Research Report

Planning Sector

FCM | Green Municipal Fund
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SUSTAINABLE COMMUNITY PLANNING IN CANADA: STATUS & BEST PRACTICES

– *Final Report* –
[27085]

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Federation of Canadian Municipalities

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EXECUTIVE SUMMARY

ES.1 INTRODUCTION

The Federation of Canadian Municipalities (FCM) Green Municipal Fund (GMF) commissioned Marbek Resource Consultants, in association with Dr. Ray Tomalty of Co-operative Research and Policy Services (CORPS), to undertake research on current and best practices in sustainable community planning (SCP) in Canadian municipalities.

Every sector covered by the FCM's GMF – brownfields, energy, transportation, waste and water – has a planning component. Community planning provides the overarching vision and language that allows plans and implementation policies from these various sectors to integrate in the most productive way. Ideally, planning addresses each of the component sectors and brings them together as an integrated whole. As further elaborated in Section 3 of the report, *sustainable community planning (SCP)* is a collaborative, integrated approach to community planning that steers a community toward the implementation of local and global sustainability goals, using a long-term perspective in an adaptive institutional framework.

ES.2 ISSUES & TRENDS

The issues affecting SCP are shown in Exhibit ES.1 and are described in the report.

In terms of trends, municipalities are making progress in their awareness, education, and competence in developing sound sustainable community plans. This progress has moved beyond the larger cities and a few leading municipalities to encompass a wide range of communities in every region and of every size and type. Some of the key trends are:

•   **In governance,** *regional planning* that allows more integrated planning across communities that share services and interests; and *greater municipal powers* that allow more community leverage in SCP;

•   **In technical planning,** *new information technology* that eases complex data processing in assessment, development, implementation, and monitoring of SCP; and *flexibility* that allows faster response to community and market changes (e.g., modify goals as progress is made);

•   **In financial incentives,** *new financial instruments* that provide funding support for SCP while sending financial signals to encourage behavioural change compatible with SCP goals;

•   **In collaborative planning,** *democratic participation* that improves public engagement and participative decision-making; *strong community support* that means a louder public voice, more stakeholder buy-in, and stronger goals empower the municipality to act in-line with public interest; and *creative partnerships* that provide more resources for municipalities to create and implement SCP, including more leverage in developer negotiations.

Exhibit ES.1
Sustainable Community Planning Issues (Drivers and/or Challenges)

Financial/Fiscal/Economic
- Federal Gas Tax Fund
- Infrastructure deficit
- Revenue squeeze
- Funding assigned to urban development details rather than high-level planning
- Lack of funding and other incentives for new affordable housing
- Underfunding of transit by provincial governments
- Lack of financial incentives/compensation for municipalities' that forgo development
- Lack of authority to implement revenue-generating mechanisms to support plans
- Abundance and low cost of farmland
- Changing structure of the agricultural sector
- Developers' financial influence
- Trade routes opening through the north

Technical
- New technology
- Growing popularity of sustainable neighbourhood planning
- Accumulated expertise in energetic academic institutions and think tanks
- Market transformation from green buildings
- Transportation system dependence
- Geographical constraints to development
- Land reserves
- Undesirable attributes of rapidly-growing communities
- Oil exploration and mining in northern Canada
- Small community developers' lack of awareness and inexperience

Governance
- Planners' increasing positions of leverage in rapidly growing metropolitan areas
- Powerful local champions
- Ecosystem management organizations
- Lack of policy integration between levels of government
- Planning office power
- Municipal powers
- Regional governments
- Lack of regional planning and/or transit commission
- Lack of enforcement of regional development plans
- Municipal staff resource availability
- Capacity-building in smaller centres
- Northern community capacity-building
- Organisational support
- Changes in municipal office
- Lack of political will in face of development pressure
- Lack of political will to prevent undesirable development patterns
- Aboriginal land claim settlements
- Different types of aboriginal self-governance agreements

Regulatory
- Federal Gas Tax Fund
- Provincial emissions reduction goals
- Lack of provincial and territorial requirements for SCP

Liability
- Accessibility
- Geological hazards
- Brownfield development

Environmental
- Local: air and water quality impairment; 'heat island effect'
- Regional: smog; acid rain; water and land ecosystems fragmented, altered or lost; wildlife impacts
- Global: climate change; biodiversity decline and ecosystem services; systems response to regional contamination; resource depletion

Social
- Human health issues
- Heightened environmental awareness
- Increasing awareness and concern over energy-related greenhouse gas emissions
- Concern over rapid urban growth from booming oil economy
- Northern community desire for independence
- Undesirable attributes of rapidly-growing communities
- Strong advocacy from non-governmental organizations
- Strong community identity and initiatives in smaller urban centres
- Population growth and urbanization
- Urban population decline
- Demographics
- Widening gap between rich and poor
- Lack of public support for changes in development patterns
- Lack of public follow-through and support
- Ethic of volunteerism and community self-help
- Lack of integration of employment planning in transportation and land use planning

Other
- Urban sprawl
- Lack of follow-through support from stakeholders
- 'Greenwashing'
- Responsiveness to unpredictable future conditions

ES.3   FINANCIAL IMPLICATIONS

Quantitative estimates of the financial cost or savings involved in implementing an SCP are currently not available: there are no studies in Canada comparing the financial impacts of implementing a SCP to that of a conventional plan. There are however, studies that show the financial implications of the various resulting components of sustainable community planning (e.g., low-impact development; transit-oriented development; distributed, efficient, renewable energy systems; quality-use matching in water supply; etc.). These results are not reviewed in this report.

In terms of qualitative assessment, SCP can result in incremental financial cost or savings during development and/or implementation, relative to conventional community planning:

•   **Potentially higher costs during development of a plan**, such as for: planning studies; data gathering; enhanced public consultation; software; and external fees.

•   **Potentially higher costs during long-term implementation of a plan**: infrastructure investments; developer and resident incentives; on-going public education programs; increased municipal expenditures on energy efficiency measures; development control; and monitoring and implementation.

•   **Potential savings during long-term implementation of a plan**: enhanced communication; reduced developer and resident resistance; fewer wasted planning resources and improved efficiencies; green infrastructure; efficient and more cost-effective water infrastructure, transportation systems, building operation, and waste management; tax revenues; life cycle costing of assets; and increased return on investments. Savings and financial benefits to the wider community could also include: increased productivity and reduced health care costs; reduced energy costs; lower congestion and transportation costs; and costs savings in essential services.

ES.4   RECOMMENDATIONS FOR MUNICIPALITIES

As described in the report, municipalities should consider both the development and the management and implementation of sustainable community planning:

Developing Sustainable Community Plans

•   Municipalities should develop more "sustainable" community plans. Municipalities that excel in: leadership; commitment to a collaborative process; team coverage and dynamics; technical skills; and data collection and analysis capacity will likely have more success in the plan development process.

Managing & Implementing Sustainable Community Plans

•   Many sustainable community plans are well-developed but do not contain the measures necessary to encourage or support successful implementation. Municipalities should sufficiently address implementation aspects that help maximize both the success and

benefits of SCP, such as: commitment to the process; regional coordination; departmental commitment; partnerships; institutionalization; prioritized actions; business case; and keeping it going.

• For communities that have already developed a SCP and are in the implementation phase, the next step is often to seek funding for activities such as: the assessment of SCP implementation or specific SCP implementation measures or tools.

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GLOSSARY OF ACRONYMS & TERMS

Acronym	Expansion
AUMA	Alberta Urban Municipalities Association
DCC	Development cost charge
ENGO	Environmental non-governmental organization
FCM	Federation of Canadian Municipalities
GHG	Greenhouse gas
GIS	Geographic information system
GTA	Greater Toronto Area
GTF	(Federal) Gas Tax Fund
GVRD	Greater Vancouver Regional District (now renamed Metro Vancouver)
ICLEI	International Council for Local Environmental Initiatives
ICSP	Integrated Community Sustainability Plan
LA 21	Local Agenda 21
LEED	Leadership in Energy and Environmental Design
LEED ND	Leadership in Energy and Environmental Design for Neighbourhood Development
MOU	Memorandum of Understanding
NGO	Non-governmental organization
OCP	Official Community Plan
SCP	Sustainable community planning
TDM	Transportation demand management
TOD	Transit-oriented development

Term	Definition
Affordable housing	Housing that is safe, appropriate and accessible and where rent or mortgage plus taxes are 30 percent or less of the household's gross annual income.
Airshed	A geographical area that shares the same air mass due to topography, meteorology and/or climate. As such, pollutants emitted into this area may interact or increase in concentration. Used to discuss air pollution management in the same way that catchments or watersheds are used to discuss pollution in rivers.
Backcasting	Backcasting is the opposite of forecasting. It is working backwards from a desired future state to decide what conditions must be put in place now and over time to achieve that future state.
Bioregional planning	A territory defined by a combination of biological, social, and geographic criteria, rather than geopolitical considerations.
Brownfield	Unused industrial lands that may or may not be contaminated, or that has been remediated.
Carrying capacity	The number of habitants that an ecosystem can support indefinitely, while maintaining its productivity, adaptability, and capability for renewal.
Charrette	An intense, multi-day neighbourhood or community design process where a multi-disciplinary team (including residents, business owners, the municipality and design professionals such as architects, engineers, planners and landscape architects) create a visual plan for an area.
Commutershed	A commutershed is the area from which a workforce commutes to a (central) workplace.
Conurbation	An extensive urban area formed when two or more cities, originally separate, coalesce to form a continuous metropolitan region.
Density Bonus	Voluntary scheme in zoning bylaws that enables developers to build additional units in return for public amenities such as affordable housing, underground parking, parkland, and daycare facilities.
Greenhouse gases (GHG)	The gases such as carbon dioxide, water vapour, nitrous oxides, etc. that are released to the earth's atmosphere, where they absorb different types of radiated energy from the sun and re-emit that energy as heat within the atmosphere. In addition, GHGs absorb heat that the earth is either reflecting or emitting, and re-radiate that energy back into the atmosphere as heat, rather than letting the energy escape the earth's atmosphere. The result is that GHGs raise the temperature of earth's atmosphere from what it would be if the same GHGs were not present.

Term	Definition
Green infrastructure	The ecological processes, both natural and engineered that act as the natural infrastructure. It includes ditches, creeks, wetlands, parks, open space, trees, green roofs, gardens, working lands, aquifers and watersheds that supply drinking water.
Greenwashing	Creating a façade or false screen of environmental concern over a plan, program, product or service, with the intention of gathering extra support or customers from the environmentally conscious
Indicator	Something that can be observed or measured that represents the status of a situation, action, process, condition, etc. For example, to monitor how people use different modes of transportation, one preferred indicator might be *the percentage of people using public transit or active transportation (e.g., walk, bicycle, in-line skate) during their average commute to/from work.*
Integrated community sustainability planning	A long term plan, developed in consultation with community members that provides direction for the community to realize sustainability objectives it has for the environmental, cultural, social and economic dimensions of its identity.
Local Agenda 21	A comprehensive action strategy prepared by local authorities to help achieve sustainable development.
Low-impact development	Low Impact Development is an innovative stormwater management approach with a basic principle that is modeled after nature: manage rainfall at the source using uniformly distributed decentralized micro-scale controls. The goal is to mimic a site's predevelopment hydrology by using design techniques that infiltrate, filter, store, evaporate, and detain runoff close to its source.
Mixed-use zoning	Areas where several uses are allowed in a pedestrian- and transit-friendly design. These zones usually include retail, residential, commercial and civic uses.
Natural Step	The Natural Step is a science-based strategic planning framework that helps communities to make development decisions. The system conditions focus attention on the reduction of resource use, the elimination of synthetic chemicals released into the environment, physical encroachment on nature and the meeting of basic human needs.
New Urbanism	New Urbanism combines traditional planning and modern technology to create places that break the conventional suburban mold of malls and highways. Instead, they strive for environmental balance, social integration and a true sense of community.
Potable water	Water which is free from impurities that may cause disease or harmful physiological effects, such that the water is safe for human consumption.

Term	Definition
"Silo" planning	Planning processes that do not incorporate coordination among related departments, plans or services.
Scenario testing	Scenario testing is a software testing activity that uses scenario tests, or simply scenarios, which are based on a hypothetical story to help a person think through a complex problem or system.
Secondary treatment	Secondary treatment begins with the effluent treated during the primary stage. The wastewater is mixed with a controlled population of bacteria and an ample supply of oxygen. The microorganisms digest the fine suspended and soluble organic materials, thereby removing them from the wastewater. The effluent is then transferred to secondary clarifiers, where the biological solids or sludges are settled by gravity. In a common process applied in Canada (i.e. anaerobic digestion), these sludges are pumped to anaerobic digesters, and the clear secondary effluent may flow directly to the receiving environment or to a disinfection facility prior to release.
Septic system	A facility used for the partial treatment and disposal of sanitary wastewater, generated by individual homes or small business, into the ground. Includes both a septic tank and a leaching facility.
Smart Growth	A principle of land development that emphasizes mixing land uses; increases the availability of affordable housing by creating a range of housing opportunities in walkable neighborhoods; takes advantage of compact design; fosters distinctive and attractive communities; while preserving open space.
Stream naturalization	Stream naturalization differs from restoration in that the target is not an a priori defined predisturbance state but a site-specific goal, oriented towards the enhancement of the aquatic ecosystem and achieved through the interaction between scientists and the community.
Sustainable / Sustainability	A resource or system that meets present needs without compromising those of future generations.
Targets	Targets are agreed levels of performance to be achieved within a specified period of time.
Tertiary waste water system	Tertiary treatment involves the additional treatment to remove suspended and dissolved substances remaining after secondary treatment. This may be accomplished using a variety of physical, chemical or biological treatment processes to remove the targeted pollutants.
Triple bottom line	Reflects an integrated understanding of performance in which social, environmental and economic bottom lines are interdependent. The aim of a Triple Bottom Line approach is to ensure financial performance that is socially responsible, environmentally sound and economically viable.

Term	Definition
Visioning	Visioning is a broad-based discussion about what community success would look like, the community's core values, and goals for its social, environmental, economic future.
Wetland restoration	An activity that re-establishes the habitats and functions of a former wetland.

1.   INTRODUCTION

The Federation of Canadian Municipalities (FCM) Green Municipal Fund (GMF) supports communities to improve air, water and soil quality, and to address climate change.[1] Municipal governments across Canada, from large urban centres to smaller rural and northern communities, may apply for GMF funding in five sectors of municipal activity (brownfields, energy, transportation, waste and water) for capital projects and studies, and sustainable community planning (a distinct funding stream for sustainable community plans only). The Fund provides low-interest loans and grants, builds capacity, and shares knowledge to support municipal governments and their partners in developing communities that are more environmentally, socially and economically sustainable. Information sharing among municipal practitioners and technology transfer for best practices are important features of the GMF funding program in order to increase the capacity of communities to undertake leading practices in Canada.

FCM commissioned Marbek Resource Consultants, in association with Dr. Ray Tomalty of Co-operative Research and Policy Services (CORPS) to undertake research on current and best practices in sustainable community planning in Canadian municipalities.

1.1   OBJECTIVES & SCOPE

Objectives

The purposes of the Sustainable Community Planning Research project are to:

*   Explore issues, trends, best practices, and Canadian examples related to municipal progress in sustainable community planning.
*   Provide current and comprehensive information that could be used in capacity-building and knowledge-sharing activities, or could be used as a reference.

Scope

Every sector covered by FCM's GMF – energy, water, transportation, waste, and brownfields – has a planning component. Community planning provides the overarching vision and language that allows plans and implementation policies from these various sectors to integrate in the most productive way. Ideally, planning addresses each of the component sectors and brings them together as an integrated whole.

Planning departments are the one municipal agency that is responsible for overseeing the development of an overall community vision and ensuring, or attempting to ensure, that policies and plans emanating from other parts of the municipality fit together as a whole. Through the discussions among community members that lead up to the adoption of a community plan, the interconnections among these sectors become clearer and whatever trade-offs might be necessary in achieving sector goals are aired and decided upon.

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[1] Federation of Canadian Municipalities. http://gmf.fcm.ca/Home/

As further elaborated in Section 3.1 of this report, *sustainable community planning (SCP)* is a collaborative, integrated approach to community planning that steers a community toward the implementation of local and global sustainability goals, using a long-term perspective in an adaptive institutional framework.

1.2   REPORT STRUCTURE

The remainder of this report is presented as follows:

- Section 2 describes the key drivers and challenges of SCP in Canadian municipalities;
- Section 3 describes how Canadian municipalities are improving SCP, including:
    - The definition, features, and objectives of ideal SCP;
    - The current status of SCP in Canada, with some sample approaches used;
    - Best practices in SCP used by Canadian municipalities;
    - Canadian communities and neighbourhoods that have been exemplary in striving for successful SCP; and
    - Observed trends related to SCP in Canada;
- Section 4 describes the financial impacts of SCP; and
- Section 5 summarizes practices for successful SCP.

A Glossary of acronyms and terms was presented at the beginning of this report, prior to the Introduction. Footnotes are provided throughout the report to reference sources of information. Appendix A lists the contacts consulted or interviewed in this study, Appendix B lists sample resources for communities interested in pursuing sustainable community planning, and Appendix C contains the full profiles for the exemplary communities and neighbourhoods mentioned in Section 3.4.

2.   KEY ISSUES: DRIVERS & CHALLENGES

This report begins by describing some of the key issues relevant to municipalities in striving for successful sustainable community planning (SCP), including why and how the issues affect municipalities and their use of SCP. Each issue is characterised as either:

•   A *driver,* which is an issue or condition that triggers interest in or improves the effectiveness of SCP;
•   A *challenge,* which discourages interest in or limits the effectiveness of SCP; or
•   Both a *driver* and a *challenge*, in which case the issue is listed as a challenge but the description mentions both.

These drivers and challenges are summarized in Section 2.1 and described in Sections 2.2 to 2.9 according to the categories below:

• Environmental Issues	• Social Issues
• Financial/Fiscal/Economic Issues	• Technical Issues
• Regulatory Issues	• Liability Issues
• Governance Issues	• Other Issues

2.1   OVERVIEW & APPLICABILITY

The table in Exhibit 2.1 indicates the applicability of all identified drivers and challenges to communities with different attributes. Each challenge (but not each driver) is coded with a "challenge #" in the summary table and in the subsequent headings in this section; this code is used in the Best Practices and Trends sections to show relationships with these key challenges.

Exhibit 2.1
Overview & Applicability of Key Issues by Community Type

Issue	Driver or Challenge	Challenge #	Community Applicability			
			Region	**Size**	**Urban / Rural**	**Northern & Remote**
ENVIRONMENTAL						
Local air and water quality impairment	Driver		All	All	Both	Yes
Local 'heat island effect'	Driver		All	Mostly M/L	Both	Yes
Regional smog	Driver		All	M/L	Both	Yes
Regional acid rain	Driver		All	Mostly M/L	Both	Yes
Regional water ecosystems fragmented, altered or lost	Driver		All	Mostly M/L	Both	Yes
Regional land ecosystems fragmented, altered or lost	Driver		All	Mostly M/L	Both	Yes
Regional wildlife impacts	Driver		All	All	Both	Yes
Global climate change	Driver		All	All	Both	Yes
Global biodiversity decline and ecosystem services	Driver		All	All	Both	Yes
Global systems response to regional contamination	Driver		All	All	Both	Yes
Global resource depletion	Driver & Challenge	E1	All	All	Both	Yes
FINANCIAL/FISCAL/ECONOMIC						
Federal Gas Tax Fund	Driver		All	All	Both	Yes
Infrastructure deficit	Driver & Challenge	F1	All	All	U	Yes
Revenue squeeze	Challenge	F2	All	All	Both	Yes
Funding assigned to urban development details rather than high-level planning	Challenge	F3	All	Mostly M/L	Both	Yes
Lack of funding and other incentives for new affordable housing	Challenge	F4	All	All	Both	Yes
Underfunding of transit by provincial governments	Challenge	F5	All	Mostly L	U	Yes
Lack of financial incentives/compensation for municipalities' that forgo development	Challenge	F6	All	All	Both	Yes
Lack of authority to implement revenue-generating mechanisms to support plans	Challenge	F7	All	All	Both	Yes
Abundance and low cost of farmland	Challenge	F8	All	All	Both	Yes
Changing structure of the agricultural sector	Challenge	F9	Mostly Prairies	All	Mostly R	Yes

Issue	Driver or Challenge	Challenge #	Community Applicability			
			Region	Size	Urban / Rural	Northern & Remote
Developers' financial influence	Challenge	F10	All	All	Both	Yes
Trade routes opening through the north	Challenge	F11	Territories, BC, ON, QC, NL	S/M	Both	Yes
REGULATORY						
Federal Gas Tax Fund	Driver		All	All	Both	Yes
Provincial emissions reduction goals	Driver		Mostly BC, MB, ON	All	Both	Yes
Lack of provincial and territorial requirements for SCP	Challenge	R1	All but BC	All	Both	Yes
GOVERNANCE						
Planners' increasing positions of leverage in rapidly growing metropolitan areas	Driver		Mostly BC, AB, ON, QC (highest-growth populations)	Mostly M/L	Mostly U	Few
Powerful local champions	Driver		All	All	Both	Yes
Ecosystem management organizations	Driver		Those with high enough population	Mostly M/L	Both	Yes
Lack of policy integration between levels of government	Challenge	G1	All	All	Both	Yes
Planning office power	Challenge	G2	All	All	Both	Yes
Municipal powers	Challenge	G3	All	All	Both	Yes
Regional governments	Challenge	G4	Those with high enough population	Clustered M/L	Mostly U	No
Lack of regional planning and/or transit commission	Challenge	G5	Those with high enough population	Clustered M/L	Mostly U	No
Lack of enforcement of regional development plans	Challenge	G6	Those with high enough population	Clustered M/L	Mostly U	No
Municipal staff resource availability	Challenge	G7	All	All	Both	Yes
Capacity-building in smaller centres	Challenge	G8	All	S	R	Yes
Northern community capacity-building	Challenge	G9	All but Maritimes	S/M	Both	Yes
Organisational support	Challenge	G10	All	All	Both	Yes
Changes in municipal office	Challenge	G11	All	All	Both	Yes
Lack of political will in face of development pressure	Challenge	G12	All	All	Both	Yes
Lack of political will to prevent undesirable development patterns	Challenge	G13	All	All	Both	Yes
Aboriginal land claim settlements	Challenge	G14	All but Maritimes	S	Mostly R	Yes
Different types of aboriginal self-governance agreements	Challenge	G15	All but Maritimes	S/M	Both	Yes

Issue	Driver or Challenge	Challenge #	Community Applicability			
			Region	**Size**	**Urban / Rural**	**Northern & Remote**
SOCIAL						
Human health issues	Driver		All	All	Both	Yes
Heightened environmental awareness	Driver		All	All	Both	Yes
Increasing awareness and concern over energy-related greenhouse gas emissions	Driver		All	All	Both	Yes
Concern over rapid urban growth from booming oil economy	Driver		AB, SK	All	Both	Yes
Northern community desire for independence	Driver		All but Maritimes	S/M	Both	Yes
Undesirable attributes of rapidly-growing communities	Driver		Mostly BC, AB, ON, QC (highest-growth populations)	Mostly M/L	Mostly U	Few
Strong advocacy from non-governmental organizations	Driver		All	All	Both	Yes
Strong community identity and initiatives in some smaller urban centres	Driver		All	S	R	Yes
Population growth and urbanization	Challenge	S1	All	All	Both	Yes
Urban population decline	Challenge	S2	All but large centres in BC, AB, ON, QC (highest-growth populations)	S/M	Mostly R	Yes
Demographics	Challenge	S3	All	All	Both	Yes
Widening gap between rich and poor	Challenge	S4	All	All	Both	Yes
Lack of public support for changes in development patterns	Challenge	S5	All	All	Both	Yes
Lack of public follow-through and support	Challenge	S6	All	All	Both	Yes
Ethic of volunteerism and community self-help	Driver & Challenge	S7	All	All	Both	Yes
Lack of integration of employment planning in transportation and land use planning	Challenge	S8	All	M/L	U	Yes

Issue	Driver or Challenge	Challenge #	Community Applicability			
			Region	Size	Urban / Rural	Northern & Remote
TECHNICAL						
New technology	Driver		All	All	Both	Yes
Growing popularity of sustainable neighbourhood planning	Driver		All	All	Both	Yes
Accumulated expertise in energetic academic institutions and think tanks	Driver		More in regions with large universities	M/L	U	Yes
Market transformation from green buildings	Driver		All	All	Both	Yes
Transportation system dependence	Driver		All	M/L	U	Yes
Geographical constraints to development	Driver		Mostly BC & AB (Rocky Mtns)	All	Both	Yes
Land reserves	Challenge	T1	All	S	Mostly R	Yes
Undesirable attributes of rapidly-growing communities	Challenge	T2	Mostly BC, AB, ON, QC (highest-growth populations)	Mostly M/L	Mostly U	Few
Oil exploration and mining in northern Canada	Challenge	T3	All but Maritimes	All	Both	Yes
Small community developers' lack of awareness and inexperience	Challenge	T4	All	S	U	Yes
LIABILITY						
Accessibility	Driver		All	All	Both	Yes
Geological hazards	Driver		All	All	Both	Yes
Brownfield development	Challenge	L1	All	Mostly M/L	Mostly U	Yes
OTHER						
Urban sprawl	Driver & Challenge	O1	All	All	Both	Yes
Lack of follow-through support from stakeholders	Challenge	O2	All	All	Both	Yes
Greenwashing	Challenge	O3	All	All	Both	Yes
Responsiveness to unpredictable future conditions	Challenge	O4	All	All	Both	Yes

Note: L = Large, M = Medium, S = Small, U = Urban, R = Rural

The remainder of this section describes these drivers and challenges, categorized as presented in the summary table above.

2.2 ENVIRONMENTAL ISSUES

Several environmental issues are driving SCP in Canada through: 1) the increasingly evident link between sprawling low-density urban development and the myriad environmental problems that result, such as the proliferation of car culture, the gradual paving of the landscape, etc.; and 2) increased public awareness and demand for action on this type of development to help alleviate local, regional, and global environmental impacts. This, in turn, is driving municipalities to encourage cleaner, greener, lower-impact urban development that can be achieved through the more sustainable and holistic methods of SCP. These implications hold for each of the environmental drivers listed below.

The main environmental drivers and challenges for SCP in Canada are:

Drivers

- **Local air and water quality impairment**: Air pollutant emissions alter ambient air quality either directly, as in the case of particulate matter (PM), or through the secondary formation of PM and Ozone as in the case of nitrogen oxides (NO_x), sulphur oxides (SO_x), and volatile organic compounds (VOC). Studies conclude that these ambient air quality changes impact sensitive human and environmental receptors. Similarly, local water quality is impacted by water pollutants and water depletion.

- **Local 'heat island effect'**: Materials commonly used in urban areas, such as concrete and asphalt, have different thermal and surface radiative properties than those used in rural areas, resulting in temperature variation within the urban area that are not experienced in surrounding rural areas. This temperature difference is known as the *heat island effect*. Heat islands can exist at the street level or into the urban area's atmospheric boundary layer, which can range from 100 meters at night to two kilometres during the day.[2] Numerous local and regional factors contribute to the individual characteristics of the heat island effect, including topography and water bodies, soil type, vegetation, land-use, characteristics of the built environment, weather (including wind and cloud cover) and city size.

- **Regional smog**: Generally speaking, smog is formed by four pollutant groups: nitrogen oxides (NO_x), sulphur dioxide (SO_2), volatile organic compounds (VOCs), and particulate matter (PM). However, two of these pollutants, NO_x and VOCs, are the primary drivers of smog and are responsible for formation of ground level ozone, a major component of smog. Transboundary contributions and other events, such as forest fires, contribute to air contaminant levels. The topography of an area influences dispersion of air contaminants. Smog has detrimental effects on natural vegetation and smog pollutants contribute to the corrosion of materials, such as rubber and stone. Smog may occur locally and it also occurs as a result of regional and transboundary movement of air masses to other regions.

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[2] Cuddihy, John. 2005. *Toward Sustainable Urban Design: The Impact of Urban Geometry on the Energy Consumption of Buildings*. M.A.Sc. Thesis, University of Toronto.

- **Regional acid rain**: Similar to the smog phenomenon, acid rain occurs as a result of local conditions and air masses transporting pollutants regionally and at the transboundary level. Acid rain results primarily from the transformation of SO_2 and NOx into secondary acidic pollutants such as sulphuric acid and nitric acid. These pollutants can be transported in the atmosphere over distances of hundreds to thousands of kilometres and are removed from the atmosphere in precipitation.[3] Dry deposition can also take place when particles are deposited from the air on land surfaces and converted into acids when they contact water. Acid rain is a problem where water and soil systems lack natural alkalinity and therefore cannot neutralize these acidic deposits naturally. Areas of the Canadian Shield, including Ontario, Quebec, New Brunswick and Nova Scotia, are particularly susceptible to acid rain since their water and soil systems lack alkalinity. Overall, more than half of Canada consists of rock areas susceptible to acid rain, including specific areas in western Canada, for example where granite is predominant in the land form.

- **Regional water ecosystems fragmented, altered or lost**: Dramatic changes in water ecosystems occur because land use changes from urban development result in changes to the water cycle, summarized as follows:

    - Impervious surfaces reduce the water infiltration rate, which reduces groundwater levels. Groundwater and direct surface run-off feed creeks, streams, rivers, and lakes. The quality of water runoff from urban areas is problematic due to use of pesticides, herbicides and other products outdoors as well as poor stormwater quality runoff from roads.

    - Impervious urban land increases the proportion of surface water runoff relative to groundwater recharge. Increased surface runoff has greater momentum and this increased energy of the water increases scour and erosion of receiving water bodies, eventually changing the cross-sectional area of creeks and rivers. Impervious surfaces allow water to runoff land very quickly relative to meadow and forested areas. This increased speed exacerbates the lack of groundwater recharge.

    - Pavements also transfer heat to the water and its speedy deposition to storm sewers and quick conveyance to receiving waters warms up the aquatic environment. Warm water holds less oxygen and supports different biota than cold and cool waters. The disappearance of trout from urban streams is typically not the result of chemical pollution, but the result of fundamental changes in habitat due to warmer waters.

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[3] Environment Canada. Accessed March 2007. Acid Rain. http://www.ec.gc.ca/acidrain/acidfact.html

- The loss of wetland areas to urban development has an especially detrimental effect on the water cycle in the area. Wetlands act as sponges, storing water during wet seasons and releasing it during dryer periods. The loss of wetlands thus contributes to both increased flooding and prolonged periods of drought. In addition to effects on water quantity, the loss of wetlands contributes to reduced water quality. Wetlands act as natural water treatment systems, supporting beneficial bacteria and a complex food web that acts to reduce nutrients, settle solids and integrate 'waste' products back into more organized forms by supporting various birds, fish and animals that feed in wetland areas. Wetlands represent critical and highly productive habitat for fish, wildlife and many types of plants.[4]

- **Regional land ecosystems fragmented, altered or lost**: There are two dimensions of land systems fragmentation: 1) habitat fragmentation; and 2) ecosystem fragmentation. Habitat fragmentation disrupts natural movements of animals (and their genes), seeds, spores and pollen, as well as nutrient and energy flows." Habitat fragmentation results in genetic and reproductive isolation. Ecosystem fragmentation ultimately causes the diminishment of ecosystem services such as nutrient cycling and water purification within these areas, as well as loss of aquatic and other habitat. Land ecosystem fragmentation is caused by residential development, largely from greenfield development where the outer suburb development expands the urban boundary. Most of Canada's settlements are in areas of productive farmland, meaning that, as cities expand, much of the land subsumed is farmland rather than natural areas. For example, of the approximately 6386 km^2 that make up four Regional Municipalities in the Greater Toronto Area (GTA), excluding Toronto, (i.e. Halton, Peel, Durham and York), 2861 km^2 or 44.8% was classified as farmland by Statistics Canada in 2001, down from 51.8% in 1986.[5] Most of the farmland in the GTA is prime farmland. Studies have identified land conversion for agriculture as the main driver of reductions in ecosystem services and biodiversity through habitat loss and fragmentation. There is evidence, however, that urbanization is directly responsible for species endangerment and that urbanization degrades ecosystem services to a greater degree than conversion to agriculture.[6]

- **Regional wildlife impacts**: Species become endangered, extirpated or threatened due to many factors, some of which are attributable to the residential and commercial sectors while others are a result of activities in other sectors such as forestry, agriculture and mining. Habitat destruction is a major factor leading to reduction of numbers of species and the viability of populations. In Canada, it is estimated that 79% of endangered species are threatened by habitat loss.[7] Environmental contamination, climate change and the presence of introduced invasive species are other factors that can, in part, be linked to residential development and use.

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[4] Environment Canada. 2004. *Threats to Water Availability in Canada*. http://www.nwri.ca/threats2full/intro-e.html

[5] Tomalty, Ray and Don Alexander for CMHC. 2005. *Smart Growth in Canada: Implementation of a Planning Concept.*

[6] Gagne, Sara A. and Lenore. 2007. *Effect of landscape context on anuran communities in breeding ponds in the NCR* [National Capital Region]. *Landscape Ecology,* 22:205-215

[7] Venter, Oscar, Belland, Brenna, Nemiroff, Leah, Brodeur, Nathalie N., Dolinsek, Ivan J., Grant, James W.A. 2006. *Threats to Endangered Species in Canada. Bioscience.* 2006. Vol. 56, Issue 11

- **Global climate change**: The main environmental challenge of SCP in Canada is climate change. Climate change is a global crisis that is putting the spotlight on many urban process issues such as land clearing to accommodate urban sprawl, poor urban design, car dependency, and energy-inefficient building construction techniques. This is a two-way interaction. On the one hand, cities will be strongly affected by changing weather patterns (e.g., more muggy days/smog alerts, water supplies put at risk) and are not well protected against extreme weather events such as flooding and hurricanes. On the other hand, urban areas are responsible for the majority of greenhouse gas emissions in Canada, primarily from transportation, building heating/cooling, and industry, and are therefore a driving force of climate change. SCP has to grapple with this dual reality by aiming to mitigate climate change by reducing GHG emissions and by preparing for and adapting to the consequences of climatic disruption that are now considered inevitable. Climate change adaptation is affecting northern climates perhaps more than others, since they are facing noticeable increases in temperature, ice and snow melting, wildlife disruptions, etc. This is requiring proportionately more municipal funding for being reactive to climate change than for being proactive through SCP.

- **Global biodiversity decline and ecosystem services**: Biodiversity decline is discussed extensively in literature.[8] Globally, biodiversity is being lost at an alarming rate. Extinction rates are rising by a factor of up to 1,000 above natural rates.[9] Every year, between 18,000 and 55,000 species become extinct. A key contributing factor in the decline of biodiversity is loss of habitat. Biodiversity underpins many of the ecosystem services of the planet. Ecosystem services are the benefits that people obtain from ecosystems, including food, natural fibers, clean water, regulation of pests and diseases, medicinal substances, recreation, and protection from natural hazards such as floods.[10] The Millennium Ecosystem Assessment, conducted on behalf of the United Nations, assessed the consequences of ecosystem change for human well-being. The assessment concluded that, over the past 50 years, humans have changed ecosystems more rapidly and extensively than in any comparable period of time in human history and this has resulted in a substantial and largely irreversible loss in the diversity of life on Earth.[11] Gains in human well-being and economic development have been achieved at growing costs in the form of the degradation of many ecosystem services, increased risks of nonlinear changes, and the exacerbation of poverty for some groups of people. The Millennium Assessment found that land use change is the most important driver for provisioning, supporting, and regulating ecosystem services and for biodiversity.[12]

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[8] See, for example: *Canadian Biodiversity website*. http://canadianbiodiversity.mcgill.ca/english/index.htm

[9] Planet Arc. 2007. *UN Urges World to Slow Extinctions: 3 Each Hour.*

[10] Hefny, Manal, Elvira Pereira, Cheryl Palm for the United Nations Millennium Ecosystem Assessment 2003. *Ecosystems and Human Well-Being: A Framework for Assessment –*. Chapter 3*: Ecosystems and Human Well-being*. http://www.millenniumassessment.org/en/Framework.aspx

[11] United Nations. *Millennium Ecosystem Assessment*. http://www.millenniumassessment.org/en/About.aspx#

[12] Bohensky, Erin, Simon Foale, Cheryl Palm. *Condition and Trends of Ecosystem Services and Biodiversity*. Chapter 8. http://www.millenniumassessment.org/documents/document.346.aspx.pdf

- **Global systems response to regional contamination**: Arctic contamination is an excellent example of unanticipated negative results of pollution that result from the global environment acting as one system. Some chemicals are accumulating in the Arctic, in particular those that are volatile and therefore can be transported through the atmosphere. Long-range atmospheric transport (LTRAP) is by far the largest source of chemical contaminants to the Arctic marine environment.[13] Contaminants are transported to the Arctic through a process known as cold condensation (or the "grasshopper effect"). This mode of transport is the result of repeated volatilization of contaminants in warmer regions that are then transported and deposited in cooler regions. Contaminants are also brought to the Arctic by marine currents and river discharges. Concentrations of mercury have been reported to be increasing in the air, sediments and in certain biota (beluga and ringed seals) in the Arctic. The major source is considered to be LTRAP. Up to 50% of various metallic atmospheric contaminants in the Arctic are thought to be from fuel burning from sources in the Northern Hemisphere. Numerous organic contaminants that are neither produced nor used in the Arctic are also transported to the region through LTRAP.

Challenges

- **Global resource depletion [E1]**: With the sharp rise in fuel and food prices in 2008, Canadians are continuing to realize that we all must learn to live with fewer operating resources, such as less water and energy, and less capital resources that go into building our homes, home furnishings and appliances, vehicles, urban infrastructure, etc. Since public and private sector awareness is increasing, this is driving the appetite for SCP. But municipalities face pressure to allow individuals to continue thriving on higher-impact lifestyle choices such as large single detached houses, outer suburb living, and car culture. This prevalent "consumer lifestyle" that contributes greatly to resource depletion is, therefore, also a challenge to SCP.

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[13] Canadian Department of Fisheries and Oceans (DFO). 1998. *Chemical Contaminants in Canadian Aquatic Ecosystems*. http://publications.gc.ca/control/publicationInformation?searchAction=2&publicationId=75977

2.3   FINANCIAL/FISCAL/ECONOMIC ISSUES

The main economic, fiscal, and financial drivers and challenges of SCP in Canada are:

Drivers

•   **Federal Gas Tax Fund** – The Federal Gas Tax Fund (GTF) was presented in the 2005 Federal Budget under the "New Deal for Canada's Communities". Since introduction, the federal government, provinces and territories have entered into agreements respecting the transfer of federal gas tax revenues as well as the transfer of funds for public transit, with a funding scheme that is based on population per capita metric. The purpose is to deliver long-term, stable and predictable funding to municipal infrastructure with a long-term vision for Canadians to "achieve a higher quality of life and standard of living"."[14] When the program began in 2005, the total funding was set at $600 million per year, with an incremental increase to $2 billion annually in 2008, which will be continued into 2014 as stated in Budget 2008.[15] The Gas Tax Fund is, therefore, driving municipalities to pursue SCP through these funding agreements.

Challenges

•   **Infrastructure deficit [F1]** – The infrastructure deficit of Canadian municipalities has reached $123 billion and Canada has used up 79 percent of the service life of its public infrastructure.[16] Local governments face pressures to build/update transit facilities, drinking water and sewage systems, and extend urban road networks. Deteriorating infrastructure entails massive loss of potable water, substandard sewage treatment, congested roads, inefficient transit systems, and other consequences with important environmental, health, social and economic dimensions. On one hand, SCP may entail a higher level of infrastructure investment in the short term (e.g., increased transit expenditures or setting up a composting service). On the other hand, SCP can help address the infrastructure squeeze by achieving long-term savings through better management of growth (e.g., by reducing demand for expanded facilities). Effective policy integration and good long-term planning can save resources and, therefore, money.

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[14] Department of Finance, Government of Canada. *Budget 2005: A New Deal for Canada's Communities*. Feb. 23, 2005. http://www.fin.gc.ca/budget05/pamph/pacome.htm

[15] Infrastructure Canada, Government of Canada. *Gas Tax Fund*. Published Feb. 27, 2008. Accessed May 9, 2008. http://www.infrastructure.gc.ca/ip-pi/gas-essence_tax/index_e.shtml#table

[16] Mizra, S. for the Federation of Canadian Municipalities. 2007. *Danger Ahead: The Coming Collapse of Canada's Municipal Infrastructure*.

- **Revenue squeeze [F2]** – Municipalities in Canada are increasingly caught in a financial vice. On the one hand, provincial governments are transferring greater responsibilities (e.g., for transit operations, social services, affordable housing, environmental planning, and infrastructure provision) to municipalities, but increased financial transfers do not often accompany these responsibilities. On the other hand, raising property taxes is seen as regressive and ratepayers have made it clear that they are not willing to tolerate ever-increasing property taxes. These combined trends are forcing municipal governments to increase their use of alternative revenue sources, such as new taxes, user fees, private-public partnerships, and development charges. While these new approaches to revenue generation provide access to funds in the short-term, they cannot provide the level of funds needed to develop long-term infrastructure planning.

- **Funding assigned to urban development details rather than high-level planning [F3]** – One of the key challenges of SCP is that, typically, most provincial funding is for materials, goods and tangible services as opposed to broad planning processes. This means that the money is funnelled much more to the details rather than the key strategic moves for a community.

- **Lack of funding and other incentives for new affordable housing [F4]** – The responsibility for funding affordable housing was shifted from the federal to municipal governments in the 1990s.[17] The lack of affordable housing in downtown cores has pushed people into buying housing in cheaper suburban areas. Additionally, municipalities impose zoning restrictions on manufactured and mobile housing, group housing, and rooming houses; and zone only small amounts of land for multi-family and small-lot housing. This lack of appropriate funding to ensure inclusive urban development limits the effectiveness of SCP in many municipalities.

- **Underfunding of transit by provincial governments [F5]** – Provincial governments cut or reduce their responsibility to fund transit infrastructure and services, pushing the costs onto the municipalities. Some examples are Ontario and the Greater Toronto Area, Quebec and the Montreal Transit Authority, and Nova Scotia and the Halifax Regional Municipality. This increasing municipal responsibility to fund regional transit systems proves challenging to municipalities wishing to properly include transportation in their SCP.

- **Lack of financial incentives/compensation for municipalities that forgo development [F6]** – Municipalities and property owners that are supposed to forgo development in order to save agricultural land or green space to support the region's development plan usually do not receive any financial rewards or compensation from other areas in the region. These areas usually continue development regardless of the region's plans, thus challenging municipal goals to slow urban sprawl under plans such as SCP.

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[17] Pomeroy, S (2007). *Where's the Money Gone? An Analysis of Declining Government Housing Expenditures.* Report for the Canadian Housing and Renewal Association.

- **Lack of authority to implement revenue-generating mechanisms to support plans [F7]** – Municipalities' only sources of revenue are property taxes and user fees. Provincial governments have not given regional authorities the power to impose road pricing mechanisms. As an example, Metro Vancouver (formerly known as the Greater Vancouver Regional District, GVRD) had planned to impose a levy on vehicle owners to pay for transit, but this was not approved by the provincial government.[18] This lack of authority limits municipalities' innovation due to insufficient funding for progressive SCP development and implementation.

- **Abundance and low cost of farmland [F8]**. A disincentive to SCP common to much of Canada is the abundance and low cost of farmland that surrounds them. Unlike in the Lower Mainland of BC, southern Ontario, and in the St. Lawrence River Valley in south-western Quebec, there are no strong imperatives to prevent development on farmland in regions such as the Prairies, allowing for unfettered conventional greenfield development. To further complicate matters, city residents that have recently left their rural heritage may be additionally biased to prefer conventional communities with single family homes (which more closely resemble farm houses) and to perceive private automobiles as the preferred mode of transportation. These aspects challenge municipal goals to slow urban sprawl under plans such as SCP.

- **Changing structure of the agricultural sector [F9]**. The key issue faced by rural municipalities is the changing structure of the agricultural sector. Family-owned farms have been disappearing, being bought out by large industrial farming conglomerates.[19] Farmers are increasingly tenants rather than owners of farmland, essentially becoming sharecroppers. As a result, the social structure of rural farming communities is changing. Furthermore, ever-increasing mechanization means that still fewer people are working on farms, leading to depopulation of farming communities in favour of migration to cities. These trends complicate efforts for SCP in rural communities.

- **Developers' financial influence [F10]** – The political economy of land development may contribute to the difficulty in implementing SCP. Some elected officials receive, or hope to receive, campaign donations from powerful real estate interests and this may weaken their resolve to implement plans that curb expansive land development. In stagnant and slow-growth communities, developer pressure is manifested differently, whereby <u>any</u> development may be welcomed in the name of short-term economic development, even if these developments do not fit with the community's long-term interests.

