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The Path Towards Sustainability

An Evaluation of the "Sustainability-ness" of Selected Municipal Plans in Canada

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Executive Summary

Municipalities have been developing community sustainability plans for over a decade in Canada, and this planning approach has only grown in importance in recent years. However, given its equivocal nature, more guidance and clarity on the key characteristics of a community sustainability plan are still needed to allow for a sound, consistent and robust evaluation of both existing and future community plans.

In order to assist policy-makers with this task, this paper provides key information and a new assessment tool that help in defining and assessing sustainable community planning. Then, eleven Canadian case studies in community planning (i.e., Vancouver, Whistler, Calgary, Okotoks, Winnipeg, Hamilton, Toronto, Ottawa, Montréal, Oujé-Bougoumou, Halifax) are used to examine the extent to which they consider sustainability, providing a general and preliminary overview of the state of community sustainability planning in Canada. These case studies were selected in order to represent different regions, size municipalities and contexts (including a First Nation community).

The framework that is developed to assess the "sustainability-ness" of community plans is based on a review of literature. The result is a general framework that serves to evaluate the planning case studies according to height criteria:

1. Future-oriented and cognizant of ecological limits
2. Support for local economic development that is mindful of ecological developments
3. Integration of the three dimensions of sustainability
4. Consideration of the regional context
5. Promotion of a livable and accessible built form
6. Encouragement of a place-based economy that considers a community's unique characteristic
7. Incorporation of principles of ecological design and ecological infrastructure
8. Support for cultural sustainability

Since implementation is fundamental to the effectiveness and success of any plan, the implementation process for each of the case studies is also reviewed.

Overall, the paper's findings suggest that the communities studied are heading in the right direction, as their sustainability plans reflect the majority of the criteria

identified in the literature. By and large, municipalities have moved to incorporate collaborative public engagement processes, plans that are future-oriented, cognizant of ecological limits, reflective of the three dimensions of sustainability, supportive of local businesses, and promote a liveable and accessible built from. However, the findings also suggest that municipal plans in Canada could improve the manner in which they promote sustainability among citizen, the business sector and the economy in general. They could do so by further including educational components in the public participation processes, proposing policies that encourage sustainable practices within businesses and the growth of the sustainable business industry, offering measures that encourage businesses to meet a community's unit characteristics, committing to action that take into account and reinforce regional planning, and incorporating principles of ecological infrastructure.

The two main goals pursued by this paper are fulfilled. By developing a framework based on the key principles of sustainable community planning, a tool is created to assist policy-makers in defining community sustainability planning and in assessing existing or new community plans. Those include, for example, the Integrated Community Sustainability Plans (ICSPs) required by the recent federal-provincial/territorial gas tax agreements. In addition, the application of the framework to several Canadian case studies serves to shed new light on how sustainability is being addressed in current municipal plans and to determine the degree to which ICSPs may already exist in some Canadian municipalities. Ideally, both of these activities will provide greater clarity to the notion of ICSPs and support policy makers in their endeavours towards promoting sustainable community planning in Canada.

Finally, while this study is useful in providing a pulse on the state of planning in Canada, it must be acknowledged that an analysis of policy plans alone does not demonstrate the degree to which municipalities in Canada are becoming more sustainable. As such, this study must be seen as a first step towards a better understanding of community sustainability planning in Canada. Future research is needed in order to continue to advance the knowledge in this area. Such future research could examine in-depth the extent to which the sustainability planning principles are being implemented and actualized on the ground, and the degree to which the built environment is changing as a result. It is also suggested that Canadian municipal plans be compared to those of other OECD countries. In addition, further research could focus on the evolution and the impacts of the provincial and territorial planning frameworks in Canada, as well as on the role that the federal government is playing or could play.

The Path Towards Sustainability

An Evaluation of the "Sustainability-ness" of Selected Municipal Plans in Canada

Introduction

The recently signed gas tax agreements represent a key element of the federal government's commitment to Canadian municipalities. Included within these agreements is a stipulation for Integrated Community Sustainability Plans (ICSP) to be prepared by each municipality in Canada. The definition of an ICSP - "any existing or new long-term plan, developed in consultation with community members, for the community to realize sustainability objectives it has for the environmental, cultural, social and economic dimensions of its identity" - acknowledges that these types of plans may already exist in Canada.

Given the nature of an ICSP, and in order to ensure successful development and implementation of ICSPs, it is essential to provide more guidance and clarity to Canadian municipalities and policy-makers regarding the key characteristics of a sustainable community plan. This paper provides key information, as well as a new tool, that help in defining sustainable community planning and assessing both existing and new community plans. It then provides a general and preliminary overview of the state of community sustainability planning in Canada.

The literature on sustainable community planning offers principles by which to examine and evaluate the degree to which a plan can contribute to the sustainable development of a particular community. This paper develops and employs a framework, based on these principles, to assess the "sustainability-ness" of eleven community plans across Canada.

The eleven Canadian case studies in community sustainability planning considered for this paper are: the City of Vancouver's CityPlan, The Resort Municipality of Whistler's Whistler 2020, the City of Calgary's imagineCalgary, The Town of Okotoks' Sustainable Okotoks, the City of Winnipeg's Plan Winnipeg 2020 Vision, the City of Hamilton's Vision 2020, The City of Toronto's Official Plan, The City of Ottawa's Ottawa 20/20, the City of Montréal 's first strategic plan for sustainable development, the First Nation community of Oujé-Bougoumou's vision for a sustainable community, and Halifax Regional Municipality's Regional Municipal Planning Strategy. These case studies are used to examine the extent to which the aforementioned key principles are addressed, and by doing so, offer a preliminary look at the extent to which sustainable community plans already exist in Canada. Since implementation is fundamental to the effectiveness and success of any plan, the implementation process for each of the case studies is also

reviewed. The rationale for selecting these case studies is discussed in the methodology section.

This paper is organized into the following sections:

Section 1 **Background**: Origins of sustainable community planning, conventional and sustainable community planning, the regulatory context of planning in Canada, and the current role of the federal government in promoting urban sustainability.

Section 2 **Methodology** and **Framework Development**

Section 3 **Evaluation of the "sustainability-ness" of municipal planning in Canada:** Application of the framework to the eleven case studies; analysis of the trends, strengths and weaknesses in the plans, and evaluation of each case studies' implementation strategies.

Section 4 **Conclusion**: Summary of findings, concluding thoughts and suggestions for future research.

