Zone. Although they didn't have power to buy this land, they did have power over*

the land through zoning, designation and development permits. When the municipalities came back, they had nominated two thirds of the GVRD, virtually one half of the developable low land! Because these areas were volunteered in a constructive and positive way, the member municipalities were supporters of the established Green Zone. An accomplishment in its own right, the Green Zone also established an automatic urban containment area. This defined the planning process and how the GVRD would build on the remaining land in the region. As one elected representative stated, the Green Zone was his legacy for future generations.

Ken Cameron. Manager, Policy and Planning GVRD. 2004.

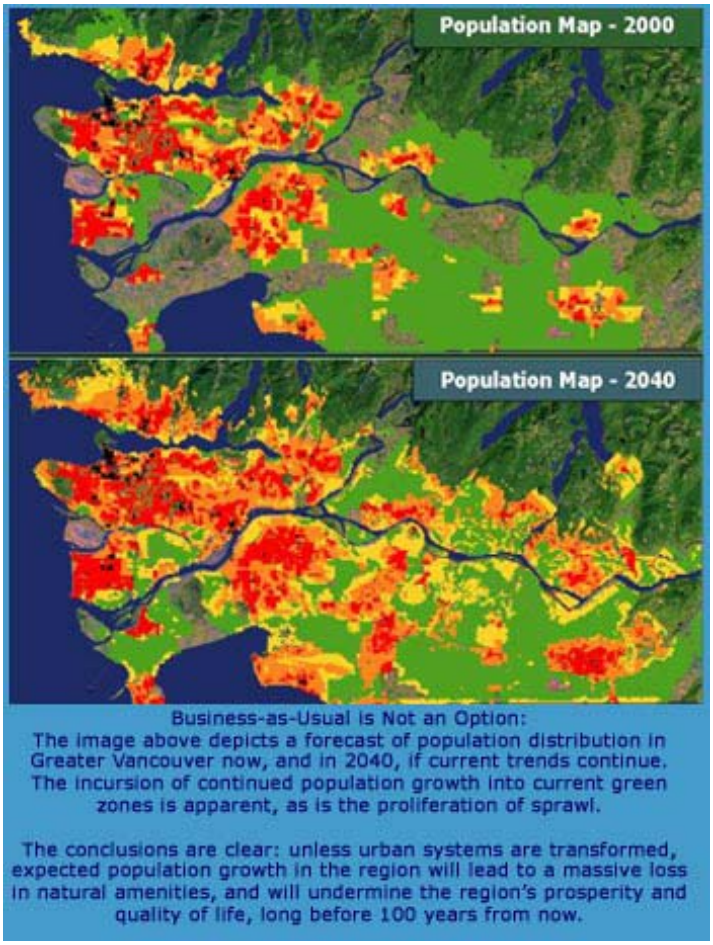


Fig. 5: GVRD in 2040 with Business-As-Usual

2.5 Transportation Choices

Increasing transportation choices as an objective of the LRSP is intimately connected with land use. Mobility is a key aspect of quality of urban life. Giving priority to walking over other forms of transportation is safer, healthier and improves the quality of life for

residents. Designing pedestrian-friendly environments involves creating buffers from the road for pedestrians, making wider sidewalks and creating plazas, designing traffic calming measures to reduce traffic speed, and structuring complete communities that allow daily tasks to be accomplished by walking. Livable cities also reduce the use of cars by building safe bike path networks and by introducing car-sharing programs that allow people to use cars only when they need them.

Greater Vancouver recognizes the need to take into account the different kinds of traffic that are occupying the transportation network. Public transit vehicles, trucks transporting goods, and high-occupancy vehicles require express routes that enable faster transit across the city. Overall, a livable city is one in which the car is accommodated but other forms of transportation are encouraged. Streets can then adopt a different role within the community and the city can focus on designing for its residents rather than for its cars.

Challenging the primacy of the car has an honorable history in Vancouver where in the 1970s a protest by citizens stopped the building of a freeway into the core of the city. Today a vibrant Chinatown and walkable downtown are testament to the choices made. This is particularly important because the streets in Chinatown and the rest of the downtown core continue to support the interaction of people rather than simply supporting the mobility of cars.

> *Streets have a dual role, as both infrastructure to move people, and as social space. Where current traffic engineering practice tries to do one thing – move vehicles quickly – livable street design pays attention to all modes of transportation and to the quality of urban space that the transportation system supports. By adopting street design techniques from great cities around the world, especially European ideas of traffic management, we can make transit faster, walking safer, and public life more pleasant.*
>
> Transportation for a Livable City. 2002. *The Path to a Livable City*.

The adoption of a new transportation plan (Transport 2021) in 1994 and its incorporation by reference into the LRSP in 1996 raised questions about governance and funding arrangements for implementation. Consequently, the GVRD and the Province entered into negotiations with the Province in 1997 that led to the creation of the Greater Vancouver Transportation Authority (known as TransLink) as an associated body. TransLink has the mandate to coordinate transportation plans and financing of the transportation system within the context of the LRSP and regional air quality and economic development objectives. This includes public transit, the road network, and transportation demand management programs. The goal of TransLink is to efficiently move people and goods around the region. TransLink oversees the subsidiary companies that operate the bus system, SeaBus, SkyTrain, West Coast Express, and Albion Ferries. The AirCare program tests vehicle emissions to remove polluting vehicles from the roads. The creation of the *Long-Range Transportation Plan for Greater Vancouver (Transport 2021)* is worthy of its own analysis as a planning case study, and a detailed description and introspection is beyond the scope of this paper[xx]. It is worth noting,

however, that *Transport 2021* contributed greatly to supporting the land use pattern proposed in the LRSP and reversing urban sprawl through creating dense urban centres connected by transportation corridors.

There have been many successful elements to transportation within the GVRD. Although the percentage of people taking transit in the peak period has been stable in recent years, the total number of people has increased and more people are able to bike and walk to work primarily due to the successful concentration of growth in regional centres. Not all aspects of the transportation plan have been successful. The failure of attracting businesses to create complete communities and the increase in office parks outside of the regional centres has led to increased car traffic from home to employment. The GVRD is seeking to encourage growth in offices in specific areas to enable more people to be serviced by public transit or to walk to work and to other basic amenities. These changes will require an integrated urban system approach that perceives the region as one interconnected organism. There are also tensions between regional strategies for transportation and community self-interest. In 2004, the GVRD and GVTA Board's approved TransLink's *2005 – 2007 Three-Year Plan and 10-Year Outlook* in a closely contested vote.[xxi] The three-year financial plan would set the stage for the ten-year capital investment program to improve transportation in the region. Although extended transit service and sharing transportation benefits and costs equitably may make sense from a regional perspective, these benefits are not necessarily perceived by municipal constituents. Defining transportation's role in sustaining the quality of life remains an active subject of debate in the region.

3. THE SUSTAINABLE REGION INITIATIVE (SRI)

3.1 An Overview of the SRI

One of the weaknesses of the LRSP was the lack of a regular comprehensive review that evaluated the success of the LRSP strategies. Currently, this weakness is being rectified with a five-year review of progress. Since the fall of 2001, this review has been taking place within the context of the Sustainable Region Initiative. The initiative involves the development of a framework that includes a vision, principles and coordinated actions for integrating social (including aesthetic and historical aspects), economic and environmental objectives within the region. The SRI maintains a long-term focus to guide the GVRD towards a sustainable future. It will be the framework for examining all of the GVRD plans and programs including the LRSP. Whereas 'livability' has been the central focus of the GVRD from the 1970s, there has been a recognition that quality of life and a livable region will only emerge if social, economic and environmental elements are approached in an integrated fashion. Johnny Carline, the Chief Administrative Officer of the GVRD, summarizes this elegantly in the GVRD's Sustainability Report.

Message from the Chief Administrative Officer

Johnny Carline, Greater Vancouver Regional District

The year 2002 marked a turning point at the GVRD. It was the year we made a commitment to using sustainability principles as the foundation of all we do.

The story of our Sustainable Region Initiative really began in 2001. The time had come to review our growth management plan, known as the Livable Region Strategic Plan. The plan had been well received in some circles and was, in 2002, to be awarded the Dubai International Award for best practices. Greater Vancouver continued to be ranked in the top two or three most livable cities in the world. We might have taken that as an indication we were doing something right and left well enough alone.

But we knew that was not good enough. While we were doing something right, we were not doing enough right. Our plan contained a noble statement of vision for the region, but the rest of the plan scarcely addressed it. The regional economy floundered through the last decade of the century and our plan had nothing to say about it. In fact, the growth in regional employment opportunities seemed to occur in places where we would have preferred it not to, and not in the regional town centres that are so important to our vision. Social issues related to poverty, drugs, crime and homelessness loomed large in the conscience of our community but not in our plan. And while we recognized that direct responsibilities for many social issues lie elsewhere, our vision of livable town centers and complete communities smacked hollow while these issues lay inadequately addressed. Even our commitment to the environment seemed to be scattered through a series of different plans, many related to our responsibilities in delivering major utilities,

and while these amounted to a substantial effort at environmental responsibility, it was neither coordinated nor systematic at a corporate or regional level.

When first adopted, our growth management plan appeared to reflect at least a regional consensus about the land use and transportation future of the region. But the divisions that occurred in the community in discussions of how to finance the transportation plan in 1999 and 2000 revealed that the Livable Region Strategic Plan had lost some of its earlier power in bringing different perspectives together around a shared view of the future.

So we decided to seriously re-examine our plans and ask ourselves what we were missing. In February 2002 we openly shared these doubts with the public in a conference appropriately entitled "Are We on the Right Track?" and the answer to what we were missing was one of those answers that once you have it, you cannot understand how you ever missed it in the first place.