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[18] Office of the Auditor General of British Columbia. 2002. *Transportation in Greater Vancouver: A Review of Agreements Between the Province and TransLink, and of TransLink's Governance Structure*. Auditor General's Report 2 for 2001/2002 http://oag.bc.ca/PUBS/2001-02/Report2/TransLink.pdf http://oag.bc.ca/PUBS/2001-02/Report2/TransLink.pdf

[19] Friesen, J. 2007. "They're like sharecroppers in the old days" in *The Globe and Mail* Nov 24, 2007.

- **Trade routes opening through the north [F11]** due to rising Arctic temperatures from climate change, causing potentially radical changes in the price and flow of goods through northern Canada. This relatively rapid change is limiting the ability of many northern communities to pursue SCP since resources and financing are being applied to urban sprawl and expanding commercial ventures rather than progressive, holistic planning for sustainability of the existing community.

2.4 REGULATORY ISSUES

The main regulatory drivers and challenges of SCP in Canada are:

Drivers

- **Federal Gas Tax Fund** – The Gas Tax Fund (GTF) was presented in the 2005 Federal Budget under the "New Deal for Canada's Communities".[20] Municipalities automatically receive these funds but, under provincial/territorial Agreements, are required to develop an Integrated Community Sustainability Plan (ICSP) by a certain date, further elaborated in Section 3.2.2 and 3.2.3.[21] This federal requirement is, therefore, driving municipalities to pursue SCP as a means of securing this funding.

- **Provincial emissions reduction goals** – Like states in the U.S., Canadian provinces are increasingly looking to develop their own provincial emission reduction goals independent of the federal government. For example, British Columbia's recently introduced Greenhouse Gas Reduction Targets Act (November 2007) aims to reduce GHG emissions in the province by 80% below 2007 levels by 2050. Such emission reduction plans are further strengthening the potential of SCP.

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[20] Department of Finance, Government of Canada. Feb. 23, 2005. *Budget 2005: A New Deal for Canada's Communities*. http://www.fin.gc.ca/budget05/pamph/pacome.htm

[21] Infrastructure Canada, Government of Canada. Published Feb. 27, 2008; Accessed May 9, 2008. *Gas Tax Fund*. http://www.infrastructure.gc.ca/ip-pi/gas-essence_tax/index_e.shtml#table

Challenges

- **Lack of provincial and territorial requirements for SCP [R1]** – Like its conventional counterpart, SCP takes place within – and is conditioned by – the legislative and policy context provided by provincial and territorial governments. The degree of provincial control on the processes for the development and regulation of planning varies from jurisdiction to jurisdiction, but all provinces require municipalities to provide a framework for development and land use regulation. At a minimum, provincial planning or municipal government acts lay out the municipality's responsibility in matters related to the creation of a system to control development, subdivide land, adopt zoning by-laws, provide for avenues of appeal, and involve the public in the planning process. Some provinces require substantially more than this: comprehensive land use planning (usually focused on land use, but including transportation, natural area protection, etc.) is required of municipalities in Alberta, Manitoba, Ontario, Quebec, and the Yukon. However, *no provinces require all their municipalities to undertake anything like a full-fledged sustainable community plan, with the possible exception of the Regional Growth Strategies that are required of certain fast growing metropolitan areas in BC.*[22] Province-specific requirements for SCP are covered in more detail in Section 3.2.2.

2.5 GOVERNANCE ISSUES

The main governance drivers and challenges of SCP in Canada are:

Drivers

- **Planners' increasing positions of leverage in rapidly growing metropolitan areas**, which can favour high-quality design. The City of Vancouver, for instance, is well-known for its emphasis on good urban design that allows higher-density projects to fit into the existing urban fabric with a minimum of resistance from neighbourhood groups. This increased leverage allows greater success for SCP in these fast-growing cities.

- **Powerful local champions** – Some SCP initiatives are driven by powerful champions of sustainability. For example, the Guelph, ON mayor launched an ambitious city-wide program to reform planning processes and achieve more sustainable outcomes.[23] This sustainability champion drove this process with strong normative visions, backed up by staff with concerns about infrastructure costs and other issues related to conventional development patterns.

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[22] Amelia Clarke for Commission for Environmental Cooperation. 2006. *Regional Sustainable Development Strategies: Variations in Formulation and Content in Nine Canadian Case Studies and the Implications for Eco-Procurement.* http://cec.org/files/PDF/ECONOMY/NAGPI-Canadian-Case-Studies_en.pdf

[23] a) Tomalty. R. et al. for the Pembina Institute. 2007. *Ontario Community Sustainability Report — 2007*;
b) Kevin Washbrook and Ray Tomalty for Natural Resources Canada. 2004. Smart Growth and the Federal Government..
c) Tomalty, R. and D. Curran. 2003. "Living it Up." Alternatives Journal 29 (3): 10-18.

• **Ecosystem management organizations** – Organizations pursuing the clean-up, conservation, and protection of defined ecosystems are important allies for SCP. For example, the City of Toronto has seen the intensification of various central neighbourhoods and the revitalization of obsolete industrial lands over the last decade or so, due in part to the efforts of two ecosystem management organisations. The *Toronto and Region Conservation Authority*, one of Ontario's unique watershed governance bodies, has been very active in driving more integrated planning as a way of reducing toxic run-off to the city's water bodies and preserving ravines and valley lands.[24] The *Waterfront Regeneration Trust*, which sprang from the former Royal Commission on the Future of Toronto's waterfront, has also strongly promoted ecosystem planning in the region and is responsible for the creation of the 700-kilometre waterfront trail hugging the northern and western shore of Lake Ontario.[25]

Challenges

• **Lack of policy integration between levels of government [G1]** – Provincial and/or federal governments hold back funding for transit and/or actively fund highway expansion that is not supporting municipalities' planning goals. For example, other levels of government have repeatedly ignored Metro Vancouver's transit funding priorities that support their regional land use plan whereas funding for a high-speed rail link between the airport and the downtown core and highway expansion has been pushed through.[26] These issues severely limit the implementation potential for SCP in many municipalities, especially faster-growing cities.

• **Planning office power [G2]** – Planning offices typically control a tiny fraction of municipal budgets and rely on the cooperation of other departments for the implementation of planning policies. Other departments have their operating cultures and substantive standards, and officials are not always open to modifying their operations in order to achieve wider planning goals formulated by "theoreticians" in the planning department. This challenge is even more prevalent for SCP, which explicitly cuts across departmental responsibilities.

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[24] Toronto and Region Conservation. Accessed May 20, 2008. Website: *Conservation for the Living City*. http://www.trca.on.ca

[25] Waterfront Regeneration Trust. Accessed May, 20, 2008. Website: *Waterfront Regeneration Trust – 2007 Accomplishments*. http://www.wrtrust.com/about-accomp-2003.html

[26] TransLink. Accessed May 20, 2008. Website: *Keep Translink Public – About Us*. http://www.keeptranslinkpublic.ca/background.php

- **Municipal powers [G3]** – Municipalities cannot, on their own, create sustainable communities without the coordinated assistance of upper levels of government. This is due to the fact that municipalities are limited in their legal powers and the financial resources available to them to affect growth and development. Provincial governments set the context of municipal planning through Planning Acts or Municipal Acts, environmental standards transportation system standards, building codes, and other means. Furthermore, the revenue sources of Canadian municipalities are limited: local governments collect only a small portion of total government tax revenues in Canada. Provincial and federal spending in urban areas (e.g., on highways, transit, or airports) have a major impact on development patterns and economic well-being. In developing and implementing SCP within this context, the challenge for municipalities is to cooperate extensively with senior levels of government to ensure that long-term plans can be effectively implemented.

  Provinces can create statutes allowing certain cities to have limited individual autonomy, thus separating these *charter cities* from the provisions of certain municipal legislation.[27] Establishing a municipality as a *charter city* within its province could, theoretically, allow the city certain latitude or autonomy in sustainable community planning. However, the experiences of Canada's charter cities suggest that legal empowerment through a charter has been an elusive goal for those cities.[28] According to a municipal lawyer, "Charter cities are [still] susceptible to the political actions of the provincial legislature since there is no legal requirement for the provincial government to obtain the consent of these cities on modifications to their charters."[29]

- **Regional governments [G4]** – It was expected that regional governments would allow for better coordination of regional planning and yield less land-consuming and automobile-oriented modes of development. However, regional governments have proven most effective in consolidating and managing services, such as transit, schools, emergency services, and water and wastewater management. They have been somewhat less successful in controlling land development, due to their limited influence with lower-tier municipalities, which have the main land use levers in their hands. Municipal mergers in the 1990s and early 2000s helped address this issue, but the political and implementation challenges of forming regional governments continue to pose further difficulties, especially for the land use aspects of SCP.

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[27] Silva, Luis. University of Western Ontario. 2005. Master of Public Administration thesis: *An Analysis of the Myths and Realities of Empowering Toronto Through a City Charter*. http://www.localgovernment.ca/show_libary.cfm?id=161

[28] Canada's charter cities currently include: Vancouver, BC; Lloydminster, a border city having charters with both AB and SK; Winnipeg, MB; Montreal, Longueuil, Gatineau, Lévis, and Quebec City in QC; Saint John, NB; Halifax, NS; Charlottetown and Summerside, PE; and Corner Brook, Mount Pearl, and St. John's in NL. Source: see footnote 27.

[29] Lidstone, Donald (municipal lawyer) in a report for the Federation of Canadian Municipalities. April 21, 2004. *Assessment of the Municipal Acts of the Provinces and Territories*. p.17. Source: see footnote 27.

- **Lack of regional planning and/or transit commission [G5]** – Without a regional planning commission, there is no authority to create a transportation plan or to advocate for more sustainable land use and transportation patterns at the regional level. Without a regional development plan, surrounding municipalities tend to compete with each other for development by offering lower taxes and development therefore becomes fragmented. Some examples are Calgary and the Greater Toronto Area, both of which have no regional planning authority. Montreal has a regional planning commission, but its members have little authority or power, as lower-tier municipalities can veto its decisions.[30] A similar issue is that provincial governments, in two instances, have stepped in to address a lack of coordinated regional planning. While the overall result assists in regional coordination, it may come at the expense of individual municipal plans or goals. In Alberta, the province is making key transportation infrastructure decisions that undermine the efforts for SCP at the municipal level; for example, a double ring road is being built in Calgary that will greatly increase the development footprint of the city in opposition to the City's efforts to densify. Similarly, the experience in Southern Ontario of the provincial Places to Grow initiative has some communities exceeding their growth projections within much shorter timeframes (e.g., Waterloo, ON) because they have been identified as development nodes within a greater regional plan. These communities must adjust their official plans and infrastructure master plans to accommodate the regional requirements.

- **Lack of enforcement of regional development plans [G6]** – Regional governments have no mechanisms for enforcement against member municipal governments who do not follow the region's development plan. Provincial governments, through their municipal boards, have the authority to overturn municipal development decisions that are counter to the region's planning goals, however they are not used. Additionally, regional governments do not have financial control over infrastructure decisions and therefore cannot use this "stick" to get municipalities to follow the region's smart growth policies. Without enforcement tools, regions must negotiate with municipalities, which often leads to original regional development goals becoming watered down through the need for consensus. Some examples are Metro Vancouver and the Greater Toronto Area.[31] Genuine efforts to bring about SCP in Metro Vancouver have been limited to downtown Vancouver and a few other pockets, mostly in and around the core, despite the *Sustainable Region Initiative*, adopted by the Region in 2001 with the goal of focusing 70% of growth in designated Growth Concentration Areas at existing or planned rapid transit hubs and corridors, conventional, land consuming development prevails. The issues behind the overall failure to instil the development of more sustainable communities include: the lack of an adequate mix of residential and employment land uses; weak integration of transportation and land use planning; and lower-tier municipalities' lack of compliance with the regional government's sustainability policies and the absence of an enforcement mechanism. These are serious implementation challenges for SCP in municipalities with regional development plans.

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[30] Tomalty, R and Alexander, D for the Canada Mortgage and Housing Corporation. August 2005. *Smart Growth in Canada: Implementation of a Planning Concept*. http://www.smartgrowth.ca/research/SmartGrowth.pdf

[31] Ibid.

- **Municipal staff resource availability [G7]** – Municipal offices are already over-stretched, so often that they cannot take on anything innovative. A good example is the economic imbalance between energy sector wages and non-energy sector wages in Alberta, where the pursuit of higher wages is driving out existing city planners in Edmonton and Calgary, and dissuading experienced planners or new graduates from locating to these cities. While this is a challenge to SCP, it is also important to note that SCP initiatives that are driven by another organization, but which include municipalities as key partners, can still be very successful and important.

- **Capacity-building in smaller centres [G8]** – There appears to be little capacity building for SCP going on in smaller centres in Canada. Election cycles constantly bring in new leaders that might have very little exposure to sustainable community planning and any efforts to train and educate them are lost with the next election round. In addition, smaller centres have much higher development and implementation costs for SCP relative to their size, due to the economies of scale.

- **Northern community capacity-building [G9]** – First Nations communities are struggling to recover their cultures, governance systems, and social well-being after hundreds of years of oppression and decimation. Therefore, general capacity-building, but not capacity-building for the purposes of SCP, is a higher priority, much like climate change adaptation is a higher priority than mitigation in some northern communities that are most affected by climate change.

- **Organisational support [G10]** – Municipal departments sometimes have competing priorities and standards that can undermine sustainability objectives of SCP. This is apparent, for instance when innovative urban designs put forward by developers are supported by the planning department but opposed by the transportation, parks, and fire departments.[32]

- **Changes in municipal office [G11]** – Elections and changing personalities on municipal councils make it difficult to maintain continuous championing of SCP initiatives.

- **Lack of political will in face of development pressure [G12]** – Regardless of economic, social, and environmental goals of community plans, municipal and sometimes provincial political will in Canada can wane when faced with pressure from land developers. This is a significant challenge for SCP, especially in the implementation phase, when developer pressure can be the fiercest.

- **Lack of political will to prevent undesirable development patterns [G13]** – Provincial and municipal governments can lack political will to create a system of rates and charges that would ensure new development is not subsidized by existing areas, or to ensure the true economic, social, and environmental costs of infrastructure services are borne by sprawling areas rather than by other ratepayers. This ends up severely limiting the financial and sustainability impacts of SCP.

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[32] Steuteville, Robert, ed. 2001. *New Urbanism: Comprehensive Report and Best Practices Guide.* Ithaca: New Urban Publications.

- **Aboriginal land claim settlements [G14]**, where current focus among governments and aboriginal group leaders is to sort out long-standing disagreements on land claims.

- **Different types of aboriginal self-governance agreements [G15]** for First Nations reservations, regions, and territories. For example, the Yukon and Northwest Territories have more conditions attached to federal grants than does Nunavut. Part of the challenge for SCP is the limited authority for environmental protection in some of these communities, especially in the face of external development pressures.

2.6   SOCIAL ISSUES

The main social and societal drivers and challenges of SCP in Canada are:

Drivers

- **Human health issues** – Health issues are increasingly linked to community planning processes, largely due to new research showing the impacts of urban processes on community health. For example, recent studies have shown that major Canadian urban centres have levels of ambient air pollution high enough to pose a health risk. The major sources of urban air pollution are the transportation system, industrial processes, and energy production. Other research has focused on the link between urban design (including street design, the location and design of physical activity areas, and the mix of land uses) and physical activity levels (and body weight) in children and others. Other overlaps between urban planning and public health concerns include the quality of drinking water and soil contamination. SCP offers an opportunity for public health officials and urban planners to ally themselves on strategies that intersect their domains. Public health issues related to environmental health and socio-economic determinants may continue to be a driver of change in the coming years.

- **Heightened environmental awareness** due to mounting environmental impacts and the increasingly evident contrast of "sterile" urban ecosystems with the natural environment. Environmental awareness is particularly apparent in BC, where the daily experience of many people throughout the province includes mountain vistas and ocean views. Environmental issues have been prominent in the public and political discourse in BC longer than anywhere else in Canada, dating back to regional planning efforts of the 1960s and continuing through the regional growth management plans of the 1990s and 2000s in the province's larger agglomerations. This increasing awareness exists across Canada, demonstrated in part by the rise of public concern for environmental issues in all levels of Canadian politics. This awareness serves as an important driver in promoting, developing, and implementing SCP.

- **Increasing awareness and concern over energy-related greenhouse gas emissions** – This concern has been acutely heightened by the continued development of Alberta's oil sands. This increased awareness is spurring interest in ways to reduce emissions in other sectors, including community planning.

- **Concern over rapid urban growth from booming oil economy**. The two largest cities in the prairies face distinctive issues. Both Edmonton and Calgary are experiencing extremely high rates of population growth driven by the oil industry and, in particular, Alberta's oil sands development. The sprawled form of development in both these cities is raising interest in managing growth more aggressively and finding alternative community development patterns, thus is acting as a driver for SCP.

- **Northern community desire for independence.** Canada's territories (i.e., Yukon, Northwest Territories, and Nunavut) and northern provincial communities have a much larger share of aboriginal peoples and have distinct drivers from other areas of the country. One of the main things driving sustainable community planning in Canada's territories and northern communities is the constant desire to once again be free and independent. The less sustainably northern communities grow, the more dependence they have on outside resource supplies (e.g., food, energy, other goods) and support from infrastructure, technology implementation, etc. For example, Whitehorse, YK has done much notable work over the past seven years, including green building competitions, multiple design charrettes, and other initiatives instigated partly by the Energy Solutions Centre in Whitehorse. This desire for independence acts as a driver for SCP in northern communities.

- **Undesirable attributes of rapidly-growing communities –** The size, growth rate, growth patterns, traffic congestion, housing prices, etc. of Canada's fastest growing metropolitan areas are huge challenges in successfully implementing the most well-meaning of sustainable community plans. For example, the Toronto region is experiencing serious problems related to its sheer size, growth rate and growth patterns. Traffic congestion (and the associated economic loss), air pollution (and associated health effects), commute times, housing prices, the urban heat island effect, gradual loss of ecological features, degradation of urbanized waterways, local extinction of flora and fauna, and other development-related problems have reached serious levels and are prompting both public and government action.[33] At the same time, these clear manifestations of unsustainable development patterns make residents and developers receptive to SCP initiatives.

- **Strong advocacy from non-governmental organizations** for more sustainable approaches to community planning. For example, Smart Growth BC, the BC Real Estate Foundation, and BC Energy Aware are good examples of effective, highly influential organizations that push the sustainability agenda by carrying out research on community sustainability, and providing resources (e.g., toolkits, best practices, expertise) and funding to assist municipalities in exploring alternative planning approaches. In this respect, Smart Growth BC is especially active with the Smart Growth on the Ground program facilitating SCP in several municipalities, including Maple Ridge and Oliver. This strong NGO advocacy helps drive SCP in respective communities.

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[33] Tomalty, R and Alexander, D for the Canada Mortgage and Housing Corporation. August 2005. *Smart Growth in Canada: Implementation of a Planning Concept*. http://www.smartgrowth.ca/research/SmartGrowth.pdf

- **Strong community identity and initiatives in some smaller urban centres**. In smaller centres, most SCP initiatives undertaken at the municipal level are driven by local conditions and champions. In Okotoks, a carrying capacity approach to SCP was taken when the town realized it could not continue to grow indefinitely without exceeding its available water supplies and stressing its immediate environment.[34] In Canmore, the municipality is working with Natural Step Canada to develop a sustainable approach to community planning.[35] This strong local identity helps drive SCP in their respective communities and helps inspire it in others.

Challenges

- **Population growth and urbanization [S1]** – Accommodating population growth is a challenge for many of Canada's urban communities. In addition, Canada is one of the most highly urbanized countries in the world. In 2001, about 80% of Canadians lived in urban areas of populations greater than 10,000, and 64% live in large urban areas with over 100,000 inhabitants.[36] Between 2001 and 2006 the population of urban areas (greater than 10,000) grew by 5.8%, while the country's total population grew by only 5.4%. In particular, over next 20 years, 90% of Canada's population increase is expected to continue to occur in four urban areas: BC's lower mainland and Vancouver Island, the Calgary-Edmonton corridor, the Golden Horseshoe around the west end of Lake Ontario, and the Montreal region.[37] The northern community of Iqaluit has also been experiencing explosive growth, as have many smaller communities in Alberta such as Fort McMurray and Grande Prairie.[38] This rapid pace of growth is a double-edged sword. It generates economic activity and, for those communities within municipal jurisdiction[39], government revenues that increase the capacity of local governments to achieve social and environmental goals. However, it also poses serious environmental risks and administrative challenges to municipalities and/or surrounding regions in their ability to accommodate the pace of development and meet the range of other sustainability goals. For example, in the rapidly growing Prairie cities of Edmonton, Calgary, Regina, and Saskatoon, the escalation in house prices may be putting a damper on SCP efforts. In contrast to big cities in BC, where skyrocketing housing costs are seen as an important reason to achieve more compact and efficient use of a limited land base, in the rapidly growing cities on the Prairies, aggressive community planning intervention (i.e., growth management) is discounted on the grounds that it would limit the supply of new land for development and increase housing costs. Conversely, the recent strong growth in

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[34] Town of Okotoks. Accessed May 20, 2008. Website: *Sustainable Okotoks – Foundations*. http://www.okotoks.ca/sustainable/foundations.asp

[35] Town of Canmore. Accessed May 20, 2008. Website: *Town of Canmore – Natural Step*. http://www.canmore.ca/living/our-environment/natural-step.html

[36] Statistics Canada. 2007. *Portrait of the Canadian Population in 2006, 2006 Census*. Statistics Canada Catalogue no. Catalogue no. 97-550-XIE. http://www12.statcan.ca/english/census06/analysis/popdwell/pdf/97-550-XIE2006001.pdf

[37] David Suzuki Foundation. 2003. *Understanding Sprawl: A Citizen's Guide*. http://www.davidsuzuki.org/Climate_Change/Sprawl.asp

[38] Statistics Canada. 2007. *Census trends for Census subdivisions* (table). 2006 Census. Statistics Canada Catalogue no. 92-596-XWE. http://www12.statcan.ca/english/census06/data/trends/Index.cfm

[39] Note: many oil sands developments are not within municipal jurisdiction

Saskatoon and Regina **–** driven by a robust economy linked partly to recently-discovered uranium resources, modest oil reserves, and the province's proximity to Alberta's oil sands for providing fly-in work camp labour – is allowing these cities to finally implement SCP policies that have been "on the books" since the late 1990s. One of the reasons for the commercial success of more recent high-density development has been a dramatic improvement in the quality of architectural and urban design, a factor that, at once, attracts a market and reduces resistance to more compact development.

- **Urban population decline [S2]** – While rapid growth can stress administrative planning capacity and environmental carrying capacity, economic and population decline in presents another set of issues to a community undertaking SCP. Outside major metropolitan regions in Canada, growth may be modest or even negative, as it is in many small towns. Indeed, between 1996 and 2001, the population living outside of larger urban areas declined by 0.4%.[40] For example, the populations of Newfoundland & Labrador, New Brunswick and Saskatchewan have all declined during the past ten years, even though many larger Maritime communities continue to grow. Under these conditions, planners cannot rely on development activity and the tax revenue it brings in to address sustainability concerns.

- **Demographics [S3]** – Understanding demographics adequately is a big piece of SCP. Demographics can be either a driver or challenge, depending on the demographic issue, although it often presents more of a challenge. For example, the aging population is tending to prefer more amenities, which typically means that a less suburban model is desired. This has a big impact on where they settle, what kind of communities are desired, how to satisfy their mobility challenges (e.g., transit or transportation services are difficult in rural areas), and how to provide appropriate housing. It also creates changing pressures on municipal infrastructure and services, where aging populations present potential water quality challenges in terms of increased pharmaceutical use and related environmental releases. That said, the family orientation of Calgary is expected to continue, despite the greying of the population elsewhere.

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[40] Statistics Canada. 2007. *Census trends for Census subdivisions* (table). 2006 Census. Statistics Canada Catalogue no. 92-596-XWE. Ottawa. Released December 4, 2007. http://www12.statcan.ca/english/census06/data/trends/Index.cfm

- **Widening gap between rich and poor [S4]** – There is a widening income gap in Canada among the best and worst off economically.[41] In spatial terms, this is manifested in the ever sharpening disparities among neighbourhoods, with some experiencing declining fortunes while others within the same city attract new investment and an "upscale" population. Neighbourhoods catering to new immigrants in larger cities may be especially prone to neglect. This poses a challenge for SCP as it renders social integration more difficult and raises questions about the differential impact of sustainability strategies on different neighbourhoods and social groups. For example, policies intended to stem the spread of the urban area may inadvertently raise land prices and housing costs. As costs creep up, lower-income households may be forced to decamp from traditional immigrant or working-class neighbourhoods to more distant, less-expensive precincts on the urban fringe. As transit is often poor in these areas, access to suitable employment may become onerous or impossible. As Canada's immigration continues, some new immigrants can require significant levels of social support and can be marginalised due to lower income. These all present major challenges to SCP, especially in larger cities with higher housing prices.

- **Lack of public support for changes in development patterns [S5] –** There is a lack of strong popular support for dramatic changes to the form of development in many Canadian communities, particularly in the Prairies where these issues are not seen as especially salient. This arises from the simple fact that the negative externalities associated with unsustainable development (congestion, air pollution, commute times, infrastructure costs, housing prices, etc) are not strongly felt in medium-sized and smaller cities where traffic still flows freely, land prices are low, and the air is clean relative to much larger cities. But regardless of community size, this lack of a fundamental value shift is a huge challenge for SCP; it is difficult for SCP to succeed when people do not understand or accept that densification is the link between amenities, affordability and liveability. Once this shift is made, the awareness can become a social driver for SCP (see Heightened environmental awareness, above).

- **Lack of public follow-through and support [S6]** – Citizens may not consistently connect their desired principles to their actions (e.g. supporting the motherhood statements like "housing for all" and then protesting density down the street). The wider public, which is often only passively involved in strategic planning initiatives, may become highly active when "the rubber hits the road" and oppose elements of a sustainability plan when implementation decisions are on the immediate agenda. Within planning departments, there is rarely a culture of monitoring and reporting on progress towards planning goals to help overcome these sources of implementation friction. To address these issues, SCP must be conducted with the maximum "buy-in" of all stakeholders and should be framed within a monitoring and reporting system.

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[41] Statistics Canada. 2008. *Earnings and Incomes of Canadians Over the Past Quarter Century, 2006 Census.* Statistics Canada Catalogue Number 97-536-X. http://www12.statcan.ca/english/census06/analysis/income/pdf/97-563-XIE2006001.pdf

- **Ethic of volunteerism and community self-help [S7] –** This is a double-edged sword. On the one hand, it can help mobilize people to solve collective problems through considerable self-sacrifice, such as in the case of the impressive system of privately-created greenways that lace the banks of the Bow and Elbow Rivers in Calgary. On the other hand, it can express itself as a suspicion of government intervention and a preference for voluntary solutions that many not be as effective from a SCP point of view. For example, mandatory (i.e., top-down) regional planning in the Calgary and Edmonton areas was dissolved in the mid-1990s with no legal status to enforce plans, and was replaced by less effective voluntary cooperation among municipalities in those metro regions.[42] As such, this issue is both a driver and a challenge for SCP.

- **Lack of integration of employment planning in transportation and land use planning [S8]** – In almost all municipalities, there is difficulty or lack of sufficient integrated planning in defining where key activity nodes should be, how to get the appropriate jobs into them, and then how to plan the land and build the infrastructure to support the viability of these centres. This limits the effectiveness of the land use, density, and transportation aspects of SCP.

2.7   TECHNICAL ISSUES

The main technical drivers and challenges of SCP in Canada are:

Drivers

- **New technology** – In many fields related to community sustainability, new technology is available that could dramatically reduce environmental impacts and help achieve sustainability goals. In the community planning sector, for example, new technology is making it possible to consider the complex linkages among community processes such as land use, transportation, housing costs, air emissions and water quality. Software is available for modelling community development scenarios that link growth patterns with environment, social and economic outcomes, conducting visioning exercises, undertaking mapping of valued community features, and assessing community plans for sustainability features. Technologies such as these are drivers for SCP, in that they greatly enhance the feasibility and development of progressive, yet achievable, targets in SCPs.

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[42] LeSage, EC and Stefanick, L. Paper presented at the Canadian Political Science Association Meetings, Winnipeg, June 2004. *New Regionalist Metropolitan Action: The Case of the Alberta Capital Region Alliance*. http://www.cpsa-acsp.ca/papers-2004/stefanick-lesage.pdf

- **Growing popularity of sustainable neighbourhood planning** – Many SCP initiatives are being taken up at the sub-municipal level, such as in medium and smaller centres within larger cities. These are driven by municipalities that have incorporated sustainability concerns into neighbourhood (or "secondary") planning frameworks. Examples in Ontario are Eco-Tech Village in Milton, Markham's City Centre and Cornell developments, and the North Oakville Secondary Plan.[43] In a few cases, private developers are voluntarily incorporating green development measures in new developments. Sustainable neighbourhood planning helps advance SCP by allowing smaller-scale pilots of ideas and faster planning and implementation to show stakeholders what is possible in highly integrated, holistic planning.

- **Accumulated expertise in energetic academic institutions and think tanks** in various communities across Canada. For example, in BC, the University of British Columbia (UBC) School of Community and Regional Planning, the UBC Design Centre for Sustainability in the School of Architecture and Landscape Architecture, and Simon Fraser University's Centre for Sustainable Community Development – all well-recognized nationally for their research and education in SCP – have developed much of this expertise. In Ontario, academic institutions such as the Transportation Engineering department at the University of Toronto, and think tanks such as the Neptis Foundation[44] and the Pembina Institute[45] have helped raise awareness about the need for more sustainable approaches to community planning by quantifying the problems of "business as usual" and projecting the catastrophic consequences of inaction.

- **Market transformation from green buildings**. Albeit at the building scale, the continued green building market transformation supports the development of sustainable communities in a big way. Examples include the seminal work done by the Leadership in Energy and Environmental Design (LEED) BC Steering Committee and Green Buildings BC.

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[43] Tomalty, R and Alexander, D for the Canada Mortgage and Housing Corporation. August 2005. *Smart Growth in Canada: Implementation of a Planning Concept*. http://www.smartgrowth.ca/research/SmartGrowth.pdf

[44] Example: Neptis Foundation. September 2004. *A Response to the Ontario Government's Discussion Paper "Places To Grow: A Growth Plan For The Greater Golden Horseshoe"*

[45] Example: Burda, C. for the Pembina Institute. March 2008. *Getting Tough on Urban Sprawl: Solutions to Meet Ontario's Climate Change Targets*. http://pubs.pembina.org/reports/smartgrowth2007.pdf

- **Transportation system dependence** – At the heart of many of the issues addressed by SCP is the nature of the existing and desired transportation system. Current transportation systems are contributing to unsustainable processes and undermining efforts to move in more sustainable directions. For example, there has been a marked increase in fuel consumed for urban transportation, leading to greater impact on the environment and human health. Gains from more efficient engine technology and emission controls have been offset by the increasing number of vehicles, greater distances travelled, and increasing vehicle size. International evidence has shown that urban transportation systems that rely on private automobiles for personal transport and trucks for cargo are less competitive than those that rely on public transit and rail for cargo.[46] Most Canadian communities, outside of the very heavily populated metropolitan cores, have car/truck-based transportation systems. However, these transportation systems represent a massive investment in capital and cannot be easily reconfigured. Because SCP is a long-term integrative strategic plan, it can bring together the various levers (e.g., land use, investments, transportation demand management, public involvement) needed to shift transport focus on this issue. SCP is also driven by interest in creating new small-scale approaches to transit services in smaller centres.

- **Geographical constraints to development. -** In areas of the country where development is constrained, either physically impossible or prohibitively expensive, at least from a servicing perspective, the constraints help drive SCP to solve the space restrictions in more innovative ways. This is particularly true in the mountain valleys of BC. .

Challenges

- **Land reserves [T1] –** Many communities have 'land reserves' (e.g., 30-year land reserves), where land is approved for development far in advance of actually needing it. These land assignments prevent innovative land use alternatives and, thus, are considerable challenges to SCP.

- **Undesirable attributes of rapidly-growing communities [T2] –** The size, growth rate, growth patterns, traffic congestion, housing prices, etc. of Canada's fastest growing metropolitan areas are huge challenges in successfully implementing the most well-meaning of sustainable community plans. For example, the Toronto region is experiencing serious problems related to its sheer size, growth rate and growth patterns. Traffic congestion (and the associated economic loss), air pollution (and associated health effects), commute times, housing prices, the urban heat island effect, gradual loss of ecological features, degradation of urbanized waterways, local extinction of flora and fauna, and other development-related problems have reached serious levels and are prompting both public and government action.[47]

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[46] Jeff Kenworthy, Felix Laube, Peter Newman and Paul Barter, Sustainable Transport Research Group, Murdoch University for the World Bank. 1997. *Indicators of Transport Efficiency in 37 Global Cities*. http://www.istp.murdoch.edu.au

[47] Tomalty, R and Alexander, D for the Canada Mortgage and Housing Corporation. August 2005. *Smart Growth in Canada: Implementation of a Planning Concept*. http://www.smartgrowth.ca/research/SmartGrowth.pdf

- **Oil exploration and mining in northern Canada [T3]** is a continued challenge for SCP since industrial support and infrastructure are usually pushed faster than long-term community planning.

- **Small community developers' lack of awareness and inexperience [T4]** with non-conventional forms of development remain important obstacles to SCP in smaller centres.

2.8   LIABILITY ISSUES

The main legal and liability drivers and challenges of SCP in Canada are:

Drivers

- **Accessibility** – Human rights laws are forcing municipalities and others to provide accessible communities, thus helping to highlight the benefits of the higher-density, accessible neighbourhoods advocated in many sustainable community plans.

- **Geological hazards** – Geological hazards, such as flooding and sensitive underground water flows can be drivers for SCP. The East Clayton plan in Surrey, BC, for example, extended from the fact that the municipality had been sued, since they were allowing too much impermeable suburban development that the natural hydrological cycle of the area had been undermined, resulting in flooding.[48]

Challenges

- **Brownfield development [L1]** – Although much headway has been made in recent years, the risk and liability involved in remediating and redeveloping brownfields remain challenges to SCP, especially in larger centre with large former industrial sites.

2.9   OTHER ISSUES

The following are other challenges that do not fit easily into categories above:

- **Urban sprawl [O1]** – One of the key challenges of SCP is urban sprawl. Between 1971 and 1996, the urban population of Canada grew by 37%, while the amount of urbanized land grew by 77%.[49] Much of the land being converted to urban uses is prime agricultural land, but urbanization is also an important cause of deforestation and wetland destruction. Urban sprawl is a multi-faceted issue that arises from a wide range of causes. Many of these causes can be addressed through SCP, e.g., by integrating land use and transportation goals, setting growth boundaries, providing for ample intensification opportunities, and planning mixed-use "complete" communities. However, sprawl has

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[48] District of Squamish. October 18, 2005. *Downtown Squamish Concept Plan – Appendix 2: Supporting Technical Documents for Targets – The Headwaters Project, East Clayton, Surrey, BC*. p 168. http://www.sgog.bc.ca/content.asp?contentID=135

[49] Bunting T, Filion P and Priston H. 2002. "Density gradients in Canadian metropolitan regions, 1971 – 96: differential patterns of central area and suburban growth and change" in *Urban Studies* 39(13), pp. 2531 – 2552. http://usj.sagepub.com/cgi/content/abstract/39/13/2531

causes outside the purview of community planning, such as the rising cost of living, falling household sizes (i.e., fewer people per household), increasing social isolation, changing patterns or retail investment, the lending practices of financial institutions, and federal and provincial investment and tax policies. These forces may work to undermine SCP efforts, particularly during implementation. Conversely, urban sprawl causes public concern over the urbanization of rural land and the travel times necessary to other parts of the community. For these reasons, urban sprawl is also a driver of SCP.

- **Lack of follow-through support from stakeholders [O2]** – Sustainable community plans may achieve full or majority stakeholder agreement during *development* of their plans, but later fail in meeting their goals due to loss of stakeholder buy-in during *implementation*. A popular analysis of this problem is that communications strategies are too weak and do not sufficiently educate and engage stakeholders (e.g., planners, city/town council, developers, businesses, and the public) continuously in the plan as it unfolds. For example, a typical result is public agreement in the need for densification, then the public expressing "Not in my back yard" (NIMBY) when a local lot is proposed for a high-rise. This is another significant challenge to SCP.

- **Greenwashing [O3]** – *Greenwashing* refers to an organization creating a façade or false screen of environmental concern over a plan, program, product or service, with the intention of gathering extra support or customers from the environmentally conscious. Some official plans are labelled as "Smart Growth" but actually promote business-as-usual in terms of car use, urban sprawl, large expansions of road and highway networks, and a minimum increase in transit services. This "false advertising" damages the potential of honest, legitimately progressive plans and hinders their support through the bad reputation created by this greenwashing. This is a particular challenge for SCP in communities that have fallen victim to greenwashed plans in the past.

- **Responsiveness to unpredictable future conditions [O4]** – The unpredictability of future conditions affects the risk, liability, effectiveness, and potential benefits of SCP during implementation. This can be minimized by making plans more flexible and agile, thereby allowing faster adaptation to change.

3.   MOVING TOWARD IDEAL PRACTICE

This section describes how Canadian municipalities are driving from current practices to more successful sustainable community planning (SCP). This section is organized as follows:

*   **Ideal practice**: Definition, principles, the planning process, and goals of ideal SCP;
*   **Current practice**: Brief history of community planning, current status of SCP in Canada, SCP approaches, and related initiatives;
*   **Best practices**: Best practices in SCP used by Canadian municipalities;
*   **Exemplary models**: Canadian communities and neighbourhoods that have been exemplary in achieving more successful SCP; and
*   **Trends**: Observed trends related to SCP in Canada.

3.1   IDEAL PRACTICE

Sustainable community planning (SCP) is an emerging approach to municipal planning that does not, as of yet, have associated with it a universally accepted definition. This reflects the fact that the underlying concept of community sustainability (and of sustainability itself) is rather diffuse with myriad definitions.[50] While planning initiatives that focus on sustainability concerns are evident in many places, they have appeared under several names in a variety of planning activities conducted by different authorities with diverse purposes. The existing literature and various applications do, nevertheless, point to the rise of a reasonably coherent new set of ideas about how to approach land use planning in a more sustainable manner.[51] This new set of ideas may not yet be presentable as an entirely tidy and well-bounded package, but it is certainly possible to identify the common set of central ideas or principles underlying this more holistic approach to planning. This set of fundamental principles can serve as the working definition needed for the purposes of this report.

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[50] Stephen Wheeler and Tim Beatley (editors). 2004. *The Sustainable Urban Development Reader.* (London: Routledge).

[51] For example:

a) Nola-Kate Seymoar for PLUS30 Network. 2004. *Planning for Long-term Urban Sustainability: A Guide to Frameworks and Tools.* http://www.plusnetwork.icsc.ca/network-news/just-released-the-sustainable-cities-plus-planning.html
b) Prime Minister's External Advisory on Cities and Communities. 2005. *Integrated Community Sustainability Planning - A Background Paper.* http://www.cultureandcommunities.ca/downloads/FINAL_ICSP-Discussion-paper.pdf
c) Rees, W. E. (Ed.) for UBC Centre for Human Settlements. 1989. *Planning for Sustainable Development: A Resource Book.*

The remainder of this sub-section is presented as follows:

- Definition & Principles
- Planning Process
- Goals

3.1.1 Definition & Principles

Sustainable community planning (SCP) is a collaborative, integrated approach to community planning that steers the community towards the implementation of local and global sustainability goals, using a long-term perspective in an adaptive institutional framework. These features of SCP are described below.

- **Collaborative –** Sustainable community planning differs from conventional "in-house" municipal planning in that it is usually collaboratively developed through participatory techniques that allow for intense engagement with the full spectrum of community stakeholders. This includes elected officials and civil servants (including planners), the private sector (such as developers and consultants), NGOs and community based organizations, and academics. SCP may be "government-led and citizen owned," or it may be citizen-led with governments serving as one (albeit a crucial) participant. In either case, the collaborative approach tends to build support for planning goals in the community and may even provide opportunities for environmental stewardship. Collaborative plans are therefore more robust in nature than conventional plans and better suited for weathering political swings and other uncertainties over time. Various collaborative processes may be used, including the creation of working teams that focus on particular sustainability issues in the context of the SCP process, citizen summits, charrettes and visioning exercises.

- **Integrated –** In this context, "integrated" refers to the practice of bringing diverse, normally separate, concerns and planning processes together, e.g., transportation, land use, environment, housing, waste, water, energy, community health, recreation, culture, municipal finance, and others. Although community planning is, in principle, supposed to link these planning processes, in practice, this is not often done - the "silo" approach is the de facto practice. A SCP aims to establish a framework through which these various planning efforts can be dovetailed and integrated and therefore involves a multi-disciplinary approach that brings together a wide range of expertise. Moreover, an SCP recognizes that the municipality does not have sole control over urban processes and attempts to integrate other actors (such as industry, NGOs, other levels of government, etc.) into the planning process.

- **Steers –** In contrast to conventional community planning, which has tended to adopt a business-as-usual approach that assumes the continuation of existing trends, sustainable community plans are proactive and value driven. The process starts from the assumption that fundamental change may be necessary and that changes should flow from a vision of where the community wants to be at some future point, in contrast to where it will end up if current trends continue. The future state is usually expressed in the form of a community vision or statement of fundamental community values. This vision serves to anchor the planning goals and the more specific objectives and action items. The visioning process may involve techniques such as backcasting and scenario testing.

- **Implementation –** Plan implementation has been the Achilles heel of community planning over much of its history. All too often, plans are prepared and adopted only to be implemented on a piece-meal basis with little attention to ensuring and reviewing progress toward stated goals. SCP initiatives attempt to address this issue in two ways. First, they often start by adopting a strategic planning framework that includes a broad vision and set of principles and values, and then translate this framework into more tangible goals and objectives and finally specific actions, with each step characterized increasing levels of detail. Thus, when the detailed actions are eventually arrived at, it is much easier to conduct the policy alignment that will facilitate implementation. Secondly, SCP initiatives are usually characterized by attention to the specific implementation mechanisms that will be put in place to support the plan, the establishment of measurable targets based on sustainability goals, and a monitoring and evaluation component that may be used to re-direct policies and project activities to maintain the course toward those targets.

- **Sustainability goals –** Sustainable community plans usually articulate a set of goals that are as ambitious as they are broad ranging. Although there is no "one size fits all", sustainability goals should always be selected such that they are grounded and clearly extend from the vision and/or guiding principles. They typically include environmental health, social equity, and economic vitality, but some communities also include cultural diversity, community health, and effective governance in their sustainability goals. Sustainable community planning processes are oriented towards pursuing all sustainability goals simultaneously, which are seen as mutually compatible or supportive. This approach is in reaction to the assumption that economic growth trumps other goals or that economic progress requires environmental or social sacrifices. Sustainable community planning prioritizes projects and programs that have multiple benefits across the various dimensions of sustainability (i.e., environmental, social, economic and cultural) and that optimize synergy among the various goals. For example, promoting green roofs has environmental benefits (reduced air pollution, storm water flow and greenhouse gas levels), social benefits (creation of an amenity space), and economic benefits (reduced heating, cooling and infrastructure costs).

- **Linking local and global issues** – Sustainable community planning recognizes the interdependencies among local, regional, and global processes and reflects the view that global and regional trends should inform local planning choices. Economic globalization, climate change, air pollution, the depletion of key resources such as oil and water, and species extinction may all have an impact on the types of local issues that the SCP might address and the choice of strategies for tackling them. Conversely, community planning decisions can help deepen regional and global problems or contribute to their resolution. The construction and operation of buildings, for example, are said to account for one-sixth of the world's fresh water withdrawals, one-quarter of its wood harvest, and two-fifths of its material and energy flows.[52] SCP recognizes that regional and global ecosystems have a limited carrying capacity and that community inputs and outputs should strive to respect these limits.

- **Long-term perspective** – SCP is carried out from the perspective that long-term consequences must be adequately assessed and incorporated into current decisions. In contrast to conventional community planning, which focuses on the 10-20 year time frame, a time frame of 50 to 100 years allows longer-term changes in the natural, economic and social environment to be taken into account. A long-term planning horizon also helps participants in SCP look past immediate preoccupations and vested interests to focus on unifying ideas that are expressions of the community's fundamental values. Long-term planning is also in keeping with the lifespan of city infrastructure and other important elements of the built environment. It therefore provides a better framework for thinking about the life-cycle implications of major public and private investment decisions taken today. Some SCPs explicitly consider consequences up to 100 years in the future. The complexity of such an undertaking requires a well-worked out vision of the future and the use of tools such as forecasting, backcasting, and scenario modeling.