Section 1: Background

1.1 Origin of Sustainable Community Planning

The term sustainable development gained international currency and recognition with the release of the Brundtland Commission's *Our Common Future* (WCED 1987).[1] This report highlighted the major gap between incomes and the imbalance in resource use between the poor and rich populations.[2] The release of the Brundtland report catalyzed a movement for citizens and governments to consider ways to use fewer resources and produce less waste. Several key international initiatives by the United Nations followed this report: the Rio Declaration on Environment and Development, which provides twenty-seven principles to guide sustainable development around the world; the United Nation's program Agenda 21, which provides a comprehensive action plan for all levels of government to consider in implementing these principles; and Local Agenda 21, the implementation of the Agenda 21 action plan at the local level.[3]

The actualization of sustainable development at the municipal level is of particular interest to this paper. Sustainable development represents a departure from the practice of building cities and communities on the assumption that inexpensive energy sources and land are inexhaustible (Roseland 1998). Sustainability recognizes the impacts of inefficient development resulting from these assumptions, and acknowledges the interdependent relationship between humans and the environment. The interdependency between humans and the environment are exemplified in the three dimensions that are essential to sustainable development: economy, environment, and society (WCED 1987, Jepson 2000, Berke 2002, Litman and Burwell 2006). These three dimensions are fundamental to sustainable development because, as opposed to the past assumption that environmental problems were technically resolvable, current thinking believes that a fundamental societal and economic change is needed to address environmental concerns (Roseland 2000): "Moving towards sustainability represents a profound change in the way that we conceptualise our understanding of how human activity interacts with natural ecosystems, which in turn will change our actions and patterns of interaction" (Parkinson and Roseland

[1] According to the Brundtland Commission, "Sustainable development meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED 1987,8).

[2] Canadians, for example, are amongst the wealthiest societies and worst offenders for resource consumption and waste production worldwide (Wackernagel and Rees 1996). Our resource use is illustrated by a concept known as the "ecological footprint", a term coined by Professors at the University of British Columbia (Wackernagel and Rees 1996). A calculation of a community's ecological footprint illustrates a community's (or individual's) daily resource use to satisfy their needs. Wackernagel and Rees calculated that five additional earths would be needed if everyone in the world used the same amount of natural resources as North Americans use to meet their needs.

[3] The Rio Declaration on Environment and Development can be found at http://www.un.org/documents/ga/conf151/aconf15126-1annex1.htm; Agenda 21 can be found at http://www.un.org/esa/sustdev/documents/agenda21/english/agenda21toc.htm.

2002). The three dimensions of sustainability acknowledge the interrelationships between decisions. Essentially, applying a sustainability lens means widening the scope of our awareness so we can understand fully the "true cost" of every choice we make (Sustainable Pittsburgh 2006).

The recognition that humans' survival depends upon the health of our natural resources and ecological processes is at the foundation of sustainable development (Grant and Manuel 1996). Human needs are also given priority alongside the environment. As opposed to past thinking that assumed a dichotomy between the two, sustainable development recognizes that humans are part of ecosystems, not separate. (Grant and Manuel 1996, Roseland 2000, Tyler 2000).

The built environment reflects this perceived dichotomous relationship between humans and nature. For example, we depend upon mechanized systems as opposed to benefiting from ecological processes to heat and cool buildings. Conversely, sustainability reflects the awareness that this is an artificial separation, and that the two are inherently intertwined. Passive solar orientation and geothermal heating are examples of building techniques that employ elements of sustainable design.[4]

Sustainable Community Planning is a municipal-based response to the concept of sustainable development. By extension, sustainable community planning is also based on the combination of these economic, social and environment dimensions. As will be discussed below, it is this integration of the dimensions of sustainability that differentiates it from conventional community planning.

1.2 Community Planning and Sustainable Community Planning in Canada

Community Planning[5] focuses largely on the development of the physical environment. The method in which land is developed is largely a physical reflection of our cultural and societal values (Grant 2000). Historically, little priority has been placed on environmental protection in the process of urban development (Hodge 1998). This lack of prioritizing is a reflection of society's past level of concern with the state of the environment (Roseland 2000). Over the past couple of decades, however, environmental problems have evolved from being a minor issue to becoming one that has gained much attention and concern.[6] As a result of these changes, and since community planning is reflective of society's current values, 'conventional community planning' has

[4] For more information on sustainable building design, please visit the Canada Green Building Council website at http://www.cagbc.org/.
[5] Community planning is concerned with the appropriate assignment of land use designations, the proper integration of land uses, and the creation of neighbourhoods with necessary services (Hodge 1998).
[6] In a recent Environics (2006) poll, Canadians rated environmental issues (Kyoto, pollution, global warming) as the second most important issue facing Canada today.

progressively evolved towards a new planning paradigm commonly labelled as ‘sustainable community planning’.

As described by Mark Roseland (2000), sustainable community planning emphasizes efficient use of land, minimizing consumption of natural resources, maximizing social networks and engaging citizens and governments. Sustainable community planning follows in the tradition of past planning movements by not only focusing on physical land use, but also emphasizing the importance of public participation processes. However, it differs from conventional community planning in its emphasis on ecological limits and its holistic approach that focuses on balancing and integrating ecological, economic, social, and cultural values (Jepson 2000, Berke 2002, Swedish Ministry of the Environment 2004, Litman and Burwell 2006). As such, sustainable community planning emphasizes the integrated benefits of a decision or direction. For example, promoting green roofs has environmental benefits (reduced air pollution, stormwater flow and greenhouse gas levels), social benefits (creation of an amenity space), and economic benefits (reduced heating, cooling and infrastructure costs).

1.3 Legislative and regulatory context of planning in Canada

In Canada, the provinces maintain legislative responsibilities for municipalities, as municipalities are subjects of the province with no independent constitutional recognition of their own (Hodge 1998, Sancton 2000). The degree of provincial control on the processes for the development and regulation of planning varies widely. Despite these differences, all provinces do require municipalities to provide a framework for development and land use regulation (including land subdivision) (Sancton 2000).

Provincial planning acts across Canada conform in that they all include similar main features that provide for the creation of planning units: the preparation, adoption and approval of municipal development plans and their legal responsibility; the creation of a system for subdivision control; delegation of power to municipalities to enforce zoning by-laws; the creation of an appeal procedure with respect to municipal planning decisions; the creation of a planning body composed of citizens to advise municipal council; and the involvement and education of the public at different stages in the planning process (Hodge 1998, 145).

Provinces oversee municipal activities through the establishment of ministries (e.g., the Ministry of Urban Affairs in Alberta, Manitoba Intergovernmental Affairs and Trade, and the Ministère des Affaires Municipales et des Régions in Quebec) and through quasijudicial boards (e.g., the Ontario Municipal Board, the Saskatchewan Municipal Board and the Nova Scotia Utility and Review Board).

1.3.1 Provincial and Territorial planning policy and legislation

Table 1.0 provides a comparative overview of the primary planning act for each province and territory. In light of the focus of this paper, these planning acts were reviewed to find out whether they require comprehensive plans for each municipality and regional plans, as well as any specific requirements for public participation and monitoring. The case studies reviewed for each province (where applicable) are also indicated in this table.

A quick look at Table 1.0 shows that the great majority of the sustainability plans studied in this paper (10 out of 11) are from municipalities located in provinces where comprehensive planning is either required for all the municipalities or for the majority of them (Alberta, Manitoba, Ontario, Quebec) or is strongly encouraged by some specific programs and support (British Columbia). This suggests that there seems to be – as one would intuitively expect – a relation between the requirements in the provincial and territorial planning acts and the state (or the "sustainability-ness") of municipal plans.