Sustainability is not a new concept. It has been prominent since at least the 1987 United Nations Brundtland Report. But questions about its practicality and applicability to urban development in the developed world may have led to a relatively slow uptake as an organizing concept. Yet, when we stumbled back onto it, it seemed to address all the questions we needed to address: balancing meeting current needs with the need to preserve a positive legacy for future generations; recognizing that all the different economic, environmental and social systems interacted and could not be dealt with in isolation from one another; and emphasizing the need to develop a partnership approach to these issues – so relevant in the context of Greater Vancouver's highly fragmented political jurisdictional landscape.

The logic of these principles themselves demanded that we bring everything we do under the sustainability umbrella, and more than that: we also had to find a way to reach out to other jurisdictions and interests, and ensure, as best we all can, that we are working together and not at cross purposes for a sustainable future for this special region.

Thus the three-level Sustainable Region Initiative (SRI) took shape: a commitment first to re-examine our corporate practices in the light of sustainability principles; secondly, to review and coordinate all our regional plans, policies and programs in that same light; and finally, to reach out and build a network of partners and grow a similar region-wide commitment that will result in a truly sustainable region. The SRI is a framework and action plan for present and future Greater Vancouver, based on the sustainability principles of economic prosperity, community well-being and environmental integrity; and a management philosophy that will determine how plans and strategies for tomorrow are developed, adopted, implemented and evaluated. This three-level SRI received formal endorsement by the GVRD Board of Directors in July 2002.

Practicality and transparency are two of the driving principles fundamental to the

way we are approaching the SRI. It follows, therefore, that we want to measure the practical consequences of our efforts and those of our partners, and share them with the community, so that we can continually check our course to a sustainable future.

This is not easy. The links between cause and effect are not often readily apparent. So our attempt to devise measures of our progress is likely to always remain itself a work in progress, as we learn from our experience. This is our first attempt. It is a prototype. It has taken a lot of work, yet we know it is flawed. We know it is too long, and yet at the same time we know it is incomplete and not adequately comprehensive.

But it is a beginning and therefore better than what we had.

We, the administration of the GVRD, including myself and all other staff, hope that at least parts of this prototype engage your interest. We welcome your interest in sustainability, your scrutiny of our operations and any comments you may have that will help us at the GVRD improve. And in particular, we welcome your interest in, and suggestions on how we can best come together as a community to ensure that this special region that we all love continues as one of the most livable places in the world for those who live here now, and for the generations to come. Thank you.

From the GVRD's *Building a Sustainable Region: Sustainability Report 2002*

3.2 Social Dimension

As Carline emphasized above, it became apparent that within the context of the social system, the GVRD was not addressing issues of poverty, drugs, crime, and homelessness, and inadequately addressing housing affordability and employment. Traditionally these social issues fall outside the mandate of the GVRD and are in the control of individual municipalities or the provincial and federal government. However, by not addressing these issues, the GVRD is only partially able to advance and maintain the livability of the region. The debate continues as to whether social issues should be part of the mandate of the GVRD or whether they should be addressed within each municipality, by non-governmental organizations operating in the region or by provincial and federal levels of government. It is clear that the social dimension is critical to the livability of the region. Issues around life-styles, consumption levels, people's attitudes and preferences, multiculturalism, and equity have implications for both the livability and sustainability of an urban region. This paper acknowledges the span of issues encompassed within the social dimension and focuses on one example – affordable housing – in detail because it is a cause of primary concern to the Greater Vancouver region.

Access to affordable housing is a key component of a livable city as it determines whether people can actually live in it. Creating separate neighborhoods for people of different income levels encourages a fragmented rather than a tolerant and diverse culture. By building high density and different housing types within neighborhoods,

communities can provide housing options at different pricing levels. A livable city is one that finds strength in the interactions of people from different perspectives and backgrounds. By placing diverse groups of people within one community, social diversity is supported and tolerance is nurtured. In order for a city to welcome people of different income levels, they need to be provided with affordable places to live.

The Greater Vancouver Housing Corporation (GVHC) was established in 1974 as a wholly owned non-profit subsidiary of the GVRD to address the issue of affordable housing in the region. GVHC aims to develop new affordable housing in partnership with municipalities, the private sector and other non-profits. Its housing projects provide housing at a reduced rental rate compared to rents in the surrounding community. The GVHC owns and manages 55 non-profit, mixed-income housing projects across 12 municipalities that house over 3,600 units and 10,000 tenants. In 2004, two other projects will be opened with an additional 155 units.[xxii] One-third of the residents also have opportunities to receive additional rental reduction assistance. This has been only a partial success story within the GVRD as much of the housing in the region remains unaffordable to the majority of residents and is increasing in price. This GVHC initiative remains too small in scope to meet the needs of the Greater Vancouver region and affordable housing strategies are still badly needed within the GVRD plans.

The complex and dynamic process of planning and creating a livable city is not achievable by agencies such as the GVHC, local government or regional bodies on their own. The Sustainable Region Initiative recognizes this and emphasizes that planning and implementation will require an alliance of public sector, private sector and civil society. There is promise that the ongoing process of developing the SRI will engage a diversity of actors in achieving livability in a sustainable way. Such alliances have been called "urban regimes" and are distinguished from top-down planning by government without participation by stakeholders in a community.

> *An urban regime is a broad institutional alliance including leading civic and private sector institutions, as well as other levels of government, all dedicated to common objectives for building and leading the city. The urban regime includes, and is held together by, established local norms of community engagement or corporate citizenship, by formal and informal agreements between sectors and institutions, and by a policy regime, constructed by the alliance, that facilitates consensus action and guides private practices in favor of the strategic objectives. The regime provides the super-structure for the body of practice that we call a 'city strategy'. A single institutional champion or sector cannot 'do' a city strategy. Without a coherent regime, the strategy has no spine.*
>
> J. Brugmann. 2002. "The Strategic City: Sustaining Local Values in a Global Economy." Paper presented at the *Are we on the Right Track* GVRD conference

The alliance of actors that compose an urban regime is held together by a set of clear coherent values that the alliance agrees upon and utilizes as a foundation to evaluate its achievements. The values foundation enables the creation and maintenance of a political

mandate and policies that can attain results. Within the SRI, this values foundation is based on the three imperatives of achieving social, economic and environmental sustainability.

3.3 Economic Dimension

Access to meaningful employment and related urban economic development is central to the livability of a city. The SRI identified a lack of focus on economic development within the LRSP. A 2001 conference on economic development highlighted that it would take more than assertions that Greater Vancouver is a nice place to live in order to attract businesses to the area. The conference emphasized the need for the GVRD to focus on developing a strategic economic development plan.[xxiii] The regional economy was floundering while other parts of Canada, notably Calgary, were in periods of growth. Part of this plan would need to build on the economic assets and successful industries that already exist within the region, such as high technology companies specializing in fuel cells and alternative transportation, the bio-tech industry, hospitality, film and light manufacturing. There are also active pilot projects that demonstrate the benefits of creating eco-industrial clusters within distinct areas in the region.[xxiv] These industrial clusters share basic requirements and infrastructure, input resources and waste disposal systems by looping and cascading resources from one centre of activity to another. SmartGrowth B.C., a provincial nongovernmental organization devoted to creating livable communities in British Columbia, has emerged to lead the creation of a regional cooperative alliance for economic advantage.[xxv]

3.4 Ecological Dimension

Accessibility to green space and parks for recreation is an important aspect of the livability of a region, as is the goods and services that natural systems provide such as clean air, water, and food for a city's residents. The SRI identified that the LRSP's Green Zone Strategy lacked an integrated approach. Although successful in designating parks, agricultural land, drinking watershed protection, and greenways, the GVRD notes that within the green space strategy "areas of improvement include maintaining (or creating) connections among areas of the Green Zone and to other green spaces in urban areas, developing a better understanding of the biodiversity within the region, and developing coordinated conservation strategies."[xxvi] The GVRD has been exploring the adoption of a watershed-based approach to community planning and storm water management in order to address this need. The GVRD can learn from the model established by the Fraser Basin Council, a non-partisan, nongovernmental organization that brings together representatives of the government, private sector and civil society to address issues of concern to all constituents in the Fraser Basin watershed.[xxvii]

3.5 Cultural Dimension

The SRI's analysis of the regional centres is revealing one aspect of the cultural dimension of sustainability, namely the importance of the physical aesthetic and of

historical buildings in the experience of its residents. The history of a city is its memory and it is "not inappropriate to propose the metaphor that the livable city, like every living thing, has a genetic code, or DNA structure"[xxviii] that needs to be adhered to. This code emerges from the common values and the aesthetic of a city. Defining the unique 'genetic code' of a region from its history and location becomes an important context for coping with uncertainty. Residents in a city with a clear aesthetic based on its history and values have a sense of security and a basis from which they can adapt to new challenges that face them. A strong and healthy sense of identity and place is important to a city in the same way that a strong self-concept is important to an individual's health. The importance of the physical and aesthetic expression both of these common values and of the essence of a city cannot be underestimated.

> *Cities aspiring to be "livable" must give priority to aesthetic considerations, and the creation of a meaningful physical environment. The physical and social environments of cities are two aspects of the same reality. Just as it was a mistake to maintain the body-mind dichotomy, so it is a mistake to think that a city inhabitants can have a good, conflict-free civic and social life in an ugly and physically inhospitable city.*
>
> H.L. Lennard and S. H. Lennard.1997. "Urban Design and Children in the City"

The quality of life that residents experience is directly tied to their city's aesthetic character - the public squares, the neighborhoods, the arrangement of the street network, the architecture, the open spaces and landscaping of the city. This aesthetic creates the identity and communicates the essence of the city. Cities with beautiful, human-scale architecture and accessible public arrangements provide the inhabitants with a sense of security and well-being. How does a city define its aesthetic? It can, in part, be found by returning to the roots of a city and preserving the historical design and buildings.