- **Adaptive institutional framework** – Community planning is increasingly undertaken with an awareness of the unpredictability of future conditions, including environmental, economic, social, political and technological. This awareness is especially acute in sustainable community planning because of the broad range of issues addressed and the long-term time frame of most such initiatives. Under conditions of uncertainty, an adaptive approach is the most suitable. This approach emphasizes the need to monitor conditions against intended results and adapt plans accordingly. Adaptive management relies on the availability of an adequate monitoring framework and flexible governance arrangements that can adapt to changing conditions. Although most SCP initiatives rely on an adaptive institutional perspective, this feature is especially prevalent in the Adaptive Management model (used in the cities[PLUS] planning exercises, for example in Vancouver).

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[52] David Malin Roodman and Nicholas Lennsen, *A Building Revolution: How Ecology and Health Concerns are Transforming Construction* [Worldwatch Paper 124] (Washington, D.C.: Worldwatch Institute, 1995), p.5.

3.1.2   Planning Process

While the previous section provided an overview of the principles involved in the SCP process, it does not provide a picture of how the principles come together in an integrated planning process. While no two SCP processes are exactly the same, most follow a well-recognized set of basic steps. The following draws from a number of SCP secondary and primary sources.[53]

- **Prepare:** The first phase of the process is concerned with the identification of lead partners and other interested parties or stakeholder groups, the commitment of resources (money, staff time, in kind) to conduct the planning process, the purpose of the initiative, an initial scoping of the plan in terms of the general themes to be covered, the planning model to be used (if any), the extent of public participation that will be sought, and agreement on a governance structure and timeframe for creating the plan. While the municipality is often a key partner in SCP, other agencies are typically involved in steering or funding the process, including public health agencies, real estate institutes, academic think tanks, social planning councils, community associations, and so on. The governance structure often involves a steering committee plus a number of other committees focussed on particular planning themes. There may be separate committees to coordinate technical and community input. Depending on the scope and ambitiousness of the plan, the time frame can vary from a few months to three years.

- **Develop a community vision:** This stage is usually characterized by the formulation of planning principles and adoption of a high-level, usually long-term, vision of the ideal community. Communication vehicles might include a website dedicated to the planning process, seminars on key sustainability issues (with some sessions that may be directed at specific groups such as seniors, youth or developers), surveys and feedback forms, etc. The principles may come from external sources (e.g., the Melbourne Principles, or the Natural Step principles) or may be more "home-grown". The visioning exercise is usually conducted as a workshop – or series of workshops – that poses the question: "What do you want your community to look like in x years?" The vision is usually locally specific and represents a statement of the fundamental values of the community and the community features that are fundamentally valued. In some cases, the vision is generated by stakeholder representatives (such as the design "charrettes" in Metro Vancouver's cities[PLUS] plan) while others use broader public participation processes (such as the "imagine" process used in Calgary). The visioning exercise may be carried out with the assistance of visioning software, which shows participants the future implications of different planning scenarios. The vision statement is widely disseminated in the community and may be endorsed by the municipal council. A baseline of current policies and conditions is typically established in order to highlight the distance that needs to be crossed to achieve planning goals.

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[53] For example, Alberta Urban Municipalities Association.Website: *Alberta Urban Municipalities Association – Overview – The Process* – Suggested Process Overview.http://msp.auma.ca/Overview/The+Process/Suggested_Process_Overview/

- **Translate vision to action plans:** In this stage of the planning process, the community vision is gradually "unpacked" or translated into guiding principles, strategic goals, objectives, targets (sometimes), and action plans, usually by working groups responsible for particular themes. *Guiding principles* are the high-level, most abstract principles that describe the community's understanding of sustainability, usually few in number. They may be drawn from the planning approach being used (e.g., the four scientific principles that underlay the Natural Step), they may be drawn from a number of such approaches, or locally developed. *Goals* describe the desirable future conditions in more detail while the objectives set out which specific parameters need to be increased or decreased in order to achieve the goals. *Targets* are the quantitative levels of the parameters intended to be achieved at some point during plan implementation; they are an essential element of some sustainable community plans (e.g., imagineCalgary) while others omit them (e.g., Rossland, BC Strategic Sustainability Plan).[54] *Best practices* from other jurisdictions are explored and assessed for local applicability. An *action plan* is then developed that represents the commitment of the various partners to take steps to help move the community from current conditions to the intended outcomes. Items in the action plan may be ranked by priority or time frame involved (e.g., short, medium, and long).

- **Implement and monitor:** In the final stage, the action plan is implemented by the partnering agencies and a monitoring system is set up to track progress. If the SCP is intended to act as a strategic framework to guide other municipal initiatives, the municipality will incorporate aspects of the action plan into other planning documents (such as community land use, transportation, capital budgeting, economic development, environment, affordable housing, corporate, and waste management) and its operating standards and procedures. For businesses and other groups, the action plan will be incorporated into their short and medium term budgets and work plans. Where legislative or budgeting changes are required at other levels of government, the steering committee may launch an advocacy campaign. In some cases, formal partnership agreements are signed that commit the planning partners to work together to achieve the community vision and to provide data on implementation of the action items (e.g., Whistler 2020).[55] A plan monitoring process is set up by the steering committee to track the implementation of action plans and, in cases where targets were spelled out, indicators are identified and provisions are made to measure movement relative to the intended outcomes. The results of the monitoring process are reported on a regular basis (e.g., annually or bi-annually) to the community, and if necessary, responsibilities are reviewed and the necessary adjustments are made to the action plan based on this review. Meanwhile, partner agencies are also working to incorporate the more general community vision into every aspect of their operations.

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[54] a) City of Calgary. Accessed May 20, 2008. Website: *imagineCalgary.* http://www.imaginecalgary.ca
b) City of Rossland. Last updated May 8, 2008. Website: *Rossland Strategic Sustainability Plan – Visions to Action.*
http://cfdcmall.com/cms/index.php?id=338;

[55] Whistler 2020. Accessed May 20, 2008. Website: *Whistler2020 – Moving Towards a Sustainable Future – Whistler2020 Partners.* http://www.whistler2020.ca/whistler/site/partners.acds?context=1967926&instanceid=1967927

While these steps represent in a general way the stages characteristic of many SCP processes, it is important to note that they don't necessarily occur in the precise order given and that some stages may overlap in time. The SCP process is flexible and adaptable to each community's specific situation and needs. For example, one community may undertake a survey of baseline conditions during the visioning stage, before setting out SCP goals while another may wait until the planning objectives have been articulated before surveying current conditions. Moreover, sustainable community plans tend to be iterative; as the planning process proceeds and new information comes to light, previous steps can be revisited and revised.

3.1.3   Goals

As stated above, SCP goals describe the desirable future conditions in more detail than the guiding principles. They should express the desired end-state, include just one idea each, and should not refer to the actions necessary to realize them.

Sustainable community planning documents and academic literature on SCP express a wide variety of goals, but there is a large degree of overlap among documents in terms of the goals articulated and even the headings used to group the goals. The following is an amalgam of several typical sources.[56]

Natural Environment

- Integrated planning and development with natural cycles and life support functions
- Minimal natural resource consumption (especially non-renewable energy, land and water)
- Maximized recycling of materials and minimized waste
- Elimination of release of toxic materials
- Waste products that can be readily assimilated
- Protected farmland, wetlands, and other resource lands or lands with ecological value
- Protected and improved environmental quality (e.g. air, water, land)
- Enhanced biodiversity

Built Environment

- Minimal reliance on private automobiles and cargo trucks
- Maximum use of existing infrastructure
- Integration with the urban fabric
- Liveable, walkable environment that is convenient and pleasant to get around in

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[56] For example: a) P. R. Berke and M. M. Conroy. 2000. "Are We Planning for Sustainable Development?" *Journal of the American Planning Association.* 66: 1: 21-33
b) Canada Mortgage and Housing Corporation. 2000. *Practices for Sustainable Communities.*
c) Chris Ling, Ann Dale, Kevin Hanna. 2007. *Integrated Community Sustainability Planning Tool.*
http://www.crcresearch.org/files-crcresearch/File/PlanningTool(1).pdf
d) Sustainable Cities Across Europe. July 2005. *A collection of case studies demonstrating exemplar 'sustainable community' projects across Europe.*
http://www.bshf.org/scripting/getpublication.cfm?thePubID=EFAF9F90-15C5-F4C0-9934E275B7A4C421

Economy

- Flourishing and diverse local economy that operates within natural system limits
- Wide range of rewarding jobs and training opportunities
- Attraction and retention of a skilled workforce
- Nurturing of experimentation and innovation
- Economic activity that promotes environmental stewardship

Culture

- Community identity and belonging, including a sense of community heritage
- Opportunities for expression via a variety of art forms (visual, dramatic, musical, etc)
- Cultural attractions and community facilities, such as schools, libraries, daycare centres and leisure facilities
- Public spaces that encourage informal social activity, recreation and civic gatherings

Governance & Society

- Effective and inclusive participation in community planning decisions
- Opportunities for leisure, recreation, sport and other activities
- Societal freedom from the fear of crime and anti-social behaviour
- Social inclusion, including equal life opportunities
- Sufficient range, diversity and affordability of housing
- Reflect the needs of future generations in current decisions and actions

While this list of SCP goals covers those most commonly found in planning documents and the academic literature, there are some goals not included here and concerning which there is less agreement. For example, some SCPs promote the concepts of regional self-sufficiency and self-reliance (in energy, food and other goods and services) as integral to SCP while others do not. Likewise, some plans highlight the need for decentralized and green infrastructure (waste water, energy generation, etc.) options whereas others do not mention this goal.

The goals set out in SCPs are usually presented as a whole "package". The goals, for the most part, tend to be mutually reinforcing, which gives them a synergistic character. For example, more compact settlements usually have a range of housing types, which promotes affordability and social integration, creates local markets for goods and services, promotes walking, biking and transit use, lends itself to district energy use, and protects farmland. However, it is important to note that these goals may not be mutually consistent under some circumstances; action on one goal may produce unintended impacts in other areas. For example, integrating nature into the built environment may reduce storm water run-off and improve its quality, but it may also work to reduce densities, contribute to making transit provision less viable and foul the air. Thus, the

challenge for the participants becomes one of combining and layering these principles while trying to minimize the occasional conflicts between them.[57]

3.2   CURRENT PRACTICE

Section 3.1 described ideal sustainable community planning (SCP). This sub-section describes the current status of SCP in Canada and is presented as follows:

- •   Brief History of Community Planning
- •   Current Practice in Sustainable Community Planning
- •   Sustainable Community Planning Approaches
- •   Sustainable Neighbourhood Planning Approaches
- •   Related Initiatives

Trends are discussed later, in Section 3.5.

3.2.1   Brief History of Community Planning

Since the 1960s, community planning in Canada has been the target of harsh critique. Planners have been reproached for building monotonous landscapes of strip malls, industrial parks, shopping centres near highway interchanges, placeless arterials, and dreary residential suburbs. In the 1970s and 80s, critics charged that traditional cities had been denatured through careless disregard for ecological and heritage values, and for allowing unrestrained commercial growth on the periphery to evacuate downtowns, once the vital centre of cities. More recently, critical attention has been directed at the centralized, heavily engineered and ironically fragile infrastructure that underlies the functioning of our cities and the energy-hungry sprawl that is devouring the rural landscape and reinforcing our car-dependent travel behaviour.[58]

Apart from these substantive outcomes, conventional planning has also been criticized on a procedural level for its tendency to separate urban problems into conceptual "silos". This reflects the fragmented organization within municipal governments, where departments jealously guard their administrative territory. Thus, tightly linked issues like land use, transportation, air quality and public health have typically been managed by different agencies within the municipal organization (and sometimes different levels of government) with little coordination. Officials in each agency work in isolation to solve problems that are in fact intimately connected. The result is that each agency seeks solutions on its own terms, solutions that offer short term relief, but that aggravate the underlying problems in the long term. Whereas this may be an effective way to manage

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[57] Patrick Condon. 2006. *Sustainability By Design: A Vision For A Region Of 4 Million*. (Vancouver: Design Centre for Sustainability, UBC).

[58] For example: James Kunstler. 1993. *The Geography of Nowhere: The Rise and Decline of America's Man-Made Landscape*. (Free Press).

issues when the issue can be neatly contained within one department's purview, it is not effective when complex, multi-faceted issues arise with multiple external repercussions.[59]

In the past, environmental and social issues were not considered as part of mainstream community planning, perhaps a reflection of wider cultural values, which saw the environment as an entity quite separate from society.[60] Instead planners focused on the city's physical systems, and political consideration often put the emphasis on short-term economic considerations and the interests of the development community. Environmental concerns, to the extent they were considered, were neatly contained in one municipal silo. Typically, municipal planners would concern themselves with the protection of sensitive environmental lands from encroaching residential or industrial development, adopt regulations to prevent development on hazardous lands, such as slopes and floodplains, and, during energy crises of the 1970s and 1980s, promote planning guidelines to reduce energy consumption.[61]

By the 1990s, a general consensus had emerged that environmental issues could not be managed in isolation and that a new, holistic approach to municipal administration and community planning with environmental issues at their centre was urgently needed. Growing concerns with water and air quality, energy depletion, climate change, toxic contamination from persistent organic pollutants, public health disasters, declining biodiversity, and loss of natural features like wetlands and woodlands, all conspired to put environmental issues into the mainstream of Canadian municipal governance and planning practice.[62]

3.2.2 Current Practice in Sustainable Community Planning

Over the past decade or so, environmental issues have moved to centre stage in our society. There is a widespread belief among the public that governments must act to stem environmental decline and bring environmental issues into the mainstream of both private and public decision-making. At the municipal level, this has take the form of immense pressure on elected officials and administrators to adopt policies and plans that will promote economic and social development while respecting environmental limits. Moreover, after years of growing cynicism and distrust of public participation mechanisms, the public has demanded more meaningful forms of participation in municipal planning.[63] As a result of these changes, conventional community planning has

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[59] Gardner Church. 1996. "The North American Failure: The Governance of Regional Cities." In R. Keil, G. Wekerle, and D. Bell, (eds.) *Local Places in the Age of the Global City.* (Montreal: Black Rose Books).

[60] Jill Grant. 2000. "Planning Canadian Cities: Context, Continuity, and Change." In T. Bunting and P. Filion, (eds.) *Canadian Cities in Transition: the twenty-first century.* (Toronto: Oxford University Press), 443-461.

[61] Hodge, Gerald. 1998. *Planning Canadian Communities: An Introduction to the Principles, Practice and Participants.* (Scarborough, ON: International Thomson Publishing).

[62] Mark Roseland. 2000. *Sustainable community development: integrating environmental, economic, and social objectives. Progress in Planning*, 54: 73– 132.

[63] Walter Jamieson, A. Cosijn, and Susan Friesen. 2000.) "Contemporary Planning: Issues and Innovations". In T. Bunting and P. Filion, (eds.) *Canadian Cities in Transition: the twenty-first century.* (Toronto: Oxford University Press), 462-478.

progressively evolved towards a new planning paradigm: sustainable community planning.

Land use planning is still at the heart of SCP, but SCP differs from conventional community planning in a number of important ways. As described above, SCP is characterized by its emphasis on integration among environment, social, economic and cultural aspects of community functioning, and the central role played by stakeholders and other members of the public. Moreover, SCPs tend to deal with a wider array of issues, normally outside the scope of conventional land use planning, including waste management, economic development, cultural expression, and community health. SCPs tend to take the form of "umbrella" documents that are designed to give direction to the creation or review of other planning documents, including land use plans. And although local governments almost always plays a major role in developing and implementing SCPs, they are often in the position of partner rather than leader of SCP processes.

Although it is tempting to identify a new, fully formed species on the community planning landscape, the fact is that there is a spectrum of activity from conventional land use planning to SCP that makes it difficult to say where one leaves off and the other begins. Many communities have adopted sustainability principles as the basis for their community land use plans and have approached other planning activities with a similar lens. Indeed, there is a groundswell of corporate plans governing internal operations of the municipality (e.g., transportation plans, community energy plans, and subdivision or redevelopment plans) that have all been inspired by the principle of sustainable development. Some municipalities may feel that having incorporated sustainability into a range of plans and planning instruments, there is no need to go the extra step to a single, over-arching sustainable community plan. Others conclude that their existing plans lack coherence and require an umbrella plan to bring together disparate efforts.

Federal Influence[64]

An important shift is being brought about by the entry of the federal government into the field of SCP through the Federal Gas Tax Fund (GTF), which was presented in the 2005 Federal Budget under the "New Deal for Canada's Communities". Whereas in the earlier days of SCP in Canada, municipalities were responding to local issues,[65] the Gas Tax Fund is now asserting substantial pressure "from above" for municipalities to engage in SCP.

Since introduction of the GTF, the federal government, provinces and territories have entered into Agreements respecting the transfer of federal gas tax revenues for public

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[64] Sources, unless otherwise noted:

a) Department of Finance, Government of Canada. *Budget 2005: A New Deal for Canada's Communities*. Feb. 23, 2005. http://www.fin.gc.ca/budget05/pamph/pacome.htm

b) Infrastructure Canada, Government of Canada. *Gas Tax Fund*. Published Feb. 27, 2008. Accessed May 9, 2008. http://www.infrastructure.gc.ca/ip-pi/gas-essence_tax/index_e.shtml#table

c) Infrastructure Canada, personal communication with the Federation of Canadian Municipalities. July 2008.

[65] Parkinson, Sarah and Mark Roseland. (2002). "Leaders of the Pack: An analysis of the Canadian 'Sustainable Communities' 2000 municipal competition." *Local Environment,* 7 (4): 411–429.

infrastructure projects. The purpose is to deliver long-term, stable and predictable funding to municipal infrastructure with a long-term vision for Canadians to achieve a higher quality of life and standard of living. In response to demands from municipalities, the Canadian Budget 2008 announced that the Gas Tax Fund would be extended at $2 billion per year beyond 2013-14 and become a permanent measure. This would allow all municipalities, both large and small, to better plan and finance their long-term infrastructure needs. Over the next seven years (2007-08 to 2013-14), municipalities would receive a total of $11.8 billion in gas tax funding.

Municipalities automatically receive these funds but, under provincial/territorial Agreements, are required to develop an Integrated Community Sustainability Plan (ICSP) by a certain date, as further described in Section 3.2.3. To date, numerous municipalities across the country have embarked on sustainability plans through the ICSP program, including Whitehorse, YK,[66] Dawson Creek, BC[67] and the City of Airdrie, AB.[68]

Provincial Influence

Like its conventional counterpart, sustainable community planning takes place within – and is conditioned by – the legislative and policy context provided by provincial and territorial governments. The degree of provincial control over the processes that govern the development and regulation of planning varies from jurisdiction to jurisdiction, but all provinces require municipalities to provide a framework for development and land use regulation. At a minimum, provincial planning or municipal government acts lay out the municipality's responsibility in matters related to the creation of a system to control development, subdivide land, adopt zoning by-laws, provide for avenues of appeal, and involve the public in the planning process. Some provinces require substantially more than this: comprehensive land use planning (usually focused on land use, but including transportation, natural area protection, etc.) is required of municipalities in Alberta, Manitoba, Ontario, Quebec, and the Yukon. However, **no provinces require all municipalities to undertake anything like a full-fledged sustainable community plan**. The only partial exception is that regional growth strategies are required of certain fast growing metropolitan areas in BC.[69]

Provincial governments also exercise control over municipal planning through policy statements anchored in their planning or municipal government acts. In Nova Scotia, Quebec, Ontario, Manitoba, and Alberta, provincial governments have promulgated statements of provincial interests that lay out policies covering issues such as the preservation of good-quality agricultural land, housing (e.g., intensification, infill,

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[66] City of Whitehorse. Accessed May 20, 2008. Website: *City of Whitehorse – Integrated Community Sustainability Plan*. http://www.city.whitehorse.yk.ca/index.asp?Type=B_BASIC&SEC=%7B28F654A7-CA64-4455-87B8-DF29756E12EA%7D

[67] City of Dawson Creek – Sustainable Dawson Creek Initiative. Accessed May 20, 2008. Website: *Sustainable Dawson Creek – What We're Doing – Sustainability Plan*. http://www.planningforpeople.ca/what_we_are_doing/sustainability_plan/index.asp

[68] City of Airdrie. Accessed May 20, 2008. Website: *City of Airdrie – Sustainability.* http://www.airdrie.ca/sustainability

[69] Amelia Clarke for Commission for Environmental Cooperation. 2006. *Regional Sustainable Development Strategies: Variations in Formulation and Content in Nine Canadian Case Studies and the Implications for Eco-Procurement.* http://cec.org/files/PDF/ECONOMY/NAGPI-Canadian-Case-Studies_en.pdf

development, a range of housing types), and the efficient provision and use of infrastructure. While these statements provide a supportive policy environment, in most provinces the policy implementation is poorly supported or enforced and is open to broad interpretation; most of the resulting plans address only a subset of sustainability issues.

Appendix D provides more information on provincial and territorial requirements for 'top-level' municipal plans and content related to sustainability.

3.2.3   Sustainable Community Planning Approaches

SCP is an emerging paradigm that does not follow a standard approach. Rather SCP can be seen as a rubric under which several approaches with similar features (i.e., the features identified in the Best Practices section) can be grouped. These approaches vary widely in their degree of formalization, from structured models with an established set of principles and processes to more loosely constructed ideas without a set process that can be liberally adapted to local conditions. Some models focus more on planning methodology and tools while others focus more on the principles involved and still others cover both. Communities engaged in sustainability planning may adopt one of these models – or use a mixture of the models – to help guide their planning process and create a sustainability plan.

In this section, we outline several of the models that have been used most often in SCP initiatives in Canada, including:

- The Natural Step
- Local Agenda 21
- Smart Growth
- Adaptive Management Planning
- The Melbourne Principles
- Municipal Sustainability Planning
- Integrated Community Sustainability Plan

While most of the approaches included in this section were developed over several years and continue to evolve, we have attempted to present them in rough chronological order of their first appearance.

The Natural Step

Description[70]

The Natural Step was developed in Sweden in the 1980s. It provides a science-based definition of sustainability and a strategic planning framework to help communities (and other organizations) make development decisions to move them step-by-step towards a sustainable future. The four "system conditions" focus attention on the reduction of resource use, the elimination of synthetic chemicals released into the environment,

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[70] James, S and Lahti, T. 2004. The Natural Step for Communities. (Gabriola Island, BC: Island Press).

physical encroachment on nature, and the meeting of basic human needs. This integrated, systematic approach to community planning helps stakeholders develop of a common language and shared vision for sustainability in their community. It links long-term sustainability goals with short-term decisions and managing processes (e.g., capital investment guidelines, procurement policies, environmental management systems) and assists with education and training programs for municipal staff and community stakeholders. The Natural Step framework therefore helps communities and decision-makers establish sustainability programs and tools by providing them with a planning methodology that integrates environmental and social considerations. The framework does not replace existing programs but is rather used in conjunction with other tools as a means to develop an overarching strategic plan for sustainability.

The Natural Step's conceptual structure and implementation methodology are its main strengths. The framework enables communities to simplify complex systems of human-environment interactions and therefore better understand how goals related to sustainability can better be achieved. The Natural Step's step-by-step approach also provides a common model for community planning amongst community stakeholders. While it thoroughly addresses environmental concerns, the Natural Step puts less emphasis on the social and economic dimensions of community planning. Moreover, the high level analysis offered by TNS may seem somewhat abstract to participants and the model's emphasis on a shared "mental concept" might appear rigid.

Examples

In the US, the City of Santa Monica, California, is using sustainability objectives based upon the Natural Step Framework to integrate sustainable development considerations into the city's comprehensive plan.[71] The American Planning Association's *Policy Guide to Planning for Sustainability* offers a program for planning action guided by four sustainability objectives based upon the Natural Step framework.[72] In Canada, the resort community of Whistler, BC, has adopted a comprehensive plan for sustainability that is guided by the system conditions of the Natural Step framework, while Canmore, Alberta, has embarked on a GMF-funded community planning program using the Natural Step process.[73] Strathcona County, near Edmonton, is also using Natural Step principles in formulating its Municipal Development Plan.[74] On the east coast, the Town of Wolfville is also using a TNS framework to prepare a Sustainable Community Plan and Municipal

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[71] Oregon Natural Step Network. 2002. *City of Santa Monica: An Oregon Natural Step Network Case Study*. http://www.ortns.org/documents/santamonicacasestudy.pdf

[72] American Planning Association. April 17, 2000. *Policy Guide on Planning for Sustainability*. http://www.planning.org/policyguides/sustainability.htm

[73] Town of Canmore. Accessed on May 20, 2008. Website: *Town of Canmore – Natural Step*. http://www.canmore.ca/living/our-environment/natural-step.html

[74] The Natural Step. June 2005. News from The Natural Step Canada, June 2005. http://www.naturalstep.ca/documents/June_2005.pdf

Planning Strategy[75] and the Halifax Regional Municipality has used the framework in its corporate sustainability analysis.[76]

Local Agenda 21

Description[77]

Local Agenda 21 (LA21) is a program that provides a framework for implementing sustainable development at the local level. LA21 was first described in *Agenda 21* - the global blueprint for sustainability that was agreed at the United Nations Conference on Environment and Development in 1992 (the Rio Earth Summit). Chapter 28 of Agenda 21 identifies municipalities as the sphere of government closest to the people, and calls upon all local authorities to consult with their communities and develop and implement a local plan for sustainability - a 'Local Agenda 21'.

In the aftermath of the summit, the International Council for Local Environmental Initiatives (ICLEI) launched a campaign and a Local Agenda 21 Planning Guide to promote LA21 as a participatory, long-term, strategic planning process to help municipalities identify local sustainability priorities and implement long-term action plans. The LA21 process leads to the preparation and implementation of a long-term, strategic plan that addresses priority local sustainable development concerns, including an action program and a monitoring and reporting framework based on indicators.

LA21 is based on the following guiding principles:[78]

1. Integration of economic, social and environmental development
2. Long-term perspective and long-term goals
3. Transferring the global perspective of "Agenda 21" to the local level
4. Including all groups of society, based on the principle of consensus building towards common visions, development and values
5. The development of long-term management structures which are sustainable in the long-term

LA21's main strength is its integration of economic, environmental and social development and its emphasis on long-term planning. The flexibility of LA21 makes it easy for individual communities to select from a range of activities, tools and approaches according to their own priorities or circumstances. However, the absence of specific goals or tasks that a municipality has to cover under Local Agenda 21 makes evaluation and

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[75] Town of Wolfville. November 28, 2005. Presentation, "Town of Wolfville Sustainable Community Planning Task Force". http://www.town.wolfville.ns.ca/taskforce/sustainable/sustainable_presentation_nov28_2005.pps

[76] The Natural Step. September 2004. *Sustainability Analysis Using The Natural Step Framework for Halifax Regional Municipality*. www.naturalstep.ca/articles/HRM%20SA%20Final.pdf

[77] International Council for Local Environmental Initiatives (ICLEI) Global. Accessed on May 20, 2008. Website: *ICLEI Global – Local Governments for Sustainability – Programs*. http://www.iclei.org/index.php?id=798

[78] N. Seymoar. 2004. *Planning for Long-term Urban Sustainability: A Guide to Frameworks and Tools*.

comparison between projects a difficult task. This lack of clarity also poses problems for communities that require extensive guidance when developing and implementing their sustainable community plan.

Examples

A 2002 survey found that more than 6,400 local governments in 113 countries had become involved in LA21 activities over a 10-year period, although the number of full-fledged LA21 strategic plans is not known.[79] From 1993-1997, ICLEI operated the *LA21 Model Communities Program*, which assisted 14 communities world-wide to develop and implement an LA21 plan.[80]

Hamilton's *Vision 2020* is an example of a LA21 community planning process.[81] The City of Montreal's Strategic Sustainable Development Plan is also based on Agenda 21 ideas and principles. One of the recommendations of the City's sustainable development plan is the creation of *Quartiers 21* or "Agenda 21 neighbourhoods", which serve as local demonstrations of the application LA21 principles through actions geared towards social, economic and environmental sustainability.

Smart Growth

Description[82]

The Smart Growth movement emerged in the United States (U.S.) in the 1990s in reaction to the depredations of urban sprawl. The movement focuses on the need to manage growth in a way that concentrates development in the community's already built-up area, while enhancing the community's quality of life. Smart Growth is founded on the following ten principles:[83]

1. *Housing Choice Principle*: Create a range of affordable, quality housing choices
2. *Vibrant, Walkable Complete Communities Principle*: Foster development that creates vibrant, unique, walkable complete communities where uses like residential and commercial are mixed to create attractive places to live, work and play
3. *Smart Building Design Principle*: Encourage building designs that contribute

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[79] International Council for Local Environmental Initiatives (ICLEI). 2002. *Second Local Agenda 21 Survey*. http://www.iclei.org/documents/Global/final_document.pdf

[80] International Council for Local Environmental Initiatives (ICLEI). 1995. *ICLEI Biennial Report: May 1993 – July 1995*. http://www.iclei.org/documents/Global/biennialreport93-95.pdf

[81] City of Hamilton. Accessed on May 20, 2008. Website: *City of Hamilton – Planning and Economic Development Vision 2020*. http://www.myhamilton.ca/myhamilton/CityandGovernment/ProjectsInitiatives/V2020

[82] Canadian Urban Institute. 2001. *Smart Growth in Canada*.

[83] Smart Growth Canada Network. Accessed May 20, 2008. Website: *Smart Growth Canada Network*. http://www.smartgrowth.ca/home_e.html

to the context of a pedestrian-oriented neighbourhood and use green building technologies

4. *Renew Existing Communities Principle*: Direct development away from unsettled areas and encourage growth and renewal in existing communities
5. *Green Infrastructure Principle*: Utilize green infrastructure to save money and protect the environment.
6. *Green Space, Farmland and Ecologically Sensitive Areas Principle*: Preserve and enhance green spaces, farmland and environmentally sensitive areas
7. *Broad-Scale, Integrated Planning Principle*: Undertake broad-scale planning for cities and towns in adjacent regions and towns in adjacent regions and towns in a way that integrates land use and transportation planning for the entire region
8. *Transportation Options Principle*: Provide varied transportation options and infrastructure for walking, bicycling, car pooling, car sharing, scooters, public transit and others
9. *Community Involvement Principle*: Encourage effective community involvement early in the process to find unique solutions that fit with the community`s vision of itself
10. *Focus on Implementation Principle*: Utilize planning processes, tools and incentives to facilitate private sector investment and ease of navigation in achieving smart growth solutions

In the US, the Smart Growth approach to community planning has been endorsed by a wide array of senior government agencies like the U.S. Environmental Protection Agency and Department of Energy, non-governmental organizations (NGOs) like the Sierra Club and the Natural Resources Defence Council, and professional associations like the American Planning Association, all of which provide educational and research resources. There are also several important networks and associations devoted to developing resources to support municipal efforts towards Smart Growth, including Smart Growth America, the US Smart Growth Network, and the Smart Growth Canada Network.[84]

As smart growth is more of a movement than a planning model, its definition is somewhat diffuse, with different advocates putting forth various competing sets of principles. Social and economic goals are not strongly represented in the model, as it focuses almost solely on the built environment. However, the movement is very diffuse and collectively offers a wide range of resources to assist communities interested in taking this path.

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[84] Smart Growth Canada Network. Accessed May 20, 2008. Website: *Smart Growth Canada Network*. http://www.smartgrowth.ca/home_e.html

Examples

A dozen or so U.S. states have adopted Smart Growth legislative frameworks to guide municipal planning and a number of cities have adopted Smart Growth plans, including Austin, TX.[85] Since its inception in 1999, Smart Growth BC has been the leading Smart Growth advocate in Canada. Together with the Design Centre for Sustainability at University of BC, and the Real Estate Institute of BC, it leads a program called *Smart Growth on the Ground*, through which it works with municipalities and local stakeholders to develop and implement a community or neighbourhood sustainability plan.[86] There are currently three Canadian municipalities, which are all in BC, participating in the *Smart Growth on the Ground* program – Maple Ridge, Squamish, and Oliver – with Prince George about to join.[87] The Conservation Council of Ontario operates a Smart Growth Network in that province while Vivre en Ville serves this function in Quebec. The concept of Smart Growth was used to initiate regional planning around the Golden Horseshoe in southern Ontario and has been used by a number of cities to structure comprehensive community planning strategies, such as in Edmonton[88], Guelph[89], Ottawa[90], and Halifax.[91]

Adaptive Management Planning

Description[92]

Adaptive Management Planning is a planning methodology that was developed by the Sheltair Group and can include any set of principles or goals that the user desires. The approach recognizes that human and natural conditions are always changing and at least some unexpected outcomes are inevitable. The planning model allows the community to learn from these experiences and make mid-course corrections, essentially learning from failure. It is therefore structured in a way that policies and programs implemented by

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[85] City of Austin. Accessed on May 20, 2008. Website: *Austin City Connection – Smart Growth Initiative*. http://www.ci.austin.tx.us/smartgrowth/

[86] University of British Columbia Design Centre for Sustainability & Smart Growth BC. Accessed on May 20, 2008. Website: *Smart Growth on the Ground*. http://www.sgog.bc.ca

[87] University of British Columbia Design Centre for Sustainability & Smart Growth BC. Accessed on May 20, 2008. Website: *Smart Grouth on the Ground – Partner Communities.* http://www.sgog.bc.ca/content.asp?contentID=90

[88] City of Edmonton. Accessed May 20, 2008. Website: City of Edmonton – Infrastructure & Planning – Planning – Smart Choices for Developing our Community. http://www.edmonton.ca/portal/server.pt/gateway/PTARGS_0_2_284_220_0_43/http:/CMSServer/COEWeb/infrastructure+planning+and+building/planning/smart+choices/

[89] City of Guelph. Accessed May 20, 2008. Website: *City of Guelph – Smart Guelph Implementation Initiatives.* http://guelph.ca/living.cfm?subCatID=1298&smocid=1881

[90] City of Ottawa. Accessed May 20, 2008. Website: *City of Ottawa – Planning our City – A City of Ottawa Snapshot.* http://www.ottawa.ca/city_hall/snapshots/planning_city_en.html

[91] Halifax Regional Municipality. Effective August 26, 2006. *Halifax Regional Municipality Regional Plan*. http://www.halifax.ca/regionalplanning/FinalRegPlan.html

[92] N. Seymoar. 2004. *Planning for Long-term Urban Sustainability: A Guide to Frameworks and Tools*.

communities can be adjusted according to the ever-changing circumstances of human-environment interactions.

Adaptive Management Planning follows a logical planning framework that is overlaid with an adaptive management model. The planning framework can be viewed as a pyramid that has, at its top, a unique "vision" for the project or community. From this pinnacle, the framework divides into a spreading tree of elements, with increasing levels of detail and specificity, until at the bottom it addresses implementation of specific actions. The framework requires an "integration" stage that allows consolidation of knowledge and identification of synergies or conflicts prior to committing to actions. Three processes overlay with the comprehensive planning framework to convert it to an adaptive management system. First, an alignment process is conducted from top to bottom; in other words, as general ideas are unbundled into more specific ideas, a clear and up-to-date rationale is provided. Second, a monitoring process supports the pyramid, evaluating actual performance against intended results. And third, a feedback process ensures that the entire pyramid of ideas is informed about success and failure, and is encouraged to respond accordingly.

While the model is designed to handle the complexities of integrated, long-term planning, considerable expertise is needed to develop and implement the model, especially when used for long-term (i.e, 100 year) planning. Communities with little in-house knowledge of the model will need to hire specialized expertise to successfully apply the framework in their area. However, communities that adopt the framework are provided with various training programs and software tools to facilitate the process.

Examples

One of the most comprehensive examples of using the Adaptive Management Planning framework was during cities[PLUS] (Partners in Long-term Urban Sustainability) project in Metro Vancouver. Also Canada's first 100-year plan, this project was led by the Sheltair Group and served as the Grand Prize winning submission to an international competition.[93] *Sustainability by Design*, a Metro Vancouver initiative, is now taking this 100-year planning work further.[94] The *Sustainable Cities: PLUS Network* is a growing network of cities and regions around the globe that are committed to developing long-term plans that integrate economic, ecological and social well-being and build community resilience; as of May 2008, eleven Canadian cities were members.[95]

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[93] cities[PLUS]. June 4, 2003. *Canada Wins Grand Prize in Sustainability Competition*. http://www.citiesplus.ca/canadawins.html. The cities[PLUS] project was a public/private partnership coordinated by the Greater Vancouver Regional District, The Sheltair Group, the Canadian Gas Association and the University of British Columbia's Liu Centre for the Study of Global Issues. http://www.citiesplus.ca/

[94] *Sustainability by Design* is run by the Design Centre for Sustainability in the School of Architecture & Landscape Architecture at the University of British Columbia

[95] International Centre for Sustainable Cities (ICSC). *Sustainable Cities: PLUS Network*. http://www.plusnetwork.icsc.ca. As of May 2008, eleven Canadian cities were members: Calgary, Edmonton, Halifax Regional Municipality, Iqaluit, Niagara, Ottawa, Regina, Saint John, Metro Vancouver, Vernon, and Whistler. http://www.plusnetwork.icsc.ca/member-cities-links-2.html

In addition to Metro Vancouver, communities that used this approach include the City of Rossland, BC's Visions to Action Strategic Sustainability Plan[96], and Envision Wood Buffalo, AB.[97]

The Melbourne Principles / Cities as Sustainable Ecosystems (CASE)

Description[98]

The Melbourne Principles for Sustainable Cities are the only internationally ratified set of sustainability principles for cities. They were developed through an international charrette held in Melbourne, Australia in 2002, involving over 40 municipal and civic representatives from around the world. The process was carried out under the auspices of the United Nations Environment Program, and Environment Canada was one of the original proponents of the process. Local governments at the Johannesburg Earth Summit in 2002 endorsed these principles.

The Principles provide a set of statements on how a sustainable city would function and are intended to guide thinking at all levels of planning, management and decision making and provide a strategic framework for action. They were designed to be flexible enough to be adopted by cities around the world. The principles are as follows:

1. *Vision*: Provide a long-term vision for cities based on: intergenerational, social, economic and political equity, and their individuality.
2. *Economy and society*: Achieve long-term economic and social security.
3. *Biodiversity*: Recognize the intrinsic value of biodiversity and natural ecosystems, and protect and restore them.
4. *Ecological footprint*: Enable communities to minimize their ecological footprint.
5. *Model cities on ecosystems*: Build on the characteristics of ecosystems in the development and nurturing of healthy and sustainable cities.
6. *Sense of place*: Recognize and build on the distinctive characteristics of cities, including their human and cultural values, history and natural systems.
7. *Empowerment*: Empower people and foster participation.
8. *Partnerships*: Expand and enable co-operative networks to work towards a common, sustainable future.
9. *Technology*: Promote sustainable production and consumption, through

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[96] City of Rossland. Last updated May 8, 2008. Website: *City of Rossland – Visions to Action – Approved by City Council: Strategic Sustainability Plan*. http://cfdcmall.com/cms/index.php?id=338

[97] Regional Municipality of Wood Buffalo. Accessed May 20, 2008. Website: *Regional Municipality of Wood Buffalo – Envision Wood Buffalo*. http://www.woodbuffalo.ab.ca/business/land_development/ICSP_dates.asp?subnav=8

[98] Sources:
a) International Council for Local Environmental Initiatives (ICLEI) – Local Governments for Sustainability. Accessed May 20, 2008. *Melbourne Principles for Sustainable Cities*. http://www.iclei.org/index.php?id=4490
b) United Nations Environment Programme – Division of Technology, Industry and Economics – International Environmental Technology Center. 2002. *The Ecosystems Approach to Urban Environmental Management – Operationalizing the Cities as Sustainable Ecosystems (CASE) Initiative*. http://www.unep.or.jp/ietc/NewApproach/CASE/
c) Newman, P. and Jennings, 2008. *Cities as Sustainable Ecosystems: Principles and Practices*. (Washington: Island Press).

appropriate use of environmentally sound technologies and effective demand management.

10. *Governance and hope*: Enable continual improvement, based on accountability, transparency and good governance.

One important thread that led to the adoption of the Melbourne Principles was another workshop, held in Toronto, which focused on the conceptual framework for the principles. The Cities as Sustainable Ecosystems (CASE) model examines the relationships between urban and economic systems and the natural environment in which they exist. The main objective of CASE is to complement and sustain the natural processes provided by ecosystems by transforming cities, support systems, institutions and processes towards sustainable alternatives. In this sense, cities are considered as finite ecosystems that should strive to achieve ecological balance, healthy communities and viable economies within their bioregion. This "urban ecosystem" approach is applied to all levels of resource consumption in a city, with the aim of mimicking natural processes in an integrated way. In order to move towards a sustainable future, the CASE model underlines that communities must:

1. Identify the city's ecological footprint
2. Acknowledge the link between global environmental problems and local action
3. Develop partnerships between local actors
4. Conduct in-depth and intensive scientific/technological research needs on the ecosystem approach
5. Integrate existing environmental management and functions.

According to the CASE framework, an important way by which cities can transform themselves into sustainable ecosystems is by acquiring Environmentally Sound Technologies (EST). Through an online system, the United Nations Environment Programme (UNEP) facilitates the access and local control in EST-related information transfer.[99] The organization also provides a free, searchable directory of ESTs intended to assist decision-makers in selecting, transferring and implementing ESTs.

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[99] United Nations Environment Programme. Website: Environmentally Sound Technologies Information System (ESTIS). http://www.estis.net/

Examples

A number of communities across Canada are adopting the Melbourne principles to guide their sustainable planning initiatives, including, in Ontario, Severn Sound[100], Rainy River First Nations[101], and Niagara Region[102], and the Calgary Regional Partnership.[103]

Municipal Sustainability Planning

Description[104]

Developed by the Alberta Urban Municipalities Association (AUMA), the Municipal Sustainability Planning (MSP) approach is used by municipalities to identify and implement short-, medium- and long-term actions that will guide a community into the future. A Municipal Sustainability Plan (MSP) is essentially a "high level overarching document" that provides guidance for the development or alignment of municipal plans and policies, and provides a framework for monitoring a community's progress in achieving its goals. The approach underlines the need for communities to balance the five dimensions of community sustainability – social, cultural, economic, environmental and governance – in order to work towards a sustainable future.

The AUMA framework provides mostly methodological advice; it does not include a detailed list of sustainability principles. The *Comprehensive Guide for Municipal Sustainability Planning*, which was developed by AUMA in 2006, provides support for municipalities interested in developing and implementing an MSP by outlining a detailed process they can follow.[105] The entire MSP process is meant to be led by a community's municipal Council, but citizen engagement and the development of partnerships with key community leaders and organizations are integral to each step of the process. On its MSP web pages, AUMA identifies a list of tools and resources that can be used by municipalities in the development and implementation stages of an MSP. In collaboration with The Natural Step, AUMA also offers e-learning courses on sustainability for interested municipal Council, administrators and community members.

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[100] Severn Sound Environmental Association. Accessed May 20, 2008. Website: *Severn Sound Environmental Association – Sustainability and Planning 2008*. http://www.severnsound.ca/sustainability.htm#Melbourne%20Principles

[101] Rainy River First Nations. Accessed May 20, 2008. Website: *Rainy River First Nations – Departments – Watershed*. http://rainyriver.firstnation.ca/watershed

[102] Regional Municipality of Niagara. 2004. *Melbourne Principles: Assessing Niagara Region against the Melbourne Principles*. http://www.regional.niagara.on.ca/living/smartgrowth/pdf/SustainabilityPlanReport.pdf

[103] City of Calgary. Accessed May 20, 2008. Website: *City of Calgary – City Hall – Business Units – Environmental Management – Strategic Environmental Initiatives – Triple Bottom Line – Melbourne Principles*. http://content.calgary.ca/CCA/City+Hall/Business+Units/Environmental+Management/Strategic+Environmental+Initiatives/Triple+Bottom+Line/Melbourne+Principles.htm

[104] Alberta Urban Municipalities Association. Accessed May 20, 2008. Website: *Alberta Urban Municipalities Association – Municipal Sustainability Planning*. http://msp.auma.ca/

[105] Alberta Urban Municipalities Association. 2006. *Comprehensive Guide for Municipal Sustainability Planning*. http://msp.auma.ca/Overview/Resources/#aumaMspDocuments

Examples

So far, five pilot communities in Alberta have gone through the MSP process: the Town of Olds[106], the Town of Claresholm[107], the town of Pincher Creek[108], the villages of Chauvin[109] and Thorhild.[110] In April 2008, 120 members of communities throughout Alberta participated in an MSP conference organized by AUMA. A number of representatives expressed interest in implementing the MSP process in their community. In order to facilitate adoption, AUMA will be hiring eight regional coordinators in 2008, who will help communities in the developmental stages of the MSP process.