However, since this section provides only a broad overview of the provincial and territorial planning 'frameworks' (by considering the primary planning acts only), it is suggested that further research be undertaken to more thoroughly compare the different provincial and territorial 'planning frameworks' in Canada and to explore their impacts on the state of municipal planning. Such research would need to consider – in addition to the primary planning acts – all the related acts as well as the fiscal, regulatory, policy and local capacity-building components that could potentially impact municipal planning and communities' development.

1.4 Current Federal Role in Promoting Community Sustainability

From a general perspective, the actions of any department and public agency often impact, either directly or indirectly, the development and the liveability of a country's cities and communities. These actions can consist of the development and implementation of policies and programs, the elaboration of and support to research activities, the management of corporate activities and facilities, etc. As such, the federal government has played and continues to play a critical role for the sustainable development of Canada's communities, and this section provides a general overview of what it is doing in that regard.

The policies, programs and research activities of Infrastructure Canada (which are further described in this section) are aimed to contribute specifically to the sustainable development of Canada's cities and communities. Other actions and initiatives from other federal departments and agencies are also closely related to the topic of community sustainability. For example, the Department of Indian and Northern Affairs work with First Nation's communities across the country to

support the development of Comprehensive Community Plans (CCPs).[7] Transport Canada, in addition to its other policies and programs on transport, has promoted innovative projects and a more integrated planning of urban transportation through its Urban Transportation Showcase Program[8] and its support to R&D activities on Intelligent Transport Systems. Environment Canada has developed a website to support the development of sustainable community indicators.[9] Natural Resources Canada conducts various activities on the topics of resource conservation and energy efficiency for buildings and communities.[10] Agriculture and Agri-Food Canada's Rural Secretariat works with its partners to support the development of stronger rural communities across the country.[11] Other examples come from federal agencies and organizations like the Canada Mortgage and Housing Corporation[12] and the National Round Table on the Environment and the Economy,[13] which contribute, each with its own particular focus, to the advancement of knowledge and advocacy in community sustainability.

In the area of corporate activities and policies, as Canada's largest property owner, the federal government also has a significant opportunity to be a leader in sustainability. One initiative in this area is Public Works and Government Services Canada's Good Neighbour Policy. The Good Neighbour policy applies to the selection of locations for government offices and facilities; this policy considers proximity to public transit, infrastructure considerations and conservation of existing buildings when locating government offices and facilities.

Crown corporations, such as Canada Lands Company, have applied sustainability principles on formerly government owned lands. Benny's Farm in Montreal, an affordable housing project conceived through a grassroots-stakeholder driven approach, exemplifies sustainability through its development type and approach. Much of the energy to be used for this project comes from renewable energy sources, including geothermal and solar systems, and water systems include storm water and wetland treatment. The innovative nature of this project has been recognized by the awarding of the Governor General's Medal for Architecture in 2003 and internationally by the Holcim Award for

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[7] See INAC's page on "Comprehensive Community Planning" at: www.ainc-inac.gc.ca/bc/proser/fna/ccp/ccp_e.html

[8] Information on TC's "Urban Transportation Showcase Program" (UTSP) can be found at: www.tc.gc.ca/utsp

[9] For information on the "Sustainable Community Indicators Program" (SCIP), please visit Environment Canada's website at: www.ec.gc.ca/soer-ree/English/scip/default.cfm

[10] See NRCan's page on "Sustainable Buildings and Communities" at: www.sbc.nrcan.gc.ca, or NRCan's page on "Planning for Climate Change" (hosted by the Canadian Institute of Planners' website) at: www.cip-icu.ca/English/aboutplan/nrc_intro.htm

[11] Information on the Rural Secretariat can be found at: http://www.agr.gc.ca/policy/rural/rsmenue.html

[12] See for example CMHC's page on "Sustainable Community Planning" at: www.cmhc-schl.gc.ca/en/inpr/su/sucopl/index.cfm

[13] See NRTEE's website at: http://www.nrtee-trnee.ca

Sustainable Construction (Benny's Farm received the top award of Gold in this category).[14]

Another nationally renowned project developed by Canada Lands Company is Garrison Woods, an inner-city redevelopment on a former Canadian Forces Base in Calgary. Sustainability principles are addressed in this development by the diversion of waste materials (the developers refurbished almost two-thirds of the former housing stock instead of demolishing them), retention of trees, preservation of the military theme throughout the site, construction of pedestrian paths and an extensive green space layout to encourage recreation, and compact mixed used design to reduce car use and maximize land efficiency.

Providing more resources targeted at Canada's municipalities is another way for the federal government to help communities meet their important 'sustainability challenges' ahead. The Green Municipal Fund (GMF), federal monies managed by the Federation of Canadian Municipalities,[15] is an example of how the federal government is promoting sustainable community planning and sustainable infrastructure projects in Canada. The GMF is a $550 million revolving fund available to municipalities to fund sustainable community plans, feasibility studies and capital implementation projects for green infrastructure. Since the fund's establishment in 2000, the GMF has funded 522 studies, plans and projects across Canada (FCM 2006).

Investments in public transit are another – more specific – direction that the federal government is taking to support sustainability. Transportation, which is indicative of mobility and accessibility, is essential to achieving sustainability. Developing and providing long-term investment in a public transit system is imperative. The ability of seniors, youth and low-income individuals to have equal access to services, employment, and amenities is only possible through a transportation system that allows them do so. Health issues, both obesity and asthma, are also linked to our transportation systems. The Government is seeking to promote transit use through up of $1.3 billion in support of public transit infrastructure and the provision of a tax credit on the purchase of monthly transit passes (Finance Canada 2006).

The recently negotiated gas tax agreements, managed and implemented by Infrastructure Canada, along with the public transit funds,[16] provides significant stable funding for sustainable infrastructure in Canadian communities. The federal budget 2005 provided $5 billions in gas tax funds over 5 years, allocated on a per capita basis to the provinces with targeted amounts for PEI and the three territories. The funding is to be spent on environmentally sustainable municipal infrastructure to achieve three outcomes: reduced greenhouse gas

[14] See http://www.holcimfoundation.org/awards/global/CA_detail.html
[15] See www.sustainablecommunities.fcm.ca/GMF/
[16] More specific information on these Gas tax and Transit Funds can be found at: http://www.infrastructure.gc.ca/communities-collectivites/index_e.shtml

(GHG) emissions, cleaner air, and cleaner water. Eligible projects fall under six categories: water and wastewater systems, solid waste management, public transit, roads and bridges, community energy systems, and community capacity building to help communities to plan for sustainability.

Aside from the gas tax funds, other Infrastructure Canada programs provide sources of funding for various types of municipal infrastructure projects, such as the Infrastructure Canada Program, the Canada Strategic Infrastructure Fund and the Municipal Rural Infrastructure Fund.[17]

Finally, research is another key area of activity for Infrastructure Canada.[18] Its research strategy supports both internal and external research activities (including outreach projects) on sustainable municipal infrastructure and on community sustainability in order to support and foster well informed and evidence-based policy and decision-making by all levels of government and all types of stakeholders in Canada.