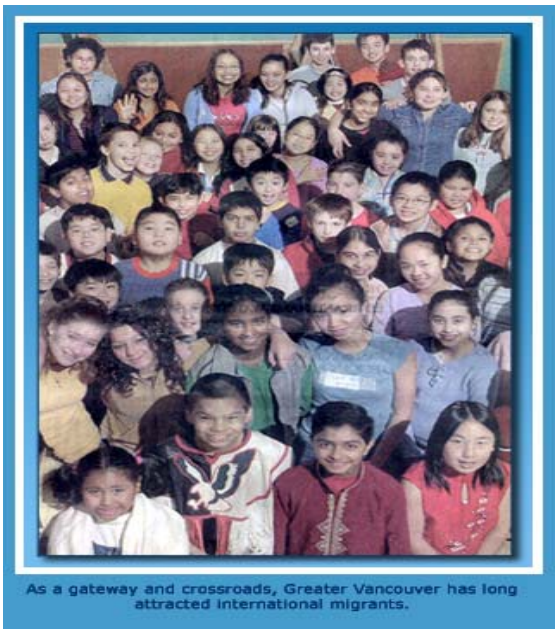
> *A city without historical architecture is a city without memory…It is essential that in the case of new buildings and renovation work an on-going dialogue can be stimulated between old and new so that the adaptation to the evolution of time can be a smooth one.*
>
> B. Cools. 1997. "The Future of the City"

It is in public spaces that events and festivities take place. Celebrations that bring people together bring the city to life and encourage conviviality. Despite strict zoning and building laws, the cultural aspects of public space creation have not been incorporated well into the LRSP. Strategies to encourage a mixture of housing options to bring citizens with different incomes together do not address the aesthetic and cultural aspects of creating regional centres. This cultural aspect is being addressed in the SRI, particularly in the design of the complete communities within regional centres. The heart of Vancouver, its downtown core, needs to provide the public space for interaction and celebration. Other areas in Vancouver such as Stanley Park, Granville Island and False Creek also serve as convening public spaces. At the regional centre scale, each centre needs its own 'heart' where dialogue and cultural exchange can occur. The importance of these historical gathering places and of heritage buildings is of central concern to the

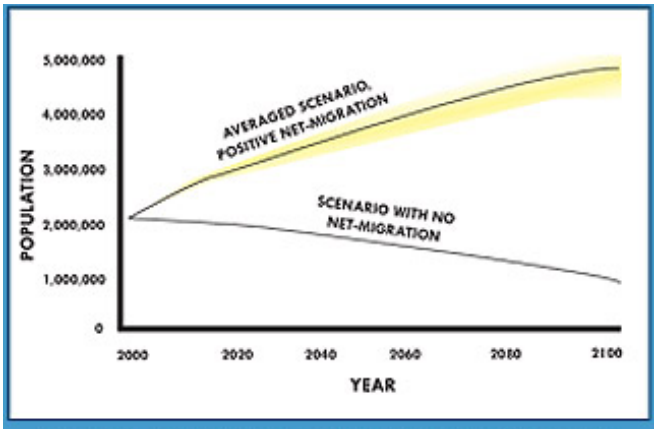
Canadian government ministry Heritage Canada, which focuses on these cultural aspects of a city not only because they are aesthetically important but also because they provide economic, environmental and educational benefits.

> *Historic places provide tangible economic, environmental, social and cultural benefits…Heritage buildings make cities more interesting places to live. They can revitalize downtown cores. They can also draw in tourism dollars for rural communities, small towns and urban centres alike… In a very real sense… historic places contribute to jobs, community pride and national well-being... Restoration of historic places helps the environment by capitalizing on the energy investment in the original structures, preventing unnecessary resource use and reducing the pressure on landfill sites from demolition…Historic places connect us to our past, to our future and to each other. They provide places of learning for our children and places of understanding for both new citizens and Canadians of longstanding.*
>
> *We must cherish, protect and nourish the future of our historic places. And we must never lose sight of the simple reality that Canadians of today hold our heritage in trust as a legacy for Canadians of tomorrow.*
>
> Heritage Canada. 2002. *Towards a New Act: Protecting Canada's Historic Places*.

Greater Vancouver is one of the most multi-cultural regions in the world. These ethnic and racial groups live in relative harmony and respect, with a tradition of ethnic centres, architecture and community celebrations. Yet they are under represented on the city and town councils in the region. There is still a long way to go to achieve equity and equality of opportunity – the vision of a sustainable region.



As a gateway and crossroads, Greater Vancouver has long attracted international migrants.



Population projections for Greater Vancouver demonstrate the significant influence of immigration. (Data from GVRD)

Fig. 6: Multiculturalism in the Greater Vancouver Region

The Sustainable Region Initiative is serving as a vehicle through which the social, economic, environmental and cultural dimensions of the GVRD's Livable Region Strategic Plan are being assessed. The LRSP seeks to achieve livability through creating an urban containment border with complete communities and compact growth regions connected with a green zone and transportation links. The Sustainable Region Initiative is posing questions about whether the LRSP is successful in achieving these goals and whether other factors that affect the livability of the region should be addressed. In parallel to the Sustainable Region Initiative, in 2001 another initiative in the Greater Vancouver area also emerged that would shed new light on the livability of the region and this was the cities^{PLUS} project.

4. cities^{PLUS} PLANNING FOR LONG-TERM URBAN SUSTAINABILITY

4.1 An Overview of cities^{PLUS}

From 2001 to 2003, nine cities around the world participated in a unique competition sponsored by the International Gas Union to design urban systems in a staged 100-year plan that would lead to urban sustainability. The Canadian entry, which featured the Greater Vancouver region, won the Grand Prize. The name given to the project was cities^{PLUS}, an acronym for *Cities Planning for Long-term Urban Sustainability.* The cities^{PLUS} process involved over 500 experts and participants from 30 cities across Canada and was led by a partnership of the Greater Vancouver Regional District, the Sheltair Group (a private sector consulting firm), the International Centre for Sustainable Cities, (an international NGO), and the University of British Columbia's Liu Centre for the Study of Global Issues. These four organizations represented four sectors of society: the government, the private sector, civil society and academia. Unlike the LRSP or the SRI, the 100- year plan was developed with but not by the GVRD.

Livability was one of three core themes within cities^{PLUS} and livability was seen to be interwoven with, and inseparable from, sustainability and resiliency. Similar to the Sustainable Region Initiative, sustainability was defined as requiring a city to integrate its social, economic and ecological objectives. The 100-year time frame extended this concept to include consideration of the limited "productive and assimilative capacity of the biosphere" and to emphasize the need to ensure a city's "long-term survival as well as its integrity, normal functioning, and self-reliance."[xxix] The temporal dimension also highlighted dynamics and interactions. This led cities^{PLUS} to add resilience as a third core theme that focused on the region's ability to enhance "the personal and collective capacity of individuals and institutions to respond to and influence the course of economic, social and environmental change even in the face of the unexpected."[xxx]

The ability for cities to adapt to changing circumstances while providing basic needs to residents becomes essential within the 100-year context. This core theme of resilience also sheds a different light on livability. How does a city ensure quality of life while simultaneously ensuring its robustness and adaptive capacity? How does a 100-year time frame change the way a city approaches achieving quality of life for its residents? These three themes of livability, sustainability and resilience are not interchangeable. Just as it is conceivable that a city can be livable but not sustainable, so too, it is conceivable that a city can be highly resilient and be a terrible place to live. The core theme of livability remains distinct from the other themes yet intertwined with them and is guided by a number of key principles.

> *Livability refers to an urban system that contributes to the physical, social and mental well-being and personal development of all its inhabitants. It is about delightful and desirable urban spaces that offer and reflect cultural and sacred*

enrichment. Key principles that give substance to this theme are equity, dignity, accessibility, conviviality, participation and empowerment.

cities[PLUS]. 2003. *A Sustainable Urban System: The Long-term Plan for Greater Vancouver.*

4.2 Livability over a 100-year Time Horizon

The temporal dimension of a 100-year time frame, coupled with the need to view the urban system as one system, changed both the process and the content of the planning exercise. It required a fundamental shift in the mental maps with which the cities[PLUS] partners approached the region and led to more creative process and vastly different conclusions.

4.2.1 A Creative Process

The need to focus well beyond the normal planning horizon led the participants of the cities[PLUS] process to think outside of their familiar structures, transcend political agendas, and focus on integrated solutions to economic, social and environmental shocks or changes. Planning for a 100-year timeframe requires the inclusion of challenges such as natural resource limits, fossil fuel shortages, climate change, geopolitical stability, technology changes and demographics that are frequently omitted from planning. The cities[PLUS] experience allowed stakeholders, academics and community residents, using forecasting and back-casting tools, to consider the impacts of these issues in a relatively neutral setting. Issues such as climate change are often characterized by debate and acrimony and seldom lead to change and cooperation. Within the cities[PLUS] process, a more collaborative and creative discussion resulted within the context of the 100-year planning time frame. The experience led to valuable new insights into long-term planning methods and processes.

4.2.2 Reconsidering Priorities- The Importance of Equity

Viewing the region within a 100-year time horizon posed questions about the sustainability of our current model of urban systems and of the equitable distribution of resources used for sustaining cities.

A longer time horizon requires planners to incorporate some unsettling trends about the natural biosphere into their considerations. Living systems around the globe are in decline and there are indicators from natural systems including fisheries and agriculture that we may be reaching limits in natural resources under our current management systems.[xxxi] Instead of being consumers of natural resources and polluters of the environment, could cities be integrated and restore natural systems through their functioning? British expert on urbanization, Herbert Girardet, argues that we have no choice but to change the way our cities relate to the biosphere. "There will be no sustainable world without sustainable cities."[xxxii] Girardet poses the question as to whether there are other ways in which cities can interact with the biosphere, without the current emphasis on exploitation and waste.