Integrated Community Sustainability Planning

Description[111]

Since the introduction of the Federal Gas Tax Fund (GTF) in 2005, the federal government, provinces and territories have entered into agreements respecting the transfer of federal gas tax revenues for public infrastructure projects. Municipalities automatically receive this funding and can use it, or their own funds, to develop an Integrated Community Sustainability Plan (ICSP), which must be completed by 2010 or over the life of the regional Agreements, which extend to 2015. Currently, the only exception is the Yukon, whose municipalities must complete an ICSP *before* the funding is transferred.

An Integrated Community Sustainability Plan (ICSP) is defined as a *long-term plan, developed in consultation with community members, that provides direction for the community to realize the sustainability objectives it has for the environmental, cultural, social and economic dimensions of its identity*. The ICSP is meant to be an "umbrella plan" that provides a long-term (20 years or more) vision and strategic framework ensuring all decision-making and planning processes (including land use, transportation, environment, housing, economic development, social development, culture, capital

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[106] Town of Olds. Accessed May 20, 2008. Website: *Town of Olds – Council – Sustainable Living – Olds Strategic Sustainability Plan*. http://www.olds.ca/sustain.html

[107] UMA Engineering Ltd. February 2008. *Town of Claresholm Municipal Sustainability Plan*. http://www.townofclaresholm.com/PDF/Town%20of%20Claresholm%20Municipal%20Sustainability%20Plan%20(FEB%2020 08).pdf

[108] Town of Pincher Creek. 2008. *Pincher Creek Municipal Sustainability Plan*. http://www.auma.ca/live/digitalAssets/18/18037_Pincher_Creek.pdf

[109] Village of Chauvin. April 2008. *Village of Chauvin Municipal Sustainability Plan Pilot Community*. http://www.auma.ca/live/digitalAssets/18/18035_Chauvin.pdf

[110] Village of Thorhild. April 2008. *Village of Thorhild Municipal Sustainability Plan Pilot Community.* http://www.auma.ca/live/digitalAssets/18/18043_Thorhild.pdf

[111] Sources, unless otherwise noted:

a) Department of Finance, Government of Canada. *Budget 2005: A New Deal for Canada's Communities*. Feb. 23, 2005. http://www.fin.gc.ca/budget05/pamph/pacome.htm

b) Infrastructure Canada, Government of Canada. *Gas Tax Fund*. Published Feb. 27, 2008. Accessed May 9, 2008. http://www.infrastructure.gc.ca/ip-pi/gas-essence_tax/index_e.shtml#table

c) Infrastructure Canada, personal communication with the Federation of Canadian Municipalities. July 2008.

investments and infrastructure planning) are coordinated and work towards desired outcomes.

Although the requirements for ICSPs vary according to the Agreements with each province/territory, the plans are generally encouraged to exhibit the following features:

- A co-ordinated approach to community sustainability (e.g., linkages of various plans, planning and financial tools that contribute to sustainability objectives).
- Reflection of integrated social, cultural, environmental and economic sustainability objectives in community planning.
- Collaboration with other municipalities in the region, where appropriate, to achieve sustainability objectives.
- Engagement of residents in determining a long-term vision for the municipality.
- Flexibility to adapt to changes in the community, society, the environment, and the market.

With the ultimate goal of community sustainability in mind, the development and implementation of an ICSP has the potential to achieve the following objectives:

- Cost savings,
- Enhanced capacity to meet community needs,
- A strong and creative community, managing change more efficiently,
- More effective policy development,
- Greater community cohesion,
- Stronger regional links, and
- Helping a community stay resilient.

ICSPs do not replace existing planning tools but rather build on them. The model acknowledges that a number of planning tools and frameworks, such as the ones outlined in this report, are already available for communities. Although it uses the Local Agenda 21 model as an example of how an ICSP can be developed, communities are free to select whichever framework best suits their objectives and circumstances. Some provinces, such as Ontario, are developing more detailed ICSP frameworks and guidelines/toolkits.[112]

Some of the limitations of ICSPs include a lack of guidance and clarity with regards to the key characteristics that a sustainable community plan must cover.[113] This poses problems for communities that have little capacity or experience in developing community planning processes. Also, communities are adopting ICSP on the basis of federal/provincial funding opportunities; pre-existing commitment to community sustainability is therefore not inherent to the process.

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[112] Infrastructure Canada. August 20, 2007. Association of Municipalities of Ontario (AMO) Conference presentation, "*Sustainable Planning for Canadian Communities: ICSPs and other tools*". http://www.amo.on.ca/AM/Template.cfm?Section=Conference_Proceedings4&Template=/CM/ContentDisplay.cfm&ContentID =149167

[113] Infrastructure Canada. 2007. *The Path Towards Sustainability: An Evaluation of the "Sustainability-ness" of Selected Municipal Plans in Canada.* http://www.infrastructure.gc.ca/research-recherche/alt_formats/pdf/rn08_e.pdf

Examples

To date, numerous municipalities across the country have embarked on sustainability plans through the GTF/ICSP program, including Whitehorse, YK,[114] Dawson Creek, BC[115] and Airdrie, AB.[116]

Summary of SCP Approaches

While the approaches described above have been extensively used in Canada, they do not cover all SCP initiatives at the community level. It is also important to note that, while each of the models provides a unique approach to SCP, they are not mutually exclusive. A single community may adopt one model as a principle framework but use elements of the other models. For example, in Wolfville, NS, the town used the Natural Step model but also utilised a locally-adapted version of the Melbourne Principles to guide their Sustainable Community Plan and Municipal Planning Strategy.[117]

Exhibit 3.2 provides a summary and comparison of the SCP approaches covered in this section.

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[114] City of Whitehorse. Accessed May 20, 2008. Website: *City of Whitehorse – Integrated Community Sustainability Plan*. http://www.city.whitehorse.yk.ca/index.asp?Type=B_BASIC&SEC=%7B28F654A7-CA64-4455-87B8-DF29756E12EA%7D

[115] City of Dawson Creek – Sustainable Dawson Creek Initiative. Accessed May 20, 2008. Website: *Sustainable Dawson Creek – What We're Doing – Sustainability Plan*. http://www.planningforpeople.ca/what_we_are_doing/sustainability_plan/index.asp

[116] City of Airdrie. Accessed May 20, 2008. Website: *City of Airdrie – Sustainability*. http://www.airdrie.ca/sustainability

[117] Town of Wolfville. February 29, 2008. *Town of Wolfville Municipal Planning Strategy, Draft 3* "for discussion purposes only". http://www.town.wolfville.ns.ca/taskforce/sustainable/mps_draft_3_feb_29_2008.pdf

Exhibit 3.2
Summary of Sustainable Community Planning Approaches

Attribute	Smart Growth	Local Agenda 21	Adaptive Management Planning	Natural Step	Melbourne Principles / Cities as Sustainable Ecosystems	Municipal Sustainability Planning (AUMA)	Integrated Community Sustainability Planning
Scale	Local/regional	Local/regional	Any	Any	Bioregion	Municipal	Local
Holistic Systems Approach	Depends on application	Yes	Yes	Yes	Yes	Yes	Yes
Multi-Generational	Implied	Yes	Yes	Yes	Yes	Yes	Yes
Adaptive Management	Concept compatible	Concept compatible	Yes, well defined	Concept compatible	Yes	Yes	Yes
Institutional Base	Not-for-profit	Not-for-profit	Private sector firm	Not-for-profit	Not-for-profit	Not-for-profit	Not-for-profit
Proprietary vs. Distributed	Widely distributed	Concepts widely distributed; tools proprietary	Proprietary	Framework in public domain	Widely distributed	Framework in public domain	Widely distributed
Extent of Network	Largely in US; beginning in Canada	500 members worldwide	Limited to Sheltair Group clients	Active in 10 countries; Network of 60 communities in Sweden	Worldwide through UNEP/IETC	Limited, through AUMA	Canada-wide
Multi-party Engagement	Yes	Yes	Yes	Depends on application	Yes	Yes	Yes
Training & Consultation	Yes	Yes	Yes	Yes	Yes	Yes, through AUMA & Natural Step	Limited
Range & Strength of Tools	• Very practical and engaging • Strongest at the implementation phase • Puts land development in sustainability context	• Training programs, principles, planning and implementation tools • Many self-assessment tools • Widely tested • Strongest at implementation phase	• Adaptive Management Framework, plus various training programs and software tools • Strong conceptual analysis	• Training programs, materials science based, strongest at awareness, principles, visioning and target setting phases	• Melbourne Principles accepted and their application is well thought out	• Strong emphasis on community participation • E-learning, and comprehensive guide containing specific tools and resources	• Participatory process and flexible structure • Funding opportunities

Attribute	Smart Growth	Local Agenda 21	Adaptive Management Planning	Natural Step	Melbourne Principles / Cities as Sustainable Ecosystems	Municipal Sustainability Planning (AUMA)	Integrated Community Sustainability Planning
Weaknesses	• Definition somewhat diffuse • No particular planning method • Focuses mostly on built environment	• Absence of specific goals or tasks	• Complexity and need for expertise and capacity building	• Lack of attention to social and economic dimensions of sustainability • Rigid model	• Methodology not well worked out	• Absence of specific principles or goals	• Lack of guidance and clarity • Funding opportunity basis of adoption
Example Communities	Maple Ridge, Squamish, Oliver, North Vancouver, Edmonton, Guelph, Ottawa, Halifax	Hamilton, Montreal	Metro Vancouver, Rossland, Wood Buffalo	Canmore, Strathcona County	Severn Sound, Rainy River First Nations, Niagara Region, Calgary Regional Partnership	Olds, Claresholm, Pincher Creek, Chauvin, Thorhild	Whitehorse, Dawson Creek, Airdrie

Source: Adapted from Seymoar, N. 2004. *Planning for Long-term Urban Sustainability: A Guide to Frameworks and Tools*.

3.2.4   Sustainable Neighbourhood Planning Approaches

Similar to the sustainable *community* planning approaches described in the previous sub-section, below are sustainable *neighbourhood* planning approaches used in Canada, namely:

•   New Urbanism
•   LEED for Neighbourhood Development
•   One-Planet Living
•   SuN LIVING

New Urbanism

Description

New Urbanism is an urban design movement that attempts to improve liveability, environmental health and community cohesion through neighbourhood design. It was born in the US in the 1980s in reaction to the wasteful, placeless and mediocre community designs that had come to characterize the majority of new developments. The heart of New Urbanism is in the design of neighbourhoods, including prominent public places, local retail and services within the neighbourhood, mix of housing types, narrower streets, laneways, smaller setbacks, traditional architectural designs and a less prominent place for garages and driveways. New Urbanist neighbourhoods are more walkable and bikeable than conventional streets, lends themselves better to socializing and community building, tend to preserve existing environmental features (like wetlands and woodlots) and discourage car usage to some extent.[118]

New Urbanist developments are often carried out with intense public consultation using charrettes that bring together the full range of professional, economic, and community stakeholders. The New Urbanist agenda dovetails with SCP in general and Smart Growth in particular but – as an urban design approach – is more driven by aesthetic rather than environmental concerns and focuses on the neighbourhood rather than the urban system as a whole. Moreover, it is sometimes criticized for being weak on social issues such as housing affordability and may contribute to urban sprawl if new developments are located on the urban edge.[119]

Examples

There are over 300 New Urbanist Developments in the US and over 30 in Canada (many of the currently under development), including Dockside Green in Victoria, Garrison Woods and McKenzie Towne in Calgary, Cornell in Markham, and Bois Franc in Montreal.[120]

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[118] Robert Steuteville, ed. 2001. New Urbanism: Comprehensive Report and Best Practices *Guide. (Ithaca: New Urban Publications).*

[119] Jill Grant. 2006. *Planning the Good Community.* (London: Routledge).

[120] Ray Tomalty and Murtaza Haider for Canada Mortgage and Housing Corporation. (forthcoming). *Comparing Canadian New*

LEED for Neighbourhood Development

Description

The U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) rating system provides green building ratings based on a points earned through: energy use, efficiency, and supply; water use, efficiency, and supply; construction and finishing materials; construction methods; brownfield site conditions; and other factors. The U.S. LEED system now includes Neighbourhood Development (LEED ND) and the Canadian Green Building Council (CaGBC) is currently adapting the rating system for Canada.[121] However, the rating system may not focus on social aspects (e.g., affordable housing) enough to satisfy the definition and goals of ideal SCP set out in Section 3.1.

Examples

While the Canadian Green Building Council adapts LEED ND for Canada, the U.S. LEED ND system is going through a pilot program in Canada, including projects such as Dockside Green in Victoria, BC.[122]

One-Planet Living

Description

The BioRegional Development Group, an "an entrepreneurial, independent environmental organization" in the UK, has developed a model for sustainable neighbourhood design called One Planet Living.[123] The goal of the initiative is to build a world-wide network of One Planet Living (OPL) Communities, which will demonstrate that living comfortably within the planet's carrying capacity is feasible anywhere in the world. Projects meeting OPL standards (which are negotiated on a project-by-project basis but are based on a set of international standards developed by BioRegional) are endorsed by the organization. The project can then be advertised as an OPL community.

The BioRegional approach is based on:

- *One Planet Living*: reducing our ecological footprint to live within a fair share of the Earth's resources.

Urbanist and Conventional Suburban Neighbourhoods.

[121] United States Green Building Council. *LEED for Neighbourhood Development.* http://www.usgbc.org/ShowFile.aspx?DocumentID=3357

[122] Dockside Green. Accessed May 20, 2008. Website: *Dockside Green – Sustainability – Ecology – Other Environmental Commitments – LEED Neighbourhood Rating System.* http://docksidegreen.com/sustainability/eco-friendly/other-environmental-commitments.html

[123] BioRegional Solutions for Sustainability. Accessed May 20, 2008. Website: *BioRegional Solutions for Sustainability – One Planet Living.* http://www.bioregional.com/oneplanetliving/communities

- *Local resource availability*: using local farmland, woodlands, renewable energy and waste efficiently to meet more of our needs.
- *Closing the loop*: recycling and reclaiming materials or using waste heat from industry.
- *Appropriate scale technology*: allowing us to use regional resources which reduces transport and boosts the local economy.
- *Network production*: producing locally with centralized co-ordination and marketing.
- *Fair trade*: moving away from damaging low-value commodities to higher value, environmentally sound products.

Examples

At present, there is one neighbourhood development project in Canada applying for OPL endorsement: the Meadowbrook project in Montreal, planned as a mixed-use green community situated on a former golf course in the west end of the city.[124]

SuN LIVING

Description

SuN LIVING is a holistic planning and integrated design approach that can be used in planning, designing and implementing a sustainable neighbourhood. Essentially a "how-to" manual on sustainable development at the project level, the guide shows users how to link broad concepts of sustainable development and sustainable living to detailed neighbourhood-scale design decisions. Inspired in part by the One Planet concept, it covers the full range of sustainability issues, from food production and transportation to culture, water and waste. Initially developed through Natural Resources Canada, SuN LIVING is comprised of five steps: *commit, initiate, explore, synthesize* and *implement*. The framework begins with broader scale concepts of sustainability and systematically unbundles these concepts into more detailed goals, targets strategies and actions.[125] The model consciously attempts to provide a "single, inclusive approach" that integrates the best features of the other SCP approaches identified in this review.

Examples

The model is being applied in the design and approval process for the Emerald Hills Urban Village, a 20-hectare mixed-use neighbourhood located within Sherwood Park, in Strathcona County, AB. The Village will integrate residential, commercial retail, office, restaurants, cafes, recreation and natural areas to provide for a complete community.[126]

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[124] The Informer: Montreal West Viewspaper. March 2008, Vol. 36, No. 2. "Les Amis de Meadowbrook."
http://www.montreal-west.ca/images/gallerie/March%202008informer(2).pdf

[125] Wil Mayhew and Elisa Campbell. 2008. *Sun Living: Developing Neighborhoods with a One Planet Footprint.* (Christenson Developments).

[126] Strathcona County, Planning & Development Services. Accessed May 20, 2008. *Emerald Hills Urban Village: A SuN LIVING Pilot Project.*
https://webpub3.strathcona.ab.ca/NR/rdonlyres/enjtahcked7kxk7yvjy67zsh5a3w5jcttf4cgymdv4c3pnoo6gbo75qpw6rd7g4lk3m3qioj5mru4tiqwgefxx4j2yd/Attachment-PDS-EH-EmeraldHillsBrochure.pdf

3.2.5 Related Initiatives

Further to the sustainable community and neighbourhood planning approaches described in the previous two sub-sections, below are some related initiatives in Canada, namely:

- Sustainability by Design
- Environmental & Sustainability Features in Conventional Planning Exercises
- Sustainable Community Charters

Sustainability by Design[127]

Description

The University of British Columbia (UBC) Design Centre for Sustainability (DCS) is leading a collaborative effort to produce a visual representation of what the Greater Vancouver region might look like in 2050, at neighbourhood, district and region-wide scales. Over the next few years, Sustainability by Design will create and coordinate a series of design briefs, research tools, stakeholder design charrettes, educational events, community workshops, exhibitions and publications. Municipal officials, researchers, citizens, and community stakeholders will explore consensus based concepts for how a sustainable Vancouver region might evolve.

This project is intended to elicit interest and participation in sustainable community design among elected officials, municipal and regional planners, the NGO sector, developers and real estate professionals as well as the broader population of community advocates and citizens.

Sustainability by Design will apply sustainability targets, tools and design principles to prototypical urban/suburban sites within the Vancouver region. The study team has identified three typical areas for study:

- **Corridors**: Commercial arterials such as Hastings Street or Lougheed Highway;
- **Edges**: Interfaces between the Agricultural Land Reserve, the GVRD "Green
- Zone" and developed urban areas; and
- **Nodes**: Key regional interchanges where transportation and natural systems conjoin.

These three study areas represent the building blocks of a more sustainable region; each provides unique and replicable opportunities for smarter, greener urban design.

The sustainability principles used in Sustainability by Design are:

    1. Integrating natural systems reduces infrastructure costs and environmental

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[127] University of British Columbia Design Centre for Sustainability. 2006. *Sustainability by Design: Guiding Principles.* *http://www.dcs.sala.ubc.ca/projects_sustxdesign.html & http://www.sxd.sala.ubc.ca/10_publications/sxd%20brochure.pdf*

impact.

2. Job sites located within communities reduce time spent travelling to work.
3. Interconnected street systems link residents with the services they need.
4. High density commercial and residential corridors focus growth along transit routes.
5. Green spaces provide recreation opportunities and connect people with natural systems.
6. A range of housing types allows residents of differing economic situations to live in the same neighbourhood and have access to the same services.

Environmental & Sustainability Features in Conventional Planning Exercises

Description

It is important to acknowledge that there is no clear demarcation between SCPs and conventional plans that incorporate sustainability measures, including environmental strategies and plans, land use plans, corporate plans, transportation plans, etc. Although these plans usually don't have the breadth of public consultation, the wide range of issues, the integrative nature, and the long-term perspective of SCPs, they often include significant sustainability elements. In some communities, multiple plans with a sustainability perspective have been adopted, providing an excellent basis to develop a full-fledge SCP with which to give them coherence.

Examples

A good example is the City of Victoria, which does not have an integrated sustainability plan but has numerous conventional plans that have referenced sustainability. At a corporate level, the Corporate Strategic Plan (CSP) has broad goals of environmental sustainability, social and cultural development, and economic vitality.[128] A stated goal of the CSP is to increase focus on the environmental and social impacts of measures in City plans and corporate practices (triple bottom line). At a community level, the City of Victoria's Official Community Plan speaks to many of the principles of sustainability, with policies that support a healthy and efficient urban structure, mixed-use development, reduced dependence on the automobile, preservation of green space, and greenhouse gas reduction.[129] The Capital Regional District Growth Strategy[130] and the City of Victoria's Regional Context Statement[131] (which shows how the City's Official Community Plan is consistent with the regional plan) assert a Smart Growth strategy aimed at preserving the social, economic and environmental resources of the region for future generations. The

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[128] City of Victoria. 2007. *Victoria Corporate Strategic Plan*.
http://www.victoria.ca/cityhall/pdfs/strtgc_2007.pdf?zoom_highlight=Corporate+Strategic+Plan
[129] City of Victoria. Amendments to May 24, 2007. *Victoria Official Community Plan*.
http://www.victoria.ca/cityhall/departments_plnpub_ocp.shtml
[130] British Columbia Capital Regional District Growth Strategy. 2002 & Amendment 2007. *Capital Regional District Growth Strategy*. http://www.crd.bc.ca/regionalplanning/growth/index.htm
[131] City of Victoria. October 27, 2005. *Victoria Regional Context Statement*.
http://www.victoria.ca/common/pdfs/planning_ocpskeda_cntxts.pdf?zoom_highlight=Regional+Context+Statement

strategic directions highlighted in the Regional Growth Strategy endorse planning practices that are consistent with a sustainability framework, including managing natural resources and the environment sustainability, keeping settlement compact, building complete communities, improving housing affordability, increasing transportation choices, and strengthening the regional economy.

The City of Ottawa developed an environmental strategy in as part of its Ottawa 20/20 suite of plans in 2003.[132] Many other municipalities have "20/20" plans, as well.

Sustainable Community Charters

Description

A sustainability charter is a statement adopted by the community council that expresses its vision of sustainability and commitment to using sustainability principles in its decision-making processes. The charter may be a brief statement of basic principles and a description of how the principles will be manifested in municipal operations, as in Toronto, ON[133], or it may be a more elaborate undertaking, including policy statements and indicators of progress, as it is expected to be in Surrey, BC.[134] Most charters are developed in a relatively short time period (a few months) and involve limited community engagement. As their main purpose is to serve as an overarching strategy document that will guide other municipal policy initiatives, a sustainability charter does not typically involve partnerships with outside groups.

Examples

Besides Toronto and Surrey mentioned above, other communities that have developed, or are currently developing community charters, include Powell River, BC[135] and the Township of Langley, BC.[136]

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[132] City of Ottawa. Accessed May 20, 2008. Website: *City of Ottawa – Residents – Planning – Ottawa 20/20 – Environmental Strategy – Ottawa 20/20 Environmental Strategy*. http://www.ottawa.ca/city_services/planningzoning/2020/enviro/about_en.shtml

[133] City of Toronto. Accessed May 20, 2008. Website: *City of Toronto – City Initiatives – Sustainability in Toronto – Toronto Sustainability Charter*. http://www.toronto.ca/sustainability/sustainability_charter.htm

[134] *Doing Business – Land Development & Building – Plans & Policies – Plans in Progress –* .http://www.surrey.ca/Doing+Business/Land+Development+and+Building/Plans+and+Policies/Plans+in+Progress/Sustainability+Charter.htm

[135] City of Powell River. Adopted October 31, 2007. Website: *City of Powell River – News – Sustainability Charter*. http://www.powellriver.ca/siteengine/activepage.asp?NewsID=11&bhcp=1

[136] Township of Langley. Accessed May 20, 2008. Website: *Township of Langley – Municipal Services – Community Development – Sustainability – Sustainability Charter*. http://www.tol.bc.ca/index.php?option=com_content&task=view&id=1642&Itemid=1152

3.3   BEST PRACTICES

This section presents some examples of innovative practices by municipalities and partner organizations that could be used to develop or implement a SCP. Some of the best practices included may have been undertaken in the context of an SCP, but many were implemented as part of conventional planning processes and are included due to their potential to integrate well with SCP processes. In some cases, the practices depend on provincial enabling legislation, such as some of the financial instruments, and are not necessarily transferable to all jurisdictions across the country. Best practices related to transportation, energy, waste, and water are not covered here; rather, this section focuses on high-level planning and land use for the built and natural environments.

These best practices are summarized in Section 3.3.1 and described Sections 3.3.2 to 3.3.7 according to the categories below:

- Collaborative Planning Tools
- Technical Planning Tools
- Zoning, Building & Engineering Standards
- Land Use Planning Policies
- Guiding & Assessing New Development
- Financial Incentives

3.3.1   Overview & Applicability

The table in Exhibit 3.3 presents how the best practices relate to the challenges identified in Section 2, and indicates the applicability of these best practices to community types.

Exhibit 3.3
Overview & Applicability of Best Practices to Key Challenges & Community Types

Best Practice & Key Benefit(s) Relating to Challenges	Challenges Targeted or Affected[a]	Community Applicability[b]	Community Examples
COLLABORATIVE PLANNING			
Visioning • Helps deeply engage key stakeholders early, lessening resistance later from developers, the public, and politicians/advisors • Helps highlight potential areas of concern that can be addressed earlier	• G10, G12, G13 • S1, S2, S3, S5, S6, S8 • T1, T2, T5 • L1 • O1, O2, O3, O4	• All	• Calgary, AB • Dieppe, NB • Greater Vancouver Regional District (GVRD), BC
Charrettes • Helps deeply engage key stakeholders early, lessening resistance later from developers, the public, and politicians/advisors • Helps highlight potential areas of concern that can be addressed earlier	• G10, G12, G13 • S1, S2, S3, S5, S6, S8 • T1, T2, T5 • L1 • O1, O2, O3, O4	• All, but potentially lower cost-benefit for smaller communities	• East Clayton in Surrey, BC • Emerald Hills Urban Village in Strathcona County, AB • GVRD, BC • West Hills in Fredericton, NB
Community Engagement, Outreach & Education • Starts and possibly maintains key stakeholder engagement, lessening resistance later from developers, the public, and politicians/advisors • Helps surface potential areas of concern that can be addressed earlier	• G10, G12, G13 • S1, S2, S3, S5, S6, S8 • T1, T2, T5 • L1 • O1, O2, O3, O4	• All	• Annapolis Royal, NS • Guelph, ON • Ottawa, ON
Backcasting • Helps key stakeholders understand changes necessary to achieve a desired result, thus lessening resistance later from developers, the public, and politicians/advisors • Helps highlight potential areas of concern that can be addressed earlier	• Any except R1 & T1	• All	• Calgary, AB • Canmore, AB • GVRD, BC • Ucluelet, BC • Whistler, BC
Scenario Testing • Helps highlight potential areas of concern that can be addressed earlier	• E1 • S1, S2, S3, S5, S6, S8 • T1, T2 • O1, O4	• All	• Calgary, AB • GVRD, BC • Southeast False Creek in Vancouver, BC • Emerald Hills Urban Village in Strathcona County, AB
TECHNICAL PLANNING			
Formal Definition & Assessment of "Sustainability" • Allows more holistic and fairer assessment of the economic, social, and environmental goals of SCP	• F1, F3, F4, F6 • G2, G3, G4, G5, G6, G10, G11, G12, G13 • S4, S5, S6, S8 • T2 • L1 • O1, O2, O3	• All	• Dockside Green in Victoria, BC • Markham Centre in Markham, ON

Best Practice & Key Benefit(s) Relating to Challenges	Challenges Targeted or Affected[a]	Community Applicability[b]	Community Examples
Full-Cost Accounting • Allows more holistic and fairer assessment of the economic, social, and environmental consequences in municipal and non-municipal decision-making	• Any except R1 & T1	• All	• Southeast False Creek in Vancouver, BC
Indicators & Targets • Allows closer monitoring of the progress made toward SCP goals, helping highlight the changes needed in municipal and non-municipal decision-making to further support the SCP goals	• Any except R1 & T1	• All	• Dockside Green in Victoria, BC • Okotoks, AB • Whistler, BC
Environmental Budgeting / Carrying Capacity Analysis • Allows stronger defence of SCP in the face of opposition, since limits are firm	• E1 • F1, F3, F10, F11 • G2, G3, G4, G5, G6, G10, G12, G13 • S1, S5, S6 • T2, T3 • O1, O2, O3	• Communities where specific ecosystem dependencies can be articulated and measured	• Okotoks, AB
Ecological Footprint Analysis • Allows stronger defence of SCP in the face of opposition, since global consequences can be communicated better and per capita comparisons can be more easily made with other communities or regions	• E1 • F3, F10 • G6, G10, G12, G13 • S5, S6 • T2 • O1, O2, O3	• All	• Calgary, AB (under way)
ZONING, BUILDING & ENGINEERING STANDARDS			
Flexible Zoning • Allows more innovative implementation of land use aspects of SCP	• E1 • F1, F3, F10 • G6, G10, G12, G13 • S4, S5, S6, S8 • T1, T2 • L1 • O1, O2, O4	• All	• Cornell in Markham, ON • Farmington Village in Truro, NS • King St. warehouses in Toronto, ON • Pineglade in Ottawa, ON
Inclusionary Zoning • Encourages inclusion of more affordable housing, thus also increasing density	• F1, F4 • S4, S8 • T2 • O1	• All	• Ottawa, ON • Toronto, ON • Ucluelet, BC
Secondary Suites • Encourages inclusion of more affordable housing, thus also increasing density	• F1, F4 • S4, S8 • T2 • O1	• All	• Edmonton, AB • Regina, SK • Saskatoon, SK • Vancouver, BC
Alternative Engineering / Development Standards • Potential to increase density, minimize infrastructure, and thus decrease costs for denser development	• E1 • F1, F4 • S4 • T2 • O1	• All	• East Clayton in Surrey, BC • Pineglade in Ottawa, ON • Ucluelet, BC
Green Building Standards • Helps reduce environmental impacts of new developments	• E1 • F1 • T2 • O1, O3	• All	• Vancouver, BC • Toronto, ON

Best Practice & Key Benefit(s) Relating to Challenges	Challenges Targeted or Affected[a]	Community Applicability[b]	Community Examples
LAND USE PLANNING POLICIES			
Urban Growth Boundaries • Helps increase urban density through tougher approvals for greenfield development	• E1 • F1, F6, F8, F10 • G5, G14 • S5 • T2 • O1, O3	• All	• Ottawa, ON • Saanich, BC
Green Zones • Helps protect urban and peri-urban natural spaces by valuing their environmental, social, and economic benefits	• E1 • F1, F8 • T2 • O1, O3	• All	• "Greater Golden Horseshoe" (heavily urbanized area around western Lake Ontario), ON • Victoria (Capital Regional District), BC
Greyfield Redevelopment • Helps increase urban density through revitalization of failed commercial land in mature suburban areas	• E1 • F1, F4 • S4 • T2 • O1	• Mostly medium & large communities	• Markham, ON • North Hill in Calgary, AB
Brownfield Redevelopment • Helps increase urban density through remediation and redevelopment of heavily polluted land	• E1 • F1, F4 • T2 • L1 • O1, O3	• All	• Cambridge, Hamilton, Kingston, London, Niagara, and Thunder Bay, ON • Edmonton, AB • East Village in Calgary, AB • Montreal, QC
Transit-oriented Development • Helps increase urban density and decrease travel demand through development near public transit lines	• E1 • F1, F4, F5 • G5 • S5, S8 • T2 • O1	• All communities with existing or planned public transit	• Calgary, AB • Ottawa, ON • Regional Municipality of York, ON
GUIDING & ASSESSING NEW DEVELOPMENT			
Scorecards • Allows municipal evaluation of development proposals against SCP goals	• E1 • F1, F3, F4, F5, F7, F8, F10 • G2, G6, G10, G12, G13 • S4, S5, S6, S8 • T1, T2 • L1 • O1, O2, O3	• All	• Calgary, AB • Markham, ON
Checklists • Allows developer evaluation of their own development proposals against SCP goals	• E1 • F1, F3, F4, F5, F7, F8, F10 • G2, G6, G10, G12, G13 • S4, S5, S6, S8 • T1, T2 • L1 • O1, O2, O3	• All	• New Westminster, BC • North Vancouver, BC

Best Practice & Key Benefit(s) Relating to Challenges	Challenges Targeted or Affected[a]	Community Applicability[b]	Community Examples
Sustainable Development Guidelines • Allows better municipal evaluation of development proposals against SCP goals	• E1 • F1, F3, F4, F5, F7, F8, F10 • G2, G6, G10, G12, G13 • S4, S5, S6, S8 • T1, T2 • L1 • O1, O2, O3	• All	• Calgary, AB • Saskatoon, SK
Development Impact Studies • Allows more formal municipal evaluation of development proposals or completed projects against SCP goals	• E1 • F1, F3, F4, F5, F7, F8, F10 • G2, G6, G10, G12, G13 • S4, S5, S6, S8 • T1, T2 • L1 • O1, O2, O3	• All	• Saanich, BC
Integrated Review of Development Applications • Allows more integrated municipal team evaluation of development proposals against SCP goals	• E1 • F1, F3, F4, F5, F7, F8, F10 • G2, G6, G10, G12, G13 • S4, S5, S6, S8 • T1, T2 • L1 • O1, O2, O3	• All	• Markham, ON
FINANCIAL INCENTIVES			
Density Bonuses • Helps increase urban density and community amenities through special arrangements with developers	• E1 • F1, F4, F10 • G2, G10, G12, G13 • S5, S6 • T2 • O1, O2, O3	• All	• Sidney, BC • Toronto, ON • Ucluelet, BC
Tax Abatements • Helps increase urban density and encourage more sustainable building in target areas through municipal tax breaks	• E1 • F1, F4, F10 • G2, G10, G12, G13 • S5, S6 • T2 • O1, O2, O3	• All	• Cambridge, ON • Saskatoon, SK
Development Charges • Helps increase urban density and encourage more sustainable building in target areas through lower municipal development charges	• E1 • F1, F4, F10 • G2, G10, G12, G13 • S5, S6 • T2 • O1, O2, O3	• All	• District of North Vancouver, BC • Kamloops, BC • Kelowna, BC • Langley, BC
Fuel Tax Surcharges • Helps fund urban transportation planning and infrastructure (e.g., roads, public transit), and encourages modal transportation shift from personal vehicles	• E1 • F1, F2, F3, F5 • G2, G5 • S8 • O1	• Mostly medium & large communities	• Metro Vancouver (formerly GVRD), BC • Montreal, QC • Victoria, BC

a. Code numbers are those assigned to Challenges in Section 2
b. According to community characteristics such as region, size, urban / rural, and northern & remote

Using the same categories as in Exhibit 3.3, the following sub-sections describe these best practices and the noted examples of communities or neighbourhoods that have used each practice.

3.3.2   Collaborative Planning Tools

Several planning tools are useful for awareness building, problem diagnosis, and dialogue and participation in decision-making. These methods and tools can be used from the pre-planning through to the evaluation stages of the planning process.

The collaborative planning tools described below are:

• Visioning
• Charrettes
• Community Engagement, Outreach & Education
• Backcasting
• Scenario Testing

Visioning

Description

The SCP process usually implies a commitment to a bottom-up participatory process that engages citizens in setting community goals and designing the specific steps to move toward those goals. One of the most common techniques used in such a process is community visioning. Visioning is essentially a broad-based discussion about what community success would look like, the community's core values, and goals for its social, environmental, economic future. A vision paints a desirable future that clarifies community goals and provides a framework for both short-term and long-term planning decisions.

Visioning serves a number of purposes:

• Invites people to talk about their hopes and dreams for a community; it is generally seen as an inspirational exercise that draws people into the SCP process and motivates them to become agents of change in the community.
• Builds trust and familiarity among participants, which can facilitate later discussion of controversial issues.
• Helps identify issues that need to be addressed in the SCP.
• Helps realize sustainable planning goals by involving individuals and stakeholders who will be involved in implementing actions to achieve the vision.
• Helps citizens understand the trade-offs involved in moving toward sustainability, e.g., that a community cannot preserve farmland but continue with low-density development.

Visioning generally occurs in three steps:

1. A dialogue on the community's values and what they want the community to become is conducted within the community;
2. Results from the dialogue are synthesized (either by municipal staff or a citizens' advisory group/round table) into a statement of vision, which is then submitted for community and Council approval; and
3. The statement of vision is shared broadly within the community and incorporated into key planning documents.

A vision statement usually has the following elements:

- Broad statement of what the community could be like within the next 20-50 years. This is usually a descriptive narrative that identifies the key changes that will be made to the community and features of the current community that should be preserved.
- Statement of core values or principles upon which there is broad consensus.
- Strategic goals gathered under the three dimensions of sustainability (environmental, social, economic).

Examples

The degree of engagement can vary from one community to the next. Examples of community visioning exercises are:

- In Dieppe, NB, a Steering Committee of eight citizens, two municipal staff and one city councillor carried out informal discussions with citizens and then proposed a vision statement.

- The City of Calgary created a 100-year plan, named *imagineCALGARY* that was developed with the help of over 17,000 citizens.[137] These citizens participated in dozens of "Imagining Sessions", lasting from 30 minutes to three hours each, with the results synthesized by a Round Table comprised of nearly 40 citizen volunteers. The plan identified 27 long-term visionary goals for the city to meet in areas such as energy, water, and transportation. These goals were complemented by over 100 associated short- and medium-term targets. The plan includes visions for policies and programs, such as a sustainable building policy and a green electricity policy.

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[137] City of Calgary. Accessed May 20, 2008. Website: *imagineCalgary.* http://www.imaginecalgary.ca

Charrettes

Description

Charrettes are increasingly being used to bring together the full range of stakeholders in new development to find innovative solutions and resolve conflicts among the many interests involved in SCP. A charrette is a collaborative planning process that helps integrate sustainability principles into planning and design projects during their formative stages. Charrettes take place in a roundtable format to explore a problem holistically, clarify project goals and objectives, identify constraints, and illustrate possibilities using the collective expertise of the group. Participants usually come from a diverse range of public and private sectors, including government officials, academics, designers, consultants, stakeholders, and NGO's,

The strengths of the charrette format are as follows:[138]

• **Long-term thinking**: The time constraints and, often, competitive spirit of the charrette makes it a useful tool for brainstorming ideas "outside the box" and it pushes participants to look beyond immediate limitations in search of ideal future solutions.

• **Integration**: The multi-disciplinary nature of charrettes allows a wide range of expertise to explore the trade-offs and consequences of design decisions, thus avoiding the piecemeal approach.

• **Decision-making**: A charrette brings together those experiencing a problem and those with the power to change the problem.

Examples

The charrettes conducted for the East Clayton project in Surrey, BC are often cited as a model to follow.[139] In January 1999, Surrey Council directed City staff to commence the preparation of a Neighbourhood Concept Plan (NCP) for East Clayton. Council also directed staff to explore the application of sustainable development principles, standards and practices during the NCP planning process. The NCP preparation process involved identifying constituencies of interest, a series of workshops, a design brief, a planning design team, two charrette events and public consultation sessions. The charrettes, held in April and May 1999, were each two days in length. The first aimed at identifying alternatives and systems, and the second aimed at developing specific subdivision patterns and standards. As well, a series of mini-charrettes focused on technical matters and design innovations. The resulting NCP represented one of the first major

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[138] Lourette Swanepoel, Elisa Campbell and Sebastian Moffatt for The Sheltair Group. 2003. *Tools for Planning for Long-term Urban Sustainability: The citiesPLUS Design Charrettes.* http://www.sheltair.com/library/PreliminaryPages.pdf

[139] University of British Columbia Design Centre for Sustainability. Accessed May 20, 2008. *Charrette Case Studies: East Clayton Charrette.* http://www.jtc.sala.ubc.ca/projects/DesignManual/East_Clayton.pdf

undertakings in Canada to apply sustainable development principles to a subdivision development.[140]

Another well-known charrette was conducted for the Emerald Hills Urban Village project in Strathcona County, AB. This exercise – held in December, 2006 – was designed to pilot the SuN LIVING neighbourhood planning methodology and to consolidate a development model for sustainable urban neighbourhoods that both developers and the municipality could institutionalize.[141]

Fredericton, NB also did a sustainable development charrette in 2004 for its West Hills subdivision.[142] The charrettes brought together 20 local, regional and national experts for two-and-a-half days, with participants grouped into three design teams, each led by a facilitator with experience in sustainable design issues.

Design charrettes were also done for Vancouver's 100-year planning exercise.

Community Engagement, Outreach & Education

Description

The role of community engagement and outreach in the context of community planning should be to improve the planning and delivery of services by making them more responsive to the aspirations and needs of the communities. These activities may involve: distributing paper or electronic information; paper, telephone, or online surveys; interactive online applications; face-to-face meetings; tours; demonstrations; rallies; and many other forms of community engagement.

Examples

Below are some examples of communities with best practices in community engagement and communication:

- **Guelph, ON**: The City of Guelph, Ontario created *GuelphQuest*, an online, interactive animation simulator that allows people to choose different policy choices and displays their potential results for a 30-year timeframe.[143] Also the Strategic Plan underwent a public consultation that took place with a wide array of individuals and groups through focus groups, telephone interviews, a youth challenge and surveys to

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[140] University of British Columbia Design Centre for Sustainability. Accessed May 20, 2008. Website: *The Headwaters Project*. http://www.jtc.sala.ubc.ca/projects/Headwaters/Headwaters_intro.html

[141] a) Wil Mayhew and Elisa Campbell. 2008. *Sun Living: Developing Neighborhoods with a One Planet Footprint.* (Christenson Developments)
b) University of British Columbia Design Centre for Sustainability. Accessed May 20, 2008. Website: *Design Centre for Sustainability – Projects – Emerald Hills, Alberta*. http://www.dcs.sala.ubc.ca/projects_emerald.html

[142] Canada Mortgage and Housing Corporation. December 2007. *Research Highlight: West Hills Subdivision Sustainable Development Charrette* (Socio-economic Series 07-004).

[143] City of Guelph. 2008. *Guelph Quest*. http://guelph.ca/living.cfm?subCatID=1615&smocid=2193

get a sound understanding of what the City should be like in the future. All the information collected was provided to Council and the Senior Management Team for consideration prior to the development of a draft Strategic Plan framework.

- **Ottawa, ON**: The City of Ottawa's Beyond Ottawa 20/20 Planning for the Future consultations involved open houses and small drop-in discussion groups with invitations to the public.[144] Additionally, white paper discussion papers were published on their website that included information on the current situation and different scenarios and ideas for the public to discuss and respond to.

- **Annapolis Royal, NS**: The Town of Annapolis Royal, NS surveyed households, businesses and day-users in the town and in surrounding counties on how they wanted the town to develop under their Municipal Strategic Plan. This included conducting a two-page community survey on sustainability issues, such as ranking environmental, social, and economic priorities for the town.[145] They also used information flyers, mailings and newspaper coverage to pass information to the public.

Backcasting

Description

Conventional planning is based on forecasting, e.g., of population growth, economic changes, or housing demand based on current trends. Many planners see their job as essentially preparing the community to adapt to forecasted changes in the most efficient way. Backcasting is the opposite of forecasting, i.e., it is working backwards from a desired future state to figure out what conditions must be put in place now and over time to achieve that future state. Backcasting helps a community get a critical perspective on current trends (which are often part of the problem being addressed by a SCP initiative) by comparing them to the trends that will result in the desired future. For example, whereas conventional community planning practice would project the need for new road capacity from existing trends, a sustainable community planning process would work backwards from a vision of a more transit- or pedestrian-friendly city and explore other options, such as transportation demand management and growth management.

The purpose of backcasting is to:

- Help a community to proactively take control of its future by letting its vision frame current planning decisions.
- Identify the range of possible paths for achieving future goals.

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[144] City of Ottawa. February 2008. *Beyond Ottawa 20/20: Planning for the Future*. https://ottawa.ca/residents/public_consult/beyond_2020/index_en.html

[145] a) Town of Annapolis Royal. Winter 2007. *Community Survey on Sustainability Issues for West Hants, Kings, Annapolis, and Digby Counties – Winter 2007*. http://www.annapolisroyal.com/icsp.php
b) Marbek Resource Consultants interview with: Amery Boyer, Chief Administrative Officer, Town of Annapolis Royal. February 2008.

- Help a community reconcile the idealistic goals (e.g., as expressed in a community vision) and the need to be pragmatic in terms of the steps required to get there (i.e. what we can do today)
- Help ensure the community uses its resources in the most effective way to achieve desired outcomes by laying out consistent, long-term paths to desired goals and short-term decisions that are consistent with or build towards those paths.

The backcasting process usually involves breaking down the community vision into component parts (e.g., water, energy, transportation, housing, habitat, education) and assigning a work group to each component in order to identify and model the various possible paths for achieving the desired outcomes. The workgroups then bring their results together to look for consistencies and contradictions, resulting in a higher-level set of options.

Examples

Backcasting (in combination with forecasting) has been used in the 100-year planning exercises in both Vancouver and Calgary, and in Natural Step processes in Canmore, AB and Whistler, AB.[146] In the late 1990s, the Town of Ucluelet, British Columbia was undergoing an economic shift as their traditional primary industry – forestry – was declining and they were targeting a new economy based on tourism. Through grassroot and informal public consultations, a vision of where the Town wanted to be in the future was created and resulted in their Official Community Plan (OCP).[147] The OCP vision ensured that future developments gave back to the community and that overall Ucluelet maintained its character and a small community feel, while also protecting the environmental integrity of the municipality. The Town of Ucluelet uses the OCP vision as the basis for backcasting all of their re-zoning decisions for each of their new development projects.