[17] See http://www.infrastructure.gc.ca/ip-pi/index_e.shtml
[18] For more information, please visit Infrastructure Canada's Research Gateway at: http://www.infrastructure.gc.ca/research-recherche/index_e.shtml

Table 1.0: Synthesis of provincial and territorial primary planning acts						
Province / Territory	**Planning Act**	**Regulations**				**Case studies**
		Comprehensive Plan	**Regional Plan**	**Public Participation**	**Monitoring**	
British Columbia	Local Government Act	Not required (Note: However various provincial grants and programs encourage comprehensive municipal planning: e.g., 'Community' and 'Infrastructure' planning grants, the 'Smart Development Partnership Program')	Not required (Note: However, the province may designate areas for which a regional growth strategy must be developed. Grants also available to support regional planning)	Public engagement is encouraged to occur early in the planning process	Municipalities must report annually on progress in relation to the previous year's objectives and measures	▪ The City of Vancouver, CityPlan ▪ The Resort Municipality of Whistler, Whistler 2020
Alberta	Municipal Government Act	Required for municipalities of populations of 3,500 and greater	Required (Note: Only through the coordination of adjacent municipal plans, as no regional planning bodies exist.)	Standard requirements for public hearings, meetings and posting of notices for developments	No specific requirements	▪ The City of Calgary, imagineCalgary ▪ The Town of Okotoks, Sustainable Okotoks[19]
Saskatchewan	Planning and Development Act (Note: The Act is currently under review and is expected to improve support and guidance to municipalities on planning.)	Not required	Not required	Standard requirements for public hearings, meetings and posting of notices for developments (Note: Stronger requirements for public participation are expected with the new act.)	No specific requirements	
Manitoba	The Planning Act	Required	Not required (Note: However, regional planning is enabled by the new Act and is encouraged by the 'Planning District Program'.)	Standard requirements for public hearings, meetings and posting of notices for developments	No specific requirements	▪ The City of Winnipeg's Plan 2020 Vision

[19] The Town of Okotoks is a municipality of approximately 16,000 people and is located 20 kilometers south of Calgary.

Ontario	The Planning Act	Required for the major municipalities (including upper-tier municipalities, i.e. counties and regional municipalities) (Note: various tools to foster/support community sustainability planning provided to municipalities)	Required (Note: In addition to the Planning Act, the new Places to Grow Act is about reinforcing regional planning.)	Standard requirements for public hearings, meetings and posting of notices for developments. Regional plans must be developed "in collaboration with local officials and stakeholders	Municipalities are encouraged to establish performance indicators to monitor the implementation of the policies in their official plans (Note: In addition, the Municipal Performance Measurement Program requires municipalities to measure their service delivery performance in 10 core municipal service areas.)	▪ The City of Hamilton, Vision 2020 ▪ The City of Toronto's Official Plan ▪ The City of Ottawa, Ottawa 20/20
Quebec	Loi sur l'aménagement et l'urbanisme	Required	Required	Standard requirements for public hearings, meetings and posting of notices for developments. Regional plans must be developed "in collaboration with local officials and stakeholders"	No specific requirements	▪ The City of Montreal`s, Montreal`s First Plan for Strategic Development ▪ First Nation community of Oujé-Bougoumou (Note: provincial planning regulations are not applicable)
New Brunswick	Community Planning Act	Not required	Not required	Standard requirements for public hearings, meetings and posting of notices for developments	No specific requirements	
Nova Scotia	Municipal Government Act	Not required	Not required	Standard requirements for public hearings, meetings and posting of notices for developments..	No specific requirements	▪ The Halifax Regional Municipality's Regional Municipal Planning Strategy
Prince Edward Island	Municipal Planning Act	Not required	Not required	Standard requirements for public hearings, meetings and posting of notices for developments	No specific requirements	
Newfoundland and Labrador	Urban and Rural Planning Act	Not required	Not required	Standard requirements for public hearings, meetings and posting of notices for developments	No specific requirements	

Yukon	Municipal Act	Required	Not required	Standard requirements for public hearings, meetings and posting of notices for developments	No specific requirements	
Northwest Territories	Planning Act	Not required	Not required	Standard requirements for public hearings, meetings and posting of notices for developments	No specific requirements	
Nunavut	Planning Act	Not required	Not required		No specific requirements	

Section 2: Methodology and Framework Development

2.1 Methodology

The purpose of this paper is to assist policy-makers with the task of defining sustainable community planning by providing principles and analyzing their application to existing plans in Canada.

This paper is based on secondary sources, as most documents were available online. Interviews with municipalities were made where required. Phone calls were made to planners at the City of Calgary to obtain information on the implementation process, and the Resort Municipality of Whistler, the City of Vancouver and the City of Winnipeg to obtain extra information on the public involvement process (Annex 1 contains a list of contacts and questions addressed in the interviews). Documents and information on the public participation process for Oujé-Bougoumou was obtained through interviews with and shared documents from Douglas Cardinal Architect Inc., the lead architectural firm responsible for the community plan.

The case studies were selected in order to represent different regions and sizes of municipalities. Specifically, the case studies represent major cities, mid-size cities, small communities, industrial and service sector cities in Canada. First Nation communities (Oujé-Bougoumou), and the pacific, western, central, and atlantic regions of Canada are also represented. As well, plans that have gained national and/or international recognition were also considered (i.e.Whistler, Okotoks, Oujé-Bougoumou).[20] Table 3.0 provides a statistical profile for each of the case studies.

Municipal plans were scanned according to the criteria developed to evaluate the "sustainability-ness" of the plans (criteria is described below). Municipal websites were first scanned for information on the public participation process, as this material was not normally included in the plans themselves. The plans were then reviewed according to either the key words or concepts identified by the criteria. The method for reviewing each of these criteria is described below (the framework for developing these criteria will be discussed in the following sections):

9. **Future-oriented and cognizant of ecological limits:** For this criteria, the plans were evaluated based on the concept of long term-planning and

[20] Oujé-Bougoumou has been the recipient of several awards: The United Nations' "We the Peoples: 50 Communities Award", the United Nations Centre for Human Settlements: Habitat II: Best Practices Award, the United Nations Global Citizens' Award, and an award from the Canada Mortgage and Housing Corporation for the community's district heating system. Additional information on the awards presented to Oujé-Bougoumou can be found at: http://www.ouje.ca/content/awards.php.

acknowledgement of ecological limits, i.e. developing for current needs without depleting the health of natural resources for future generations.