> *It is unlikely that the planet can accommodate an urbanized humanity which routinely draws resources from ever more distant hinterlands, or routinely uses the biosphere, the oceans and the atmosphere as a sink for its wastes. Can cities transform themselves into self-regulating, sustainable cities – not only in their internal functioning, but also in their relationships to the outside world? An answer to this question may be critical to the future well-being of the planet, as well as of humanity.*
>
> H. Girardet. 1999 *Creating Sustainable Cities*.

Throughout their history, cities have always depended on the 'hinterland' to sustain the city's activities. As the ancient city of Rome grew to a population of one million, forest and agricultural products were brought in from as far as North Africa. By 250 AD, the unsustainable exploitation of North African ecosystems had resulted in infertile soils, climate changes due to deforestation and increased salinity from irrigation and these factors combined and partially led to the collapse of Rome and the Roman Empire.[xxxiii]

The hinterland that regions like Greater Vancouver depend upon for their energy, food, and materials spans the entire globe. With low costs for transport and technologies such as refrigeration, moving goods and people across distances has become cheap and normal. The increasing concentration of economic processes and consumer demand within cities has placed pressure on natural resources. The land area that is used to sustain a modern city far exceeds the land area upon which the city and even its hinterland are built. The actual land area used to support such a modern city has been termed a city's "ecological footprint". For example, the footprint for London includes agricultural land in India, and forest resources extracted from the Brazilian Amazon.[xxxiv] China is developing 600 new cities before 2010 in order to accommodate over 300 million people.[xxxv] Girardet emphasizes that a city has its own *metabolism* that is greater than the sum of the individual people living within its boundaries. The environmental impacts of such exponential growth are so vast that cities can indeed be considered a super-organism within the biosphere.

100 years from now these issues will become even more urgent as urban growth continues, particularly in developing countries.

> *The poor cities of the developing world are often vibrant hubs of global economic, and cultural activity, but they are also ecologically unsustainable and, for ordinary citizens, increasingly unlivable. Three-fourths of those joining the world's population during the next century will live in Third World cities. Unless these cities are able to provide decent livelihoods for ordinary people and become ecologically sustainable, the future is bleak. The politics of livelihood and sustainability in these cities has become the archetypal challenge of the twenty-first century governance.*
>
> P. Evans, ed. 2002. *Livable Cities? Urban Struggles for Livelihood and Sustainability*.

It was consideration of these issues that led cities[PLUS] to identify equity as a guiding principle and to identify "Becoming Net Contributors" as one of eight catalyst strategies (See Appendix A).

Principle of Equity

Ensure a fair allocation of limited resources between all competing users, which includes different generations, races, genders, ethnic groups and social groups. Community development must take into consideration that everyone is entitled to a minimum quantity of global resources and those who benefit from pollution must bear the cost. The creation of opportunities should not foreclose options for other groups in the present or the future. Also economic development should enhance rather than displace community knowledge and skills.

cities[PLUS] . 2003. *Cutting to the Core Principles of a Sustainable Urban System*

4.2.3 The Need for Adaptive Management

As uncertainty increases, the need for adaptive management increases. We cannot predict what threats or challenges the region might face over the next 100 years.[xxxvi] Earthquakes, floods, fires, terrorist attacks, economic downturns, technological changes, pandemics… there is a long list of potential shocks. What we can predict is that there will be surprises. The best approach to managing under conditions of uncertainty is to use an adaptive approach. cities[PLUS] looked to the work of Holling and Gunderson as applied by Moffatt and Campbell for insight.[xxxvii]

Initially developed within the ecological sciences, in response to the observation of external changes and surprising behavior often beyond the control of human managers, the concept of adaptive management has emerged as an approach to governance of complex human and natural systems. It is fundamentally a learning approach. Adaptive management treats policies as experiments, recognizing that unexpected outcomes are inevitable and that they represent opportunities for social learning. Adaptive management systems are structured to adjust to the inevitable dynamics of human and natural systems and to the need to adapt plans and policies to complex and changing circumstances. This approach involves the creation of monitoring structures ('feedback loops') that provide information about progress and changes, the capacity to respond to this information, and to learn from experiences. An adaptive management approach enables mid-course corrections, learning from experience and failure, and seizing opportunities as they emerge. This is akin to a living organism using its senses to adjust its behavior in its environment by remaining alert, seeking opportunities and ensuring its survival. Adaptive management can serve as the nervous system for a city and enable it to respond to shocks and surprises.

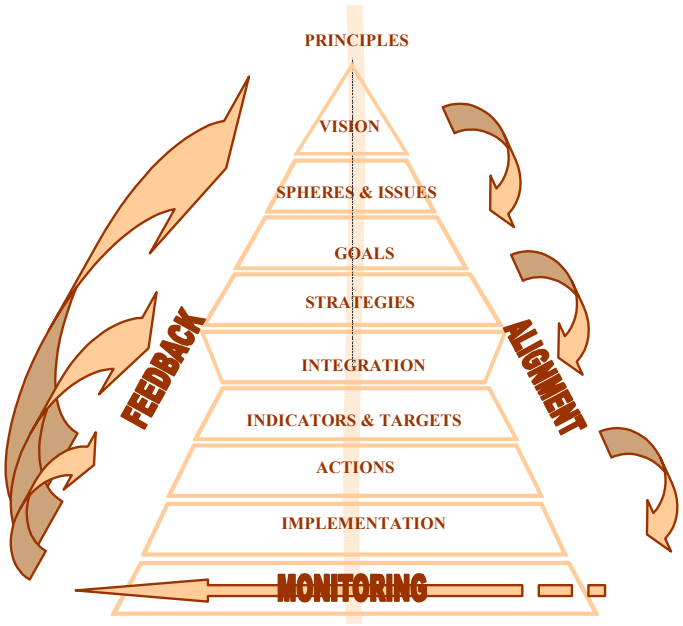
Adaptive Management contributes as well to social learning – the often messy and confusing process by which societies embrace knowledge, turning emergent understandings into cultural shifts, institutional arrangements and policies, and

> *creating new technological and social capabilities. Societies do things differently over time. This is social learning.*
>
> Kai N. Lee. 2003. *Adaptive Management in the Canadian Nuclear Waste program*

Adaptive management is a proactive approach that encourages experimentation, creates feedback systems for monitoring and evaluation, supports integrated urban forms and infrastructure, and facilitates participatory processes in order to learn about progress towards intended goals and visions and to adjust and continuously improve in response to new information.

> *Adaptive management means that long-term plans become part of an on-going planning process. The built environment acquires an increased capacity for learning and responding, as the planning process mimics the nervous system of a living organism. Adaptive management is intended to 'wake up' the urban environment, alert to threats and opportunities, and keep it alive and well over the century ahead.*
>
> cities[PLUS]. 2003. *Tools for Planning for Long-term Urban Sustainability*.

Establishing adaptive management systems and effectively planning for a livable city will require planning processes to "overcome the fractured and short-term perspective embodied in our existing institutional structures, professional disciplines, information systems, and budgetary allocations."[xxxviii] Policies and regulations created in the past may not fit with evolving plans to achieve a livable city. The cities[PLUS] process began a process of examining the current policies and programs within the Greater Vancouver to assess their alignment with the targets and pathways identified in the 100-year plan.



Principles are broad value-based statements that form the core of the framework. These are intended to set the direction for all activities and to define the priorities.

The **vision** is the description of how we would like the end result to be. It is the descriptive "artist rendering" of our end result.

Spheres and issue areas sets the scope and allows us an opportunity to determine where we are at and what we need to focus on. It includes typically the 3 spheres: social, economic, and environmental that further break down into sub issue areas (or broad categories of concern), that help participants quickly focus on those areas of special interest, while at the same time ensuring a broad, balanced and 'integrative' perspective.

Goals elaborate upon the fundamental principles and define the ultimate condition desired. Each issue area can have a number of goals associated with it. Sometimes divided into objectives, goals can indicate the direction of change that is desired. When conducting long-term planning, it is particularly important that the goals are identified as "End-state Goals".

Key **strategies** explore and identify the basic approaches or the best practices that can be implemented in order to achieve each goal.

Integration allows us to explore synergies and conflicts among all the strategies and plans so that we derive at an integrated plan and an integrated, manageable set of "catalyst strategies".

Performance **indicators and targets** can be identified for each "catalyst strategy". These form the quantifiable measurement of performance and tell us how well we are performing. "Design indicators" inform and guide designers and coordinate and apportion their effort. "Monitoring indicators" measure how well a particular project is actually performing, and assist learning and long-term management.

Fig. 7: Sheltair's Adaptive Management Framework ©

4.2.4 The City as One Integrated System

Just as the requirement to look out 100 years and develop a staged plan changed the way cities[PLUS] approached planning, so did the requirement to address the urban system for the whole region. Traditional approaches and focusing on only one or two of the municipalities within the region would not do.

> *Communities built, organized, and operated to meet the needs of a relatively homogenous population now serve very different people. Our communities have grown more international and more economically diverse. As a result, in many significant ways, communities do not fit their populations. Institutions pursue outdated goals. Inappropriate services are provided, and potentially useful services are delivered ineffectively. The physical community – housing, roads, schools, recreation facilities, and water and sewage systems – may be inefficient, costly and inadequate to serve expanding community needs. Images of a desirable quality of life remain distant from the realities of daily life.*
>
> R. H. McNulty, R. L. Penne, D. R. Jacobson, and Partners for Livable Places. 1986. *The Return of the Livable City: Learning from America's Best*.

The planning and urban development paradigm that characterized the 19th and 20th century, and is still present today, is based on a worldview that embraced linear thinking and that focuses on discrete elements of an urban system rather than a holistic approach to the system in its entirety. The large centralized water, transportation, sewage and energy grids were often developed separately and system-level problems were not addressed, nor were system-level opportunities harnessed. These past developments have left a constraining legacy for current planners and visionaries in the GVRD. The context within which the planners are designing the urban systems has shifted. Suburban developments made sense in the context of the need to separate residential areas from polluting industries; however, the result is a dispersed population sprawling across green spaces and agricultural lands, and dependent on vehicles to reach shops, employment and other services. cities[PLUS] recognized that it would be a challenge to transform the linear plans of the past into integrated plans for an interconnected urban system.