Scenario Testing

Description

Tools for scenario planning are evolving and are increasingly used in SCP contexts. Most such tools are GIS and database software applications that include layers of data on land development patterns, resource use and residuals (waste, GHG emissions, air pollution, etc.). The purpose of such tools is to:

- Enable participants in the SCP process to compare a number of urban development scenarios and estimate their impact on key environmental, social and economic dimensions, e.g., the impact of different housing densities on GHG emissions.

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[146] Amelia Clarke for the Commission for Environmental Cooperation. 2006. *Regional Sustainable Development Strategies: Variations in Formulation and Content in Nine Canadian Case Studies and the Implications for Eco-Procurement.* http://cec.org/files/PDF/ECONOMY/NAGPI-Canadian-Case-Studies_en.pdf

[147] District of Ucluelet. January 11, 2007. *District of Ucluelet Official Community Plan*. http://www.ucluelet.ca/UserFiles/File/Bylaws/OCP%20Jan%2011%202007.pdf

- Model a development strategy (e.g., a green building code) under a variety of potential future conditions, e.g., imposition of a federal carbon tax, introduction of higher development charges on low-density development, extension of commuter rail to the community.
- Demonstrate to users the complex inter-relationship between choices and consequences and help them to understand the trade-offs required to create a sustainable future.
- Feed back the results to optimize the planning objectives in an iterative fashion.

A variety of different scenario testing tools are currently available, including:

- **MetroQuest**:[148] This scenario visualizer is used to help regions grapple with urban growth. It allows users to create and compare future sustainable community scenarios using regionally-specific data. MetroQuest helps communities consider their alternatives with respect to growth management issues ranging from land use planning and infrastructure spending to transportation and air quality.

- **CommunityViz**:[149] This provides a user-friendly interface for GIS modelling of land use patterns in an interactive setting. Comprised of a group of extensions to ArcGIS Geographic Information System software, this tool allows for 3D visualization of development patterns and analysis of hypothetical changes to those patterns on impact parameters. The package has an array of features designed to facilitate public participation and collaboration in the land-use decision-making process.

- **Planning for Community Energy, Environmental, and Economic Sustainability (PLACE^{3}S)**:[150] This is an internet-based planning process that supports regional and neighbourhood planning initiatives and helps make land use decisions. The system was created by planners to meet their information needs, and is also used by citizens, developers and other consultants to evaluate alternative land development options. The PLACE^{3}S method assembles demographic, transportation, economic, infrastructure and land use data to estimate how alternative land use scenarios perform compared to the existing land use.

A variety of other tools are available for modelling urban subsystems such as buildings or transportation systems. Scenario testing tools are often used to compare the business as usual case (current trends) to two or more alternate scenarios (e.g., compact growth, nodal growth). The testing is often combined with a public process (e.g., a planning charrette) in order to maximize the educational impact of the tool and incorporate it fully into the SCP process.

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[148] Envision Sustainability Tools. *MetroQuest*. http://www.envisiontools.com

[149] The Environmental Simulation Center. *CommunityViz™ Decision Support System*. http://www.simcenter.org/Projects/CommunityViz/communityviz.html

[150] California Energy Commission. Accessed May 20, 2008. Website: *Planning for Community Energy, Environmental, and Economic Sustainability (I-PLACE^{3}S) – PLACE^{3}S Introduction*. http://www.places.energy.ca.gov/places/demo/

Examples

These tools have been used in the 100-year planning processes in Calgary, Vancouver, and Edmonton and in sustainable developments, such as Southeast False Creek, B.C. and the Sustainable Urban Neighbourhood in Strathcona County, AB.[151]

3.3.3 Technical Planning Tools

The best practices outlined here relate to planning tools that are usually used by planners or allied professionals in the context of developing community plans. Although they often conducted with public input and can help educate SCP participants and other members of the public, their main purpose is to assess current conditions in the community and to assist with policy formation.

The technical planning tools described below are:

• Full-Cost Accounting
• Indicators & Targets
• Environmental Budgeting / Carrying Capacity Analysis
• Ecological Footprint Analysis

Full-Cost Accounting

Description

Full-cost accounting (FCA) in the planning field means accounting for all costs and benefits, both internal and external, to all parties associated with a proposed development strategy. The internal costs are those for which there is a direct expenditure (e.g., by the municipality, developer, resident) while the external costs are the social and environmental costs borne by identifiable third parties, or society or nature, in general.

Although the external costs and benefits of planning and development strategies are rarely susceptible to being fully costed out, FCA can still play an important role in SCP processes by:

• Helping communities think ecologically by encouraging them to see the links between a decision taken in one urban subsystem and impacts on other subsystems.
• Encouraging communities to identify situations where subsidies have been unintentionally introduced, and to provide a justification for eliminating undesirable subsidies (e.g., to car travel or sprawl).
• Helping communities identify false economies, i.e., situations where a reduction in expenditures in one department results in greater expenditures in another department or in the wider community,

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[151] City of Vancouver. Accessed May 20, 2008. Website: *Southeast False Creek – Documents*.
http://vancouver.ca/commsvcs/southeast/documents/index.htm

- Providing an economic justification for more sustainable investments.

FCA is used informally as a conceptual orientation in most SCPs, even if costs and benefits are not monetized.

Examples

Planning for Southeast False Creek is one of the few SCP processes in Canada that involved an attempt to create an accounting framework for the proposed development strategy.

Indicators & Targets

Description

Indicators and targets are critical tools for promoting sustainability. They help to establish a clear vision of what is to be achieved, provide focus for all involved in the design process, and create a framework for managing performance. An indicator is something that can be observed or measured that represents the status of a situation, action, process, condition, etc. For example, to monitor how people use different modes of transportation, one preferred indicator might be the percentage of people using public transit or active transportation (e.g., walk, bicycle, in-line skate) during their average commute to/from work. Indicators provide a measurement tool to gauge performance and can be used to educate and affect change. Targets refer to the goals set for each indicator. Having tangible, implementable targets increases the community's commitment and support to meet the vision because they can see that the policies are working. It also increases the trust between the planning department and the City Council, which is a crucial component needed to implement innovative policies that raise the bar.

Most SCP processes now include a set of indicators and, in many cases, targets that the community can use to monitor and report on progress toward planning goals. The indicators are usually chosen on the basis of the availability of data, scientific validity, and meaningfulness to the public. Targets, where included, are usually chosen based on benchmarks from other jurisdictions, provincial or federal standards, or an assessment of what can be realistically achieved in a community under optimum conditions. Targets are intended to be challenging, but feasible performance goals for the sustainable community plan. The monitoring and reporting framework is often the result of collaboration between municipal staff and community stakeholders who can provide existing data or assist with the gathering of new data.[152]

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[152] Steven Peck and Ray Tomalty. 2002. *Theory to Practice: Lessons Learned from the Use of Performance Assessment Measures to Implement Sustainable Communities* (Ottawa: CMHC).

The purpose of such frameworks is to:

- Raise awareness of sustainability issues within the community.
- Allow the community to compare its progress over time and against other communities using similar frameworks
- Provide guidance on where mid-course corrections are needed in terms of sustainability goals.
- Help direct community investments by showing where progress is slow.
- Where targets are included, they can be used to encourage participants in the SCP process to "think outside the box" by coming up with creative means to achieve an agreed-upon target.

Examples

Whistler2020's Monitoring Program tracks and reports the municipality's status and progress toward Whistler2020's Vision through Core Indicators (these are high-level, 'Whistler-at-a-Glance' indicators for tracking progress relative to Whistler2020's Vision, Priorities and Sustainability Objectives), Strategy Indicators (which provide more detailed information for tracking progress relative to each of the 16 strategies identified in Whistler2020), and other contextual community indicators (i.e., not related directly to Whistler2020). The monitoring program tracks progress towards qualitative targets, informs decision-making, and ensures accountability while educating and engaging community members and stakeholders. Progress is reported at least annually for most indicators. The council receives the report and uses it during the annual review of priorities and goals for the town.[153]

An indicator and targets framework was also used by the Town of Okotoks, AB in its Sustainable Okotoks initiative, [154] and by Montreal in its Strategic Plan.[155] As summarised below, Dockside Green's environmental, social, and economic sustainability indicators are a good example of covering a wide range of considerations in a sustainable neighbourhood planning initiative:[156]

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[153] Whistler2020. Accessed May 20, 2008. Website: *Whistler2020 – Measuring Progress – Whistler2020 Performance – Whistler in Context – Whistler2020 Monitoring Program: What, Why and How*.
http://www.whistler2020.ca/whistler/site/genericPage.acds?instanceid=1986170&context=1967970

[154] a) Town of Okotoks. September 1998. *Town of Okotoks Municipal Development Plan: "The Legacy Plan"*.
http://www.okotoks.ca/town/municipal/development/planning/mdp.asp
b) Town of Okotoks. 2005. *1998-2003 Municipal Development Plan Review*.
http://www.okotoks.ca/town/municipal/development/planning/mdp.asp
c) Town of Okotoks. 2006. *2004-2006 Municipal Development Plan Review*.
http://www.okotoks.ca/town/municipal/development/planning/mdp.asp

[155] City of Montreal. 2007. Website: *Montreal – Montréal's First Strategic Plan for Sustainable Development*.
http://ville.montreal.qc.ca/portal/page?_pageid=4176,4738997&_dad=portal&_schema=PORTAL

[156] VanCity & Windmill West. Dockside Green. 2007. Dockside Green Annual Sustainability Report 2007.
http://docksidegreen.com/sustainability/overview/overview.html

Environment	**Social**	**Economic**
• Energy supply, conservation, & efficiency	• Mixed-use neighbourhoods under the New Urbanism approach	• Support for local businesses
• Water supply, conservation, efficiency, & treatment	• Demographically and affordably diverse housing	• Support for BC and Canadian environmental businesses
• Material use & resources	• First Nations engagement	• Impacts on municipal infrastructure
• Waste reduction & diversion	• Community connectedness	• Brownfield remediation
• Active and public transportation	• Public amenities	• Economic benefits to residents and businesses
• Brownfield site use	• Shared spaces	
• Indoor air quality	• Youth education	
• Air emissions management	• Heritage preservation	
• Human health and well-being	• Worker rights	

Environmental Budgeting / Carrying Capacity Analysis

Description

Similar to the financial budgets prepared annually by municipal governments, environmental budgets use the premise that natural resource use can be planned, controlled and monitored. It is based on setting environmental indicators and defining maximum amounts of natural resource consumption. The short-term and long-term carrying capacities of the local environment are factored into the targets. After the conclusion of the budget year, the environmental budget balance is calculated through an audit of all of the ecological accounts.

Examples

The Town of Okotoks, AB set a containment cap for their community in their Municipal Development Plan based on the carrying capacity of their local water source, the Sheep River.[157] With increasing growth pressures due to their proximity to the City of Calgary and the recognition that access to their sole water source was limited by the South Saskatchewan River Basin Management Plan, they set a population cap of 30,000 people based on their water supply's carrying capacity. From this future target, an urban development boundary was created and the infrastructure was sized for the future population.

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[157] Town of Okotoks. September 1998. *Town of Okotoks Municipal Development Plan: "The Legacy Plan"*. http://www.okotoks.ca/town/municipal/development/planning/mdp.asp

Ecological Footprint Analysis

Description

An ecological footprint measures how much biologically productive land and water area is required to produce all the resources needed to support the consumption of a given population and absorb the waste that is produced. By looking at human consumption and comparing it to nature's productivity, the ecological footprint provides a means of estimating the impact individuals, organizations, cities, regions or nations have on nature. At the community level, ecological footprint analysis (EFA) can be used to create a single measure of the global ecological impacts of a community's metabolism. The degree to which the footprint of human activities exceeds the total productive area is a measure of unsustainability.[158]

By benchmarking municipal footprints, EFA can be used to point to examples of best practices or models of energy, transportation, waste, water and local food policies that yield smaller footprints. Other potential uses of ecological footprint analysis at the community level include:

- Use as a key measure of progress towards a municipal/urban sustainability vision.
- Track returns on investment (i.e., reduced footprint) from sustainable transportation, green infrastructure and other sustainability capital investments.
- Educate and inform citizens about the value of living in a sustainable relationship with nature and with each other in our communities.
- Encourage citizens and businesses to calculate their own footprint by tracking energy consumption and thinking about buying locally, and supporting local enterprise.
- Identify the main factors that contribute to a community's footprint and indicate where the community needs to concentrate its efforts to improve sustainability.
- Shape government priorities, and to plan and budget for issues such as transportation, housing, development, food, energy, infrastructure, taxation, and environmental regulations.

Examples

An ecological footprint analysis of 20 municipalities across Canada was conducted for FCM in 2006.[159] The study revealed that, on average, the demand on nature's goods and services by of those communities is roughly 7.25 hectares (about 18 acres) per person. In contrast, the Earth only has 1.90 hectares of available land and sea biocapacity to meet the demands on nature of all six billion humans. Footprints varied from a low of 6.87 hectares per capita in Greater Sudbury to a high of 9.86 hectares for Calgary.

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[158] M. Wackernagel and W. Rees. 1996. *Our ecological footprint: Reducing human impact on the earth.* (Gabriola Island, BC: New Society Publishers).

[159] Anielski Management Inc. 2005. *The FCM Ecological Footprint Analysis.* http://www.anielski.com/Documents/EFA%20Report%20FINAL%20Feb%202.pdf

To follow up on the results obtained by the city in the FCM report, the City of Calgary is undertaking a more detailed EFA which it will use to identify the main factors that contribute to Calgary's footprint and develop of a strategy that will reduce it on a per capita basis. The exercise will recommend indicators to track progress and recommend how the City can best utilize the EFA methodology for inclusion into city planning process and programs.[160]

3.3.4 Zoning, Building & Engineering Standards

The clash between ambitious planning policies and the conservative standards that govern development is well known. Planning policies that favour affordable housing, inclusive communities, innovative urban design, and energy efficient siting and building practices often meet up with the harsh reality that such goals are inconsistent with entrenched standards and "ways of doing business". The following best practices provide some illustrations of how municipalities are attempting to align their standards with sustainable policy objectives.

The zooming, building, and engineering standards described below are:

• Flexible Zoning
• Inclusionary Zoning
• Secondary Suites
• Alternative Engineering / Development Standards
• Green Building Standards

Flexible Zoning

Description

Zoning bylaws regulate the use of land by specifying densities, building types, location of uses on the land and within the structures, lot sizes, set-backs, and so on, for each zoning category. Zoning practices have evolved over many decades and do not alwaysreflect current market opportunities or policy considerations such as the desire to increase densities, achieve a mix of land uses and reduce housing costs. Current zoning practices often strictly limit the range of lot sizes, land uses and housing types permitted in any given area and fail to make the most efficient use of the land base. These restrictions can be used to prohibit innovative infill projects in mature areas and to enforce social homogeneity in suburban areas. This can force lower income households into enclaves that are not only stigmatized but are far from employment sources, reducing their employment opportunities or increasing commuting distances and associated personal and environmental costs. Rigid zoning in situations where innovation in building form, the mix of uses or design is desired can force developers into time-consuming

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[160] City of Calgary. Accessed May 20, 2008. Website: *City of Calgary – City Hall – Business Units – Environmental Management – Reducing Calgary's Ecological Footprint*.
http://content.calgary.ca/CCA/City+Hall/Business+Units/Environmental+Management/Reducing+Calgarys+Ecological+Footprint/Reducing+Calgarys+Ecological+Footprint.htm

negotiations with municipal authorities in order to secure exceptions, minor variances or amendments to existing zoning bylaws, all of which have uncertain outcomes and add to the cost of development.

More flexible zoning can create conditions for increased density and mixed use, improve the quality of urban design and sensitivity to the development context, and facilitate innovative projects that would otherwise be stalled by the rigidities of conventional zoning.

Examples

Flexible zoning practices include:

- **Zoning that is flexible enough to permit smaller lot sizes** (width, depth and area)**, lot frontages, and setbacks** (front, interior and corner side, rear yards) – The Pineglade development in Ottawa included small lots, narrow frontages, and reduced set backs.[161] In the Truro, NS, the town worked in collaboration with a private developer, to devise planning standards that would allow it to squeeze 40 to 50 units in an area that would normally accommodate some 20 units under conventional standards. In a special set of bylaws tailored for Farmington Village in Truro, NS, the Town allowed the use of alternative planning standards with respect to lot size, frontage, lot coverage, and set backs.[162]

- **Fewer zoning categories permitting a wide range of housing types and land uses** – Markham, Ontario adopted an innovative zoning bylaw to guide development in Cornell, a large new community based on New Urbanist principles. The bylaw introduced four mixed-use zones and two relatively permissive residential zones (compared to the dozens of zones sometimes found in conventional zoning bylaws). The mixed-use zones permit retail, office, and residential uses on one lot and within one building. Convenience stores are permitted in residential areas and home occupations are permitted throughout. The residential zoning districts are flexible in allowing for considerable variation in lot sizes, housing types and densities. Generally increased densities are permitted in all zones.[163]

- **Relaxed zoning in mixed-use areas** – In Toronto, zoning codes were relaxed to allow the revitalization of two warehouse neighbourhoods along King St. near the downtown (the "Two Kings"). In 1996, restrictions on land use, parking, and density were removed and replaced with form-based regulations that set general standards for the building envelope. Within these loose criteria, developers are free to build and renovate at will, saving considerable time and expense by significantly streamlining

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[161] Canada Mortgage and Housing Corporation (CMHC). (undated). *Modifying Development Standards - Pineglade Pilot Project - Gloucester, Ontario*.
http://www.cmhcschl.gc.ca/en/inpr/afhoce/tore/afhoid/pore/modest/modest_005.cfm?renderforprint=1

[162] Affordability and Choice Today (ACT). 2007. *Act Solutions – Farmington Village: Alternative Development Standards, Truro, Nova Scotia*. http://www.actprogram.com/english/New_Solutions_October07.asp

[163] Town of Markham. 1996. *Design Implementation Guidelines.*

the approval process. The experiment has been an economic development success, with new commercial and live/work units established in former industrial buildings – where "creative class" industries such as marketing, publishing, software and media services have concentrated – and new residential construction on vacant land are a testament to the neighbourhood's desirability.[164]

Inclusionary Zoning

Description

Inclusionary zoning (IZ) typically requires or encourages private developers to create affordable housing as part of new residential developments. Developers build affordable units in private real estate projects and in return are usually offered an offset, such as a density bonuses. The main goal of inclusionary zoning is to produce a greater quantity of affordable housing units in markets where such housing would not normally have been developed, particularly, in high growth areas. Thus the main advantage of inclusionary planning is that it provides homes for lower-income families without large government subsidies. It also promotes integration among income groups within the same development and reduces concentration of poverty. This may also allow lower-income residents to locate closer to job opportunities and reduce urban travel.[165]

Examples

Most inclusionary planning policies in Canada can be found in two provinces: BC and Ontario. In 1993, BC amended its Municipal Act, enabling local governments to undertake inclusionary zoning programs, which require developers to include affordable, rental and special needs housing in their projects. In Ontario, a provincial policy statement on land use planning calls on municipalities to adopt policies that will encourage housing forms and densities that will be affordable to moderate and lower income households.

In the District of Ucluelet, Council amended the Official Community Plan in 2004 to introduce inclusionary zoning, requiring that anywhere from 15–20% be deemed for affordable housing in multi-family developments.[166] In exchange, developers are offered density bonuses. The 253 affordable units that were produced in the first three years after this policy took effect represent 15% of multi-family construction. The units are managed by the District of Ucluelet.[167]

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[164] Canada Mortgage and Housing Corporation. Accessed May 20, 2008. Website: *CMHC – Housing Industry Professionals and Community Groups – Sustainability – Sustainable Community Planning – Residential Intensification Case Studies: Municipal Initiatives*. http://www.cmhc-schl.gc.ca/en/inpr/su/sucopl/sucopl_002.cfm

[165] Ray Tomalty, Anna Hercz and Peter Spurr for Canada Mortgage and Housing Corporation. 2001. *Municipal Planning for Affordable Housing.*

[166] District of Ucluelet. January 11, 2007. *District of Ucluelet Official Community Plan.* http://www.ucluelet.ca/UserFiles/File/Bylaws/OCP%20Jan%2011%202007.pdf

[167] Deborah Curran for West Coast Environmental Law. 2003. *Smart Bylaws – Summary.*

In Ottawa, the 2003 Official Plan ensures that a portion of all new development projects will add to the City's affordable housing stock. The inclusionary zoning policy requires that 25% of the total new units in all development projects be affordable housing, of which 15% will be targeted to households up to the 30th income percentile and the remainder will be targeted to households up to the 40th income percentile. The developer can provide the affordable units directly or provide land to the City, which will permit the City to find alternative ways to meet the 25% requirement. A density bonus is available to help offset the increased cost to the developer.[168]

In Toronto, the 2002 Official Plan requires that large residential developments (more than 5 hectares) provide an opportunity to achieve a mix of housing in terms of types and affordability, regardless of the availability of senior government funding. The Toronto OP says that on large sites where rezoning is required: a) a minimum of 30% of the new housing units will be in forms other than single-detached and semi-detached houses; and b) where the developer is applying for a density bonus, a minimum of 20% of the additional housing units must be affordable (which means rents or housing costs that are less than the average Toronto rent, by housing type). Also there will continue to be opportunities for the provision of affordable housing on smaller sites (less than 5 ha.), where increases in development density or height are sought.[169]

Secondary Suites

Description

A secondary suite is a private, self-contained unit within a single-family home or detached from the primary residence and located behind it or above a private garage on the same land. This kind of suite has its own entry door, bathroom, kitchen, and living and sleeping areas, but usually shares yards and parking facilities with the primary residence. Growing attention is being given to secondary suites in major urban areas because of their potential to increase the stock of affordable housing in a socially-inclusive way, provide financial benefits to homeowners, and help achieve urban growth management goals by intensifying low-density areas.

Examples

In Saskatoon, secondary suites are permitted on regular sized lots in all residential zoning districts. As an incentive for the creation of new and legalizing of existing secondary suites, the city offers rebates on permit fees for building, plumbing and development permits.[170] In addition, the Province of Saskatchewan offers homeowners forgivable

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[168] City of Ottawa. January 2007. *City of Ottawa Official Plan: Consolidation*.
http://www.ottawa.ca/city_hall/ottawa2020/official_plan/vol_1/pdfs_en.html

[169] City of Toronto. April 2007. City of Toronto Official Plan Housing Policies Approved by the OMB on April 3, 2007.
http://www.toronto.ca/planning/pdf/op_housing_policies_apr3_2007.pdf

[170] City of Saskatoon. 2007. *Council Policy: Innovative Housing Incentives*.

grants of 50% of construction or renovation costs to add secondary suites to existing homes.[171]

Through its inner city housing stimulation strategy, the City of Regina has introduced a time limited property tax exemption for construction of a new residential unit within an existing owner-occupied dwelling. Depending on the area of the city in which the home is located, the owner-occupants are eligible for a five-year tax exemption of 90–100% percent of total property taxes.[172]

In Vancouver, secondary suites are a permitted use in all one-family residential zones with the tenure of appropriate permits and an annual license. At over 25,000 units, secondary suites now represent a higher number of housing units than all non-market housing.[173] The proposed introduction of incentives such as 'suite-ready' requirements applying to all one-family dwellings could significantly reduced barriers to implementation of secondary suites. 'Suite-ready' building standards facilitate the approval of legal suites at point of construction by requiring developers to comply with fire and life-safety requirements for new one-family dwellings. Under the proposed requirements, all new single family constructions would be required to install fire and sound separation, separate electrical service capacity and interconnected smoke alarms between the principal dwelling and the space set aside to accommodate a future secondary suite.[174] This would avoid costly retrofitting of homes when adding secondary suites. The City has also focused on relaxing zoning regulations and building code standards for suites in order to facilitate the legalization process.

In 2007, Edmonton City Council adopted new Zoning Bylaw changes as part of the Edmonton's Cornerstone Plan for affordable housing. The amendments to the City's Zoning Bylaw significantly increase the opportunity for secondary and garage suites within most residential zones in the city. Suites are now a permitted use in almost all low density residential neighbourhoods and a discretionary use in medium to high density zones.[175] Through the Cornerstone Plan, homeowners are eligible for financial assistance in the form of grants to create or upgrade of secondary and garage suites for affordable housing.

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[171] Province of Saskatchewan. 2007. *HomeFirst Secondary Suites Program*

[172] City of Regina. 2002. *Inner City Housing Stimulation Strategy: Tax Exemption Application Form.*

[173] CitySpaces Consulting Ltd. 2007. *Calgary Secondary Suites Study.*

[174] Whitlock, R.January 13, 2004. *Policy Report to the Vancouver City Council on Secondary Suites.*

[175] City of Edmonton. 2008. *Secondary Suites FAQs.*

Alternative Engineering / Development Standards

Description

The purpose of engineering standards is to govern the physical size and placement of the infrastructure that services a development, including: lot grading; widths of roads and sidewalks; placement of public infrastructure such street lighting, storm sewers, and fire hydrants; and the placement of underground utilities such as electrical cables, telephone wires, gas pipes, and water pipes. Accepted standards are based on the need to maximize public safety and to minimize the need for costly maintenance and repairs in the future.

Alternative engineering standards reduce or alter standards without compromising public safety and increasing the probability of expensive repairs in the future. Interest in alternative standards is driven by their potential to reduce development costs and allow more compact growth, and by developer interest in unconventional development designs, such as those inspired by New Urbanism. Common strategies include narrowing roadways; consolidating infrastructure trenches; spacing manholes, sluice boxes, and fire hydrants further apart; eliminating sidewalks on one or both sides of streets; and eliminating curbs or using roll-on curbs to avoid making cut-outs for driveways. Some of these modifications, such as eliminating sidewalks, may be at odds with the imperatives of Smart Growth and sustainable development.

Examples

Alternative engineering standards, combined with alternative planning standards, were used as a cost-cutting strategy in the Pineglade development in the former City of Gloucester (now amalgamated with Ottawa). Compared with a conventional development built around the same time, Pineglade featured narrower rights-of-way, at 16 m instead of 20 m; narrower pavements, at 8 m instead of 8.5 m; boulevard widths of 4 m instead of 4.75 m. Compared to a nearby contemporaneous development, the modified planning and engineering standards yielded total savings of $8,500 per unit, of which $4,400 is attributed to savings in the emplacement of infrastructure and utilities – a 38% saving on the costs in the conventional development.[176]

Headwaters, a development in the East Clayton district of Surrey, uses a combination of alternative planning and engineering standards. The modifications to engineering standards include narrower streets, elimination of curbs, and natural storm water management. The development's innovative storm water management system relies primarily on natural infiltration rather than sewers – up to 80% of storm water is to be to be absorbed on-site. The development relies on a minimization of impermeable surfaces, such as roofs and driveways, drainage gradients that direct runoff into yards rather than onto the street, and a system of green spaces dotted with shallow ponds that can function as temporary infiltration basins allowing water to be gradually absorbed into the soil

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[176] Canada Mortgage and Housing Corporation. Undated. *Modifying Development Standards - Pineglade Pilot Project - Gloucester, Ontario*. http://www.cmhc-schl.gc.ca/en/inpr/afhoce/tore/afhoid/pore/modest/modest_005.cfm?renderforprint=1

during periods of heavy rain. Nevertheless, due to concerns about liability, the City required that a regular storm sewer system be included.[177] While devised primarily as an environmental measure, the green storm water management system on its own is also cheaper than a conventional storm water system. It is not necessarily more land intensive – land set aside for parks and schools can be used for this purpose.

Ucluelet, BC has also aggressively experimented with alternative engineering standards in the development of new neighbourhoods.[178] For example, to encourage adoption, Ucluelet offers developers receive a 5% density bonus if they follow Alternative Development Standards for storm water management techniques, such as the use of permeable surfaces, narrower roads, and French drains.

Green Building Standards

Description

The broad implementation of green building practices result in important social, environmental and economic benefits for building occupants and society at large. In terms of social benefits, improved air quality, abundant natural light, access to views, and noise control contribute to healthier living and working environments. Green building environmental benefits are numerous and include a limited impact on the local ecology, reduced water use, reduced material consumption, use of low-impact materials and reduced air emissions. Green buildings also have an important role in reducing the impact of climate change. Estimates have shown that climate change contribution associated with a conventional building can be reduced by 70% when using appropriate building methods that reduce energy and materials consumption.[179] Green buildings also provide significant economic benefits such as savings in operating costs and productivity gains.[180]

Examples

In July 2006, the Toronto City Council adopted a series of recommendations that work towards the implementation of the Toronto Green Development Standard.[181] This Standard is a set of targets, principles and practices that aim to improve the environmental performance of buildings owned by the City as well as the private sector. The standard is divided into two main categories (mid- to high-rise residences, commercial industrial and institutional developments, and low-rise residential developments) and is based on measurable, performance-oriented design and construction principles. The standard was developed in consultation with key stakeholders and is based on improving existing City guidelines and practices and on comparative analysis

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[177] Affordability and Choice Today (ACT). 2007. *ACT Solutions – Surrey, BC Subdivision Leads Way in Incorporating Principles of Sustainability.* http://www.actprogram.com/english/New_Solutions_October07.asp

[178] Marbek Resource Consultants interview with: Felice Mazzoni, Director of Planning, District of Ucluelet. February 2008.

[179] Ibid.

[180] Morrison Hershfield. 2005. *A Business Case for Green Buildings in Canada.*

[181] City of Toronto. 2007. *Toronto Green Development Standards.*

with other standards such as LEED and Green Globe. It proposes enhanced regulations for a long list of development features that fall within the city's seven main "environmental drivers" (i.e., air quality, greenhouse gas emissions and urban heat island effects, energy efficiency, water quality and water efficiency, solid waste, urban forest and wildlife habitat, and light pollution).

Through its Green Building Strategy (GBS)[182] and Green Homes Program (GHP[183]), the City of Vancouver is developing an important policy framework that will reduce the environmental impact of buildings and related infrastructure. The GBS proposes 27 specific amendments to the City of Vancouver's By-Laws which will be applied to all commercial, institutional, mixed-use, and high-density residential buildings in the city. To date, Council has ratified about half of the proposed amendments and full adoption of the GBS is expected by the end of 2008.

The Vancouver GHP proposes Building By-law changes that will improve the environmental performance of new one- and two-family dwellings. The proposed amendments focus on three areas of improvements: building envelope performance, energy performance and in-building water efficiency. The GHP will go to Council in June 2008 and full adoption of the program is expected by September 2008. Once the new standards are in place for new homes, the City intends to begin exploring implementation of similar requirements for existing dwellings through a retrofit program.

3.3.5 Land Use Planning Policies

Within the constraints imposed by provincial legislation, municipalities have direct control over the use of land through planning policies and zoning regulations. The following best practices show how land use planning and control can contribute to community sustainability by encouraging more compact and mixed-use development patterns, improving the supply of affordable housing and preserving or enhancing "green infrastructure" (the system of green zones within an urban area).

The land use planning policies described below are:

- Urban Growth Boundaries
- Green Zones
- Greyfield Redevelopment
- Brownfield Redevelopment
- Transit-oriented Development

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[182] City of Vancouver. Accessed May 20, 2008. Website: *City of Vancouver – Community Services – Green Buildings –*
Vancouver Green Buildings, Developing a Green Building Strategy.
http://www.city.vancouver.bc.ca/commsvcs/southeast/greenbuildings/strategy.htm

[183] City of Vancouver. Accessed May 20, 2008. Website: *City of Vancouver – Community Services – Chief Building Official*
Information – The City of Vancouver Green Homes Program.
http://www.vancouver.ca/commsvcs/CBOFFICIAL/greenhomes/index.htm

Urban Growth Boundaries

Description

Some municipalities in the US and Canada have attempted to control urban sprawl by establishing a firm urban growth boundary (UGB) beyond which development will not be approved. The urban boundary defines the area that already is serviced (or is planned to be serviced) with major roads, transit and piped sewer and water services. Sufficient vacant land is contained within the urban boundary represents in order to assure a supply for some greenfield development. The boundary is set in the context of a community plan and policy restrictions are placed on how and when the boundary can be expanded. It is common, for example, to require that a growth management study be undertaken before Council can consider moving the boundary and that such a decision can only be made in the context of a plan review or voter referendum. The purpose of these rules is to short-circuit the typical process of developer-initiated plan amendments in order to incrementally expand the boundary to include their development parcel. Some fast growing municipalities can have dozens of such minor amendments per year, with poorly planned urban sprawl as the cumulative outcome.[184]

Urban growth boundaries are usually packaged with other policies to stem sprawl, including a prohibition on extending municipal services beyond the boundary and zoning regulations that prohibit urban uses outside the boundary.

An UGB can have the following benefits:

- Stops outward expansion and protects agricultural, rural and resource lands
- Fuels efforts to intensify already built-up areas by directing growth within urban area boundaries assist in meeting planning goals such as nodal development and creating vibrant neighbourhoods around commercial centres
- Allows local governments to exploit existing infrastructure before making additional investments to expand services
- Improves the viability of transit, walking and cycling by concentrating development.

UGBs can be controversial and their success is highly dependent on their design and circumstances. In some cases they may contribute to further sprawl if developers are allowed to leap-frog the "green belt" and attract development to ever more remote areas. Moreover, UGBs can lead to higher land prices and reduced housing affordability if restrictions on the supply of land for urban development are too tight or if adequate policy provisions are not made to accommodate growth in the already urbanized area. For this reason, the careful selection of boundaries and the introduction of intensification opportunities are key to achieving the desired outcomes.[185]

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[184] John Sewell. 2003. "Breaking the Suburban Habit." *Alternatives Journal* (29 (3): 22-29.

[185] Downs, Anthony (ed.). 2004. "Growth Management and Affordable Housing: Do They Conflict?" (Washington, DC: Brookings Institution Press).

Examples

The District of Saanich established a UGB in 1964 to delineate the catchment area that could be serviced by gravity into the sanitary trunk sewer system.[186] The municipality undertook a bi-annual review of the sewer containment boundary to allow the orderly and economic extension of the sewer infrastructure. In the 1980's, Council hardened the UGB to protect rural areas and to encourage more dense development in the municipality. The municipality established a five acre minimum rural parcel size, and only two sewer extensions have occurred since then. In 1993, Council placed a moratorium on changes to the UCB until at least the end of 2001, and required elector assent via referendum of any major extensions after that.

The City of Ottawa included an urban growth boundary in its 2003 Official Plan, which was based on Smart Growth principles. Decisions about when and where to extend the boundary have major implications for public spending on infrastructure and have major impacts on the city's form. The City can only extend the UGB in the context of a comprehensive review associated with Official Plan updates, which take place every five years. Although the land within the urban boundary represents a 20-year supply of urban land (a requirement of the Provincial Policy Statement on land use planning), Ottawa's UGB is deeply unpopular with some developers who want permission to develop their land outside the boundary.[187] Nonetheless, it appears that the boundary may be helping to achieve its intended objectives; a City report noted that Ottawa's rate of residential intensification was increasing, accounting for 36% of new dwelling units in Ottawa's urban area in 2006 compared to the 31% average since 2001.[188]

Green Zones

Description[189]

Green infrastructure refers to the ecological processes, both natural and engineered, that provide economic and environmental benefits in urban areas. Green infrastructure, including parks, urban trees, wetlands, streams, rivers and shorelines, provide direct services to communities by helping to manage storm water, clean the air, preserve biodiversity, and reduce the urban heat island effect. They are often less costly than hard infrastructure, and offer aesthetic and recreational benefits. Finally, resource lands such as agricultural forested areas not only help maintain ecosystem function, but are important for the economy. To maintain the ecological functioning of a community's

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[186] West Coast Environmental Law. Accessed May 20, 2008. Website: *West Coast Environmental Law – Issues – Urban Growth and Development – Smart Bylaws Guide – Part 1 – Urban Containment Boundaries – Saanich.* http://www.wcel.org/issues/urban/sbg/Part1/ucb/Saanich.htm

[187] Mohammed Adam. 2008. " No easy solutions for growing problem." *The Ottawa Citizen,* May 16.

[188] Roman Zakaluzny. 2008. "City with 23-year supply of vacant land, half owned by developers." *Ottawa Business Journal,* January 3, 2008.

[189] Deborah Curran for West Coast Environmental Law. 2003. *Smart Bylaws – Summary.*

green infrastructure, land and water components must be connected into a network that infiltrates the built up area of the community.

Examples

In 1997, the Capital Regional District (Victoria, BC) and BC Provincial Capital Commission developed the Regional Green/Blue Spaces Strategy to identify how such regional spaces should be protected. The Strategy outlines a Green/Blue spaces system with four components: Core Areas (existing parks, valuable unprotected land and marine environments, and the region's water supply lands); Greenways (corridors that link green/blue spaces); Renewable Resource Working Landscapes (agricultural and managed forest lands); and, Valuable Remnant Ecosystems (sensitive environmental lands not included in green/blue space core areas). The plan recognizes that securing the Regional Green/Blue Spaces System will be an incremental, cooperative process requiring many years to complete. In 2000, the residents of the Capital Region approved an annual $10 property tax levy for ten years to fund the acquisition of priority lands.[190]

In the "Greater Golden Horseshoe" —" the heavily urbanized area centered on Toronto making an arc around the western end of Lake Ontario — Ontario's), 2005 Greenbelt Plan is centered on two protected natural corridors: the north-south Niagara Escarpment that runs along the western edge of the Toronto region, and the Oak Ridges Moraine that runs east-west along the northern edge of the built-up area.[191] Beyond these special areas, the Greenbelt area consists of "protected countryside" interspersed with "natural heritage systems"; the natural heritage areas, along with the core of the Escarpment and Moraine areas, are subject to strict controls on new development. While the Plan sets up a detailed hierarchy of areas with varying permitted development densities and impacts, it generally allows new construction to continue in most of the Greenbelt, though subject to stringent conditions to minimize impacts on water resources, core natural areas and specialized agriculture.

Greyfield Redevelopment

Description

The term "greyfields" was coined by the Congress of the New Urbanism in 1991 to refer to declining or failed shopping centres, plazas or malls, typically located in mature suburban areas. Greyfields are urban sites with untapped redevelopment potential, consisting of obsolete structures surrounded by large surface parking lots. Like brownfield sites, greyfields are promising candidates for redevelopment to residential or mixed uses due to their large parcel size, central location, and proximity to transit. Greyfields offer the added advantage of not being contaminated from the activities that formerly took place on the sites. They therefore do not require costly and time-consuming

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[190] British Columbia Capital Regional District. October 1997. *Regional Green/Blue Spaces Strategy*. http://www.crd.bc.ca/parks/documents/greenblue_spaces_strategy.pdf

[191] Ontario Ministry of Municipal Affairs and Housing. 2005. *Greenbelt Plan*.

cleanup or remediation. However, greyfield sites are usually zoned for commercial use and lend themselves to big box development. Rezoning to redevelop a greyfield site for residential or mixed use adds another layer of complexity to the planning approval process and increasing the financial risk involved in undertaking a project. Municipalities can facilitate greyfield redevelopment by providing strong planning guidance.[192]

Examples

Markham, north of Toronto, is redeveloping 15 acres of underutilized land including parking, a shopping centre and office building into 220 stacked town homes and 225 condo units. The units will occupy two mid-rise buildings on half the site. The remaining shopping centre and office building on the other half of the site will be revitalized. While Markham did not provide financial incentives for the redevelopment of the site, the City played a key role in guiding redevelopment. The municipality strongly opposed an earlier proposal to develop the site as a big box store. The City had a very clear idea on what it envisioned for the site: a mixed-use site that contributed to the housing stock of the community. This was reflected in the Official Plan, which states the municipality's objectives for the community, including its housing needs.[193]

Calgary's Renaissance at North Hill greyfield redevelopment project involved 170-units in two ten-storey towers situated on what was the parking lot of the North Hill shopping centre. The project, which was completed in 2003, has eliminated unnecessary parking spaces and created a local supply of potential shoppers to strengthen the shopping centre. The city, including the planning commission and planning department supported the project, and assisted with the numerous public open houses. The project, which meets a number of Calgary's planning objectives such as increasing densities in established neighbourhoods and around Light Rail Transit stations, required a rezoning permitting residential uses in this commercial area.[194]

Brownfield Redevelopment

Description

Brownfields are abandoned, idle or underused industrial or commercial properties that formerly supported development. They are located in built-up urban areas where expansion or redevelopment is complicated by real or potential environmental contamination, building deterioration/obsolescence, and/or inadequate infrastructure. The objective of a brownfield redevelopment is to recapture the social and economic value from contaminated property. It has long been difficult for communities to bring

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[192] Ray Tomalty for the Canada Mortgage and Housing Corporation. 2004. *Housing Intensification through Redevelopment of Greyfields and Other Commercial Sites in Small and Medium Size Ontario Cities.*

[193] Canada Mortgage and Housing Corporation. Accessed May 20, 2008. Website: *Canada Mortgage and Housing Corporation – Greyfield Redevelopment for Housing in Canada – Case Studies*. http://www.cmhc-schl.gc.ca/en/inpr/su/sucopl/sucopl_005.cfm

[194] Canada Housing and Mortgage Corporation. Accessed May 20, 2008. Website: *Canada Mortgage and Housing Corporation – Residential Intensification Case Studies.* http://www.cmhc-schl.gc.ca/en/inpr/su/sucopl/sucopl_003.cfm

brownfield sites back into productive use because of the high costs of remediation, uncertainty about the level of contamination at many sites, and environmental liability issues. The benefits of brownfield redevelopment are many and include: renewal of downtown cores with consequent increases to municipal tax revenues (directly) and to the federal and provincial governments due to the increased employment; the ability to reduce urban sprawl, and subsequently reduce the impact on human health and the environment. Brownfield redevelopment is a key strategy for promoting reinvestment in existing urban areas and for reducing the need to expand into greenfield sites.

Examples

The Province of Quebec's Urban Contaminated Sites Rehabilitation Program *Revi-sols* was designed to spur revitalization of urban areas through the rehabilitation of contaminated sites with strong potential for redevelopment. The program is delivered through the municipality and contributes 50% of the eligible clean-up costs. Since the beginning of the program in 1998, 132 developments projects in Montreal have had their site clean-up costs subsidized, which includes 58 projects that have resulted in 5,600 dwelling units.[195]

Municipal brownfield best practices include:[196]

- **Tax increment financing** – Increased property taxes on property being redeveloped go to a special fund that is used to finance infrastructure needed to support redevelopment of the area. In Calgary, TIF is being used to facilitate redevelopment of the East Village, an area with several brownfield sites.

- **Tax grants** – London, Hamilton and Thunder Bay make grants to property owners to offset the increase in property taxes resulting from redevelopment of brownfield sites. Edmonton will rebate tax increases up to the cost of site remediation (maximum $100,000).[197]

- **Municipal loans and grants** – Cambridge's Contaminated Site Grants Program provides grants of up to 100% of restoration costs for all new development on contaminated properties in core areas.

- **Waiving municipal fees and charges** – Cambridge and Kingston allow municipal fees (e.g., planning and development application fees and building permit fees) to be waived as a measure to encourage brownfield development. Hamilton waives development charges equal to the amount spent on remediation. The Region of

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[195] Canadian Mortgage and Housing Corporation. *Urban Contaminated Sites Rehabilitation Program-Revi-Sols Montréal, Quebec.* http://www.cmhc-schl.gc.ca/en/inpr/su/sucopl/upload/Urban-Contaminated-Sites-Rehabilitation-Program-Revi-sols-Montr%C3%83-al-Qu%C3%83-bec.pdf

[196] Unless otherwise specified: Ontario Ministry of Municipal Affairs and Housing. 2000. *Municipal Financial Tools for Planning and Development.*

[197] City of Edmonton. October 21, 2005. Remediation Technologies Symposium conference presentation, "*Edmonton's Brownfield Redevelopment Grant Pilot Program*". http://www.esaa-events.com/remtech/2005/pdf/05-Brostrom.pdf

Niagara waives 75% of development charges on brownfield sites and the remaining 25% if the new development follows Smart Growth principles.[198]

• **Community Task Force** - Kingston developed its brownfields program by consulting private and public sector stakeholders from legal, finance, real estate, environmental management, engineering and urban planning that have an interest in addressing the redevelopment of brownfields.

Transit-oriented Development

Description

Transit-oriented development (TOD) is new construction or revitalization centered around transit facilities, aiming to create areas of greater density in the immediate vicinity of transit stations. This frequently takes the form of rezoning and redesigning neighbourhoods to intensify activities and diversify land uses near existing transit stops, or carefully planning development around future transit corridors to provide a ready-made source of patronage for the new line.