10. **Support for local economic development that is mindful of ecological developments:** Plans were evaluated according to concepts such as increasing energy efficiency, water conservation, reduction of solid waste disposal, reducing greenhouse gas emissions as well as scanned for the use of "sustainable businesses", "green industry", "green businesses", "sustainable business practices" as either keywords or as concepts.
11. **Integration of the three dimensions of sustainability:** Plans were scanned for the use of "social", "economic" and "environmental" within one sentence as well as scanned for the use of concepts such as balance or integration used in combination with these keywords.
12. **Consideration of the regional context:** Plans were scanned for the keyword "region" or "regional".
13. **Promotion of a livable and accessible built form:** Plans were scanned for the keyword "compact" as well as for the concepts of a mix of housing types, affordable housing, accessibility, mix of uses, and compact development.
14. **Encouragement of a place-based economy that considers a community's unique characteristic:** Plans were scanned under the local economic development section for the concept of economic development that responds to the community's needs.
15. **Incorporation of principles of ecological design and ecological infrastructure:** Plans were scanned for keywords and concepts referring to wetlands, green roofs, native species or native landscaping, permeable surfaces, green spaces, local biodiversity, ecological or green infrastructure, water reuse or recycling, and urban forest.
16. **Support for cultural sustainability:** Plans were first scanned for the presence of arts and cultural policies, and secondly for concepts referring to fostering or supporting: a creative environment, local diversity and the integration of culture with community development goals such as economic development, the environment, urban form strategies and social services.

Table 3.0 – Statistical Profiles of the Case studies Source Statistics Canada 2002											
	Vancouver	**Whistler**	**Calgary**	**Okotoks**	**Winnipeg**	**Toronto**[21]	**Hamilton**	**Ottawa**	**Montreal**	**Oujé-Bougoumou**	**Halifax**[22]
Land area (km^2)	114.67	161.72	701.79	17.91	465.16	629.91	1,117.11	2778.64[23]	185.94	n/a	5,490.90
Population density/ km^2	4,758.7	55.0	1,253	651.3	1331.9	3,939.4	438.9	278.6	5,590.8	2.7[24]	65.4
Population										700[25]	
2001	545,671	8,896	878,866	11, 664	619,544	2,481,494	490,268	774,072	1,039,534	n/a	359,111
1996	514, 008	7,172	768,082	8, 528	618,477	2,385,421	467,799	721,136	1, 016, 376	n/a	342,851
Total private dwellings	248, 981	8, 410	343, 854	3, 804	261,311	965,554	194, 154	**310,132**	514, 758	n/a	153,328
Mode to work:											
-Car, truck, van as driver:	58%	61.3%	70.7 %	82.8%	68.5%	52%	76.9%	62%	44.2%	n/a	68%
-Car, truck, van as passenger	6.7%	5.2 %	6.7 %	6.5%	8.5%	5.3%	7.4%	6.7%	3.8%	n/a	9.6%
- Public Transit:	17.2%	14.2%	14.1%	1.6%	14.2%	33.8%	8.4%	20.8%	38.2%	n/a	9.9%
- Walk or bicycled:	16.9%	17%	7.6%	7.8%	7.9%	7.7%	6.6%	9.7%	12.9%	n/a	11.2%
Other	1.3%	2.4 %	0.9%	1.4%	.8%	.9%	0.75%	.8%	0.9%	n/a	1.2%
Median family income (2000): (Canada: $72, 524)	$56, 931	$77, 435	$78, 533	$72, 993	$54, 725	$54, 399	$58, 396	$73,507	$42, 711	n/a	$55,891

[21] City of Toronto
[22] Regional Municipality of Halifax
[23] Note that approximately 90% of the land area under the City of Ottawa's jurisdiction is rural countryside (City of Ottawa 2003a)
[24] http://www.ainc-inac.gc.ca/qc/gui/oujebougou_e.html (size of village)
[25] http://www.ainc-inac.gc.ca/clc/tp/ouje_e.html

2.1.1 Study limitations

The study is solely a review of the municipal plans themselves. While a textual examination is worthwhile in determining the extent to which these principles in theory are being addressed, this type of a methodology does not allow for consideration of the larger and the more fundamental examination of the extent to which these principles are being implemented and the degree to which city planning and the built environment is changing as a result.

This study limited its review to those plans or strategies that were either labeled as sustainability plans or identified as the primary planning document for the community (i.e. Official Plans, 2020 plans). Communities are governed by several plans, and it may be that some of the policies not demonstrated in the plans reviewed here are found in other documents. For example, policies that support green businesses, which were absent in many of the plans reviewed, may instead be found in economic development plans. However, the separate strategies were reviewed for Whistler, Hamilton and Ottawa as the primary planning document is an umbrella document consisting of several components.

Due to time and space restraints, it was not possible to include a comparison of sustainable community planning from an international perspective. However, it is worth mentioning that the International Council for Local Environmental Initiatives (ICLEI),[26] one of the main international bodies involved in sustainable community planning, produced a document of case studies that highlights sustainable community plans and projects across the world (ICLEI 2002). Relevant case studies profiled in this document are Burlington, USA (project focuses on nurturing a culture of sustainability through a community engagement process), Curitiba, Brazil (project highlights urban planning and transportation actions that promote sustainability) and National Strategy for Local Impact in Norway (project highlights the steps taken to encourage and assist local Norwegian governments).

2.2 Evaluation of the "sustainability-ness" of each plan

As the term sustainable development is applied in a range of contexts (and often contradictory ones), the meaning of this term has become "ambiguous and open to a wide range of interpretations" (Roseland 1998, 3). The notion of "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED 1987,8) and the broad goals of integrating the social, economic and environment dimensions does not lend itself to straightforward policy making (Campbell1996, Berke and Conroy 2000). As such, there is the possibility for sustainability community plans to be equally equivocal in their approach.

[26] ICLEI is made up of members representing local, regional and national governments across the world that are committed to sustainability.

Figure 1.0 - APA Policy Guide on Planning for Sustainability

Planning processes include:

- Making planning decisions in a holistic and fully-informed manner that involves all segments of the community and the public and private sectors.
- Educating all age groups to raise public understanding of and regard for the future consequences of current planning decisions and ultimately change human behaviour.

Planning practices include:

- Developing a future-oriented vision, which looks beyond current needs and recognizes environmental limits to human development.
- Fostering projects/activities that promote economic development by: efficiently and equitably distributing resources and goods; minimizing, reusing and recycling waste; and protecting natural ecosystems.
- Upholding a widely held ethic of stewardship that strongly encourages individuals and organizations to take full responsibility for the economic, environmental, and social consequences of their actions, balancing individual needs and wants with nature and the public good.
- Taking leadership in the drafting and implementation of local, regional and state policies that support sustainability, such as APA's Growing Smart statutes.

Planning outcomes include:

- Local and regional development patterns that expand choice and opportunity for all persons, recognizing a special responsibility to address the needs of those that are disadvantaged.
- Resilient, diverse, and self-sufficient local economies that meet the needs of residents and build on the unique characteristics of the community to the greatest extent possible.
- Communities with a healthy economy, environment and social climate that function in harmony with natural ecosystems and other species and allow people to lead healthy, productive and enjoyable lives.

Source: http://www.planning.org/policyguides/sustainability.htm

The possibility for vagueness in community planning may be exacerbated by the fact that no single framework exists to systematically assess sustainable community planning, which makes it potentially difficult to differentiate alleged sustainable community plans from conventional community plans. Fortunately, the literature provides guidance on what can be constituted as key principles for a sustainable community planning approach. This paper draws upon three resources -- one from the American Planning Association[27] (APA) and two peer-

[27] The American Planning Association is a “nonprofit public interest and research organization committed to urban, suburban, regional, and rural planning.” (http://www.planning.org/aboutapa/overview.htm) It is the research arm of the American Institute of Certified Planners, which is the professional organization for urban planners in the United

reviewed articles -- to create a framework to evaluate the “sustainability-ness” of each plan. The APA Policy Guide on Planning for Sustainability (APA 2000) provides direction on the planning processes, practices, and outcomes to be included in sustainable community planning (Figure 1). Berke and Conroy (2000) provide principles for evaluating sustainable community plans and Conroy and Berke (2004) offer key factors needed to support sustainable development in community plans (Figure 2).