Fig. 8: The long-term plan begins the process of integrating and aligning existing policies and programs

A transition to a livable, sustainable and resilient city requires a one-system approach that identifies opportunities for integration and synergies across functional, social, economic and environmental systems of a city. This involves the design of new urban forms that integrate a mixture of uses in dense communities, integrated natural spaces, reduction and management of demand for services, matching the quality of supply of service with the quality of need, integrating and cascading resources and systems for efficiency of use, shifting to renewable energy resources, and developing environmental management systems.[xxxix]

4.3 Creating the 100-year Plan

The cities[PLUS] 100-year plan may be a model process for how to plan for change over the long-term. It contains proactive policy scenarios, visions, end-state goals and suggested targets to assist the GVRD and other cities in their transition towards livability, resiliency and sustainability. The two-year experience led the cities[PLUS] team to valuable new insights into long-term planning methods and processes and issues. *A Sustainable Urban System: The Long-term Plan for Greater Vancouver* and supporting documents are available online at www.citiesplus.ca. The conceptual framework for the cities[PLUS] process involved three phases. Within the first phase, participants envisioned the future of the region and defined this region as one interconnected system of people, place, infrastructure and governance. Three core themes of sustainability, livability and resiliency formed the basis of the vision. Eighteen components of the urban system were selected for in-depth analysis taking into account the constraints, assets and historical context (the seeds of sustainability) in each system. The result of this first phase was both a broad vision of the urban system and specific vision statements and end-state goals for each of the eighteen topics.

cities[PLUS]: 18 Components of the Urban System

Agri-food systems
Communication systems
Cultural systems
Decision support systems
Economic development systems
Energy systems
First Nations systems
Governance systems
Health and well-being systems
Housing and buildings systems
Human security systems
Land use systems
Materials systems
Mobility systems
Natural habitat & green space systems
Social equity systems
Water systems

Other Background Papers prepared for cities[PLUS]:

Moving from Many to One: The Evolution of an Integrated Urban System
Planning in the Face of Increasing Uncertainty

The One System Approach
Application of an Adaptive Management Framework to Urban Areas
How do Communities Transform?

The papers may be viewed at www.citiesplus.ca

The second phase focused on exploring the options. Through the use of forecasting and back-casting techniques[xl], the participants identified the forces shaping the next century. 100-year targets were identified for each of the component systems and the participants compared this target with the current status in order to determine the magnitude of change required and the critical path needed in order to achieve the target. If the target could be achieved earlier, a preferred path was identified. Best practices and backcasting techniques were used to find ways to get into a 'solutions space' and follow this preferred path. One key insight from the cities[PLUS] process was the recognition that "in less than half the time envisioned in our 100-year plan, if Greater Vancouver continues with business-as-usual, we will not be a sustainable, resilient or livable region."[xli]

The third phase of the cities[PLUS] process focused on planning for implementation. Eight catalyst strategies were identified to guide implementation by building on synergies within the different components of an urban system. Through the use of an Integrated Design Workshop, participants in the cities[PLUS] process visualized the transformation to achieving the targets and vision.[xlii] In order to determine the next step, implementation measures were identified that built on a suite of five instruments or levers[xliii] to begin the process of implementation and engagement of a variety of actors. cities[PLUS] developed a detailed set of indicators and targets for different natural, social and economic systems within Greater Vancouver including the agri-food system, cultural system, economic development system, energy system, land use system, and water system. These targets were derived from the discussions on the constraints, visions and end-state goals within each of these systems. State of the strategy indicators were also developed for the catalyst strategies. The challenge in developing these indicators was in capturing both the qualitative and quantitative dimensions.

> *Designing indicators of progress is a careful process. Quantitative indicators provide information on aspects of a city that can be counted, such as economic growth, but are less suitable for measuring the value placed in such things as an aesthetically pleasing building or the sound of bird songs in the city center even though they are all aspects of the livability of a region. Efforts have been made to find indicators that reflect the values expressed by the diverse residents of a city rather than relying on solely economic indicators such as Gross Domestic Product.*
>
> cities[PLUS]. 2003. *A Sustainable Urban System: The Long-term Plan for Greater Vancouver*.

4.4 A Collaborative Approach

The project was undertaken by a partnership representing the private, public, academic and civil sectors. Furthermore, a participatory approach was undertaken in the cities[PLUS] process and, in part, it was this feature of the project that contributed to the quality of the outcomes, the award recognition by the International Gas Union, and the sense of satisfaction expressed by participants such as Johnny Carline of the GVRD.

> *The cities[PLUS] project reinforces the power of the collaborative process. This helps to develop rich solutions and to ensure that the ownership of the solutions is rooted in the community so that they will be implemented.*
>
> Johnny Carline, Chief Administrative Officer of the GVRD
> cities[PLUS]. 2003. *A Sustainable Urban System: The Long-term Plan for Greater Vancouver*.

The 100-year long-term plan developed by cities[PLUS] placed particular emphasis on the importance of participation within a governance structure. The vision of the governance systems developed by the cities[PLUS] is provided below and it envisions a collaborative partnership amongst different actors within the Greater Vancouver region in long-term planning for a livable city.

> *Local government is empowered to create and maintain a sustainable region that cannot be undermined by other levels of government. This governance structure is based on the principles of democracy, transparency and accountability, with fundamental freedoms and democratic rights guaranteed for all citizens. Underpinning the region's integrated planning processes and policy decisions is a cautionary approach that incorporates triple bottom line accounting, lifecycle analysis, a plurality of interests, and long-term thinking. Participation of the majority of residents in community affairs is attained by providing residents with a broad range of alternatives for involvement. All levels of government, the private sector, and civil society have formed collaborative partnerships to advance the sustainability vision for the region. On a broader scale, Greater Vancouver participates in networks, both locally and globally, that exchange knowledge and serve to protect the region from globalization forces that threaten its sustainability.*
>
> Vision of Governance Systems – cities[PLUS]. 2003.

Key components of developing participatory processes include engaging a diversity of actors from the beginning of the process, collaborating on creating the design of the decision making process, and incorporating learning structures into the process to enable the participatory process to adapt and improve. Within cities[PLUS], this mode of participation was termed "collaborative engagement" and the principle of participation was identified as a central principle for long-term planning.

Principle of Participation

Ensure that planning and decision-making is inclusive of all members of the community. Decision-making should reflect the perspectives of diverse groups and sectors. Active participation by these groups will allow community members to develop strategies that best suit their own needs and gain a sense of responsibility towards the development of their community. Over time, trusting relationships between people, organizations, and institutions will be established and personal attitudes and practices can be changed.

cities^{PLUS}. 2003. *Cutting to the Core Principles of a Sustainable Urban System*, 1

Collaborative engagement is very much in line with the 30-year history of participatory planning in the GVRD. To do so well requires up-front costs such as facilitation, process logistics, and the preparation of communications materials to inform participants; however, the benefits include rich results, buy-in and cooperation of different actors in implementing and monitoring the final product and make the investment worthwhile.

4.5 The Legacy of cities^{PLUS}

The cities^{PLUS} process is receiving international attention for its innovative approach and insights, including a positive review by Michael Kinsley of the Rocky Mountain Institute, a respected sustainability institute based in Colorado, USA.

Despite a few glitches here and there, this remarkable and visionary integration of strategic urban design is recommended reading for planners and citizens who seek a more creative, innovative, and sustainable future for their own communities. Vancouver's vision for the future is as clear as the lakes in the nearby mountains. Any city that includes such thorny issues as climate change in its long-range plan is far ahead of the pack.

M. Kinsley. 2003. "Envisioning a Sustainable Vancouver".

The challenge facing the GVRD and its partners involved in cities^{PLUS} is to develop a clear implementation process that will weave the insights from the 100-year plan into the existing debates within the GVRD and throughout the region on livability and sustainability.

Since being awarded first prize in 2003, the original partners have instigated programs and projects that draw on the wealth of insight from the cities^{PLUS} process and communicate its ideas to a wider audience. They have made hundreds of presentations on cities^{PLUS} to a wide range of local, regional, national and international audiences.

The private sector consulting firm, the Sheltair Group has produced a coordinated regional energy strategy entitled *Energy Directions for Greater Vancouver* that recommends the development of a Regional Energy Council and is working on an Integrated Risk Management Plan to achieve the goal of a disaster-resilient region. The Sheltair Group is also providing professional development workshops on integrated long-

term urban planning and the Adaptive Management Framework to other cities, working with the IGU on energy planning with its member cities and pursuing the development of a *Green Guide for Greater Vancouver*.

At the University of British Columbia, the Liu Institute for Global Issues has focused on the nature of the secure city and within that context is exploring concepts of adaptive security, preventive security and human security.[xliv] The James Taylor Chair for Landscape Research and the Sustainable Communities Program facilitate sustainability planning through integrated design workshops or charrettes.