TOD takes advantage of the symbiotic relationship between density, neighbourhood quality, and non-automobile modes of transportation such as public transit, walking, and biking. Helping central areas accommodate additional residents while preserving and enhancing liveability can potentially limit the land needed for new development, providing alternatives to greenfield sites to house a growing population. Given the direct costs of automobile ownership, and the indirect costs to residents (in land, time, and quality of life) of auto-centered developments, TOD is often used to integrate affordable housing into urban neighbourhoods that are walkable and convenient to transit, offering households the chance to live in housing that is more affordable and appropriate to their needs while accessing jobs via public transportation. Placing higher density development and a greater variety of land uses near transit stations can facilitate easy access to transportation, shopping, services, and employment by foot or bicycle, if neighbourhood streets are appropriately designed to make local trips simple, direct, and safe. Better-quality streetscapes and public spaces in TODs can also increase resident satisfaction and raise the quality of life, making denser and more central locations liveable and successful alternatives to lower-density locations on the urban periphery.[199]

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[198] Regional Municipality of Niagara. 2003. *Smart Growth Implementation Programs: Smarter Niagara – Brownfields Incentive Program Details*. http://www.regional.niagara.on.ca/living/smartgrowth/pdf/PUB-102.pdf

[199] Robert Cervero. 1998. *The transit metropolis: a global inquiry*. (Washington, DC: Island Press).

Examples

Calgary,[200] Ottawa[201] and the Regional Municipality of York[202] have recently developed guidelines to encourage the creation of TODs around their expanding rapid transit systems. The guidelines address streetscapes, land use and building massing around transit stations, in addition to parking requirements (which are usually lower than in surrounding areas).

3.3.6 Guiding & Assessing New Development

The planning application process is a key link between community planning policies and what gets built "on the ground." A lack of clarity concerning the desired features of sustainable developments leads to developer frustration, drawn out approval processes, and approval of "sustainable" projects that lack important elements. To address this situation, some municipalities have begun to explore ways of guiding and assessing new development to improve sustainability outcomes.[203]

The methods of guiding and assessing new development described below are:

- Scorecards
- Checklists
- Sustainable Development Guidelines
- Development Impact Studies
- Integrated Review of Development Applications

Scorecards

Description

A scorecard provides a systematic method of evaluating the degree to which development proposals reflect a set of desired community design principles. This tool provides a breakdown of the various dimensions of community design, and each dimension is assigned a set of measures. Grades are given on each measure and the tallied score is intended to give an indication of the likelihood that the planned development will achieve the community design principles. Scorecards form part of the approval process and improve communication between planners, developers and the wider community to help improve a proposed development from the perspective espoused in the scorecard. The use of scorecards can help reduce developer uncertainty about the municipality's design goals

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[200] City of Calgary, Land Use Planning and Policy Department. (2004). *Transit-oriented development policy guidelines.*

[201] City of Ottawa. 2007. *Transit-oriented development guidelines.*
http://ottawa.ca/residents/planning/design_plan_guidelines/completed/transit/tod_en.pdf

[202] Regional Municipality of York. 2006. *Transit-oriented development guidelines.*
http://www.york.ca/NR/rdonlyres/b4t6uh4erqyxfcanntdawxmg43ailj6a34eorkxzsyyomw4qidoowwzjthyu3lgy6b7oxmmwaqagms
ankqm33bjgfc/tod_booklet.pdf

[203] Ray Tomalty, David Bruce, and Diana Butler for Canada Mortgage and Housing Corporation. 2006. *Criteria and Method for Evaluating Subdivision Plans for Livability and Sustainability.*

and, in some cases, encourage competitiveness among developers to achieve higher scores. Most scorecards that are currently in use have been designed from a smart growth perspective.[204]

Examples

Several scorecards are in use in the US, such as the Smart Project Scorecard, developed in collaboration with the Congress for New Urbanism and the US Environmental Protection Agency.[205] In Canada, the City of Markham, ON has created a scorecard to evaluate development proposals in its Town Centre from a smart growth perspective.[206] The system is based on eleven guiding principles, which were used to produce performance measures covering five themes: greenlands, transportation, built form, green infrastructure, and public open space. Staff evaluates the proposed project against the series of performance measures for each theme area and score the project as either bronze, silver or gold. A Citizen's Advisory Committee then meets with the developer and comments on the proposal, after which it is modified and sent to planning committee and council for approval.

In the US, the use of scorecards has been linked to the provision of development incentives depending on the score received. In a now defunct program in Austin TX, applicants who fulfilled the municipality's Smart Growth design criteria were rewarded with an expedited review process, reduced permit fees, reduced infrastructure charges, and property tax rebates. The better the applicant's score, the better package of incentives was offered.[207] In Canada, the City of Calgary is currently developing a Smart Growth matrix that will serve a similar purpose, although the range of incentives will be narrower.[208]

Checklists

Description

A checklist is similar to a scorecard but it eschews quantitative measurement of design parameters by staff in favour of yes/no answers provided by applicants. The developer or applicant is required to submit a completed checklist along with the other paperwork needed to meet the requirements of the development application process. Applicants may

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[204] U.S. Environmental Protection Agency. Accessed May 20, 2008. Website: *U.S. Environmental Protection Agency – Smart Growth Scorecards*. http://www.epa.gov/smartgrowth/scorecards/

[205] Fleissig, Will & Jacobsen, Vickie. January 2002. Smart Scorecard for Development Projects. http://www.epa.gov/smartgrowth/scorecards/Scorecard_expfleissigjacobsen.pdf

[206] City of Markham, Markham Centre. January 2004. *Performance Measures Document – The Markham Centre Vision for Sustainability and Smart Growth*. http://www.markham.ca/markham/aspc/markhamcentre/PDF/MkmCtr_PM_0401.pdf

[207] City of Austin. Accessed May 20, 2008. Website: *City of Austin – Smart Growth Initiative*. http://www.ci.austin.tx.us/smartgrowth

[208] Ray Tomalty and Murtaza Haider for the City of Calgary. (forthcoming). *Smart Growth and Housing Affordability in Calgary.*

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be requested to provide quantitative or qualitative information justifying the yes/no answers given.

Checklists are used by municipalities to make developers aware of the full range of environmental, social and economic issues that need to be considered when submitting development proposals. Some checklist elements may reflect regulatory standards but most are based on planning policies, such as those found in community plans, neighbourhood plans, or design guidelines.

Examples

Two municipalities within Metro Vancouver have produced checklists; the City of New Westminster's 2004 *Smart Growth Checklist*[209] and the District of North Vancouver's 2002 *Sustainability Guidelines*[210]. Both were created to help implement Official Community Plan goals related to sustainability, but neither is intended to be a prescriptive document, i.e., proposals will not pass or fail as a result of a checklist evaluation. Both municipalities provide reference documents to aid in the completion of the checklist, including municipal policy and programs, and other design-related material.

Sustainable Development Guidelines

Description

Development guidelines are used by municipalities to describe preferred development patterns either comprehensively or for a specific dimension of development. These documents offer a point of departure for negotiating higher quality developments among developers, the community and municipal officials. A typical format for a Development Guidelines manual includes defining relevant issues, describing the type of development that is being encouraged or required, and providing examples on how to achieve the preferred form of development. The guidelines act as a reference for planners, developers, consultants, public officials, and community members to evaluate incoming proposals. They also provide useful information on specific policies or regulations guiding land development.[211]

Examples

The City of Calgary's Sustainable Suburbs Study was an early example of comprehensive sustainable development guidelines. The guidelines were used by City Council in 1995 as the basis for evaluating plans for new development.[212] The document presented design

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[209] City of New Westminster. 2004. *New Westminster Smart Growth Development Checklist.*
http://www.epa.gov/smartgrowth/scorecards/Westminster_scorecard.pdf

[210] City of North Vancouver. March 2003. *City of North Vancouver Sustainability Guidelines*.
http://www.citynorthvan.ca/c//DATA/1/156/2003%2003%2012.DOC

[211] Patrick Condon et al. 2003. *Sustainable Urban Communities - Site Design Manual for BC Communities*. BC Headwaters - UBC James Taylor Chair in Landscape and Liveable Environments. Vancouver, BC.

[212] City of Calgary. 1995. *Sustainable Suburbs Study*. Planning and Building Department. Alberta.

guidelines organized around five major components of sustainable community planning: mixed-use activity centre, open space, housing, transportation, and environment. A more recent example of sustainable design guidelines is provided by Saskatoon's 2004 Neighbourhood Design Options Study.[213]

Development Impact Studies

Description

A development impact study is a formal undertaking that measures the effects that a proposed development or some element of that development might have on the social, economic or ecological environment. Development impact studies begin with a site analysis and consist of a process of estimating and reporting the physical, market, environmental, social, economic, fiscal and/or traffic effects that residential and non-residential development could or have had on a specified area. Evaluating each of these effects entails the use of a specific methodology and collection of detailed data. Current conditions are recorded and, based on the proposed development's features measured against planning standards or service levels, probable impacts are estimated. The municipal planning department first screens an application to determine whether further review is necessary (e.g., proximity to natural areas, scale of development). Typically, the municipality defines the process and extent of analysis while the developer pays for the study itself, employing expert consultants.[214]

Examples

The use of comprehensive development impact studies seems to be more characteristic of the US planning process, but a few jurisdictions in Canada have begun to introduce them. The Municipality of Saanich, BC has used an Environmental and Social Review (ESR) process since 1992 for rezoning and subdivision approvals. The requirement for a review is at the discretion of the Planning Director or Approving Officer and depends on whether the land is within a certain distance of natural, protected or marine areas; deemed environmentally sensitive; outside of the city's Urban Containment Boundary and involves rezoning or is a proposed subdivision greater than five lots; and/or could yield significant social impacts. Regardless of whether an ESR is undertaken or not, with rezoning applications, the justification for the decision must be presented to council. This forms the basis of the review content in conjunction with the city's *Terms of Reference*. In the case where the land is only being subdivided, the Approving Officer outlines the requirements for the review. The process requires the use of an independent consultant who undertakes the review, and upon approval of the final ESR, documents are available for public review.[215]

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[213] City of Saskatoon. 2004. *City of Saskatoon Neighourhood Design Options Study.*
http://www.city.saskatoon.sk.ca/org/city_planning/resources/publications/Neighbourhood_Design_Options_Study.pdf

[214] Edwards, M. et al. Community Guide to Development Impact Analysis. (2000). Development Impact Analysis. (City of Lodi: Ridgestone Valley and Pebble Stone Village).

[215] District of Saanich. 2002. *Council Policy 92CW Environmental and Social Review Process* BC.
http://www.gov.saanich.bc.ca/municipal/clerks/bylaws/index.html

Integrated Review of Development Applications

Description

The conventional processes whereby planners and other municipal officials review incoming development applications can limit integrated planning and innovation in urban design. Traditionally, developers submit their plans to the planning department, which circulates the document along with associated studies, to other departments for comment. The lead planner on the file then collects the comments and forwards them to the developer, with the expectation that he or she will address the comments as presented. Because those commenting on the plan do not routinely meet to discuss issues arising, this system tends to prevent creative problem solving and may send developers mixed messages that delay approval. Implicitly, developers are encouraged to simplify their designs and to avoid innovative features that may attract attention.

Some municipalities have explored ways to address this situation by requiring officials from various departments to meet face-to-face to discuss development applications.

Examples

In Markham, ON, the municipality was divided into six geographical areas for development approval purposes and each one was equipped with an approvals team that met in person to discuss each incoming application. The team was composed of a leader – usually a planner – plus a road and servicing engineer, and an urban designer. The team leader organized the process and brought in other officials (e.g., water, or parks) as needed. This process worked to educate the various team members in the constraints and opportunities faced by officials in other departments, improved communication, and created a setting in which sometime delicate problems could be resolved before returning town comments to the developer. This tended to shorten approval times and encourage the submission of more innovative designs.[216]

3.3.7 Financial Incentives

A number of municipalities are exploring the use of financial incentives to help encourage development that will contribute to sustainability goals.

The financial incentives described below are:

- Density Bonuses
- Tax Abatements
- Development Charges
- Fuel Tax Surcharges

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[216] Personal communication, Lynn Armstrong, former planner with the Town of Markham, May, 2008.

Density Bonuses

Description

Municipalities may adopt a density bonus scheme to create incentives for developers to provide an amenity in exchange for variations in zoning requirements. Under density bonusing, the developer usually receives an increase in density than is not normally allowed under existing zoning, while the municipality receives a desired amenity that furthers public policy goals. Most often used in urban cores, where developer demand for increased density is highest, this technique can be used to strengthen downtowns by encouraging developers to provide public amenity space, services (e.g.,a daycare), or affordable housing.

Examples

The legislative provisions governing density bonusing in Canada varies by province to province. At present, density bonusing is permitted in BC, Ontario and Nova Scotia.[217]

Town of Sidney, BC's Official Community Plan allows Council to approve a higher number of units per hectare and floor space ratio up to a maximum of 25% more if a development includes non-market housing in medium and high-density areas.[218] The municipality will allow the conditional units in the roof line and a two-tiered density system for multi-family housing when amenities are provided, such as family housing, adaptable housing, waterfront improvements and non-profit housing.

In Ucluelet, BC, their density bonus system allows developers to build at a higher density in exchange for the developer providing additional parkland, public recreational infrastructure, other community amenities, or cash to the municipality.[219] The density bonus can take the form of additional lots, units per acre or increased commercial or industrial square footage of building area. The amenities are decided and approved by Council and any cash received is deposited in an amenities reserve fund.

The City of Toronto has been using density incentives on both residential and commercial development to secure public benefits since the early 1980s. Between 1982 and 1999, increased density was used to obtain sites capable of accommodating approximately 6,000 non-profit housing units, and cash-in-lieu of nearly $19 million**.**[220] Density incentives have also been used for the preservation of heritage buildings,

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[217] Spurr Research Associates et al for Canada Mortgage and Housing Corporation. 2001. *Survey of Canadian Municipalities: Regulatory Measures for Housing Affordability and Choice.*

[218] Town of Sidney. 2007. *Town of Sidney Draft Official Community Plan.* http://www.sidney.ca/__shared/assets/2007_Draft_OCP1380.pdf?method=1

[219] a) District of Ucluelet. January 11, 2007. *District of Ucluelet Official Community Plan.* http://www.ucluelet.ca/UserFiles/File/Bylaws/OCP%20Jan%2011%202007.pdf
b) Marbek Resource Consultants interview with: Felice Mazzoni, Director of Planning, District of Ucluelet. February 2008.

[220] Ray Tomalty, Anna Hercz and Peter Spurr for Canada Mortgage and Housing Corporation. 2001. *Municipal Planning for Affordable Housing.*

securing workplace daycare and other facilities and services. The City's new Official Plan has extended density bonusing throughout the City for all developments that are of a minimum size (10,000 square metres). The City of Toronto uses bonusing for the creation of new rental units and to protect existing rental housing as part of the re-development of under-developed properties.

Tax Abatements

Description

Many municipalities are introducing market-based incentives for sustainable development by adjusting property taxes to encourage private investment in target areas. Often these incentives are designed to spur development in downtown areas, which are struggling to compete with new commercial facilities like "big-box stores", power centres, and regional malls on the urban periphery.

Examples

The City of Saskatoon, SK began a program in 1999 that provided tax abatement housing incentives in the downtown area.[221] The original program provided a tax abatement that was phased in over five years (100% exemption for the first year, 80% for the second year, etc.) for new rental housing, and a 50% rebate of the building permit fees on the residential portion of any new development in the downtown. It was later modified in 2002 to a 100% tax exemption for five years to apply to all housing and was not targeted to specific types of residents (such as seniors). The program resulted in creating 104 rental units.[222]

Cambridge, ON exempted downtown properties from development charges and provided a rebate for three years of any increase in City property taxes resulting from property improvements.[223]

Development Charges

Description

Many existing financial instruments were developed with little attention paid to the impacts they might have on planning-related issues. For example, most municipalities apply development charges – the fees imposed on developers by municipalities to recover the capital costs of the off-site infrastructure required to service new development – uniformly across the municipality, regardless of the development's location and the

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[221] City of Saskatoon. Accessed May 20, 2008. Website: City of Saskatoon – Downtown Plan – Downtown Housing – Housing Initiatives. http://www.saskatoon.ca/dtp/housing/initiatives.html

[222] Canada Mortgage and Housing Corporation. 2002. *Residential Intensification Case Studies – Municipal Initiatives: Downtown HousingIncentives Program, Saskatoon, Saskatchewan.* http://www.cmhc-schl.gc.ca/en/inpr/su/sucopl/upload/Downtown-Housing-Incentives-Program-Saskatoon-Sask.pdf

[223] Ontario Ministry of Municipal Affairs and Housing. 2000. *Municipal Financial Tools for Planning and Development.*

actual cost of delivering infrastructure services to that location. This has the unintended result of subsidizing low-density development on the urban fringe at the expense of higher-density infill development.[224]

Some municipalities in Canada are exploring ways of revising these instruments so that they better support SCP objectives. Under this modified approach, development cost charges are lower on developments of higher density or in sectors near the urban core, reflecting the lower cost of providing infrastructure for such developments. This approach shores up planning goals and helps drive denser and more sustainable development.

Examples

In British Columbia, Kelowna, the District of North Vancouver, Kamloops, and the Township of Langley use density gradients or sectoral approaches.[225]

Fuel Tax Surcharges

Description

A fuel tax surcharge is a fixed charge per litre on motor fuels above the regular provincial and federal fuel taxes. The charges not only supplement regional budget for transportation infrastructure and services but they may also be an incentive for motorists to drive less, or to drive more efficient vehicles.

Examples

Such a charge has have been introduced in several agglomerations in Canada. Metro Vancouver has a surcharge of 6.5¢/litre, Victoria has a surcharge of 2.5¢/litre, and the Montreal Metropolitan Community has a surcharge of 1.5¢/litre. The revenues are dedicated either to transit and roads (in BC) or exclusively to transit (in Quebec).[226]

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[224] Ray Tomalty for Canada Mortgage and Housing Corporation. 2001. *The Effects of Development Charges on Urban Form.*

[225] Ray Tomalty for Infrastructure Canada. 2008. *Innovative Infrastructure Financing Mechanisms for Smart Growth.* http://www.smartgrowth.bc.ca/Portals/0/Downloads/sgbc-infrastructure-report-web.pdf

[226] Ibid.

3.4   EXEMPLARY MODELS

This section presents some of the more successful sustainable community plans and sustainable neighbourhood plans in Canadian communities. These exemplary models were chosen because they:

*   Use a sustainable community or neighbourhood planning approach similar to those presented in Section 3.2.3 and 3.2.4;
*   Utilize multiple best practices, as defined in Section 3.3;
*   Address multiple elements, such as water, energy, transportation, solid waste, etc. within their plan;
*   Have created targets that go beyond what the average municipality is doing and can measure their progress toward these targets; and
*   While they do not fully meet the definition of "ideal" SCP in Section 3.1, they have made commendable progress compared to conventional community planning.

It should be noted that the number of communities in Canada that have written and fully or partially implemented a sustainable community plan is limited. Understanding this limitation, Exhibit 3.4 summarizes some exemplary models of community and neighbourhood planning in Canada that have been more successful in striving for sustainability, namely:

*   Annapolis Royal, NS (community)
*   Ucluelet, BC (community)
*   Okotoks, AB (community)
*   Dockside Green, Victoria, BC (neighbourhood)
*   Markham Centre, Markham, ON (neighbourhood)

Similarities among these exemplary models are noted in Section 3.5. Appendix A lists the contacts interviewed during research on these communities. Appendix C contains full profiles on these exemplary models.

Exhibit 3.4
Summary of Exemplary Sustainable Community & Neighbourhood Plans in Canada

Community & Characteristics	Reasons for Exemplary Status	Approach & Integration	Best Practices Used	How Key Barriers were Overcome	Other Reasons for their Success
Annapolis Royal, NS • Population: of 500 with slow growth; • Rural, costal town; • Primary economy is tourism	• Have an integrated land-use, waste, water, energy and brownfield sustainability plan • Municipality with a decreasing population and limited funds, that is being creative and continuously pushing the standard for sustainability	• Integrated Community Sustainability Planning Approach • Zero waste program uses food/waste digesters and composting units to divert 60% of the town's solid waste. • Tertiary waste water system whose product supports a specially designed wetland. • Brownfield remediation and land development plan • Community energy systems that will use renewable energy • Energy efficiency plan for town buildings	• Land-use bylaws to prevent development in environmentally sensitive areas and to promote infill housing developments. • Increasing water rates to promote conservation. • Public consultations that consisted of household, business and day user surveys, open houses and town meetings, and newspaper coverage.	• Partnerships with academic, NGOs, utilities, private and public organizations for technical knowledge and funds. • Lack of knowledge of what the possible options were overcome through a staff member joining a FCM-sponsored trip to the UK. • Lobbied Nova Scotia Power to begin paying taxes to the town for the Annapolis Tidal Power Station	• Community push to be environmentally sustainable • Strong sense of community and desire to be independent from outside forces and governments

Community & Characteristics	Reasons for Exemplary Status	Approach & Integration	Best Practices Used	How Key Barriers were Overcome	Other Reasons for their Success
Ucluelet, BC • Population of 1,900 and growing; • Small, urban, coastal community; • Primary economy is tourism	• The Official Community Plan incorporated creative mixed-use development with regulations for affordable housing, storm water standards and public access to the waterfront. • Constantly improving the minimum standards for each new development. • An energy plan will be incorporated this year into their Official Community Plan that sets an energy minimum standard for new developments.	• Smart Growth Approach • Mixed-use areas including an eco-industrial/residential park • Land that is bought enters into a "holding zone" process whereby it can be re-zoned with the Official Community Plan as the basis. • Created a comprehensive development zone with the town's largest landowner • Protecting sensitive environmental areas and maintaining public access to the waterfront • Affordable housing plan	• Density bonus system that provides funds and land for community amenities • Alternative Development Standards for storm water management • Bylaw stating 20% of all housing units must be for affordable housing in all new developments. • Creation of smaller residential lots. • Official Community Plan requires that all waterfront developments provide 100% public access to the West Coast Trail. • Land-use bylaws that mandate that subdivisions must have at least 40% green space. • Public consultations were held at the beginning and during the creation of the Official Community Plan. • Full cut-off lighting to preserve night sky	• Partnership with Malaspina University College which provided human and fiscal resources for the public consultation process • The Town of Ucluelet wants to implement stricter development standards beyond what is allowed under the BC Municipal Act. They have petitioned to the province to change the Act to give municipalities the power to seek stronger standards and they are currently waiting for a response.	• The flexibility of the Official Community Plan allows for the incorporation of innovative ways to achieve the town's vision and to modify targets to adapt to changing conditions and technological improvements. • The Official Community Plan is structured so that new development pressures trigger policy changes. • The Plan could be implemented and matched the character of the community. • Creation of the Ucluelet Housing Corporation to administer the affordable housing units. • Political support and increased trust between the planner and City Council.

Community & Characteristics	Reasons for Exemplary Status	Approach & Integration	Best Practices Used	How Key Barriers were Overcome	Other Reasons for their Success
Okotoks, Alberta • Population of ~20,000 and growing quickly (will likely be at build-out limit of 30,000 in 6 years, 3-4 years ahead of anticipated); • Urban, prairie town; • Primary economy: ~65% of workforce commutes to Calgary; local jobs are in service sector & light manufacturing	• Municipal Development Plan is based on the carrying capacity of the local water supply, the Sheep River, and consequently has introduced a population cap and a land development boundary.	• Carrying Capacity Approach • Introduced targets for commercial assessment base; non-traditional housing; open space; density; waste generation; water use; and commuter ratio into the City of Calgary. • Inter-municipal Development Plan with neighbouring municipalities to further protect the rural-urban transition zones and no future requests for annexation. • GIS-based watershed information system was used to create targets for short- and long-term initiatives	• Growth barrier created to contain development • Bylaws to create commercial and residential growth corridors • Bylaws preventing development on environmentally sensitive lands • New private sector developments must pay 25% of the cost to purchase new land for public parks. • Public consultation was conducted from the beginning and is continued throughout the process. Progress is regularly communicated through local media outlets and on the City's website.	• Partnerships with government departments, academic, utility, non-government and local neighbourhood organizations for technical support • There was a mutual acceptance of risk between the municipality and its project partners. • Tri-annual community survey brings continuous buy-in by the citizenry and motivates the politicians to make their sustainability targets.	• Goals were tangible and deliverable • Clear vision • There was flexibility in the early growth stages of implementation which allowed them to take corrective action. • The growth barrier has been a draw for developers since people are reassured that the city will stay small.

Community & Characteristics	Reasons for Exemplary Status	Approach & Integration	Best Practices Used	How Key Barriers were Overcome	Other Reasons for their Success
Dockside Green, Victoria, BC • Future Population: 2,200 residents • Future Development Space: 1.3 million square feet of residential, commercial and light-industrial	• Development's focus is based on a triple bottom line of environmental, economical and social principles. • Goal to be a GHG neutral development • Developed on a brownfield site in downtown Victoria • Buildings will meet a LEED Platinum standard • Implementation of a Transportation Demand Management strategy • Tertiary sewage system in a municipality that doesn't treat its sewage • MOU was signed between the developers and the Songhees Nation and Esquimalt Nation to create an employment and training program for their citizens.	• New Urbanism and Smart Growth Approaches • District energy system using biomass energy cogeneration from wood waste to create heat for buildings and to produce hot water, and a geothermal heat pump system to cool commercial units. • Energy efficiency appliances and individual unit meters • Storm water plan that is based on a natural approach using green roofs, balcony cisterns and ponds containing selective vegetation. • Low-flow fixtures and grey water re-use systems were implemented • Transportation Demand Management strategy that uses car share programs, mini-transit, parking management and pedestrian-friendly roadways	• Public consultations throughout the development process and implemented the public's recommendations. • Developers wrote in a penalty clause in the Master Development Agreement up to $1 million dollars ($1 per buildable sq. ft.) payable to the Municipality should they not obtain the LEED Platinum designation for each building. • City re-zoned the land and created a comprehensive district by-law for the site.	• Partnered with the local community association and ENGOs to seek their input, which allowed for a quick re-zoning process. • Specific technologies have had to be overcome – biomass gasification is being substituted for the original co-generation approach and the electric vehicles that met the original specifications are not readily available	• The triple bottom line approach created more zoning flexibility with the municipality. The developer was allowed to have a lower number of parking spaces by offering carpool vehicles • Created a $3 million on-site affordable housing fund that will be used to purchase units. The City of Victoria will contribute 20% of the funds generated through building permits to the fund. • Internet tool will provide a graphical interface for accessing information and measuring the success of the development against the indicators.

Community & Characteristics	Reasons for Exemplary Status	Approach & Integration	Best Practices Used	How Key Barriers were Overcome	Other Reasons for their Success
Markham Centre, Markham, ON • Mixed-use downtown area	• Formed an urban centre where none existed • Created its own district energy cogeneration plant	• New Urbanism and Smart Growth Approaches • Markham Centre is situated to have access to the GO rail system, the future Highway 407 Transitway, a municipal rapid-transit system in a dedicated corridor (the Region of York's "Viva" transit system), as well as bicycle paths and pedestrian pathways. • District Energy Cogeneration System that will provide heating and cooling to both the residential and commercial developments.	• Zoning bylaws to limit the amount of vehicle parking that can be provided • Zoning bylaw restrictions to protect the Rouge River Valley • Public consultations and the creation of a community Advisory Group • Performance measures are used to evaluate each project with respect to the overall vision of Markham Centre.	• Lack of buy-in from land owners that was overcome through education and engagement. • Constant public engagement has helped educate older area residents who were hesitant with the new direction.	• Performance measures and report cards allow for accountability and progress to be measured • Very supportive city council • Constantly reviewing their performance measures • Individual development zoning allows for flexibility

3.5 TRENDS

Concerns over climate change and other environmental, social and economic issues related to current patterns of development will undoubtedly drive further interest in this sector in the years to come. The phenomenon known as "peak oil" will also force change in community planning paradigms as community leaders become increasing uncertain of the easy availability and affordability of fossil fuels to support current growth patterns and associated transport systems. The aging of the population and slow down in growth rates will likely be associated with an increased emphasis on quality of life issues and consolidation of existing urban fabrics into complete communities with a full range of services within easy access and a variety of housing types to accommodate people at different points in their life cycles. The aging population may also impose a fiscal stress that will put new emphasis on the need to reduce the wastefulness associated with current planning approaches and plan for the most efficient forms of urban development, especially from an infrastructure point of view. Increasing political instability on the world stage and concern with security issues may also drive greater interest in resilient communities that are more self-reliant, e.g., in terms of energy and food provision.

This sub-section elaborates on key trends among Canadian municipalities in overcoming challenges and moving from current toward ideal practice in SCP. These trends are summarized in Section 3.5.1 and described with municipal examples in Section 3.5.2.

3.5.1 Overview & Applicability

The table in Exhibit 3.6 presents how key planning trends in Canadian communities relate to the challenges identified in Section 2, and indicates the applicability of these trends to different communities.

Exhibit 3.6
Overview & Applicability of Trends to Key Challenges & Community Types

Trend & Key Benefit(s) Relating to Challenges	Challenges Targeted or Affected[a]	Community Applicability[b]	Community Examples
GOVERNANCE			
Regional planning • Allows more integrated planning across communities that share services and interests	• F1, F2, F3, F5, F7 • G1, G2, G3, G4, G5, G6 • S8 • O1	• All	• Halifax, NS • Hamilton, Toronto, and Ottawa, ON • Montreal and Quebec, QC
Greater municipal powers • Allows greater municipal power for aspects pertaining to SCP	• Potentially any except R1 & T1	• Potentially all	• Communities in BC, AB, SK, and ON
COLLABORATIVE PLANNING			
Democratic participation • Improves public engagement and participative decision-making	• G10, G12, G13 • S1, S2, S3, S5, S6, S8 • T1, T2, T5 • L1 • O1, O2, O3, O4	• All	• East Clayton in Surrey, BC • Montreal, QC • Saskatoon, SK • Vancouver, BC
Strong community support • Louder public voice, more stakeholder buy-in, and stronger goals empower the municipality to act in-line with public interest	• G2, G10, G11, G12, G13 • S5, S6, S7 • O2	• All, but often easier in smaller communities	• Okotoks, AB
Creative partnerships • Provide more resources for municipalities to create and implement SCP, including more leverage in developer negotiations	• F2, F3, F4, F5, F10 • G2, G7, G8, G9, G10, G11, G12, G13 • S5, S6, S7 • O2	• All	• Annapolis Royal, NS
TECHNICAL PLANNING			
New information technology • Eases complex data processing in assessment, development, implementation, and monitoring of SCP	• E1 • F1, F3 • G6, G8, G9 • T2 • O1	• All, but may have lower cost-benefit in smaller communities	• Calgary, AB • Humboldt, SK • Resort Municipality of Whistler, BC
Flexibility • Allows faster response to community and market changes (e.g., modification of goals as progress is made)	• Any	• All	• Dockside Green in Victoria, BC • Ucluelet, BC
FINANCIAL INCENTIVES			
Introducing new financial instruments • Provide funds that help support SCP while sending financial signals to encourage behaviour change compatible with SCP goals	• F1, F2, F3, F4, F5, F6, F10 • G2, G8, G9	• All, but possibly more difficult in smaller communities	• Metro Vancouver, BC • Montreal, QC

The following sub-section includes descriptions and, where applicable, examples of the trends mentioned in Exhibit 3.6.

3.5.2   Current & Emerging Trends

Below are examples of key SCP-related trends among Canadian communities in the areas of governance, collaborative planning, technical planning, and financial instruments:

Governance

• **Regional planning** – Canada is highly urbanized nation and the vast majority of Canadians live in metropolitan regions made up of many municipalities. To be addressed properly, many environmental, social and economic issues need to be planned or otherwise addressed at the regional scale (e.g., the transportation system, watersheds, air quality management). Thus cooperation at this scale is an essential condition for undertaking a SCP approach in metropolitan regions. In recent years, a trend towards regional coordination of municipal actions has been evident across the country. For example, numerous amalgamations have created regional municipalities in places as diverse as Halifax, Quebec City, Ottawa, and Hamilton. Elsewhere in Canada, such as in Montreal and Toronto, metropolitan governance is on the upswing with the creation of new metro-wide bodies such as the Montreal Metropolitan Community[227] and Metrolinx (formerly the Greater Toronto Transportation Authority).[228] In BC, regional planning was strengthened in the mid-1990s through the passage of the Growth Strategies Act, which required rapidly growing regional districts to pass growth management plans.[229] The tide towards more aggressive regional planning seems broken only in Alberta, where regional planning organizations were dissolved in the mid-1990s. However, even there, some regional planning functions have been assumed by voluntary inter-municipal organizations.

• **Greater municipal powers** – In the past, municipalities in most provinces operated under "laundry list" legislation: their governing legislation spelled out every power and if the power was not listed or necessarily implied, the municipalities did not have the power. This approach undermines SCP by limiting municipal authority to implement new revenue-raising mechanisms or to provide incentives to developers and builders to follow sustainability guidelines. In recent years, several provinces have enacted legislative changes to enhance municipal powers. Alberta began this trend in 1995, when it introduced "natural person" power legislation for municipalities, unless specifically excluded by the legislation.[230] This means that municipal corporations no longer had to find specific authority in the Act to do many of those activities that a natural person does in the normal course of conducting their affairs. Saskatchewan followed suite in 2002, when its Cities Act gave municipalities

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[227] Communauté métropolitaine de Montréal. Accessed May 20, 2008. Website: *Communauté métropolitaine de Montréal.*
http://www.cmm.qc.ca/index.php?id=309

[228] Government of Ontario & Greater Toronto Transportation Authority. Accessed May 20, 2008. Website: *Metrolinx.*
http://www.metrolinx.com

[229] British Columbia Legislature. 1995. *Bill 11: Growth Strategies Statutes Amendment Act, 1995.*
http://www.leg.bc.ca/1995/3RD_READ/gov11-3.htm

[230] Mandersheld, DJ. August 2005. "Natural person powers and the municipality" in *Law Now,* August-September 2005.
http://findarticles.com/p/articles/mi_m0OJX/is_1_30/ai_n25121523

in that province natural person powers.[231] In 2003, BC's Community Charter provided for fundamental municipal powers including natural person powers, the power to provide any service that the council considers necessary or desirable and the power to regulate and in some cases prohibit and/or impose requirements in relation to a number of broad areas or "spheres".[232] The legislation broadened municipal powers by, for example, facilitating public-private partnerships and giving more flexible revenue-raising authority. In 2007, Ontario substantially revised its Municipal Act for the same purpose.[233] Other changes in Ontario, including a stronger Policy Statement under the Planning Act and the requirement for municipal planning decisions "to be consistent with" provincial policies, have also strengthened the municipal hand when contesting unsustainable developments before the Ontario Municipal Board.[234]

Collaborative Planning

• **Democratic participation –** Planning innovation may be resisted because a plan is poorly thought out, involves a change to established routines, or threatens valued aspects of the community. Some communities are moving forward with SCP by experimenting with new forms of community consultation and participation that are designed to improve the responsiveness of sustainability plans to community values, build partnerships, and to help communities come to terms with change. In Montreal, a "citizen summit" has been held annually for three years to gather citizen views on sustainability issues and to generate recommendations for action (by the City and other stakeholders).[235] "Ideas fairs" are also being held in some jurisdictions (e.g., in Vancouver) to raise interest in planning exercises and gather promising ideas for inclusion in planning processes. In Saskatoon, the municipality uses "participative local area planning" at the neighbourhood scale to bring together residents, business owners, property owners, community groups and other stakeholders to form a partnership with the City on neighbourhood planning and policy issues.[236] Charrettes are increasingly being used to bring together the full range of stakeholders in new development to find innovative solutions and resolve conflicts among the many

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[231] Government of Saskatchewan. June 2002. Website: *Government of Saskatchewan – About Government – News Releases – June 2002 – New Cities Act Introduced.* http://www.gov.sk.ca/news?newsId=2efba3e5-c81b-47b9-b361-efae25d0af38

[232] British Columbia Ministry of Community Services. Accessed May 20, 2008. Website: Ministry of Community Services – Governance & Structure – Community Charter – Legislation – Highlights of the Community Charter. http://www.cserv.gov.bc.ca/LGD/gov_structure/community_charter/legislation/charter_highlights.htm

[233] Ontario Ministry of Municipal Affairs and Housing. Accessed May 20, 2008. Website: *Ministry of Municipal Affairs and Housing – Resources for Municipalities – Municipal Act e-guide – Gateway to Parts I to XVIII of the Act – Part II - General Municipal Powers (Sections 8 to 23) – Natural Person Powers (Section 8).* http://www.mah.gov.on.ca/Page293.aspx

[234] Ontario Ministry of Municipal Affairs and Housing. Accessed May 20, 2008. Website: *Ministry of Municipal Affairs and Housing – Resources for Municipalities – The Learning Centre – E-Learning – E-Learning Module: "Shall be consistent with".* http://www.mah.gov.on.ca/Page1564.aspx

[235] 4ᵉ Sommet Citoyen de Montréal. June 2007. http://www.4sc.ecologieurbaine.net/

[236] City of Saskatoon. Accessed May 20, 2008. Website: *City of Saskatoon – Local Area Planning.* http://www.city.saskatoon.sk.ca/org/city_planning/local_area_plans/index.asp

interests involved in SCP. For example, a charrette was successfully used in the design of the East Clayton project in Surrey.[237]

• **Strong community support** – In all of the exemplary models noted in Section 3.4, strong community support formed the basis for SCP. The communities were integral stakeholders from the beginning of the visioning and planning processes and the decision-makers actively engaged the public through surveys, open houses and town meetings. A common driver was that these communities wanted to keep their "sense of place" or the community's "character", and growth needed to occur in a controlled manner to achieve this. For example, the Town of Okotoks involved the public in the initial visioning process of the Sustainable Okotoks plan and surveys its citizens every three years on their thoughts and opinions of the town's future within the Sustainable Okotoks framework.[238] Furthermore, with a participative citizenry behind the vision and the plan, and champions continuously pushing in different sectors and at different scales, accountability can be continued across political terms of office.

• **Creative partnerships** – Partnerships with academic institutions, school boards, community groups, financial institutions, utilities, and other private and public organizations can be a crucial component of successful community planning due. Partners can fill the technical, human resource, and fiscal resource gaps that municipalities need to create and implement their community plans. These stronger partnerships also increase leverage in negotiations with developers. The Town of Annapolis Royal created and financed their integrated sustainable community plan through the help of sixteen partners. They gained technical expertise through partnerships with the academic and private sectors, financial support through provincial and federal government funding and community support from local environmental organizations. For the majority of the partnerships made, the municipality or the developers had to actively seek out and make these partnerships occur.

Technical Planning

• **New information technology –** The need to gather and process large amounts of information can pose a barrier to adopting a SCP approach. Some municipalities are exploring information technology that enhances their ability to handle the extra data

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[237] University of British Columbia Design Centre for Sustainability. Accessed May 20, 2008. *Charrette Case Studies: East Clayton Charrette*. http://www.jtc.sala.ubc.ca/projects/DesignManual/East_Clayton.pdf

[238] Sources:

a) Town of Okotoks. September 1998. *Town of Okotoks Municipal Development Plan: "The Legacy Plan"*.
http://www.okotoks.ca/town/municipal/development/planning/mdp.asp
b) Town of Okotoks. 2005. *1998-2003 Municipal Development Plan Review*.
http://www.okotoks.ca/town/municipal/development/planning/mdp.asp
c) Town of Okotoks. 2006. *2004-2006 Municipal Development Plan Review*.
http://www.okotoks.ca/town/municipal/development/planning/mdp.asp
d) Town of Okotoks & M.D. of Foothills Administrations. May 1999. *Town of Okotoks/M.D. of Foothills Intermunicipal Development Plan*. http://www.okotoks.ca/town/municipal/development/planning/mdp.asp
e) Marbek Resource Consultants interview with: Richard Quayle, Municipal Manager; Steve Hanhart, Community Planner; and Dave Robertson, Operations Manager, Town of Okotoks. February 2008.

requirements. Software is available for modelling community development scenarios that link growth patterns with environment, social and economic outcomes, conducting visioning exercises, undertaking mapping of valued community features, and assessing community plans for sustainability features. For example, MetroQuest, a long-term scenario-testing program, was used in the 100-year planning exercise for Calgary, AB and in the 20-year plan for the Resort Municipality of Whistler, BC.[239]

- **Flexibility –** Community plans that incorporate flexibility allow municipalities to modify and adapt their policy tools to achieve their plan's vision amidst changing economic and growth conditions. With this freedom, the municipality can adjust their targets as technology improves, which leads to a continuous process of raising the standards. For instance, the Town of Ucluelet reviews each new development and improves the minimum standards that the development must meet, using the Official Community Plan's vision as their basis. The City of Victoria modified its parking bylaw policies for Dockside Green to allow developers to provide fewer parking spaces in return for a car share program. Flexibility allows the municipality to take corrective action and to meet or go beyond the vision of the community plan.

Financial Instruments

- **Introducing new financial instruments –** Although SCP undoubtedly reduces environmental and social externalities and will ensure long-term savings for municipalities, it may involve greater up-front public expenditures on infrastructure (e.g., transit, renewable energy, wastewater management). At the same time, many Canadian municipalities report that they do not have the fiscal resources to maintain existing infrastructure properly. To achieve SCP, therefore, new sources of infrastructure funding will be needed. Fortunately, municipalities are beginning to experiment with new financial instruments that could help support SCP. The challenge is to find instruments that generate new funds for SCP-related investment and that send the right financial signals to support behaviour change compatible with SCP goals. A good example is the fuel tax surcharges (a fixed charge per litre on motor fuels above the regular provincial and federal fuel taxes) that have been introduced in Metro Vancouver, and the Montreal Metropolitan Community, as mentioned in Section 3.3.7.[240] The revenues are dedicated either to transit and roads (in BC) or exclusively to transit (in Quebec). Vehicle registration charges, parking site taxes, storm water utility fees linked to impervious surface area, high occupancy toll lanes, and tax increment financing are examples of other financial instruments that are being explored now in Canada and that have great promise for dissemination across the country.

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[239] Envision Sustainability Tools. Accessed May 20, 2008. Website: *MetroQuest – Showcase – Project Highlights*. http://www.envisiontools.com/project_highlights.aspx

[240] Ray Tomalty for Infrastructure Canada. 2008. *Innovative Infrastructure Financing Mechanisms for Smart Growth*. http://www.smartgrowth.bc.ca/Portals/0/Downloads/sgbc-infrastructure-report-web.pdf

4. FINANCIAL IMPACTS

This section explores the financial impacts of striving for sustainability through sustainable community planning. This section is presented as follows:

- Difficulties of Quantitative Assessment
- Qualitative Assessment

4.1 DIFFICULTIES OF QUANTITATIVE ASSESSMENT

Quantitative estimates of the financial cost or savings involved in implementing an SCP are currently not available: there are no studies in Canada comparing the financial impacts of implementing a SCP to that of a conventional plan. This may be due to the sheer complexity of the undertaking, given the wide scope of SCPs and the myriad tools and policies usually subsumed in it. The relatively recent advent of SCP and the long implementation lead-time may also help explain why all-encompassing studies have not been conducted on this topic in Canada to date.

There are however, studies that show the financial implications of the various resulting components of sustainable community planning (e.g., low-impact development; transit-oriented development; distributed, efficient, renewable energy systems; quality-use matching in water supply; etc.). These results are not reviewed in this report.

One topic specific to SCP is the differential financial impact between compact and sprawling development. The studies undertaken in Canada on this topic show that more compact neighbourhoods and metropolitan region are, in general, more efficient from a financial point of view. Below is a summary of results from some of these studies:

- One Canadian study explored differences in public and private costs between conventional suburban design and more compact "neo-traditional" design.[241] The authors concluded that the total life-cycle cost (over a 75-year period) of the infrastructure in the alternative plan was approximately $11,000 per household, or 8.8 percent less than in the conventional plan. The authors attributed the lower costs of the alternative plan to the increase in residential density and to the increase in land-use mix.

- In 2004, a study done for the Halifax Regional Municipality showed that municipal service costs declined significantly, on a per household basis, from low density suburban to high-density urban development.[242] The study included both the operational and capital replacement costs required for each service. For example, rural estate development costs the municipality $5,200 per household while low-density suburban development costs $3,100 per household and high-density urban development costs only $1,400 per household.