Drawing from these three sources, it is possible to create a framework from which to evaluate the processes used to create the plan, key principles to be included, and the elements needed to ensure support of the plan. The information provided by each of these references is mutually supportive and in some cases the same concept is repeated. It should be noted that the framework is not intended to perform an exhaustive evaluation of the sustainable community plans. Instead, the guidelines from these references will be used to create a framework intended to perform a general overall assessment of the plans, as well as demonstrate the Canadian incorporation of sustainability in each plan.

Figure 2.0

Principles for evaluating sustainable community plans:

- Harmony with nature
- Livable built environments
- Place-based economy
- Equity
- Polluters pay
- Responsible regionalism

Source: (Berke and Conroy 2000)

Key factors that support sustainable development in community plans:

- Support for sustainable development in the planning process
- Public participation effort, breadth & depth
- Resource commitment
- Integration of sustainable development as an organizing concept of the plan
- Regional and/ or provincial planning support

Source: Conroy and Berke (2004)

The National Roundtable on the Environment and the Economy’s report on urban sustainability provides several recommendations for promoting urban sustainability in Canada. These recommendations are not included in the framework for sustainable community planning because they focus largely on the environmental dimension of sustainability and mainly deal with asset demand management, which goes beyond the scope of most municipal development plans. However, these recommendations are worth mentioning because they can

States. A similar organization exists in Canada, the Canadian Institute of Planners (CIP); however, the CIP does not have a policy position on sustainable community planning.

support future reflections on a broad federal policy framework supportive to community sustainability (Annex 2 contains a list of these recommendations). It is also worth noting that the outcomes-based and the ICSP approaches of the recently signed gas fax funding agreements capture: 1) the recommendation that the granting of federal infrastructure funding be subject to a set of practical, performance-based sustainability criteria (NRTEE 2003); and 2) the requirement for a "Sustainable Community Investment plan" by grant proponents (see box 1).

Box 1. 0

A "Sustainable Community Investment plan" should demonstrate:

a) How the proposed infrastructure investment fits into a comprehensive, longer-term investment plan for improving urban environmental quality;
b) How existing infrastructure capacities have been or will be fully exploited;
c) How all options for jointly addressing infrastructure needs with surrounding municipalities or other relevant entities have been explored and fully exploited;
d) A comprehensive approach to managing the demand for the infrastructure (for example, for transportation infrastructure, a transportation demand management plan is required; for water-related projects, a metering program);
e) That a range of alternative options for solving infrastructure needs—including other types of infrastructure—have been explored;
f) A life-cycle costing analysis of the proposed project and alternatives;
g) Financial contributions and roles of other partners, including provincial government, municipal government, other agencies and the private sector; and
h) A quantification of the expected environmental improvements in terms of air, water or soil quality of the proposed project and the alternatives.

Source:NRTEE (2003), page xvi

2.2.1 Framework development

The APA policy guide suggests the need for a sustainability planning process to understand the community in a holistic manner by engaging all members of the community. This principle is also mentioned in Conroy and Berke (2004) who state that a sustainable planning process is a bottom-up approach, which empowers citizens to participate and contribute to the planning process in a meaningful manner. The APA guide also highlights the importance of educating members on the concept of sustainability and the consequences of individual actions. Conroy and Berke (2004) also add the importance for significant resources to be committed to the planning process, as well as gaining the local community's support for a sustainable community plan. For the framework, these guidelines can be translated into the criteria: **comprehensive planning process** (which has a **significant resource commitment**) that engages all segments of the community (therefore achieving **local community support**) and includes an **educational component.**

Planning practices, as indicated by the APA policy guide, need to: consider the future of a community and recognize ecological limits; be supportive of local economic development, which recognizes these ecological limits (i.e. waste reduction, energy efficiency) within its business practices; integrate the three

dimensions of sustainability (economic, environmental and social); and incorporate the concept of sustainability in all levels of planning policies. Conroy and Berke (2004) also note the importance of support for sustainable planning at higher levels in the planning hierarchy. Likewise, Berke and Conroy (2000) note the importance of municipal plans to be cognizant of the regional context as well as the local one. For the framework, these guidelines can be translated into the criteria: **future-oriented plan, recognition of ecological limits, supportive of local economic development which acknowledges ecological limits, integration of the three dimensions of sustainability,** and **consideration for regional context.**

The planning outcomes of a sustainable community plan should be development patterns that meet the needs of all citizens (APA 2000). The principle of "liveable[28] built environments" (23) and "[social] equity" (23) as stated by Berke and Conroy (2000) equally reflects this outcome. The APA guide also specifies that local economies should meet the needs of local citizens and be reflective of the community's unique characteristics; similarly, Berke and Conroy (2000) use the term "place-based economy" (23) to reflect this concept. The final outcome stated in the APA guide reflects the overall concept of integration of the three dimensions of sustainability. Berke and Conroy (2000) also add that development must respect the ecosystems that support citizens and be designed in "harmony with nature" (23) wherever possible. Development that incorporates ecological design principles (such as swales, permeable surfaces, green roofs, closed-loop systems) is considered to be designed in harmony with nature. For the framework, these principles can be translated into the criteria: **a liveable and accessible built form, a place-based economy that considers community's unique characteristics,** and **development which incorporates principles of ecological design and ecological infrastructure.**

An additional criterion that will be considered in the evaluation is the need to evaluate the extent to which **cultural sustainability**, which includes concepts such as 'identity' and 'sense of place' (EACCC, 2006), is considered in these plans. This criterion, while not included in these three sources, is considered, first, because the recent federal ICSP approach is based on a four dimensional approach to sustainability (economy, environment, society and culture). But also – and maybe more importantly – because the cultural dimension is in response to the recognition of the diversity of Canadian municipalities and the role that culture plays in creating unique and cohesive communities ("Integrated Community" 2005; EACCC, 2006).

[28] There exist several definitions of a liveable environment. For the purpose of this paper, the term liveability is intended to reflect an urban form that is inclusive and equitable. Inclusive implies that the environment provides a range of housing types and affordable housing to meet a community's varying social and economic needs. Equitable implies that the environment brings services and residences within close proximity so that those who do not have access to cars or cannot drive, still have the ability meet their daily needs.

The framework (Figure 3.0) was applied to evaluate the case studies, providing a preliminary overview of how municipalities are approaching sustainable community planning in Canada.

Figure 3.0 - Framework to Evaluate the Sustainable Community Plans

1. A comprehensive planning process that:
    a. Engages all segments of the community (with significant resource commitment and local community support), and
    b. Includes an educational component.