The International Centre for Sustainable Cities, the University of British Columbia and ICLEI – Local Governments for Sustainability, in partnership with the GVRD are undertaking a new project to build a learning network of 30 cities engaged in long-term planning for urban sustainability. The +30 Network is a peer learning network that will bring together 30 or more cities and communities to share their expertise, methods and tools. It is expected that half of the cities will be from the developing world. Launched in March 2004, the network will operate by web based interchanges and meet face-to-face every two years at high profile events such as the World Urban Forum in Vancouver in 2006.[xlv]

With the assistance of the International Centre for Sustainable Cities, the GVRD is engaging in a review of the cities[PLUS] material with the goal of integrating cities[PLUS] findings into their own planning and programming. This paper is part of the analysis of the key findings of cities[PLUS] and transferability of the lessons learned. Appendix A contains a brief outline of the results of two working sessions with Greater Vancouver Regional District administrators based on two of the catalyst strategies defined in cities[PLUS]. One workshop was focused on "short-loops and integrated infrastructure networks" and the other concentrated on "the city as a net contributor". These sessions built on the momentum of cities[PLUS] and asked the central question: considering the findings of the cities[PLUS] process, what can the GVRD do to move in the direction of the 100-year vision? Two action recommendations from these working sessions are worth noting. First, the participants supported the integration of the cities[PLUS] insights, where appropriate, into the Sustainable Region Initiative and the review of the Livable Region Strategic Plan. There was particular interest in the theme of resilience and in the long-time horizon for planning. Second, the participants urged the establishment of an urban regime composed of the GVRD, a network of the cities[PLUS] partners and other interested actors in the region to work collaboratively towards the common objectives of livability, sustainability and resiliency. They noted the opportunity in the lead-up to the World Urban Forum 2006 to celebrate the past and current livability and sustainability success stories in the GVRD and to build this partnership to ensure continued successes in the future.

CONCLUSIONS, IMPLICATIONS AND APPLICATIONS

A vision without a plan is but a dream,
A plan without a vision is sheer drudgery,
A vision with a plan… can change the world.

adapted from the Mt. Abu Declaration

How does the 30- year experience of the Greater Vancouver region's pursuit of livability translate into lessons for its own members and for other cities and regions seeking a sustainable quality of life? In the Greater Vancouver region, the discussions and planning continue with the communication of cities^{PLUS} findings, the review of the LRSP and the evolution of the Sustainable Region Initiative. Livability remains an evolving concept that benefits from being examined through different lenses, such as the lenses of sustainability and resiliency. This paper began by defining livability simply as quality of life as experienced by those living for a city or region, and posed two central questions:

What key factors affect the livability of a city?

How does livability relate to sustainability?

Based on the GVRD experience the key factors contributing to the quality of life for residents in a city include equitable access to green space, basic amenities, and mobility, and to participatory processes to determine the future of their city. In the Livable Region Strategic Plan, the GVRD sought to achieve livability through engaging citizens in the planning process, and creating compact communities surrounded by green space and connected by transportation networks. Reflecting upon the LRSP, the GVRD began posing questions about the factors of livability that were not incorporated into this original strategic plan. The sustainability lens that the SRI provided revealed that aspects of the LRSP need to be adjusted, and that other factors key to quality of life, such as crime and poverty need to be addressed. The cities^{PLUS} experience revealed the need to plan for resiliency and to incorporate adaptive management that will encourage a learning and feedback model enabling the region to cope with surprises and unexpected shocks and changes.

The key conclusions from the Livable Region Strategic Plan, the Sustainable Region Initiative and the cities^{PLUS} project that might be of particular interest and are applicable to other cities and communities are identified below.

A Systems Approach:

A livable city is an integrated urban system with social, economic, cultural and ecological dimensions. These dimensions and their interconnections need to be addressed as one system.

Institutional challenges exist within the structure of governing institutions as well as the policies and programs they create. In his presentation to the GVRD's *Are we on the Right Track? Conference in January of 2002*, Jeb Brugmann emphasized that there are six institutional constraints that face every local government and region:

- Fragmented jurisdictions
- Poor political continuity
- Poor inter-governmental cooperation
- Poor inter-sectoral cooperation
- Cultural and ideological discord
- A weak system of local government[xlvi]

Building bridges across these ideological, departmental and jurisdictional boundaries and receiving support, authority and financial resources from national governments and the general public to strengthen local government's capacities are critical for overcoming these institutional barriers. The challenges are not insurmountable and once identified can be taken into account in the planning processes. They highlight the advantages of shifting to a systems approach.

The Value of a Very Long-term Perspective:

It is essential to look beyond 30 to 50 years and anticipate the impact of current decisions, activities, policies and plans on future generations. To do so requires consideration of long-term trends such as climate change, energy shortages, demographic changes et cetera. The long-term view allows participants to think outside of their usual boundaries and embrace novel ideas and approaches.

We are living today with the consequences of decisions about infrastructure and land use made a hundred years ago. 100-year time horizons for planning can provide the creative space for thinking beyond vested interests and current constraints towards visions of a livable city for future generations.

> *The cities we build and the urban lifestyles we lead today will profoundly affect the chances of coming generations to shape their own future. Cities, as structures that are fossilized upon a landscape, tend to exist for a long time. But they should be built with long time scales in mind and the lifestyle of their inhabitants should not be defined by reckless transience.*
>
> H. Girardet. 1999. *Creating Sustainable Cities*.

As Uncertainty Increases, the Need for Adaptive Management Increases.

A livable city establishes monitoring processes that feed back into governance bodies and creates learning structures to enable adjustments to the unexpected and to unintended results.

Cities need to be flexible and responsive to the complexity of the modern urban system and to the pace of change within which a city operates. The uncertainty and unforeseeable side effects that result from seeking to advance livability within this context require a learning approach that embraces monitoring and feedback, and adjusts strategies according to new information.

As identified in earlier sections, adaptive management and its consequent social learning offer the best approach to managing conditions in complex systems and uncertain conditions. Cities that are already familiar with Environmental Management Systems or the Principles of a Learning Organization will find it fairly easy to make the transition to an adaptive framework.

Resiliency

A livable city creates robust and adaptive urban forms and infrastructure.

As defined in the introduction, resiliency is the ability of an urban system to be robust in response to stress and to be adaptable in light of changing circumstances and opportunities.[xlvii] Resiliency requires that the capacity of both individuals and institutions within a city is enhanced in order to respond to the increasing complexity of urban systems, unexpected shifts, and the accelerated pace of change. "Sustainability involves maintaining the functionality of a system when it is perturbed, or maintaining the elements needed to renew or reorganize if a large perturbation radically alters structure and function. The ability to do this is termed "resilience"."[xlviii]

Traditional approaches to managing and governing combined human and natural systems (social-ecological systems), such as an urban system, have tended to assume that managers and planners are external to the system being managed and that predictions can made about potential disturbances and opportunities. These assumptions do not hold in the context of managing urban systems for long-term livability, sustainability and resilience.[xlix] In this long-term context, the management and governance structures are an

integral part of the system being managed, and uncertainties are large and often cannot be reduced at the rate at which the systems are shifting. Resiliency thus requires adaptive management.

A Strategic Participatory Approach:

A livable city involves a diversity of stakeholders in an urban regime, an alliance that holds a core set of common values and works in concert to improve the quality of life of its citizens and monitor the results of their actions.

Equally important to the specifics of the Greater Vancouver Region's story is the strategic approach that the participants in the LRSP, SRI and cities^{PLUS} adopted in creating a dynamic urban regime of partners, facilitating a participatory approach to planning, establishing clear objectives, and undertaking processes to evaluate progress towards these objectives. It is this strategic approach that is transferable to other cities and regions seeking to achieve livability, sustainability and resiliency.

The process of striving for a sustainable quality of life is as important, if not more important, than the goals and implementation strategies established. Adopting a strategic approach involves creating the partnership networks, establishing the guiding principles, and establishing the learning structures that form the basis for a sustainable livable city. This strategic approach enables planners and citizens in a city to ensure that, where appropriate, all those who have a stake in the development of the city can come to the decision-making table. A strategic approach also facilitates the adjustment of specific goals and strategies while maintaining a core set of guiding principles and an overarching vision. This approach requires the establishment of conflict resolution mechanisms and moderation for the inevitable debates that arise around the implementation of a vision.

The lessons outlined above provide guidelines for other cities and regions seeking livability. Their general nature reflects the need for fundamentally local solutions while nurturing the uniqueness that will be expressed within each community.

> *We can learn from the successes of others; their techniques and tactics may spark good new ideas about how we can approach local and regional problems. But ultimately, the best solutions are homegrown, based on people's understanding of their own communities and their sense of where they want to go.*
>
> Congressman Earl Blumenauer
> Partners for Livable Communities. 2000.
> *The Livable City: Revitalizing Urban Communities*.

Achieving and sustaining a livable city is a living dynamic experiment. Achieving livability both within our cities and on the planet is a central challenge for citizens in urban areas and the proof will ultimately be in the experience of city living, and in the way cities exist on our living planet.

REFERENCES

Allen, M. 1997. *Ideas that Matter: The Worlds of Jane Jacobs*. Ontario, Canada: The Ginger Press.

Berkes, F., C. Folke and J. Colding. 1998. *Linking Social and Ecological Systems: Management Practices and Social Mechanisms for Building Resilience*. Cambridge, UK: Cambridge University Press.

Böhme, R. 1987. The Freiburg Conference Themes. In Lennard, S. H., S von Ungern-Sternberg, H. L. Lennard, eds. *Making Cities Livable*. International Making Cities Livable Conferences. California, USA: Gondolier Press.

Brugmann, J. 2002. "The Strategic City: Sustaining Local Values in a Global Economy". Paper presented at *Are we on the Right Track?* GVRD conference, January 17.

Cadman, D. and G. Payne. 1990. *The Living City*. London, UK: Routledge.

Casellati, A. 1997. "The Nature of Livability" in Lennard, S. H., S von Ungern-Sternberg, H. L. Lennard, eds. *Making Cities Livable*. International Making Cities Livable Conferences. California, USA: Gondolier Press.

Cools, B. 1997. "The Future of the City" In Lennard, S. H., S von Ungern-Sternberg, H. L. Lennard, eds. *Making Cities Livable*. International Making Cities Livable Conferences. California, USA: Gondolier Press.

cities^{PLUS}. 2003. *A Sustainable Urban System: The Long-term Plan for Greater Vancouver*. Vancouver, Canada: cities^{PLUS}.

cities^{PLUS}. 2003. *Cutting to the Core Principles of a Sustainable Urban System*. Vancouver, Canada: The Sheltair Group Inc.

cities^{PLUS}. 2003. *The One System Approach*. Vancouver, Canada: cities^{PLUS}.