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[241] .Essiambre, Phillips, Desjardins Ltd. for Canada Mortgage and Housing Corporation. 1995. *Infrastructure costs associated with conventional and alternative development patterns.*

[242] Regional Planning, Halifax Regional Municipality, Regional Planning. May 15, 2004. *Settlement Pattern & Form with Service Costs Analysis. Preliminary Report.*

•   A study done in 1998 for the Region of Ottawa-Carleton (since amalgamated as part of the City of Ottawa) found that potential savings in servicing costs from using more space-conservative development standards would be in the range of $8,500 per household and that the savings were passed on to the purchasers (Region of Ottawa-Carleton 1998).[243]

•   According to a study prepared for the Greater Toronto Area Task Force, a more compact and efficient development pattern could save the city-region an estimated $12.2 billion in hard infrastructure capital costs over the next 25 years – or roughly 22% of the projected $55 billion capital investment required to sustain current development patterns.[244] This translates into annual savings of approximately $500 million in capital and maintenance expenses alone. An additional $200 million could be saved in costs related to air pollution, health care, and policing associated with automobile accidents. When lower congestion, parking, and land acquisition costs are factored in, the total cost savings to be realized by containing urban sprawl could average $1 billion a year over 25 years.

4.2   QUALITATIVE ASSESSMENT

Sustainable community planning (SCP) can result in incremental financial cost or savings during development and/or implementation, relative to conventional community planning. Therefore, this section is presented as follows:

•   Incremental Financial Impact of Developing a SCP
•   Incremental Financial Impact of Implementing a SCP

4.2.1   Incremental Financial Impact of Developing a SCP

Compared to conventional planning, a community undertaking a SCP is likely to experience higher costs due to the increased information requirements and the participatory nature of the planning process. Incrementally higher costs may be associated with:

•   **Planning studies**, such as for carrying capacity, environmental and social impact analysis, full-cost accounting;
•   **Data gathering** for forecasting and backcasting, indicator and monitoring frameworks, inputs into modelling processes;
•   **Enhanced public consultation** for visioning exercises, ideas fairs, maintaining a citizens' advisory group or round table, conducting charrettes;[245]
•   **Software** for GIS inventories, complex modelling of various development scenarios and impacts, visualization of development outcomes; and

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[243] Region of Ottawa-Carleton. 1998. *Alternative development standards monitoring report. Gloucester Pilot Project, Final Report*, Ottawa.

[244] Berridge Lewinberg Greenberg Dark Gabor for the Greater Toronto Area Task Force. 1995. *The Economics of Urban Form.*

[245] Charrettes can cost up to $350,000, depending on the scope of the topic and extent of participation.

- **External fees** if consultants are hired to help direct the process, or if proprietary tools are used (e.g., MetroQuest[246]).

Although SCP may be more expensive than conventional planning, the broader range of participants in SCP creates opportunities for novel funding sources. Many of the SCP initiatives discussed in this report were developed using a broad funding base, including support from community foundations, public health units, NGOs, private sector contributions, and federal sources such as FCM's GMF, in addition to municipal contributions.

4.2.2   Incremental Financial Impact of Implementing a SCP

The long-term implementation of a SCP will entail cost increases for some features of the plan and cost savings for others, as compared to a conventional plan. Cost increases can be expected to flow from the following factors:

- **Infrastructure investments** may increase, in the short-term, to alter development and transportation patterns, e.g., improve transit services, introduce new water treatment technologies, renewable local energy generation, district heating, etc.;
- **Developer and resident incentives** (e.g., tax rebates, lower development charges in target areas) may be used to encourage decisions in line with the long-term SCP goals may entail higher program costs;
- **On-going public education programs** may be needed to support SCP goals;
- **Increased municipal expenditures on energy efficiency** measures for buildings, purchasing more expensive (and energy efficient) vehicles;
- **Development control**, including staff needed for a more complex development control process, including the implementation of design guidelines, assessment frameworks such as checklists, and performance measures; and
- **Monitoring and implementation**.

Savings may accrue to municipalities due to the following considerations:

- **Savings from enhanced communication** among departments and reduced conflict;
- **Reduced developer and resident resistance** to development control decisions, due to enhanced buy-in from participatory processes;
- **Fewer wasted planning resources and improved efficiencies** flowing from having a long-term plan with an integrated set of goals linked to current monitoring and reporting activities;
- **Green infrastructure**: By preserving and strengthening natural functions, the need to replace or expand engineered infrastructure may be reduced (e.g., for storm water retention or treatment facilities).
- **Water infrastructure**: Conservation measures and a more compact urban form should reduce the need to expand or repair the drinking water and waste water systems.

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[246] Envision Sustainability Tools. *MetroQuest* software package. http://www.envisiontools.com/

- **Transportation systems**: In the long run, reduced roadway expansion and more transit-friendly development patterns may result in infrastructure savings and a more efficient transit system, requiring less public subsidy.
- **Building operation**: Energy and water efficiency measures should reduce operating costs of municipal buildings.
- **Waste management**: Higher density development may reduce waste management costs.
- **Tax revenues**: A more liveable, attractive community may result in higher land values and greater investment in the community, expanding the tax base and raising municipal tax revenues.
- **Infrastructure services and cost savings** can also be made through life cycle costing of assets such as buildings, roads and sewer systems.
- **Increased return on investments**: Demand management can result in increased longevity of municipal assets, less disruptions to the services, and increased return on investments.

Savings and financial benefits to the wider community could include:

- **Increased productivity and reduced health care costs** due to healthier populations;
- **Reduced energy costs** if district heating or cooling is installed;
- **Lower congestion and transportation costs**; and
- **Costs savings in essential services**, such as police, fire and other services.

5. MOVING FORWARD

The trends mentioned in Section 3.5 favour greater emphasis on long-term integrated community planning with sustainability goals in mind. However, municipalities across Canada face many and varied challenges to development and implementation of these plans. This section closes the report with the following:

- Key Messages for Municipalities
- Recommendations

5.1 KEY MESSAGES FOR MUNICIPALITIES

To prepare for development of a sustainable community plan (SCP), municipal governments would need to build their capacity to conduct such planning exercises by exploring the available planning frameworks, assembling the multi-disciplinary expertise needed, and putting in place the consultative mechanisms that will nurture the partnerships upon which SCP is based.

In moving forward with identifying how municipalities can undertake more "sustainable" community planning, it is important to promote the concept as a process that will take sustained commitment. Communities require a supportive organizational structure conducive to implementation of the plans; such structures could include softer aspects of management, such as incorporation of goals into executive and staff performance reviews for increased accountability and follow-through on achieving plan objectives. Performance measures and indicators, with a commitment to regularly report on these, would assist in keeping SCP commitments in the public eye and should be part of a communications plan for the long implementation phase of plans.

The following two sub-sections present specifics that should be considered by municipalities seriously considering the development and implementation of a sustainable community plan.

5.1.1 Developing a More "Sustainable" Community Plan

As mentioned in Section 3.2.3, there are many SCP approaches available to municipalities, with no single approach being necessary or ideal. This flexibility has the advantage that several planning methods may be considered by a community and any number of them can be tailored to suit the community. However, a disadvantage of such flexibility is the capacity needed to make this choice.

Section 3.1.3 of this report presented potential SCP goals and Section 3.2 described the most common SCP approaches used in Canada. Once the overall goals of SCP are understood for a community, there are key factors to consider before actually undertaking and choosing a SCP approach:

•   Leadership
•   Commitment to a Collaborative Process
•   Team Coverage & Dynamics
•   Technical Skills
•   Data Collection & Analysis Capacity

These factors are discussed below.

Leadership

The community should have the leadership needed to make the approach work. Many SCP initiatives in Canada would never have materialized without the dedicated support of a few, sometimes even one, key individuals. Leadership is essential in order to be able to clearly define the mission or long-term purpose of the SCP initiative, to mobilize resources in the municipal corporation and the community at large, build bridges among professionals and community groups, provide legitimacy and credibility needed to address objections and resistance to the planning process, provide accountability, inspire action and cooperation, and give a public face to the initiative.

Leadership may come from within the municipal corporation or from the wider community, or a combination of the two, depending on the approach. Leadership for an Integrated Community Sustainability Plannin*g* approach often comes from within the municipal corporation, such as staff who are aware of the requirements of the federal program. Use of the Melbourne principles lends itself to leadership from the wider community. A Smart Growth initiative might be led by a combination of municipal officials and community NGOs. New Urbanism may be championed by innovative developers and builders within the community. Local Agenda 21 approaches are likely to be led by municipal councils.

Commitment to a Collaborative Process

At the heart of SCP is a commitment to a bottom-up participatory change process that engages citizens in designing the steps to move toward the desired vision. Using a democratic, participatory process to involve partner organizations is key to successful adoption and implementation of actions toward change. The level of collaboration will vary from community to community, but in most cases it will be higher than for conventional planning no matter what SCP framework is selected. The municipality should be fully aware of the demands of such an approach, and be committed to following through with expectations built up in the community.

Team Coverage & Dynamics

A team approach is common to most SCP initiatives. This involves creating an interdisciplinary group that works together to discuss SCP goals, review their consistency, identify any potential problems, and find solutions. Although different professionals usually have to work together to a certain extent in conventional planning approaches (e.g., by feeding information into a community plan, or by commenting on major development proposals), a SCP approach requires a level of cooperation and team work that goes far beyond the traditional relationships. From within the municipality, all other related departments (e.g., public works, environment, public health, building inspectors, transportation planning, parks, economic development, and financial officials) should be prepared to work together closely right from the beginning of the planning process to explore innovative measures that satisfy a greater number of planning objectives. They should also be prepared to include external partners on the planning team, such as architects, or specialists in energy, water, industrial processes and building technology.

The composition of the team may vary depending on the SCP approach taken, with a greater emphasis needed on landscape ecology, urban agriculture, renewable energy, and green buildings if taking a Natural Step approach, and more emphasis on transportation planning, housing policy, and growth management expertise in a Smart Growth approach.

In addition, creative partnerships should be sought with private businesses, educational and academic institutions, non-governmental organizations, surrounding municipalities, and others.

Technical Skills

The municipality should have, among its staff, the necessary skill set to embark on the chosen SCP path, or alternatively, to obtain these skills from an accredited source through training or out-sourcing. For example, if the municipality is considering adopting The Natural Step as its approach to SCP, its staff should be involved in Natural Step training programs. Likewise, if the municipality is considering a long-term strategic plan of the "100-year plan" nature, it should have some familiarity with the type of long-term visioning and scenario testing systems such as MetroQuest.[247]

Taking a New Urbanist approach to specific developments can be facilitated if municipal staff is familiar with the principles outlined in the Charter for New Urbanism, form-based codes, the alternative standards used in such an approach and the type of planning processes employed, especially charrettes. The Melbourne Principles and the Cities as Sustainable Ecosystems (CASE) approaches are more ecological in nature and require expertise in assessing ecosystem functions and limits as well as knowledge of the many techniques for reducing environmental stresses (e.g., low-impact development, stream naturalization, wetland restoration, etc.).

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[247] Envision Sustainability Tools. *MetroQuest*. http://www.envisiontools.com

A Smart Growth approach would require that the municipality be familiar with relevant planning tools, such as population and housing type projections, and with the range of policy measures that may be adopted in such an approach, e.g., density bonusing, mixed-use zoning, maximum parking requirements, incentives for transit-oriented development, location-sensitive development charges, design guidelines, and so on. In some provinces, professional associations or NGOs may offer courses or training to help municipalities develop familiarity or expertise they are lacking or they may be available to work closely with a municipality in order to develop and implement a SCP program (e.g., BC's *Smart Growth on the Ground* program[248]).

Data Collection & Analysis Capacity

The planning team should have the capacity to gather and assess relevant information in order to implement the chosen approach to SCP. Usually, SCP requires a more intensive data gathering process than conventional planning and the effort typically continues throughout the planning process, working in parallel to it.

The various approaches have different data requirements. Smart Growth relies more heavily on population, land use, transportation and housing data as well as estimations of infrastructure capacity. The Melbourne Principles and the CASE approach require more data on ecological constraints, key limits and threshold values. The Natural Step and Integrated Community Sustainability Plannin*g* are likely to require a very wide array of baseline data touching on all municipal sectors, including transportation, waste, water and wastewater systems, and municipal procurement practices.

5.1.2 Managing & Implementing a Dynamic Sustainable Community Plan

Once development of the sustainable community plan has been started, a municipality should incorporate proper management and implementation features to ensure its success, longevity, and flexibility. Ideally, a sustainable community plan would include features and supporting measures such as:

- **Continuity of an effective champion** – especially across political terms – committed to fulfilling the vision of the plan and to providing support for the plan during challenges to its implementation;

- **Staff who are very knowledgeable** of the plan, through sustained training and orientation;

- A **supportive organizational structure** conducive to the plan's implementation;

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[248] University of British Columbia Design Centre for Sustainability & Smart Growth BC. Accessed on May 20, 2008. Website: *Smart Growth on the Ground*. http://www.sgog.bc.ca

- Appropriate **individual accountability** in the organization to deliver on the plan's goals, including explicit consideration in executive and employee performance reviews;

- **Continuity of sufficient budget** – also across political terms – to allow thorough planning and implementation;

- **Public and stakeholders who participate in the plan development and, therefore, agree with and promote the plan** and its goals;

- A **concerted communications strategy** to engage the public and all stakeholders in review and revision of the plan during development and implementation;

- **Consistent application of supportive planning tools** (e.g., zoning, bylaws, development fee structure, etc.) to assist successful implementation;

- **Performance targets and measures of success** identified with respect to the success of the plan's implementation;

- **Data and analysis tools** to monitor plan implementation, through the identified targets; and

- A **commitment to report publicly on success** of the plan and implementation of the vision and measures.

- Sufficient **flexibility** to quickly respond to changes in the community and the market, ultimately resulting in a dynamic sustainable community plan.

5.2   RECOMMENDATIONS

This sub-section is presented as follows:

- Overall Recommendations
- Recommendations by Community Type

5.2.2 Overall Recommendations

As described throughout this report, municipalities should consider both the development and the management and implementation of sustainable community plans. These recommendations are discussed separately below.

Developing Sustainable Community Plans

To develop more "sustainable" community plans, municipalities should strive to excel in the same areas described in Section 5.1.1, namely:

- Leadership
- Commitment to a Collaborative Process

- Team Coverage & Dynamics
- Technical Skills
- Data Collection & Analysis Capacity

Managing & Implementing Sustainable Community Plans

Many sustainable community plans are well-developed but do not contain the measures necessary to encourage or support successful implementation. Municipalities should sufficiently address the implementation aspects of SCP mentioned in Section 5.1.2 — the aspects that help maximize both the success and benefits of SCP. In particular, municipalities should undertake the following self-assessment:

- **Commitment to the process**: Does council show commitment to the planning process, a willingness to provide the needed material and staff resources, and to live with the outcomes of a collaborative process it may not entirely control?

- **Regional coordination**: Is there evidence of a willingness to coordinate municipal actions with other jurisdictions in the region to address development and implementation issues that transcend municipal boundaries?

- **Departmental commitment**: Have key departments within the municipality signed on for the SCP effort and do they show signs that they are willing to overcome resistance to change/inertia and adapt management practices, standards, and operating procedures to implement the SCP?

- **Partnerships**: How does the municipality define its leadership role in the plan and, perhaps more importantly, does it have the capacity to <u>fulfill</u> that role?

- **Institutionalization**: Does the municipality have a plan to help institutionalize change and keep adopted practices going over time, e.g., by incorporating the results into its capital budgeting plan, financial instruments, and other strategic processes?

- **Prioritized actions**: Has the municipality prioritized actions that, for example, "pick the low-hanging fruit" that garner early agreement, are obtainable in the short-run, and can demonstrate success to generate momentum?

- **Business case**: Has the municipality explored the costs and costs savings of a SCP process to the extent that the benefits are clear and significant enough to encourage wide-spread support and progressive decision-making through implementation?

- **Keeping it going**: How will the municipality ensure the implementation of the plan through adoption of action proposals, ongoing education and training programs, monitoring the effectiveness of actions with indicators?

Communities that have already developed a SCP and are in the implementation phase should review and consider:

- **Assessment of SCP implementation** in terms of leadership, team, technical requirements and data analysis. Consider undertaking an evaluation, with recommendations to adjust, augment or improve the current sustainable community plan.

- **Specific SCP implementation measures or tools**. Explore specific ideas on how to significantly improve the plan implementation and its benefits by considering tools or processes needed to better manage implementation of the plan, such as data management, communications, charrettes, and similar tools.

5.2.3   Recommendations by Community Type

Below are some challenges and opportunities according to community size and type:

- **Large cities and metropolitan agglomerates**: These communities tend to be slow to change and suffer the consequences of a history of urban sprawl, infrastructure deterioration, and huge developer pressures amidst a quickly-growing urban population. Therefore, wide-spread and effective implementation of SCP can be more of a challenge for these large urban areas. These municipalities should consider strategies to address specific challenges, including: promoting strong political continuity across political terms of office; progressive land use planning and zoning; and, financial incentives to guide development in-line with SCP goals.

- **Smaller communities and northern/remote communities**: These communities have the advantage of being able to change their planning and development practices quickly, but the disadvantage of a lack of financial and human resources to sustain some of these changes. These municipalities should consider strategies and seek funding sources to undertake capacity-building, collaborative planning and use of technical planning tools. They should also pursue collaboration and sharing of these implementation resources with nearby communities, thus potentially giving clusters of smaller communities access to some of the essential implementation measures normally afforded by only larger communities.

APPENDIX A

Contacts

Contacts

The following people were interviewed as part of this study. Their contact information is below, sorted alphabetically by last name.

Name	Position & Organisation	Contact Information	Related Websites
Study Contacts			
Dale Anderson	Sustainable Development Research Officer, Federation of Canadian Municipalities	Ottawa, ON 613-907-6296 danderson@fcm.ca	http://gmf.fcm.ca/Home/
Andrew Cowan	Senior Manager, Knowledge Management Unit, Federation of Canadian Municipalities	Ottawa, ON acowan@fcm.ca	http://gmf.fcm.ca/Home/
Ray Tomalty	Principal, Co-operative Research and Policy Services Adjunct Professor, School of Urban Planning, McGill University	Montreal, QC 514-847-9259 tomalty@corps.ca	http://www.corps.ca
Mary Trudeau	Principal, Marbek Resource Consultants	Ottawa, ON 613-523-0784 trudeau@marbek.ca	http://www.marbek.ca
Brad Kynoch	Consultant, Marbek Resource Consultants	Ottawa, ON 613-523-0784 kynoch@marbek.ca	http://www.marbek.ca
Jennifer Tuthill	Consultant, Marbek Resource Consultants	Ottawa, ON 613-523-0784 tuthill@marbek.ca	http://www.marbek.ca
Peer Review Panel			
David Bruce	Planning, Mount Allison University	Sackville, NB dwbruce@mta.ca	
Elisa Campbell	Director, Smart Growth on the Ground, Design Centre for Sustainability, University of British Columbia	Vancouver, BC elisa.campbell@ubc.ca	http://www.sgog.bc.ca
Jill Grant	Planning, Dalhousie University	Halifax, NS jill.grant@dal.ca	
Noel Keough	Planning, University of Calgary	Calgary, AB nkeough@ucalgary.ca	
Jodie Siu	Senior Planner, Smart Growth BC	jodie@smartgrowth.bc.ca	
Lourette Swanepoel	Projects Manager, Sustainable Communities, Sheltair Group	Vancouver, BC 604-732-9106 ext 304 LSwanepoel@sheltair.com	
Sustainable Community Plans			
Amery Boyer	Chief Administrative Officer, Town of Annapolis Royal	Annapolis Royal, NS 902-532-3146 cao@annapolisroyal.com	http://www.annapolisroyal.com

Name	Position & Organisation	Contact Information	Related Websites
Karen Farbridge	Mayor, City of Guelph	Guelph, ON 519-837-5643 mayor@guelph.ca	http://www.guelph.ca/
Steve Hanhart	Community Planner, Town of Okotoks	Okotoks, AB 403-938-8903 shanhart@okotoks.ca	http://www.okotoks.ca/sustainable/overview.asp
Paul Kraehling	Policy Planner, City of Guelph	Guelph, ON 519-837-5616 x2368 pkraehli@city.guelph.on.ca or planning@guelph.ca	http://www.guelph.ca/
Felice Mazzoni	Director of Planning, District of Ucluelet	Ucluelet, BC 250-726-4774 fmazzoni@ucluelet.ca	http://www.ucluelet.ca/index.php
Richard Quayle	Municipal Manager, Town of Okotoks	Okotoks, AB 403-938-8902 municipalmanager@okotoks.ca	http://www.okotoks.ca/sustainable/overview.asp
Dave Robertson	Operations Manager, Town of Okotoks	Okotoks, AB 403-938-8922 drobertson@okotoks.ca	http://www.okotoks.ca/sustainable/overview.asp
Sustainable Neighbourhood Plans			
Richard Kendall	Project Coordinator, Markham Centre, Town of Markham	Markham, ON 905-477-7000 x6588 rkendall@markham.ca	
Dan Paris	Director of Development, VanCity Enterprises	Vancouver, BC 604-877-7541 Dan_Paris@vancity.com	https://www.vancity.com/MyCommunity/AboutUs/WhoWeAre/Subsidiaries/VancityEnterprises/
Valerie Shuttleworth	Director, Urban Planning & Design, Town of Markham	Markham, ON 905-477-7000 x4713 vshuttleworth@markham.ca	http://www.markham.ca

APPENDIX B

Resources

Resources

Following is a list of sample resources useful to municipalities wishing to improve the sustainability of their communities. This is by no means an exhaustive list, but provides the reader with a start.

Sustainable Community Planning

- American Planning Association. *Policy Guide to Planning for Sustainability.*
  http://www.planning.org/policyguides/smartgrowth.htm

- Canada Mortgage and Housing Corporation. *Sustainable Community Planning.*
  http://www.cmhc-schl.gc.ca/en/inpr/su/sucopl/index.cfm

- Federation of Canadian Municipalities.
  http://www.fcm.ca/

- Federation of Canadian Municipalities. *Green Municipal Fund.*
  http://gmf.fcm.ca/Home/

- Infrastructure Canada. *Federal Gas Tax Fund.*
  http://www.infrastructure.gc.ca/ip-pi/gas-essence_tax/index_e.shtml

- International Council for Local Environmental Initiatives (ICLEI)
  http://www.iclei.org/

- Nova Scotia Sustainable Community Initiative
  http://www.pwgsc.gc.ca/sd-env/sdgo/awards/2003/nominees/nsscipartnership-e.html

Sustainable Community Planning Approaches

- Cities as Sustainable Ecosystems
  http://www.unep.or.jp/ietc/NewApproach/CASE/

- Congress for the New Urbanism
  http://www.cnu.org/

- Integrated Community Sustainable Planning
  http://www.infrastructure.gc.ca/communities-collectivites/conf/documents/icsp-discussion_e.shtml

- Local Agenda 21
  http://www.iclei.org/index.php?id=798

- Melbourne Principles
  http://www.iclei.org/index.php?id=4490

- Natural Step Canada
  http://www.naturalstep.ca/

- Smart Growth Canada Network
  http://www.smartgrowth.ca

- SmartGrowthBC
  http://www.smartgrowth.bc.ca/

- Ontario Smart Growth Network
  http://www.greenontario.org/smartgrowth/osgn.html

Sustainable Communities Initiatives in Canada for Small & Aboriginal Communities

- Indian and Northern Affairs Canada. *Sustainable Development*.
  http://www.ainc-inac.gc.ca/sd/links_e.html

- International Institute for Sustainable Development. *Skownan First Nation Community Values Project*.
  http://www.iisd.org/ai/waterhen.htm

- Natural Resources Canada. *Aboriginal Affairs and Sustainable Communities Division*.
  http://mmsd1.mms.nrcan.gc.ca/Efab/aasc_e.asp

- Pembina Institute. *Moving Towards More Sustainable Communities – Aboriginal Communities*.
  http://communities.pembina.org/partners/aboriginal

Sustainability Indicators

- Environment Canada. *Sustainable Community Indicator Program*.
  http://www.ec.gc.ca/soer-ree/English/scip/index.cfm

- GPI Atlantic. *Global Progress index as a measure of sustainability*.
  http://gpiatlantic.org/

- Markham Centre Performance Indicators
  http://www.markham.ca/markham/aspc/markhamcentre/PDF/MkmCtr_PM_0401.pdf

Sustainable Community Plans in Canada

- Town of Annapolis Royal, NS. *Annapolis Royal Sustainable Community Plan*.
  http://www.annapolisroyal.com/strategicplanning.php

- City of Guelph, ON. *Community by Design*.
  http://www.guelph.ca/living.cfm?subCatID=1527&smocid=2106

- Regional Municipality of Metro Vancouver, BC (formerly Greater Vancouver Regional District). *Liveable Region Strategic Plan.*
  http://www.gvrd.bc.ca/growth/lrsp.htm

- Town of Okotoks, AB. *Municipal Development Plan.*
  http://www.okotoks.ca/town/municipal/development/planning/mdp.asp

- Town of Okotoks, AB. *Sustainable Okotoks*.
  http://www.okotoks.ca/sustainable/overview.asp

- City of Rossland, BC. Official Community Plan.
  http://rossland.ca/siteengine/activepage.asp?PageID=80

- District of Ucluelet, BC. *Official Community Plan*.
  http://www.ucluelet.ca/District/communityPlan.php

- Resort Municipality of Whistler, BC. *Whistler 2020.*
  http://www.whistler2020.ca/whistler/site/homepage.acds?instanceid=1930792&context=1930501

- Regional Municipality of Wood Buffalo, AB. *Long Range Community Planning* (under way).
  http://www.woodbuffalo.ab.ca/business/land_development/long_range_community_planning.asp?subnav=8

Sustainable Neighbourhood Plans in Canada

- Dockside Green, Victoria BC
  http://docksidegreen.com/index.php?option=com_frontpage&Itemid=1

- Markham Centre, Markham, ON
  http://www.markham.ca/markham/aspc/markhamcentre/AboutMarkham_Site/home.asp

- Rockcliffe, Ottawa, ON. *Rockcliffe Redevelopment Community Design Plan.*
  http://www.ottawa.ca/residents/public_consult/rockcliffe/index_en.html

- Southeast False Creek, Vancouver, BC.
  http://vancouver.ca/commsvcs/southeast/

Related Non-Governmental Organizations in Canada

- David Suzuki Foundation. Driven to Action: Stopping Sprawl in Your Community. http://www.davidsuzuki.org/Climate_Change/Sprawl.asp

- Federation of Ontario Naturalists. *Smart Growth / Urban Sprawl*. http://www.ontarionature.org/enviroandcons/smart_growth/index.html

- Pembina Institute http://www.pembina.org

- Sierra Club of Canada http://www.sierraclub.ca

- SprawlBusters http://www.sprawl-busters.com

Related Studies & Reports

- David Suzuki Foundation. 2003. *Understanding Sprawl: A Citizen's Guide*. http://www.davidsuzuki.org/Climate_Change/Sprawl.asp

- Indian and Northern Affairs Canada. 2004. *First Nations Stories - Building Sustainable Communities in British Columbia*. http://www.ainc-inac.gc.ca/bc/proser/fna/ccp/wspdg/fns/fns_e.html

- Infrastructure Canada. December 2006. *The Path Towards Sustainability: An Evaluation of the "Sustainability-ness" of Selected Municipal Plans in Canada*. http://www.infrastructure.gc.ca/research-recherche/alt_formats/pdf/rn08_e.pdf

- Pembina Institute. March 2008. *Getting Tough on Urban Sprawl: Solutions to meet Ontario climate change targets*. http://www.pembina.org/pub/1612

- Pembina Institute. August 2007. *Ontario Community Sustainability Report – 2007*. http://pubs.pembina.org/reports/ocsr-07-report.pdf

- Sierra Club of Canada. February 2003. *Sprawl Hurts Us All!: A guide to the costs of sprawl development and how to create livable communities in Ontario*. http://www.sierraclub.ca/national/postings/sprawl-hurts-us-all.pdf

- West Coast Environmental Law for the Institute for New Economics and Smart Growth British Columbia. 2001. *The Smart Growth Guide to Local Government Law and Advocacy*. http://www.wcel.org/wcelpub/2001/13300.pdf

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APPENDIX C

Exemplary Community & Neighbourhood Profiles

Exemplary Community & Neighbourhood Profiles

This appendix contains research and interview results for the following exemplary models in sustainable community and sustainable neighbourhood planning:

C.1   Community Case Study: Annapolis Royal, NS
C.2   Community Case Study: Ucluelet, BC
C.3   Community Case Study: Okotoks, AB
C.4   Neighbourhood Case Study: Dockside Green, Victoria, BC
C.5   Neighbourhood Case Study: Markham Centre, Markham, ON

C.1 Community Case Study: Annapolis Royal, NS[249]

INTRODUCTION	
Overview of Why Community is Exemplary	The Town wrote a Municipal Planning Strategy in 2000, which sets out environmental visions of how future development will occur. Out of this document, an Environment Plan called "Back to the Future" was created in 2002 with the goal of developing an integrated land-use, waste, transportation, water, energy and brownfield sustainability plan. Recently, the Annapolis Region Tourism Council completed a 25-year plan that included climate change adaptation measures, which will be incorporated into their Municipal Planning Strategy.
Community Description	• Population and trend: 500 with slow growth • Location: rural • Geographic setting: coastal • Primary economic base: tourism • Per capita income: below national average
Jurisdictional Context	• Annapolis Royal still maintains a "town" status, even though the current population, which is approximately 500 people, doesn't meet the population standard of a town. • Annapolis Royal is a member municipality of the Regional Municipality of the County of Annapolis. • There is no regional plan for the Municipality of the County of Annapolis, however they do share building and fire inspection services and GIS services with two neighbouring towns.
Drivers & Challenges	Issues Driving Environmental Sustainability • Strong desire for independence from outside forces and governments • Strong sense of community Challenges Limiting Environmental Sustainability • Political: Limited provincial support for areas outside of Halifax and the lack of a provincial rural economic development strategy. • Fiscal/Financial: Lack of municipal revenues because of a limited municipal tax base. The Town was under emergency funding until Nova Scotia Power agreed to pay municipal taxes on their Annapolis Tidal Power Station in the Bay of Fundy. • Environmental: As a coastal municipality, changing water levels resulting from climate change have increased the risks to their local infrastructure. • Social/Societal: The recent loss of permanent or transitional workers to the Alberta oil sands has decreased the availabity of a , local workforce. • Regulatory/Governance: The Town of Annapolis Royal had a population of over 1,000 people in the early 1900s when they legally became a "town". However, currently the population is approximately 500 people, which is less than the definition of a "town", but residents want to continue reaping the benefits of a "town" status.

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[249] a) Town of Annapolis Royal. Accessed January 2008. Website. http://www.annapolisroyal.com
b) Annapolis District Planning Commission. Accessed January 2008. Website. http://www.adpc.ca/home.htm
c) Marbek Resource Consultants interview with: Amery Boyer, Chief Administrative Officer, Town of Annapolis Royal. February 2008.

Previous Approach & Current Practice in Comparable Communities	Previous Approach • Limited planning using the silo approach

SUSTAINABILITY APPROACH	
Systems Approach	Systems Approach Used • *Integrated Community Sustainability Plan (ICSP)* The Town wrote a Municipal Planning Strategy in 2000 that sets out environmental visions of how they want future development to occur. Out of this document, an Environment Plan called "Back to the Future" was created in 2002 with the goal of developing an integrated land-use, waste, transportation, water, energy and brownfield sustainability plan. Vision • As the oldest settlement in Canada, there is a strong philosophy of heritage preservation and environmental sustainability in the community, which drove the development of the vision behind the Municipal Planning Strategy.
Sector Integration	• SCP includes integrated planning of: Land-use, Solid Waste, Energy, Water, Brownfields Redevelopment, and Economic Development
Leadership, Commitment & Accountability	• The push for environmental sustainability came from the community. • The Chief Administrative Officer is accountable to complete at least one third of their annual objectives under the plan, plus any additional objectives assigned by the Town Council.
Sustainability Considerations	• The Town is currently working with a local ENGO, the Clean Annapolis River Project, and other partners on an energy consumption audit of local buildings that will then form the primary energy benchmark. Once this benchmark is created, a second stage will begin which will involve a series of public consultations to collectively set energy targets. After the targets are set, a third stage of planning will start which will focus on the development of actions to achieve the conservation goals.

MANAGEMENT & IMPLEMENTATION	
Management Capacity	• The introduction of the Municipal Planning Strategy caused a re-organization in the municipal government structure. Before the Municipal Planning Strategy was finalized, town councillors had sole delegation power, but now the department heads (7 department heads out of 12 employees) have this power. The department heads meet once a month to discuss projects. • Money is set-aside in the municipal budget for staff education and employees can take any course that they want. • During the consolidation of all of the planning efforts into one integrated plan, the Chief Administrative Officer was sent on the FCM Mission to the United Kingdom to become better educated on what other municipalities were doing and the available options for the Town. • The regional municipality provides a GIS (Geographical Information System) service that is used by the town to identify brownfield sites for re-development. • The Town has created partnerships between sixteen organizations from the academic, private, public and non-governmental sectors for funding, technical expertise and human resources.

Work Plan & Targets	• The following seven projects are expected to be started in 2008 under the Annapolis Royal "Back to the Future" environmental plan:
	1. Energy efficiency plan for town buildings: Currently conducting an energy consumption survey of all households to create a baseline.
	2. Environmental policy development: This includes preparing an anti-idling bylaw and a solid waste bylaw to increase their diversion rate.
	3. Smart Growth and climate change policies: Changing land-use bylaws to promote infill housing development and the splitting of large lots.
	4. Integration of wastewater infrastructure
	5. Community energy systems: The new planned subdivision will use fuel cell and geo-thermal technology and solar panels will be added to old homes that are being restored.
	6. Enhancements to solid waste programs to increase the volume of waste diverted from landfills.
	7. Brownfields remediation and land development
	• They are also conducting two assessments with respect to climate change: a pre-feasibility assessment of a levy; and a modelling study to determine the risks to the community from climate change effects.
	• There will be a public consultation process in 2008 that will allow the community to set the targets for the projects. Once the targets are settled they will be incorporated into the environmental plan.

Management & Governance Tools	Planning Instruments • In their Municipal Strategic Plan, land-use bylaws have been enacted to prevent development in environmental sensitive areas and to promote preservation of historical buildings. In addition, a re-zoning of the downtown has occurred to promote infill development. • As part of their environment policy development project they are currently drafting solid waste and anti-idling bylaws. Fiscal Instruments • With regards to waste, they have been using a "carrot" approach; offering 50% discounts on the sale of green cone composters and free organic pick-up for restaurants. • To promote water conservation they are increasing water rates and have conducted an investigation to find water losses in their distribution system. • In order to increase their tax base and revenue stream the municipality is selling excess town land. Other Supporting Programs & Initiatives • A water loss tracking program to target leaks in their water distribution system. • A program to monitor the levels and quality of effluents from sources for future policy options. • The town partnered with Ducks Unlimited to create a tertiary waste water system whose product supports a wetland. After UV disinfection the wastewater is piped into a specially designed wetland for polishing. The nutrients in the waste water are part of the nutrient cycle that fuels the ecological processes in the wetland. • In April 2008, the Municipality of the County of Annapolis is instituting a new waste policy of using clear garbage bags for non-recyclable waste and setting a maximum number of bags per week (4) that will be collected. The program will use a ticketing system for allocating the number of bags per household. • "Zero Waste 2005" is this town's low-tech, cost effective, locally managed and very successful waste management initiative. To achieve its waste-free goal, the Town of Annapolis Royal implemented its "Only in your Backyard" project in 1999 to facilitate the on-site composting of waste. Using food/waste digesters (Green Cones), along with traditional backyard composting units and Earth Tubs, the majority of households can now dispose of all food and yard wastes on-site. This means Annapolis Royal is able to dispose of its organic wastes within the town's limits - an achievement that delivers significant cost savings to the community. Currently they are at a 60% diversion rate.
Tracking (Measuring Progress) & Transparency	• The Town of Annapolis Royal joined the FCM Partners for Climate Protection (PCP) in September 2003 and is currently working towards Milestone 1 – benchmarking their energy consumption.
Budget & Cost-Effectiveness	• The total capital cost to develop the plan is $80,000, which includes $50,000 of in-kind contributions, $8,000 from the municipality, and the remaining $22,000 from other partners, such as the Clean Annapolis River Project (CARP), Parks Canada, FCM's Green Municipal Funds and the federal EcoAction program. The development of the plan involved a considerable amount of staff time, and the opportunity cost was seen as being significant, considering the town has an annual budget of $2 million. • The town considers their sixteen partnerships as being essential to their success so far. • Through their integrated approach they were able to save resources by avoiding the duplication of effort.

Consultation (Community Engagement, Outreach, Education)	• The Municipal Strategic Plan was developed through the results gathered from household, business, and day user surveys. • The town had an Open House in a downtown storefront for a weekend to gather comments and feedback from citizens. • Information flyers, mailings, and newspaper coverage were used to pass information onto the public. • In the Municipal Strategic Plan the town must conduct a public consultation at least every 3 years to discuss the Plan. • The town has partnered with Nova Scotia Energy for their energy projects and has included in their contract the requirement for formal public meetings. • They have started including an environmental tips section in their community newspaper that is published bi-monthly.
INNOVATION & KNOWLEDGE SHARING	
Innovative Features	• Tertiary waste water system that outlets into a specially designed wetland. • Use of various renewable energy sources • Partnerships with a variety of organizations for funds and technical expertise • Composting program
Replication & Knowledge-Sharing Potential	How Planning & Implementation Challenges were Addressed • Fiscal/Financial: Their philosophy is "the little town that could". The town was at a point of bankruptcy until their lobbying pushed Nova Scotia Power to begin paying taxes to the town for the Annapolis Tidal Power Station. Furthermore, they are selling surplus municipal land for housing developments to increase their municipal tax base. • Technical: After the Environmental Plan was enacted the municipal staff did not have the information or tools to find out the potential of projects that they could put into practice. They had implemented individual projects such as a LED traffic light and UV treatment for their sewage lagoon. The Chief Administrative Officer went on the FCM-sponsored trip to the UK to see first hand the technology and systems that could be implemented. • Social/Societal: Their plan to overcome their population decline is to increase the town's housing stock. They have conducted a real estate study, which found that there was a demand for housing in the town. They have re-zoned and changed bylaws to allow for infill development and they are selling excess municipal land to allow for more housing developments. Lessons Learned • Partnerships are essential, especially for a municipality that has limited financial and human resources. • A clear vision and plans for implementation are important to show accountability and to induce public participation. Awards • 1981 awards for heritage and their waste program • 2004 award for being the "most liveable community" • 2005 award for being the cultural capital of Canada • 2006 awards for heritage preservation, preservation of natural habitat, and from *Communities in Bloom*
Moving Forward & Emerging Trends	• The Town of Annapolis Royal's environmental plan has just received FCM GMF approval, which was needed to finalize their contracts with their other partners. • In 2008, the Annapolis Region Tourism Council completed a 25-year plan that included additional guidance, including climate change adaptation measures, which will be incorporated into their Municipal Planning Strategy.

C.2   Community Case Study: Ucluelet, BC[250]

INTRODUCTION	
Overview of Why Community is Exemplary	The Town of Ucluelet created an Official Community Plan that incorporated Smart Growth principles, while also addressing economic development, affordable housing and protecting the character of the community in the face of increasing development pressures. They have re-zoned the land to support different mixed use developments (such as industrial and residential), legislated alternative development standards in storm water management and are currently incorporating an energy plan that will legislate that all new buildings must meet the LEED silver standard.
Community Description	• Population and trend: 1,900 and growing • Location: rural or small urban • Geographic setting: coastal • Primary economic base: tourism • Per capita income: around national average
Jurisdictional Context	• The Town of Ucluelet's Official Community Plan is subject to the BC Municipal Government Act
Drivers & Challenges	Issues Driving Environmental Sustainability • The town's traditional industries and basis of their economy, forestry and fishing, were in decline and the town decided to re-focus their economic development on the eco-tourism sector. • Additionally, pressure from new developments began to pose a threat to Ucluelet's natural environment. • The Town Council and planning department realized that the development pressure would only increase in the future, thus they decided to be proactive rather than reactive and sought to ensure that future developers gave back to the community. • Residents wanted to maintain the "sense of place" and a small community feel. • The proximity of the Town of Ucluelet to the Pacific Rim National Park and the West Coast Trail creates an atmosphere of environmental sustainability. Challenges Limiting Environmental Sustainability • Political: There was apprehension between the planning department and the town council and the citizenry on using a proactive approach at first. • Fiscal/Financial: The Town of Ucluelet has a limited amount of land because it is located on a peninsula resulting in a limited tax base. • Social/Societal: Lack of development as of the late 1990s, but by 2004 they were undergoing a development boom and they have a current build-out pressure of $900 million of proposed developments.

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[250] Sources:

a) District of Ucluelet. January 11, 2007. *District of Ucluelet Official Community Plan*. http://www.ucluelet.ca/UserFiles/File/Bylaws/OCP%20Jan%2011%202007.pdf

b) Marbek Resource Consultants interview with: Felice Mazzoni, Director of Planning, District of Ucluelet. February 2008.

Previous Approach & Current Practice in Comparable Communities	Previous Approach • Their former approach allowed for large private waterfront lots that were expensive to service and there were no stipulations in development contracts. Current Practice in Comparable Communities • Uncontrolled development resulting in sprawl, with no mixed use developments.
SUSTAINABILITY APPROACH	
Systems Approach	Systems Approach Used In 1998, the town re-did their municipal plan, based on their new tourism economy and their desire to attract development in a responsible way. Ucluelet's resulting Official Community Plan (OCP) of 2004 endorses and promotes the following Smart Growth principles for new development and the redevelopment of existing properties: • Undertaking development in a compact fashion; • Supporting mixed use development; • Promoting alternative development standards; • Protecting sensitive environmental areas; • Reducing (eliminating) detrimental economic, environmental, and social effects of development; • Promoting multi-modal forms of transportation; and • Integrating open space into daily living. Vision Municipal officials and the planning department drove the need for a visioning process, but the community created the following vision: • The desired Ucluelet is an attractive, safe, healthy, friendly, vibrant, ecologically sound maritime community contained by nearly 40 kilometres of waterfront, greenbelt, and natural environment. Ucluelet's built and natural environment respects, above all, the outstanding diverse natural habitat and optimizes recreational opportunities for its citizens and its visitors. Ucluelet residents enjoy a high quality of life built upon a sustainable and diversified local economy: • The waterfront is particularly emphasized and made accessible to all through trails and walkways where feasible; • A vibrant commercial core created around the harbour front provides an attraction for the visitors and local residents; • Suitable, safe, healthy housing with easy access to transportation, recreation, open space, shopping, schools, and extensive community services is provided to meet the diverse needs of individuals and families at varying income and age levels; and • The road network proposes a new alternate route through the Weyerhaeuser lands. Vehicle movement is improved with the provision of off-street parking, and safe loading and unloading spaces, encouraging non-motorized pedestrian movement.
Sector Integration	• SCP includes integrated planning of: Land Use, Infrastructure, Energy, Water, Storm Water, Affordable Housing, and Economic Development
Leadership, Commitment & Accountability	• The Town's Head planner has explicit accountability in reaching the planning goals stated in the Official Community Plan

MANAGEMENT & IMPLEMENTATION	
Management Capacity	• The Town of Ucluelet received technical expertise and human resources through a partnership with Malaspina University-College. Students were involved with organizing the public consultations for the OCP and the University paid their salaries.
Work Plan & Targets	Work Plan & Targets • The only performance targets that are regulated in the OCP are for a percentage of affordable and staff housing in new developments. Current Status • They are already exceeding many of their expected targets and are in the process of incorporating an energy plan into their Official Community Plan that would have higher standards for energy and water efficiency for new developments.

Management & Governance Tools	Planning Instruments
	• The planning instruments stipulated in the OCP are:
    • The creation of a comprehensive density zone that allows for a mix of development with flexibility (i.e. creation of an eco-industrial and residential mixed park);
    • Alternative Development Standard regulations;
    • Bylaw that up to 20% of units in all new multi-family and condominium developments must be affordable housing units as defined by the CMHC, and developers must build these units at their own expense;
    • Bylaw that developers must add staff units when building a hotel and they cannot receive occupancy approval until those units are built and ready for occupancy;
    • Different sizes of lots, including a sufficient number of smaller lots to counter huge expensive waterfront properties;
    • All waterfront developments must provide 100% public access to the West Coast Trail. A right-of-way must be created in front of all hotels, condominiums and multi-family developments along the waterfront and the developers bear the costs of building the new sections of the trail;
    • Black sky LED lighting must be used in subdivisions;
    • Regulations that state that all subdivisions must have at least 40% green space; and
    • The creation of "holding zones" for newly bought land, which gives power to the town to re-zone the land to fit the vision of the OCP.
• In 2005, the town signed a master development agreement with Weyerhauser with respect to the sale of their lands. The agreement covered a land area that totalled 700 acres (same size as the entire existing town was at that time). Under this development agreement, the town's planning rules remain in force for any developers that buy Weyerhauser's land.
• The energy plan that will be incorporated into the Official Community Plan in 2008 will include regulations stating that all new developments (not just municipal buildings) must meet at least the LEED silver standard and/or the LEED neighbourhood design for single family homes and subdivisions.