2. A plan that:
    a. Is future-oriented and recognizes ecological limits,
    b. Supports local economic development that is mindful of ecological limits,
    c. Integrates the 3 dimensions of sustainability,
    d. Considers the regional context,
    e. Promotes a livable and accessible built form,
    f. Encourages a place-based economy that considers community's unique characteristics, and
    g. Incorporates principles of ecological design and ecological infrastructure.
    h. Is supportive of cultural sustainability

While this section is only a textual evaluation of the plans, the use of the framework demonstrates significant differentiations between the case studies. Reading through the analysis, it becomes apparent that some areas of sustainability community planning (as described by the framework) are covered by all of the municipal plans, while other principles are not as applied in a wholesale fashion. These differentiations are demonstrated in table 4.0 and are discussed in the following section.

This framework is compatible with the criteria used by awards competitions that acknowledge excellence in sustainability from an international (The International Awards for Liveable Communities - The LivCom Awards[29]) and national (the FCM-CH2M HILL Sustainable Community Awards[30]) perspective. The LivCom Awards 2005 competition gave both Whistler and Okotoks international recognition; Whistler came in third place, and Okotoks placed as a finalist in the

[29]The LivCom Awards are endorsed by the United Nations Environment Programme and are managed by a non-profit charity based in the United Kingdom. The competition is based on award submissions and does not consist of a scan of sustainable practices across the world. Submissions are judged based on enhancement of the landscape, heritage, environmentally sensitive practices, community sustainability, healthy lifestyles and planning for the future (http://www.livcomawards.com/).

[30] The FCM-CH2M HILL Sustainable Community Awards, established in 2000, are awarded to communities demonstrating best practices. Submissions are judged according to an integrated approach to planning or decision making, sustainability, innovation and excellence, environmental benefits, economic benefits and cost effectiveness, community engagement, social benefits, partnerships, communications and promotional activities. (http://www.sustainablecommunities.ca/files/Program_Docs/fcm-ch2m-sustainable-comm-awards/FCM-CH2M-HILL-Awards-2007.pdf)

category for daytime populations of up to 20,000. In 2005, the FCM-CH2M HILL Sustainable Community Awards recognized plans from the City of Montreal, the District of Ucluelet, BC, and Whistler.[31]

Section 3: Evaluation of the Implementation of Sustainable Community Planning in Canada[32]

The framework was applied to each of the case studies to determine the extent to which municipal plans reflect the key principles of sustainable community planning. The plans were reviewed according to either the key words or concepts identified by the criteria. For the sake of simplicity and ease of interpretation, three colours (black, grey, and white) are used to represent the extent to which each of the criteria is fulfilled. Figure 4 describes the method that was used to assess the fulfillment of these criteria; the results are illustrated in Table 4.0.

Figure 4.0 -Method to Evaluate Sustainability Criteria

1a) Public Engagement process
Black: bottom up process
White: top- down process

1b) Educational component
Black: Educational component as part of process, specific programs for all age groups (sustainability "inspired" education)
Gray: Educational component as part of process
White: No educational component

2a) Future-oriented & recognizes ecological limits
Black: Overriding vision and foundation of document is future-oriented and recognizes ecological limits.
White: Overriding vision and foundation of document is NOT future-oriented and recognizes ecological limits.

2b) Economic development that is mindful of ecological limits
Black: Plans that support local businesses that reduce their use of natural resources (i.e. water conservation measures, reduction of waste disposal) in their activities and operations AND Plans that support or promote the development of a green industry or sustainable businesses.
Gray: Plans that support local businesses that reduce their use of natural resources (i.e. water conservation measures, reduction of waste disposal) in their activities and operations, but DO NOT mention support or promotion of the development of a green industry or sustainable businesses
White: Plans that DO NOT mention support for local businesses that reduce their use of natural resources NOR indicate any support or promotion of a green industry or sustainable businesses

[31] The names of the three plans are: Montreal's First Strategic Plan for Sustainable Development; Walk the Talk, Ucluelet's Official Community Plan; and Whistler 2020.
[32] The use of the term of Canada is only reflective of the Canadian municipalities evaluated in this paper, and does not insinuate that these findings are applicable to all municipalities across Canada.

2c) Integration of the three dimensions of sustainability

Black: Plans that explicitly state or reflect the three dimensions of sustainability are at the core of the plan

White: Plans that make no mention of the three dimensions of sustainability

2d) Consideration of the Regional Context

Black: Plans that include a section or statement that DOES address the regional context

White: Plans that include a section or statement that DOES NOT address the regional context

2e) Promotion of a liveable and accessible built form

Black: Plans that include policies that address ALL of the components of a liveable and accessible built form: compact mix used built form; provision for a mix of housing types; affordable housing; and accessibility for pedestrians, cyclists and transit users.

Gray: Plans that include policies that address SOME of the components of a liveable and accessible built form: compact mix used built form; provision for a mix of housing types; affordable housing; and accessibility for pedestrians, cyclists and transit users.

White: Plans that include policies that address NONE of the components of a liveable and accessible built form: compact mix used built form; provision for a mix of housing types; affordable housing; and accessibility for pedestrians, cyclists and transit users.

2f) Place-based economy that consider a community's unique characteristics

Black: Plans that include policies to foster and support local businesses AND policies that promote local businesses that meet the community's unique characteristics and citizens' needs.

Gray: Plans that include policies to foster and support local businesses, but DO NOT include policies that promote local businesses that meet the community's unique characteristics and citizens' needs.

White: Plans that DO NOT include policies to foster and support local businesses NOR include policies that promote local businesses that meet the community's unique characteristics and citizens' needs.

2g) Incorporation of principles of ecological infrastructure

Black: Plans that incorporate ALL features of ecological infrastructure: wetlands and swales, increased permeable spaces, greywater recycling, planting of indigenous species, green roofs, enhancement and maintenance of greenspaces, rainwater harvesting (i.e. through rain barrels), enhancement and maintenance of the urban forest, support for green building standards (which may include ecological infrastructure features).

Gray: Plans that incorporate SOME features of ecological infrastructure: wetlands and swales, increased permeable spaces, greywater recycling, planting of indigenous species, green roofs, enhancement and maintenance of greenspaces, rainwater harvesting (i.e. through rain barrels), enhancement and maintenance of the urban forest.

White: Plans that incorporate NO features of ecological infrastructure: wetlands and swales, increased permeable spaces, greywater recycling, planting of indigenous species, green roofs, rainwater harvesting (i.e. through rain barrels), enhancement and maintenance of the urban forest, but DO mention enhancement and maintenance of greenspaces and urban forest.

2h) Is supportive of cultural sustainability

Black: Plans that incorporate ALL features of cultural sustainability: incorporation of arts and culture policies, support of a creative environment, recognition of local diversity and integrations of culture with other community development goals.

Gray: Plans that incorporate SOME features of cultural sustainability: incorporation of arts and culture policies, support of a creative environment, recognition of local diversity and integration of culture with other community development goals.

White: Plans that DO NOT incorporate ANY features of cultural sustainability: incorporation of arts and culture policies, support of a creative environment, recognition of local diversity and integration of culture with other community development goals.