Davidson, J. and A. MacEwen. 1983. *The Livable City*. London, UK: RIBA Publications Ltd.

Evans, P, ed. 2002. *Livable Cities? Urban Struggles for Livelihood and Sustainability*. California, USA: University of California Press Ltd.

Girardet, H. 1999. *Creating Sustainable Cities*. Devon, UK: Green Books for The Schumacher Society.

Girardet, H. 1996. *The Gaia Atlas of Cities: New Directions for Sustainable Urban Living*. London, UK: Gaia Books Ltd.

GVRD. 2003. *Taking Care of our Region, Every Day.* Vancouver, Canada: Greater Vancouver Regional District.

GVRD. 2002. *2002 Annual Report: Livable Region Strategic Plan*. Vancouver, Canada: GVRD.

GVRD. 2002. *Greater Vancouver Regional District Submission for the Dubai Award for Best Practices, March 28, 2002*. Vancouver, Canada: GVRD.

GVRD. 2001. *2001 Annual Report: Livable Region Strategic Plan*. Vancouver, Canada: GVRD.

GVRD. 1996. *Livable Region Strategic Plan*. Vancouver, Canada: GVRD.

GVRD. 1993. *Creating our Future: Steps towards a More Livable Region*. Vancouver, Canada: GVRD.

GVRD. 1993. *Greater Vancouver…The Livable Region*. Vancouver, Canada: GVRD.

GVRD. 1990. *Creating our Future: Steps towards a More Livable Region*. Vancouver, Canada: GVRD.

Gunderson, L. H. and C.S. Holling. 2001. *Panarchy: Understanding Transformations in Human & Natural Systems.* Washington, USA: Island Press.

Hahlweg, D. 1997. "The City as a Family" In Lennard, S. H., S von Ungern-Sternberg, H. L. Lennard, eds. *Making Cities Livable*. International Making Cities Livable Conferences. California, USA: Gondolier Press.

Heritage Canada. 2002. *Towards a New Act: Protecting Canada's Historic Places*. Minister of Public Works and Government Services Canada. Catalogue No. CH4-63/2002.

Kinsley, M. J. 2003. "Envisioning a Sustainable Vancouver" in *Rocky Mountain Institute Newsletter*, 2003 Fall / Winter.

Lash, Harry. 1976. *Planning in a Human Way*. The Macmillan Company of Canada Ltd. for the Ministry of State for Urban Affairs: Canada.

Lee, Kai N. 2003. "Adaptive Management in the Canadian Nuclear Waste Program", Paper commissioned by the Nuclear Waste Management Organization www.nwmo.ca

Lennard, H. L. and S. H. Lennard. 1997. "Urban Design and Children in the City" Paper presented at the *19th International Making Cities Livable Conference*, Charleston, SC, March 1997.

Lennard, H. L. 1997. "Principles for the Livable City" in Lennard, S. H., S von Ungern-Sternberg, H. L. Lennard, eds. *Making Cities Livable*. International Making Cities Livable Conferences. Gondolier Press: California, USA.

Lennard, S. H., S von Ungern-Sternberg, H. L. Lennard, eds. 1997. *Making Cities Livable*. International Making Cities Livable Conferences. California, USA: Gondolier Press.

Lennard, S. H., H. L. Lennard. 1995. *Livable Cities Observed: A Source Book of Images and Ideas for City Officials, Community Leaders, Architects, Planners and All Others Committed to Making their Cities Livable*. California, USA: Gondolier Press.

Lennard, S. H. and H. L. Lennard. 1987. *Livable Cities: People and Places: Social and Design Principles for the Future of the City*. California, USA: Gondolier Press.

McNulty, R.H., R. L. Penne, D. R. Jacobson, and Partners for Livable Places. 1986. *The Return of the Livable City: Learning from America's Best*. Acropolis Books Ltd.: Washington, D.C., USA.

Palej, A. 2000. "Architecture for, by and with Children: A Way to Teach Livable City" Paper presented at the *International Making Cities Livable Conference*, Vienna, Austria, 2000.

Moffatt, S. with S. Farson and M. Hollinshead. 2002. *Planning in the Face of Increasing Uncertainty: Resiliency as a Foundation for Long Term Urban Planning: A citiesPLUS Discussion Paper*. Vancouver, Canada: The Sheltair Group.

Partners for Livable Communities. 2000. *The Livable City: Revitalizing Urban Communities*. New York, USA: McGraw-Hill, Inc.

Regallet G., V. Morrissette, L. Clarkson. 1992. *Our Responsibility to the Seventh Generation: Indigenous Peoples and Sustainable Development*. Winnipeg, Canada: IISD.

Salzano, E. 1997. "Seven Aims for the Livable City" in Lennard, S. H., S von Ungern-Sternberg, H. L. Lennard, eds. *Making Cities Livable*. International Making Cities Livable Conferences. California, USA: Gondolier Press.

Seymoar, N. K. 2001. "Empowerment and Public Participation" in International Centre for Sustainable Cities (ICSC) *Sustainable Cities*. Publication #1. Vancouver, Canada: ICSC.

Stren, R. and M. Polèse. 2000. "Understanding the New Sociocultural Dynamics of Cities: Comparative Urban Policy in a Global Context" In M. Polèse and R. Stren, eds. *The Social Sustainability of Cities: Diversity and the Management of Change*. Toronto, Canada: University of Toronto Press Inc.

Swanepoel, L., E. Campbell, S. Moffatt. 2003. *Tools for Planning for Long-term Urban Sustainability: The citiesPLUS Design Charrettes*. Vancouver, Canada: The Sheltair Group Inc.

Transportation for a Livable City. 2002. *The Path to a Livable City*. San Francisco, USA: Transportation for a Livable City.

Wackernagel, M. and W. Rees.1996. *Our Ecological Footprint*. Gabriola Island, B.C., Canada: New Society Publishers.

WorldWatch Institute. 1996. *The State of the World.* London, UK: Earthscan Publications.

Appendix A:

GVRD WORKING SESSION ON CITIES^{PLUS}

The cities^{PLUS} process identified eight catalyst strategies for the Greater Vancouver's long-term plan. Catalyst strategies are intended to stimulate a coordinated transition to our desired future through integrating many sub-strategies and best practices into a set of leadership opportunities. They provide a means through which multiple end-state goals and targets can be achieved simultaneously and in an integrated way.

Two workshops focused on two of the eight catalyst strategies. The participants were mid level manager and administrators with responsibility for the current regional management plans (waste, sewerage, water etc.)

March 2004, First Working Session on Distributed Infrastructure

Catalyst Strategy #3: Plan short loops and integrated infrastructure networks

Enhance flows and connectedness so that all pieces of the urban system are finely linked nodes in an integrated network

Greater Vancouver's distinctive urban form has been guided by a land-use plan based on a network of regional centers where most of the large population nodes are at the centre of the growth concentration areas, connected by transportation corridors. The third catalyst strategy will build upon this form in several ways. First, the nodal network will extend to much finer scales and will ultimately include the block and the parcel. Second, the transportation network will become more effectively integrated with all other components of the urban system. Third, the functionality of the smaller nodes will increase, with many short two-way flows (or loops) that keep much of the activity close to home. This reduces the need for larger nodes and centralized facilities, while fostering local employment, improved efficiency, and resiliency.

An important characteristic of the short loops and networks is their self-managing and sharing capacity. Storage, conversion, treatment or generation functions will move readily from one scale or location to another. Surpluses will be easily shared from node to node. Each building, for example, will contribute water, electricity, heat, and information flows to the benefit of others in the region. The nodes and networks emulate the complexity and efficiency of a natural food web. In this way, Greater Vancouver becomes an urban ecology.

State of the strategy indicator:

Dwellings located within easy walking distance of a public transit stop (%)

Neighbourhoods with a green utilities / eco-industrial hub (%)

Dwellings located within easy walking distance of key services (%)

Organic materials disposed in region (kg/capita)

Summary:

- There was enthusiasm for the cities^{PLUS} initiative and the insights that it has provided, particularly, for the focus on the theme of resiliency.
- Participants were interested in the business case for the strategies and in the synergies with the Sustainable Region Initiative at the GVRD.
- Catalyst strategy #3: planning short loops and integrated infrastructure networks was cause for significant debate.
- The assumption that decentralized systems were more sustainable than centralized utility systems was challenged. There will need to be further examination into the implications of decentralization for different utilities such as the sewage system and the drinking water system.
- There are many ways in which the GVRD is already planning and operating along sustainability lines, including the growth management Livable Region Strategic Plan that emphasizes complete communities and green zones connected by transportation infrastructure.
- Opportunities for improvement and ideas for sustainability initiatives ranged from dealing with governance issues to integrating the diverse GVRD plans to specific recommendations for shifting regulations and bylaws.
- In addition to the need for internal GVRD discussions, the working session participants highlighted the need to involve other actors such as the network of partners of cities^{PLUS}, the private sector and the public.

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4 March 2004 Second Working Session on Catalyst Strategy #4: Become net contributors

Achieve a footprint that is within a fair share of the earth's carrying capacity and that regenerates social, natural and economic capital.

Net contributors make positive contributions, giving back more than they take away. In the social realm, net contributors are individuals not solely concerned with protecting their rights and lifestyles, but also engaged in community affairs as

neighbours and citizens. In the economic realm, net contributors focus on supplying and consuming products and services that support sustainable lifestyles. Wealthy people contribute economic resources to the poorer strata of society. Those with reduced economic wealth look to contribute more substantially through the informal economy. In the natural realm, individuals adopt lifestyles that proudly maximize the amount of benefit for any resource consumption.