Fiscal Instruments

The fiscal instruments stipulated in the OCP are:

• Density bonus system, which allows developers to build at a higher density rate in exchange for parkland, amenities or cash, provided to the municipality. The density bonus can take the form of additional lots, units per acre or increased commercial or industrial square footage of building area. The developer must create parkland, pay cash or build public recreational infrastructure. The amenities are decided and approved by Council and any cash received is deposited in an amenities reserve fund.
• Developers receive a 5% density bonus if they follow LEED guidelines (this will change with the incorporation of the energy plan and the regulations that a minimum of LEED Silver for all new buildings must be met); and
• Developers receive a 5% density bonus if they follow Alternative Development Standards (ADS) for storm water management techniques, such as the use of permeable surfaces, narrower roads, and French drains. |

Tracking (Measuring Progress) & Transparency	• Limited defined targets in the Official Community Plan of 2004 (except for affordable housing and waterfront access), although specific targets are being defined in the 2007-2008 revision to Plan, targetting energy and building standards. • Not yet a member of FCM Partners for Climate Protection (PCP)[251]
Budget & Cost-Effectiveness	• The cost for creating an OCP can be between $5,000-$10,000 to develop an integrated plan for a town the size of Ucluelet, if planners do it in-house; otherwise $50,000-$100,000 if done by consultants and it would be more comprehensive. • The Head Planner estimated that the cost to service new sites is now two-thirds of the cost of what it was before the plan came into effect. Sources of Funding The Town of Ucluelet received revenue from the following sources for the implementation of their OCP: • Municipal taxes • Malaspina University College paid the student's salaries • Density bonus policy - The success of the density bonus policy has resulted in $14 million in money and land for the community and Council to use to build amenities, such as a community centre, skateboard park and multi-sport facilities.
Consultation (Community Engagement, Outreach, Education)	• In the beginning, informal consultations that were used to identify where the community wanted to be in the future were conducted. • A Steering Committee composed of a cross section of community members worked on all aspects of the OCP and also identified the vision statement. • Public consultations were held at the beginning and during the creation of the OCP. • Intimate public consultations occurred through lots of face-to-face interactions with most residents.
INNOVATION & KNOWLEDGE SHARING	
Innovative Features	• The flexibility of the OCP allows the incorporation of innovative ways to achieve the vision as opposed to following a set of precise regulations. • Adoption of Alternative Development Standards for storm water management • Mandatory percentage of affordable housing units in all new developments • Density bonus system for developers • Constantly improving minimum standards for each new development • Future minimum LEED Silver standard for all new developments

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[251] Federation of Canadian Municipalities. January 2008. *Partners for Climate Protection.*
http://www.sustainablecommunities.fcm.ca/Partners-for-Climate-Protection/Milestone_Status.asp

Replication & Knowledge-Sharing Potential	<u>How Planning & Implementation Challenges were Addressed</u> • Political support was crucial and it was created through an increased trust between the planner and Council. The successful feedback from one positive action that the residents and Council could see, resulted in greater trust and energy to continue making greater impacts. • The Town of Ucluelet wanted to impose stricter development standards into the OCP than what are allowed under the provincial *Municipal Government Act*. In response, the Town Council sent a request to the provincial government to amend the Act and to allow Ucluelet and other municipalities the ability to pass bylaws pushing for stronger standards, such as requiring LEED Silver in all new buildings <u>Lessons Learned</u> • Partnerships are significant. Malaspina University-College was a partner in the public consultation phase and also helped to pay salaries for student interns. • Go beyond accepted guidelines. The OCP adopts LEED and Alternative Development Standards. • Implementation is more important than the policy. Since 2004, the OCP has been amended only once, to change the density bonus ratio. Furthermore, the OCP was structured so that new development pressures trigger policy changes. • Public and political support is crucial. • The plan must be able to be implemented and has to match the character of the community. • Need to modify targets to adapt to changing conditions and technological improvements • Small towns are much faster at implementing change than large municipalities • Knowledge sharing between municipalities regarding effective strategies is needed. <u>Best Practices to Apply in Other Communities</u> • Density bonus system • Mandatory percentage of affordable housing units in all new developments
Moving Forward & Emerging Trends	• Working on creating a development cost rebate scheme with the province for LEED standard buildings • Incorporating energy plan into their OCP • Creation of the Ucluelet Housing Corporation to administer the affordable housing units

C.3 Community Case Study: Okotoks, AB[252]

INTRODUCTION	
Overview of Why Community is Exemplary	Okotoks adopted a policy of containment to cap growth in order to retain its small town character. The municipal development plan for the Town was adopted in 1998, which capped growth at 30,000. A limited water supply was the key to implementing the long-term vision of containment. In addition, the limited water capacity influenced infrastructure planning and design, since the limits on water capacity also affect the amount and type of land use. The Town's Municipal Development Plan allocates the use of land based on the ability to generate sufficient revenues to support the life cycle cost of infrastructure.
Community Description	• Population size of municipality: Close to 20,000 as of Dec '07 [2006 census data is 17,145] • Population dynamics: Fast growing – town will likely be at build-out limit of 30,000 in 6 years • Location: Urban • Geographic setting: Prairie (drought-prone) • Primary economic base: Approximately 65% of workforce commutes to Calgary; local jobs are in service sector & light manufacturing
Drivers & Challenges	Issues Driving Environmental Sustainability • Population growth and land use pressures based on their proximity to the City of Calgary. • Grassroot community support that was environmentally conscious and wanted to keep the "small city" feel. • Community groups recognized that the Sheep River was sensitive to development impacts. Challenges Limiting Environmental Sustainability • Creating a balance between the community's tolerance and understanding of their local environment, and their sustainability objectives. • The potential that the town will be incorporated into a regional utility with the City of Calgary and surrounding municipalities would change the ability of the Town of Okotoks to continue with their carrying capacity plan.
Previous Approach & Current Practice in Comparable Communities	Previous Approach • Planned growth without limits • Continuous boundary extensions and annexation as required Current Practice in Comparable Communities • Non-mixed use development that promotes sprawl

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[252] Sources:

a) Town of Okotoks. September 1998. *Town of Okotoks Municipal Development Plan: "The Legacy Plan"*. http://www.okotoks.ca/town/municipal/development/planning/mdp.asp

b) Town of Okotoks. 2005. *1998-2003 Municipal Development Plan Review*. http://www.okotoks.ca/town/municipal/development/planning/mdp.asp

c) Town of Okotoks. 2006. *2004-2006 Municipal Development Plan Review*. http://www.okotoks.ca/town/municipal/development/planning/mdp.asp

d) Town of Okotoks & M.D. of Foothills Administrations. May 1999. *Town of Okotoks/M.D. of Foothills Intermunicipal Development Plan*. http://www.okotoks.ca/town/municipal/development/planning/mdp.asp

e) Marbek Resource Consultants interview with: Richard Quayle, Municipal Manager; Steve Hanhart, Community Planner; and Dave Robertson, Operations Manager, Town of Okotoks. February 2008.

	SUSTAINABILITY APPROACH
Systems Approach	Systems Approach Used • *Carrying Capacity Approach*: living within the carrying capacity of the ability to use water from the Sheep River watershed (25000 to 30000 residents) Vision The Sustainable Okotoks vision, which reflects the aforementioned principles and responds to key community-specific issues, formulates development policy based on a number of key criteria: • living within the carrying capacity of ability to use water from the Sheep River watershed (25000 to 30000 residents); • capping growth and urban boundaries at carrying capacity (25000 to 30000 residents), which by circumstances coincided with existing boundaries; • sizing infrastructure for an ultimate population of 25000 to 30000; • substantial urban design modifications, including reduction of reliance on a primary source of resource consumption and pollution the vehicle by planning for mixed land use neighbourhoods, creation of employment opportunities within neighbourhoods, creation of a visible home-based business community, expansion of a linked off-street pedestrian pathway and open space system, and higher landscaping requirements; • pursuit of activities as diverse but integrated as eco-efficiency, recycling, water conservation, architectural regulations, and urban forest policy; • acknowledging and balancing four foundations that define sustainability: 1) economic; 2) financial; 3) social; and 4) environmental; • spearheading consideration of issues such as Sheep River watershed management, and inter-municipal planning and transportation. Okotoks recognizes that it is not an island, and can't implement a sustainable development plan in the absence of regional municipal cooperation in sustaining and preserving the Sheep River watershed. The Town has also suggested exploration of new provincial models of watershed management and inter-municipal planning in its statutory documents.
Sector Integration	• SCP includes integrated planning of: Land Use, Infrastructure, Water, Solid Waste, and Economic Development
Leadership, Commitment & Accountability	• The Town conducts a tri-annual survey of its citizens to gauge their opinions on the Sustainable Okotoks plan. From the past results of the survey, public support has increased over time and this keeps the City Council committed and accountable to the plan.
	MANAGEMENT & IMPLEMENTATION
Management Capacity	• Employee's are expected to meet the sustainability objectives as they are written into each employee's job performance criteria • Additional management capacity was created through partnerships with the University of Calgary Faculty of Environmental Design, Trans Alta, Alberta Environment, Alberta Municipal Affairs, NRCan, Pembina Institute, Okotoks Rotary Club, and local neighbourhood groups.

Work Plan & Targets	<u>Work Plan & Targets</u> The key targets are: • 22% commercial assessment base; and • 30% non-traditional housing The other targets identified in the Municipal Development Plan are organized into the following groups: open spaces; sustainable transportation; commercial-industrial development; housing; and community facilities. • Population: 30,000 • Open Space: 20% • Density: 11.5 residential units/gross hectare • Waste Generation: 30%/capita landfill reduction by 2015 • Water use: 63 gal/capita/day • Commuter Ratio: 40% commute outside Okotoks <u>Current Status</u> • Population: 20,000 • Open Space: 21% • Housing: 27% non-traditional housing • Density: 11.5 residential units/gross hectare • Waste Generation: 0%/capita • Assessment Base: 13.9% is commercial • Water use: 82 gal/capita/day • Commuter Ratio: 55% commute outside Okotoks

Management & Governance Tools	<u>Planning Instruments</u>
	• *Inter-municipal Development Plan* was negotiated with the neighbouring municipality, the Municipal District of Foothills that will ensure preservation of natural and historic aesthetics as well as further protection of the rural/urban transition zone. It also included a minor adjustment to the municipal boundary (500 acres) with no future request for annexation and no allowance for the extension of the Town of Okotoks utility infrastructure beyond its corporate limits.
	• The Municipal Development Plan includes the following planning instruments:
	    • A growth barrier was created contain development
	    • Bylaws to create commercial and residential growth corridors
	    • Bylaws preventing development on environmental significant lands
	<u>Fiscal Instruments</u>
	• New developments pay 100% of cost of providing additional facilities (water, sewer, roads).
	• In new neighbourhoods, the private sector must pay 25% of the cost to purchase new lands for parks.
	<u>Other Supporting Programs & Initiatives</u>
	• A GIS-based watershed information management support system was used to create targets for short- and long-term planning initiatives.

Tracking (Measuring Progress) & Transparency	• The Town of Okotoks is a member of FCM's Partners for Climate Protection – working towards Milestone 1 • The implementation of the Municipal Development Review has undergone a review in 2003 and 2006 and the results are posted on the town's website. The reviews entail an assessment of the current situation with respect to the MDP targets using a grading system. The next review will be undertaken in 2009.
Budget & Cost-Effectiveness	<u>Estimated Costs</u> • 1998 Total budget: $35,000 – Creation of the Sustainable Okotoks Development Model • 1999 Total budget: $450,000 - Implementation <u>Sources of Funding</u> • Municipal taxes

Consultation (Community Engagement, Outreach, Education)	• In the beginning, a community survey was conducted to create the vision of the Sustainable Community Development Plan. A tri-annual community survey is conducted to gage citizen's preferences.
	• Information about the progress of Sustainable Okotoks is regularly communicated through the local newspaper, the Western Wheel and the local radio station. Additionally, the bi-annual "State of the Environment" progress report, The Green Machine, distributed to every household in the community,
	• Other community outreach and education programs include:
	    • "For Future's Sake" a regular column in the local paper that offers environmental tips for residents.
	    • Distribution of "As The Soil Turns", a brochure on composting; "Water Ways", a water conservation brochure; "Naturally Okotoks", a comprehensive conservation guide.
	    • Creation of the "Horticultural Hotline" to provide advice on water use related questions.

INNOVATION & KNOWLEDGE SHARING	
Innovative Features	• Based on a carrying capacity approach
Replication & Knowledge-Sharing Potential	How Planning & Implementation Challenges were Addressed • Mutual acceptance of financial risk between the municipality and its project partners. • The tri-annual community surveys help bring continuous buy-in and education to keep people motivated towards the sustainability targets. Lessons Learned • Think outside the box • Create a clear vision • Make your goals tangible and deliverable • Ask "Who needs to be at the table?" i.e. administration, developers, public, provincial government, etc. • Adapt and adopt from others • Partner with academic, community, government and ENGOs. • Have flexibility in the early growth stages of implementation to take corrective action • A long-term plan of where the Town wanted to go was successful (20-30 year timeframe), because it gave developers time to align their plans with the municipality's plan • The "small-scale city feel" has been a draw for developers. People are attracted to the Town because there is a guarantee that the Town with its growth barrier will remain small. Best Practices to Apply in Other Communities • Partnerships with academic, government, developers, community groups, etc. • Flexibility in the implementation stages
Moving Forward & Emerging Trends	• Development along the growth barrier is increasing. • Increasing their commercial and industrial assessment to raise employment prospects for the townspeople and also to increase their tax base. • Uncertainty as to where Okotoks will fit into the regional plans that may be created in the near future.

C.4   Neighbourhood Case Study: Dockside Green, Victoria, BC[253]

INTRODUCTION	
Overview of Why Community is Exemplary	Dockside Green is a 6.05-hectare (15 acres) redevelopment of a brownfield site located in the heart of the City of Victoria. The site is being developed as a model sustainable community built to LEED Platinum standards over the next ten to twelve years. The first phase of the development, Dockside Wharf, is expected to be fully completed in 2009. At buildout, Dockside Green will house approximately 2,200 residents in 1,100 dwelling units and contain about 1.3 million square feet of mixed residential, office, retail and light industrial space. The development's focus is based on a triple bottom line of environmental, economical and social principles.
Community Description	• Province/Territory: British Columbia • Population size of municipality: 74,000 • Population dynamics: growing • Location: urban • First nations community? No • Geographic setting: coastal
Jurisdictional Context	• The City of Victoria bought the dockside lands from the province for $1. The City funded an initial assessment of the site to see what could be done with the site given the contamination, location, value, Official Community Plan requirements, etc. • The City of Victoria published an RFP in 2004 for the development of the Dockside lands with the goal of producing a development that addressed environmental, economical and social principles. The RFP had 300 criteria including the requirement to prove financial capability but also specified sustainability criteria such as a minimum LEED silver rating for all buildings, pedestrian, cycling and transit expectations and underground parking requirements. • The Windmill West and VanCity proposal, named Dockside Green, was chosen by the City Council as the winning development because it exceeded the RFP requirements for LEED standards and it offered a higher level of amenities, such as affordable housing and community infrastructure.
Drivers	Issues Driving Environmental Sustainability • A planner at the City of Victoria lobbied employees and the City Council to use the dockside land development to showcase a development based on the triple bottom line of environmental, economical and social responsibility.
Previous Approach	Previous Approach • Developments were not expected to provide community amenities and there was no basis for including environmental technologies.

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[253] Sources:

a) Windmill West & VanCity Enterprises. Project Website: *Dockside Green*. http://www.docksidegreen.ca

b) City of Victoria, BC. Current Projects: Dockside Green. http://www.victoria.ca/current_projects/docksidegreen chttp://www.victoria.ca/current_projects/docksidegreen

) Marbek Resource Consultants interview with Lynn Strathbee, Dockside Green Development Coordinator at the City of Victoria. February 2008.

	SUSTAINABILITY APPROACH
Systems Approach	<u>Systems Approach Used</u> • New Urbanism • Smart Growth (Based on) <u>Vision</u> "Dockside Green will be a socially vibrant, ecologically restorative, economically sound and just community. It will be a distinct collection of beautifully designed live, work, play and rest spaces designed to enhance the health and well being of both people and ecosystems, both now and in the future. "

Sector Integration	Energy The goal is to have a GHG savings from using biomass energy and selling any surplus energy to the grid, while offsetting any GHG emissions created on site. • Biomass energy cogeneration (woodwaste-to-energy utility plant) using wood waste recovered from local mills and woodworking shops, as well as tree trimmings and deadfall from the local area. The waste wood undergoes a gasification process to produce a gas, which is burned to reduce heat. This green energy will be used to heat the community, with a full backup system in place and surplus heat being sold to off-site customers. • Geothermal heat pumps for commercial building (cooling). • Planning to incorporate other renewable energy sources within the community, such as solar water heating, small wind turbines, and solar photovoltaic power, with a strong emphasis on working with local and Canadian-based suppliers. Water The goal is to operate as a "closed loop system" wherever possible. • Low-flow water fixtures to achieve a potable water savings of 60%. • Built its own tertiary sewage wastewater treatment plant on-site because the City of Victoria doesn't treat its sewage. Because of this, the City waived the sewer charges for the development. Also due to the water efficiency features in their buildings, it reduced the capital costs of sewage treatment by 50%. The location of the sewage plant was chosen to minimize energy needs for pumping. The grey water that is produced from the treatment process is used mostly for toilet and irrigation purposes. • On-site grey and blackwater treatment (all sewage will be treated on site) • Storm water plan is based on using a natural approach. All buildings have green roofs and the excess water that is not collected by the green roofs will fall into balcony cisterns or into open runnels that flow into a creek and pond that is made of selective vegetation to filter the water. Transportation • Transportation Demand Strategy has been put in place that includes a Car Share program, working with BC Transit, Mini-Transit program using electric or electric-hybrid vehicles, bicycle storage facilities, parking management, priority parking for alternative vehicles, and an education program. Brownfields • Developed on a brownfield in downtown Victoria. Air Quality & Climate Change • Air Quality Plan involves the use of fresh air in their ventilation systems and volatile chemical-free materials in their suite designs. • Goal is to be greenhouse gas (GHG) neutral, having no net emissions from a building energy perspective Affordability • Affordable On-Site Housing: Created a $3 million affordable housing fund that will be used to purchase units and the City will also contribute 20% of the building permit fees to the fund. Ten percent of the affordable housing units will be incorporated into high-range housing. Education • An on-site "Sustainability Centre" for local environmental groups is provided under the master development agreement.
Leadership, Commitment & Accountability	• A development services coordinator position at the City of Victoria was created to oversee the implementation of the master development agreement. The salary is paid jointly by the City of Victoria and the developers.

Sustainability Considerations	The following sustainability targets have been set for the development: • Greenhouse gas neutral (no net emissions of GHG from the development); • No potable water use in irrigation for both public and private developments; • Potable water reduction in buildings; • Promotes alternative modes of transportation; • 95% construction waste diversion goal; and • On-site composting.
MANAGEMENT & IMPLEMENTATION	
Management Capacity	• The City of Victoria is co-funding with the developer, a development services coordinator position for Dockside Green that is currently staffed. • Partnered with the Victoria West Community Association (local community association) and sought their input on the design of the development.
Work Plan & Targets	Work Plan & Targets • The timeframe of the construction of Dockside Green is ten years. The first phase of the development, Dockside Wharf, is expected to be fully completed in 2009. Current Status • The first phase of the development is due to open by March 2008. The amenities are also on target.
Management & Governance Tools	Planning Instruments • The City rezoned the land and modified the Official Community Plan to reflect the design guidelines and land use designations. They created a comprehensive district bylaw for the site. • Since the developers were implementing a car share and mini-transit programs, the minimal parking requirements were reduced to one parking space per unit. • Zoning was changed to allow for an additional floor of housing because the developers were offering affordable housing units. • Sewer charges were waived since the development was treating its own waste water through its tertiary waste water treatment facility. Fiscal Instruments • The developers created a penalty clause between themselves and the City of Victoria of up to $1 million dollars ($1 per buildable sq. ft.) payable to the Municipality should they not obtain the LEED Platinum designation for each building.

Tracking (Measuring Progress) & Transparency	• As part of the Master Development Agreement, the City of Victoria requires the developer to provide annual and 5-year performance reports until Year 20 of the development. The City also committed to conduct its own audit to report on the impacts and outcomes of the development on the city and the environment.
	• A set of 48 indicators was selected, including 24 environmental indicators, 17 social indicators, and 7 economic indicators. A set of indicator sheets was developed that summarize information for each indicator. This information includes:
	    • What is being measured?
	    • Why is the indicator important?
	    • Measurement units
	    • Definition of terms
	    • Is the indicator suitable for target-setting?
	    • How are others performing (e.g. similar developments and communities)?
	    • What is planned for Dockside?
	    • Dockside data source name and organization
	    • Data frequency
	    • Known or potential data issues, and
	    • An overall summary
	• In the future, the sheets are intended to also include sections on how Dockside is performing and what residents can do to improve performance on the indicator. The full information for each indicator sheet is contained in the see-it™ software.
	• The City has committed to providing regular reports regarding Dockside Green. There are two ways to report on the monitoring of Dockside Green:
	    • Through the see-it™ Internet tool: This tool provides an easy to use graphical interface for accessing information on Dockside Green and viewing the indicators (http://docksidegreen.visiblestrategies.com/).
	    • Using a traditional report (in hard copy and electronic formats) that will be prepared only for the initial start-up year, 10-year report, and 20-year report.
	• The first monitoring program report will track the first two phases of the development, which are anticipated to be occupied by the Spring of 2008. The initial monitoring program data will be collected for 2008, with the surveys being conducted in the Fall of 2008. In early 2009, the see-it™ site would be updated and an initial report prepared.

Budget & Cost-Effectiveness	Estimated Costs • The City of Victoria has a minimum break-even policy, with any land revenues in excess of costs to be put back into community amenities through an amenity reserve fund. • Remediation costs were factored into the cost of the development. Windmill West is encapsulating some of the contaminated soil on site. Sources of Funding • The biomass gasification system is owned by VanCity, Windmill West, Terasen and Conix.
Consultation (Community Engagement, Outreach, Education)	• Public consultations (through open houses) were conducted throughout the planning process to make the development more responsive to aspirations and the needs of the community. • A MOU was signed between the developers and the Songhees Nation and Esquimalt Nation, for the creation of a training and employment program for their citizens. Dockside Green resides on the ancestral land of both these First Nations tribes.

INNOVATION & KNOWLEDGE SHARING	
Innovative Features	• Used sustainable products in their design to support companies that are making sustainable products • The use of the triple bottom line in the RFP process. • LEED Platinum rating for all buildings.
Replication & Knowledge-Sharing Potential	How Planning & Implementation Challenges were Addressed • Technical: The City of Victoria's building and engineering personnel have had to learn about the new approaches and technologies and how to accommodate them within existing building codes and requirements. Provincial government staff have helped out and reviewed information to make sure that it meets the code requirements. • Implementation: Some of the originally planned technologies have had to be substituted. The biomass gasification system is being substituted for the original co-generation system; and plug-in electrical vehicles have not been readily available. Lessons Learned • Worked with the community on the development's design and implemented their recommendations, which actually increased the marketability of the development. • In the initial planning, it might have been better to put more of the detail on requirements into the bylaw versus the master development agreement, as it would have allowed for greater specificity and clarity. • For the City of Victoria, Dockside Green has created a new expectation for future developments with respect to offering more amenity space and more environmentally appropriate technologies. The development community seems to be responding reasonably well to the higher standards being set. Best Practices to Apply in Other Communities • The monitoring framework, including the indicators and survey instruments, are potentially transferable to other large urban developments and would provide important data for comparison and help foster other innovative green developments in Canada.

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C.5   Neighbourhood Case Study: Markham Centre, Markham, ON[254]

INTRODUCTION	
Overview of Why Community is Exemplary	Markham Centre is a neighbourhood intensification project that is creating an urban core where none existed that will have access to public transit and active transportation infrastructure. In addition, a district energy system using co-generation was built to service the buildings in the area. Furthermore, the development protects the integrity of the local water system and advances the basis for providing public amenities such as parks and community infrastructure.
Community Description	• Province/Territory: Ontario • Population size of municipality: • Population dynamics: fast-growing • Location: urban • First nations community? No • Geographic setting: • Primary economic base: manufacturing and service-based • Per capita income: above
Jurisdictional Context	• Bill 51 legislated changes to the Planning Act that will assist in achieving more environmentally sustainable development, such as expanded list of requirements for subdivision development which includes dedication of bicycle & pedestrian pathways, and transit right of ways; expansion to "Community Improvement" definition to include "improvement of energy efficiency"; and site plan provisions.

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[254] Sources:

a) Town of Markham. July 2005. *Town of Markham Official Plan (Consolidation)*. http://www.markham.ca/Markham/Departments/Planning/Studies/Studies_PlanConsolid.htm
b) Markham Centre, Town of Markham. Accessed January 2008. Website: *11 Guiding Principles: Vision of Markham Centre*.
http://www.markham.ca/markham/aspc/markhamcentre/AboutMarkham_Site/guiding.asp
c) Markham Centre, Town of Markham. Accessed January 2008. Website: *Markham Centre Performance Measures*.
http://www.markham.ca/markham/aspc/markhamcentre/AboutMarkham_Site/perform.asp
d) Town of Markham. 2007. *Markham Centre Development Status Update 2007*. http://www.markham.ca/markham/aspc/markhamcentre/PDF/MC_DevStatus_2007.pdf
e) Markham District Energy. Accessed January 2008. Website. http://www.markhamdistrictenergy.com
f) Urban Strategies Inc. 2002. *Cornell Open Space Master Plan*. http://www.urbanstrategies.com/index.php/parks_and_open_space/open/cornell/
g) Marbek Resource Consultants interview with: Valerie Shuttleworth, Director, Urban Planning & Design; and Richard Kendall, Project Coordinator, Markham Centre. February 2008.

Drivers & Challenges	Issues Driving Environmental Sustainability
	• Critical characteristics of community/resource/infrastructure driving environmental sustainability
	Challenges Limiting Environmental Sustainability
	• Political: Increased development pressure was creating a neighbourhood that would lose its
	• Fiscal/Financial
	• Environmental
	• Social/Societal
	• Technical
	• Regulatory
	• Implementation
Previous Approach	Previous Approach
	• Uncontrolled sprawl, without any push for mixed use, compact development.
SUSTAINABILITY APPROACH	
Systems Approach	Systems Approach Used
	• New Urbanism
	• Smart Growth
	Vision
	The plan's vision was defined in the Official Plan Amendment #21 (OPA 21) which addressed:
	• Protection of the natural environment;
	• Building a supportive public transit infrastructure;
	• Promotion of a mixed-use, high quality and compact urban form;
	• Setting targets for population and employment;
	• Setting targets for providing a range of parks, public squares and community amenities.
	Additionally, 11 Guiding Principles were developed to ensure that their original vision would continue to be engrained in the future developments. The 11 Guiding Principles are:
	• Protect and enhance the Rouge River Valley
	• Support public transit
	• Transform Highway 7 into an urban boulevard
	• Develop an effective street network
	• Provide a "Sense of Place"
	• Enhance pedestrian activity
	• Ensure ecological sustainability
	• Provide cultural and social focus
	• Manage traffic and parking issues
	• Deliver a financial framework
	• Respect quality of life in Markham

Sector Integration	• SCP includes integrated planning of: Land Use, Infrastructure, Energy, Transportation, and Economic Development
Leadership, Commitment & Accountability	• The Markham Centre Advisory Group, which is made up of local stakeholders, advises the Markham Centre Steering Committee on all developments with respect to their conduciveness to the Performance Measures and the Official Plan.
	MANAGEMENT & IMPLEMENTATION

Management Capacity	• The management of Markham Centre is guided by three groups: the Markham Centre Advisory Group, the Development Commission and the Markham Centre Steering Committee. Their descriptions are as follows:
	  • The Markham Centre Advisory Group is composed of members of council that are appointed to guide the development of Markham Centre
	  • The Development Commission is an integrated team of planners, designers, engineers, and economic development officers that work in the development of Markham Centre.
	  • Markham Centre Advisory Group
	    • 20-25 member volunteer group
	    • Made up of stakeholders who are appointed for one-year terms
	    • Members from specific organizations in the affected community such as property owner associations, the Markham Board of Trade, major local business representatives and the York Region Police Services.
	    • Divided into 6 subgroups based on the Performance Measure themes.
	    • Advises and assists the Markham Centre Steering Committee on development in Markham Centre including reviews of development proposals based on their guidance document
	    • Endorses projects before approval by city council
	    • Evaluates progress of individual projects based on Performance Measures
	• Markham Environmental Sustainability Fund is a Town program that funds innovative and leading environmental initiatives.

Work Plan & Targets	Work Plan & Targets • Each new development is evaluated using the Performance Measures as the basis to compare if the development fits into the Official Plan. • An annual report card is published detailing the progress that Markham Centres has reached to meeting the Performance Measures. Current Status • Plan was developed in 1992 and approved in 1994, but the development projects didn't really begin to happen until 2002.
Management & Governance Tools	• Car use is limited through zoning by-laws that limit the amount of available vehicle parking and a Parking Authority was created. • Markham has its own energy company called Markham District Energy Inc., which is already providing heating and air conditioning to a number of commercial and residential developments. In Markham, the first of four planned energy production plants is up and running. The plant consists of high-efficiency, natural gas boilers, chillers, and a natural gas cogeneration facility with waste-heat recovery technology. When fully developed, the district energy system will achieve an overall efficiency gain of 50 percent, resulting in a corresponding 50 percent reduction of CO_2 emissions. • Markham Centre is situated to have access to the GO rail system, the future Highway 407 Transitway, a municipal rapid-transit system in a dedicated corridor (the Region of York's "Viva" transit system), as well as bicycle paths and pedestrian pathways, are part of a comprehensive transportation plan. • Markham Centre is lobbying the province for tax incremental financing (TIF) in order to increase their revenue stream.

Tracking (Measuring Progress) & Transparency	• Using the Guiding Principles as a basis, a Smart Growth checklist was developed which fed into developing Performance Measures within the five theme areas: greenlands; transportation; built form; green infrastructure; and public open space. • Performance indicators were developed to evaluate progress and to create a basis for ensuring that all development applications are evaluated in terms of the plan's targets and goals. Through evaluation of the performance indicators, Smart Growth reporting targets were created as a way to pass the information to the community in an easy and understandable way. • Performance measures are assessed at the project level, block plan level, and annually for the entire Markham Centre area • The Advisory Group produces report cards rating proposed developments as either "gold"", "silver" or "bronze". Their evaluation is based on if the development will further progress Markham Centre towards their Smart Growth goals using their performance indicators. The report cards are available on the Markham Centre website. • The Town of Markham has been a member of the FCM Partners for Climate Protection. They are listed as working towards Milestone 1.
Budget & Cost-Effectiveness	<u>Estimated Costs</u> • Cost savings in staff time, legal fees, and avoided opportunity cost by "working out the kinks" with developers sooner, so they do not often need to go to the Ontario Municipal Board for costly resolutions. <u>Sources of Funding</u> • $5.5 Million Investment by the Green Municipal Investment Fund in Markham District Energy Inc. Expansion Project
Consultation (Community Engagement, Outreach, Education)	• Conducted public consultations in 1992 to gather information on what the vision of Markham Centre should be. • In the Fall of 2001, Markham conducted an Environics Survey of Social Values and Satisfaction. The results of this survey were used to guide the decision-making process. • A 21-member Advisory Group comprised of representatives from Markham business, residents and special interest groups was assembled in April 2002 to develop a set of performance measures that would help to shape the details of Markham Centre. • Public Workshops and focus groups were held during June, July, August and September 2002. The information gathered in these workshops culminated in the Markham Centre Public Conference and Open House on September 28, 2002, a public event held to solicit feedback on the preliminary performance measures developed through the Advisory Group, which featured David Suzuki and MP York West Judy Sgro, Chair of the Prime Minister's Caucus Task Force on Urban Issues.

INNOVATION & KNOWLEDGE SHARING	
Innovative Features	• Created an urban centre where none existed • District Energy Cogeneration Plant
Replication & Knowledge-Sharing Potential	<u>How Planning & Implementation Challenges were Addressed</u> • Political: Originally a lack of buy-in from land owners, but education and engagement eventually turned them into some of the biggest proponents of the new plan, especially one large land owner who owned 25% of the land in Markham Centre and who eventually provided considerable leverage in convincing other land owners and developers that the plan was positive and beneficial for all. • Social/Societal: Constant public engagement has helped educate older residents that were not as keen on the Markham Centre plan at the start. • Technical: Developers were originally reluctant to sign up for projects until the Markham Centre District Energy System gathered momentum, and now it is a lure for new developers who quickly recognize the benefits of such a shared system. <u>Lessons Learned</u> • Their Performance Measures document has proved very valuable since it provides a basis to compare their progress publicly. • Their Advisory Group has proven to be very successful, aside from the recent desire to have shorter terms for members (although the trade-off would be re-educating new members). • Their Markham Centre-specific zoning bylaws have proven effective to control the amount and kind of development. • They find it imperative to constantly review their Performance Measures to maintain flexibility. • They are thankful to have a very supportive city council. • If they had to do it over, they would re-consider pre-zoning the entire Markham Centre area rather than zoning each individual development separately, although they're still happy about the flexibility that individual zoning allows. <u>Best Practices to Apply in Other Communities</u> • Performance Measures, indicators and report cards that are accessible to the public through a website
Moving Forward & Emerging Trends	• Lobbying province for tax incremental financing (TIF).

APPENDIX D

Provincial & Territorial Requirements for Community Planning

Provincial & Territorial Requirements for Community Planning

Further to Section 3.2.2 *Current Practice in Sustainable Community Planning*, below is more information on provincial and territorial requirements for 'top-level' municipal plans and content related to sustainability.[255]

Jurisdiction, Legislation & 'Top-level Plan' Requirements	Sustainability-Related Requirements	Other Notes
British Columbia *Local Government Act* (1996) • 'Top-level plan' <u>not required</u>: A local government *may* adopt an *official community plan* • Minister can require adoption of *regional* growth strategies	An official community plan *must* include statements and map designations for the area covered by the plan respecting the following: • the approximate location, amount, type and density of residential development required to meet anticipated housing needs over a period of at least 5 years; • restrictions on the use of land that is subject to hazardous conditions or that is environmentally sensitive to development; • An official community plan must include housing policies of the local government respecting affordable housing, rental housing and special needs housing. An official community plan *may* include the following: • policies of the local government relating to social needs, social well-being and social development; and • policies of the local government relating to the preservation, protection, restoration and enhancement of the natural environment, its ecosystems and biological diversity.	A government bill recently introduced in the BC legislature will provide a considerable impetus to SCP. Once the legislation comes into force, local governments will be required to include greenhouse gas emission targets, policies and actions in their *Official Community Plans* and *Regional Growth Strategies*. They will also be able to use development permits to promote energy and water conservation and the reduction of greenhouse gases, and encourage alternative transportation options for off-street parking. Developers who are building small housing units will be exempt from paying Development Cost Charges. Local governments will have the ability to waive or reduce these charges for green development including small lot subdivisions and affordable rental housing. British Columbia's *Agricultural Land Reserve*, *Growth Strategies Act*, and *Islands Trust Act* have also helped to set the stage for communities to create more sustainable places.

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[255] Sources: a) Infrastructure Canada. December 2006. *The Path Towards Sustainability: An Evaluation of the "Sustainability-ness" of Selected Municipal Plans in Canada.* Table 1.0: Synthesis of provincial and territorial primary planning acts. http://www.infrastructure.gc.ca/research-recherche/result/studies-rapports/rs13_e.shtml
b) Federation of Law Societies of Canada – Canadian Legal Information Institute (CanLII). Accessed May 20, 2008. *CanLII database* of Canadian federal, provincial, and territorial laws. http://www.canlii.org

Jurisdiction, Legislation & 'Top-level Plan' Requirements	Sustainability-Related Requirements	Other Notes
Alberta *Municipal Government Act* (2000) • 'Top-level plan' <u>required only for municipalities over 3500,</u> who must prepare a *Municipal Development Plan (MDP)*	The *Municipal Development Plan* must address: • Future land uses; • Co-ordination of land use, future growth patterns and other infrastructure with adjacent municipalities; • Provisions for the required transportation systems within the municipality and/or with adjacent municipalities. The *Municipal Development Plan* may address: • Environment matters within the municipality; • Matters relating to the physical, economic or social development of the municipality; • Statements with regards to the municipality's development constraints.	The *Municipal Government Act* also gives powers to adjacent municipalities to create an *Intermunicipal Development Plan* for the lands lying within their boundaries.
Saskatchewan *Planning and Development Act* (2007) • 'Top-level plan' <u>not required</u>: An *official community plan* is not automatically required, but the minister can require one	An official community plan must contain statements of policy with respect to: • sustainable current and future land use and development in the municipality; • current and future economic development; • the management of environmentally sensitive lands; • source water protection; and • the means of implementing the official community plan.	The Act allows two or more adjacent municipalities to form a regional planning district with ministerial consent. The regional planning district can make considerations based on, but not limited to: • topographic features; • watershed management; • environmental management; • the extent of existing and probable development; the existence of important agricultural, resource, conservational, recreational or other urban or rural planning related matters; • the existence of planning issues common to the municipalities concerned; or • the provision of joint services.

Jurisdiction, Legislation & 'Top-level Plan' Requirements	Sustainability-Related Requirements	Other Notes
Manitoba *Planning Act* (2005) • 'Top-level plan' <u>required</u>: *Development plans* are required for municipalities or planning districts	A development plan must: • set out the plans and policies of the planning district or municipality respecting its purposes and its physical, social, environmental and economic objectives; • through maps and statements of objectives, direct sustainable land use and development in the planning district or municipality; and set out measures for implementing the plan.	The *Land Use Policies Regulations* promote consideration of energy conservation in subdivision design.

Jurisdiction, Legislation & 'Top-level Plan' Requirements	Sustainability-Related Requirements	Other Notes
Ontario *Planning Act* (1990) *Places to Grow Act* (2005) *Greenbelt Act* (2005) • 'Top-level plan' <u>required</u> under the *Planning Act*: *Official plans* must be prepared and approved • Under the *Places to Grow Act*, the minister may require a municipality in the Golden Horseshoe area (around West end of Lake Ontario) to create a *growth plan*[256]	An official plan shall contain: • goals, objectives and policies established primarily to manage and direct physical change and the effects on the social, economic and natural environment of the municipality or part of it. An official plan may contain: • a description of the measures and procedures proposed to attain the objectives of the plan; • a description of the measures and procedures for informing and obtaining the views of the public in respect of a proposed amendment to the official plan or proposed revision of the plan or in respect of a proposed zoning by-law. A growth plan may contain policies, goals and criteria in relation to: • intensification and density, • land supply for residential, employment and other uses, • expansions and amendments to the boundaries of areas of settlement, • the location of industry and commerce, • the protection of sensitive and significant lands, including agricultural lands, and water resources, • non-renewable resources, • the conservation of energy, • infrastructure development and the location of infrastructure and institutions, • transportation planning, • municipal waste management planning, • the co-ordination of planning and development among municipalities, • growth-related capital spending and financing, • affordable housing, • community design, • specified municipal actions to be taken to implement or achieve the policies or goals.	Province-level intervention has moved the SCP agenda ahead in Ontario, beginning under the Conservatives in the late 1990s and gaining momentum with the return of the Liberals to Queen's Park in 2003. In 1999, the province established the Smart Growth Secretariat with a mandate to coordinate the activities of different government agencies and different tiers of government to promote Smart Growth.[257] The *Planning Act* allows the councils of two or more local municipalities that are within one or more counties, whether or not they form part of a county for municipal purposes may by by-law define a municipal planning area, establish a municipal planning authority for the area and specify the name of the authority. Under the *Places to Grow Act*, the policies contained in the growth plan can supersede the policies/bylaws that are contained in a municipality's official plan. The *Greenbelt Act* seeks to protect the Oak Ridges Moraine, the Niagara Escarpment, and a large swath of valuable farmland around the urbanized portion of the region.[258]

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[256] Government of Ontario. 2005. *Places to Grow*. http://www.placestogrow.ca

[257] Ontario Smart Growth Secretariat. Fall 2001. *Ontario SMART GROWTH: Working Together – Smart Growth Management Councils, Smart Growth Management Plans, Smart Growth Management Zones*. Consultation Paper, Fall 2001. http://www.ontla.on.ca/library/repository/mon/2000/10299544.pdf

[258] Government of Ontario. 2005. *Greenbelt Act*. http://www.mah.gov.on.ca/Page195.aspx

Jurisdiction, Legislation & 'Top-level Plan' Requirements	Sustainability-Related Requirements	Other Notes
Quebec *Land Use Planning and Development Act* (2008) • 'Top-level plan' <u>required</u>: Regional county municipalities must have a *land use planning and development plan* and municipalities must adopt a planning program consistent with it	The land use planning and development plan must: • identify any part of the territory that is of historical, cultural, aesthetic or ecological interest to the regional county municipality; • describe and plan the organization of land transport; and • set out a strategic vision of cultural, economic, environmental and social development to facilitate the coherent exercise of the regional county municipality's jurisdiction.	
New Brunswick *Community Planning Act* (1973) • 'Top-level plan' <u>not required</u>: A *municipal plan* or *rural plan* is not required but the minister can require one as part of a regional plan	A municipal plan shall contain statements of policy with respect to: • the development and use of land in the municipality, • the conservation and improvement of the physical environment, • the control and abatement of all forms of pollution of the natural environment, • the development of communication, utility and transportation systems, • the provision of municipal services and facilities, including sewage collection, treatment and disposal, water supply and distribution, garbage disposal and recreational facilities, parks, playgrounds and other public open spaces.	
Nova Scotia *Municipal Government Act* (1998) • 'Top-level plan' <u>not required</u>: A council may adopt a *municipal planning strategy* for all or part, of the municipality	A municipal planning strategy may include statements of policy with respect to any or all of the following: • the physical, economic and social environment of the municipality; • the protection, use and development of lands within the municipality, including the identification, protection, use and development of lands subject to flooding, steep slopes, lands susceptible to subsidence, erosion or other geological hazards, swamps, marshes or other environmentally sensitive areas; • storm water management and erosion control; • in connection with a development, retention of trees and vegetation for the purposes of landscaping, buffering, sedimentation or erosion control; • the subdivision of land; and • the use and conservation of energy, including the height and siting of developments.	Nova Scotia has statements of provincial interest in five areas. The statement on infrastructure directs municipalities to develop planning documents that promote efficient use of community infrastructure and limit sprawl.

Jurisdiction, Legislation & 'Top-level Plan' Requirements	Sustainability-Related Requirements	Other Notes
Prince Edward Island *Planning Act* (1988) • 'Top-level plan' <u>not required</u>: Preparation of an *official plan* is not required under the Act	An official plan shall include: • a statement of economic, physical, social and environmental objectives; • a statement of policies for future land use, management and development, expressed with reference to a specified period not exceeding fifteen years; • proposals for its implementation, administration and the periodic review of the extent to which the objectives are achieved.	
Newfoundland & Labrador *Urban and Rural Planning Act* (2000) • 'Top-level plan' <u>not required</u>: A council *may* prepare a *municipal plan*	A plan may, with respect to a planning area: • describe and determine the physical, economic and social environment; • describe existing and proposed transportation networks and proposed networks of streets; • establish areas for comprehensive development; • provide for the protection, use and development of environmentally sensitive lands; • provide for storm water control and erosion control; • provide for the protection, use and development of natural resources and for the prevention of natural resource development with incompatible negative impacts; • provide for the use and conservation of energy; and • provide for and recommend the attraction, location, development and diversification of economic activity.	The Minister may designate a "planning area" which would include land outside of the municipality. The municipality would be able to mandate bylaws to protect watersheds for the purpose of municipal water supply, whether within or outside its boundaries.
Yukon Territory *Municipal Act* (2002) • 'Top-level plan' <u>required</u>: Municipal councils must adopt an *official community plan*	An *official community plan* must address: • the future development and use of land in the municipality; • the provision of municipal services and facilities; • environmental matters in the municipality; • the development of utility and transportation systems; and • provisions for the regular review of the official community plan and zoning bylaw with each review to be held within a reasonable period of time.	
Northwest Territories & Nunavut *Planning Act* (1988) • 'Top-level plan' <u>not required</u>: A council *may* resolve to prepare a *general plan* for how the municipality is to be developed or redeveloped	None	