Net contribution translates into greater emphasis on compact urban form. The "growth concentration area" and other areas designated for urban development in past plans now become a growth containment area, in which the region will accommodate an unexpected 2.8 million more people. It also translates into a region that lives off the interest of its ecological and economic capital. Despite growth, the region will require no additional water reservoirs, landfills, imported energy supplies, or imported fresh produce. Living off the interest means finding sources of revenue to finance urban infrastructure without deficits.

Net contribution requires Greater Vancouver to adjust the efficiency of urban systems, and to reduce environmental impacts. The global footprint is reduced to a more equitable share. Finally, it requires the region to re-invest in natural capital – locally and globally – through remediating damaged land, regenerating lost ecosystems, and enhancing the long-term biological productivity of farms, gardens, parks and forests. As a net contributor, the region protects what we love, preserving a heritage for our children and children's children. In this way, Greater Vancouver will follow the ancient wisdom of the First Nations elders, and plan ahead for seven generations.

State of the Strategy Indicators

Genuine progress indicator (index)

Per capita ecological footprint (ha/capita)

Urban Land Area Used for Food Production (%)

Income disparity (Gini index)

Summary:

- Impressions of the cities^{PLUS} Initiative were generally positive and there was interest in connecting this initiative to the Sustainable Region Initiative at the GVRD.
- Again there was a call for making the business case for social change and for the implementation of cities^{PLUS} principles and strategies.
- There needs to be a clearer definition of different roles of Greater Vancouver partners in implementing the plan.
- The main ideas of efficiency of resource use, optimization and reduced impact within catalyst strategy #4: become net contributors were embraced; however, the

term itself and the concept that cities could become 'net contributors' was seen as being problematic.

- There are many ways in which the operation and plans of the GVRD are already achieving sustainability and these should be celebrated, particularly in the lead-up to the World Urban Forum.
- There is also a need to support further demonstration projects and to integrate the multiplicity of plans within the GVRD.
- There is a need for the Board and management team of the GVRD to endorse the cities^{PLUS} direction and clarify their expectations to the middle managers.

FOOTNOTES

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[i] Note by convention references throughout this paper identify cities^{PLUS} as the author and The Sheltair Group as the publisher of the document *A Sustainable Urban System: The Long-term Plan for Greater Vancouver*. In fact the primary authors were Sebastian Moffatt and Elisa Campbell of the Sheltair Group.

[ii] Lennard, Suzanne H., Sven von Ungern-Sternberg, and Henry L. Lennard, eds. 1997. *Making Cities Livable*. International Making Cities Livable Conferences, Carmel, CA, USA: Gondolier Press Book.

[iii] H. Lash. 1976. *Planning in a Human Way*

[iv] The SRI refers to aesthetics and historical conservation. We have incorporated those concepts under the more familiar category of culture which is often used in Europe as one of the four components of sustainable development.

[v] Moffatt, S. with S. Farson and M. Hollinshead. 2002. *Planning in the Face of Increasing Uncertainty: Resiliency as a Foundation for Long Term Urban Planning: A cities^{PLUS} Discussion Paper*. Vancouver, Canada: The Sheltair Group.

[vi] For a more complete description and critique of the GVRD's governance structure from the perspective of sustainability see The Capable City – a parallel working document in this series.

[vii] GVRD. 1996. *Livable Region Strategic Plan*. Vancouver, Canada: Greater Vancouver Regional District.

[viii] GVRD. 2002. *Greater Vancouver Regional District Submission for the Dubai Award for Best Practices, March 28, 2002*. Vancouver, Canada: GVRD, 8.

[ix] The United Nations Human Settlement Program (UN-Habitat) and the Dubai Municipality sponsor this award to recognize initiatives that improve the quality of life and that advance sustainability within cities while involving effective partnerships in achieving these goals.

[x] H. Lash. 1976. *Planning in a Human Way.*

[xi] GVRD. 2002. *Greater Vancouver Regional District Submission for the Dubai Award for Best Practices, March 28, 2002,* 12.

[xii] Private communication, Hugh Kellas.

[xiii] Seymoar, N. K. 2001. Empowerment and Public Participation. In International Centre for Sustainable Cities (ICSC) *Sustainable Cities*. Publication #1. Vancouver, Canada: ICSC.

[xiv] Vision of Decision-Support Systems, *cities^{PLUS}*. 2003.

[xv] Allen, M. 1997. *Ideas that Matter: The Worlds of Jane Jacobs*. Ontario, Canada: The Ginger Press.

[xvi] GVRD. 2002. *2002 Annual Report: Livable Region Strategic Plan*. Vancouver, Canada: GVRD, 2

[xvii] *Ibid*

[xviii] *Ibid,* 20.

[xix] *Ibid*, 9.

[xx] For more information on transportation planning in the Greater Vancouver area, please refer to http://www.translink.bc.ca

[xxi] For more information on *2005-2007 Three-Year Plan and 10-Year Outlook* see [online] http://www.translink.bc.ca/Transportation_Plans/10yr_outlook.asp

[xxii] GVRD. 2003. *Taking Care of Our Region, Everyday*. Vancouver, Canada: GVRD, 23.

[xxiii] For more information on the conferences held to inform the SRI see [online] http://www.gvrd.bc.ca/sustainability/ For more information on the conferences held to inform the SRI see [online] http://www.gvrd.bc.ca/sustainability/

[xxiv] For an example of an eco-industrial cluster see the Maplewood Community Eco-Industrial Partnership Project [online] http://www.maplewoodproject.org/

[xxv] For more information see [online] http://www.smartgrowth.bc.ca/index.cfm

[xxvi] GVRD. 2002. *2002 Annual Report: Livable Region Strategic Plan*. Vancouver, Canada: Greater Vancouver Regional District, 11.

[xxvii] For more information on the Fraser Basin Council see [online] http://www.fraserbasin.bc.ca/ and the World Urban Forum Preparatory Paper on the Capable City.

[xxviii] Lennard, S. H., H. L. Lennard. 1995. *Livable Cities Observed: A Source Book of Images and Ideas for City Officials, Community Leaders, Architects, Planners and All Others Committed to Making their Cities Livable*. California, USA: Gondolier Press, 6.

[xxix] cities[PLUS]. 2003. *A Sustainable Urban System: The Long-term Plan for Greater Vancouver*, 13.

[xxx] *Ibid.*

[xxxi] World Wide Fund for Nature. 2002. *The Living Planet Report*. Gland, Switzerland: WWF. and [online] at http://www.panda.org/news_facts/publications/general/livingplanet/index.cfm

[xxxii] Girardet, H. 1999 *Creating Sustainable Cities*. Devon, UK: Green Books for The Schumacher Society, 1.

[xxxiii] *Ibid,* 17.

[xxxiv] Wackernagel, M. and W. Rees. 1996. *Our Ecological Footprint: Reducing Human Impact on the Earth*. Gabriola Island, B.C. Canada: New Society Publishers.

[xxxv] WorldWatch Institute. 1996. *The State of the World* London, UK: Earthscan Publications.

[xxxvi] This section on adaptive management resonates with the analysis put forward in the section on adaptive security in the "Secure City" paper that is part of the set of World Urban Forum papers.

[xxxvii] Sebastian Moffatt and Elisa Campbell of the Sheltair Group developed an Adaptive Management Framework and have applied it in their work with a number of organizations and communities over the past seven years. Their approach was central to the cities[PLUS] process.

[xxxviii] cities[PLUS]. 2003. *Tools for Planning for Long-term Urban Sustainability*, 7

[xxxix] cities[PLUS]. 2003. *The One System Approach*. Vancouver, Canada: cities[PLUS].

[xl] The Region is the home of the Sustainable Development Research Initiative at the University of British Columbia. SDRI has developed QUEST, a scenario building and backcasting tool, allows computer simulations of the next 40 years based on real data for the region. cities[PLUS] used QUEST to test out several scenarios and policy options.

[xli] cities[PLUS]. 2003. *A Sustainable Urban System: The Long-term Plan for Greater Vancouver*

[xlii] cities[PLUS] engaged the Centre for Landscape Research at the University of British Columbia for the Integrated Design Workshop. CLR is building a world-wide reputation for its use of charrettes – a multi-stakeholder participatory planning process that is intensive, time bound, location specific and uses artists to conceptualize the design proposals. See http://www.agsci.ubc.ca/research/landscape.htm

[xliii] The instruments were categorized under: Planning Initiatives; Research and Demonstrations; Education; Legislation and Enforcement; and Financial.

[xliv] See The Secure City in this series of papers for more information.

[xlv] See PLUS 30 Network at http://www.plus30network.ca

[xlvi] J. Brugman. 2002. "The Strategic City: Sustaining Local Values in a Global Economy." Paper presented at *Are we on the Right Track* GVRD conference, January 17, 2002.

[xlvii] Moffatt, S. with S. Farson and M. Hollinshead. 2002. *Planning in the Face of Increasing Uncertainty: Resiliency as a Foundation for Long Term Urban Planning: A cities[PLUS] Discussion Paper*. Vancouver, Canada: The Sheltair Group.

[xlviii] Walker, B., S. Carpenter, J. Anderies, N. Abel, G. S. Cumming, M. Janssen, L. Lebel, J. Norberg, G. D. Peterson, and R. Pritchard. 2002. Resilience management in social-ecological systems: a working hypothesis for a participatory approach. In *Conservation Ecology* 6(1): 14. [online] URL: http://www.consecol.org/vol6/iss1/art14

[xlix] For further discussion on resilience and adaptive management see [online] http://www.resalliance.org; Gunderson, L. H. and C.S. Holling. 2001. Panarchy: Understanding Transformations in Human & Natural Systems. Washington, USA: Island Press.; Berkes, F., C. Folke and J. Colding. 1998. *Linking Social and Ecological Systems: Management Practices and Social Mechanisms for Building Resilience*. Cambridge, UK: Cambridge University Press.