Criteria	Vancouver	Whistler	Calgary	Okotoks	Winnipeg	Toronto	Hamilton	Ottawa	Montreal	Ouje-Bougamou	Halifax
Public engagement process											
Educational component											
Future-oriented vision, cognizant of ecological limits											
Local economic development, cognizant of ecological limits											
Integration of the three dimensions of sustainability											
Consideration of regional context											
Liveable and accessible built form					1				2	3	
Place-based economy											
Incorporation of principles of ecological infrastructure		4		5		6	7				8
Incorporation of cultural sustainability		9		10	11		11		12	11	

NOTES

1 - All components present except a mix of housing types

2 - All components present except mix of housing types.

3 - All components present except a compact community and accessibility for pedestrians, cyclists and transit users

4 - Includes policies for planting of indigenous species, use of non-potable water for irrigation, support for green building standards, and enhancement of green spaces.

5 - Includes policies for planting of indigenous species, enhancement of the urban forest, rainwater harvesting, and wetlands.

6 - Includes policies for planting of indigenous species, enhancement of green spaces and the urban forest, and green roofs.

7 - Includes policies for wetlands and enhancing green spaces.

8 - Includes policies for planting of indigenous species, wetlands and enhancement of the urban forest

9 - All components except integration with other community development goals

10 - Includes policies for arts and culture

11 - All components except supportive of a creative environment

12 - Includes policies for supporting local diversity and integration with other community development goals

3.1 Trends, Strengths and Weaknesses

The similarities between the case studies demonstrate their trends in sustainable community planning. As illustrated in Table 4.0, selected municipalities are largely adopting public engagement strategies that involve citizens in the pre-planning stage. Examples include the City of Winnipeg's public participation process that invited the public to participate in workshops with the goal of creating vision statements to guide the planning process. Similarly, in Montreal citizens worked together to create Montreal's First Strategic Plan for Sustainable Development. The City of Toronto differs from the case studies in that they used open houses,[33] which are not as interactive or collaborative as focus group or workshops, to present the Official Plan process and principles to the public.

All of the case studies adopt a future oriented vision; plan titles such as "Whistler 2020" "imagine Calgary" and "Vision 2020" demonstrate these plans' consideration for the future. The acknowledgement of ecological limits is also inherent to each of these plans as all include strategies such as reducing water consumption, energy use, and disposal of solid waste.

The recognition of ecological limits stands out particularly in the Sustainable Okotoks plan. This community established a population cap based on the ecological carrying capacity (the amount of water that can be drawn and released without impacting the ecological health and water quality) of their local watershed. Additionally, Okotoks is the only plan to quantify an ecological limit; the other plans operate on the basis of a more qualitative notion of limits that ecological resources should be used in a responsible manner so that future generations also have similar access to them.

As integration of the social, economic, and environmental dimensions is fundamental to sustainable community planning, it is noteworthy that this principle forms the foundation for most of the case studies. These three dimensions either serve to provide a basis from which the goals, priorities, strategies and actions are created or are represented through the plans' main policies and directions (i.e. City of Vancouver's City Plan, City of Winnipeg's Plan Winnipeg 2020 Vision). And although culture is not considered as a fourth dimension in any of these plans, aspects of cultural sustainability are included in all of these plans.

Overlooked or less considered is the educational component as part of the public engagement process, as well as policies that encourage sustainable practices within businesses, policies that promote the growth of a sustainable business industry, policies that encourage businesses to meet a community's unit characteristics and policies that incorporate principles of ecological infrastructure.

[33] Open houses provide a passive way to communicate information to the public. These events include poster boards and booths, which are staffed by city officials. Citizens have the opportunity to speak with city staff on a one-on-one basis.

While all of the plans highlighted the importance of green spaces, few acknowledge the more functional infrastructure benefits of green spaces. This finding was similarly found in a review of Swedish Green Plans. The review evaluated the degree to which six criteria of green spaces (including one that evaluated green space as an ecological solution to technical infrastructure problems) were met in the Swedish Green Plans. Most plans only reflected the recreational dimension of green spaces; few reflected the multi-purpose potential of green spaces (Sandström 2002).

The absence or partial attention paid to these criteria represent opportunities for areas where Canadian municipalities could improve their sustainable community plans. A comprehensive educational component as part of the planning process has an imperative role to play in explaining why sustainability is important, the differences that can be made at a municipal level (or on a city scale) and the daily decisions that citizens can take in making their lifestyles more sustainable (APA 2000). The education component has an opportunity and a role to play in placing some of the onus for a more sustainable future on the citizens themselves. Similarly, policies that promote green business practices can accomplish a similar objective.

Ecological infrastructure exemplifies several of the key principles of sustainability. It demonstrates a fundamentally different approach to addressing environmental concerns and acknowledges that humans (and urban centres) are part of ecosytems (Tyler 2000). Ecological infrastructure embodies the three dimensions of sustainability. For example, green roofs provide an attractive amenity space (social), increase local biodiversity (environment), and reduce infrastructure costs (economical) (Banting, Doshi et al 2005). Constructed wetlands, increased permeable spaces, and use of native species provide similar benefits. Additionally the construction of ecological infrastructure falls directly under the classification of Environmentally Sustainable Municipal Infrastructure (ESMI) Projects as noted in Federal – Provincial Gas Tax Agreements, as some of the direct benefits of ecological infrastructure is cleaner air, cleaner water and reduced greenhouse gas emissions. Ecological infrastructure provides an excellent opportunity to apply sustainability principles on the ground (Tyler 2000). The absence of comprehensive policies for ecological infrastructure within the majority of the case studies demonstrates a weakness in these plans.

Despite these weaknesses, the review overall demonstrates that sustainable community planning in Canada is heading in the right direction and reflects the majority of the criteria identified in the literature. By and large, municipalities have moved to incorporate collaborative public engagement processes, plans that are future oriented, cognizant of ecological limits, reflective of the three dimensions of sustainability, supportive of local businesses, and promote a liveable and accessible built from.

3.2 The Implementation Framework

The extent to which a community has the ability to actualize their plan depends largely on their implementation framework. However, the ability to accurately assess the realization of these plans requires a detailed examination of each municipality's decision-making process as well as consideration for the time needed for the municipality to actually implement their framework. In some cases, the age of the case studies explored here, do not permit a detailed examination (i.e. the imagineCalgary project had only been completed two months prior to the time of writing). The age of the plan also affects the extensiveness of the implementation framework. For example, the City of Hamilton's Vision2020 is fourteen years old and consists of an extensive implementation framework, while the imagineCalgary project is in the early stages of designing its implementation framework. The scope of this paper then is to review the implementation framework, where available, for each case study. Future research efforts will probe in a more detailed fashion into the actualization of the sustainability plans.

Generally, implementation frameworks rely on indicator reports to monitor the communities' progress towards sustainability; a list of the indicators for each community is included in the Annex 3 at the end of this report.

3.2.1 The City of Vancouver's CityPlan

The CityPlan, a wide-ranging planning document focused at the city level, has been implemented over the past eleven years through the creation of community visions at the neighbourhood level. The community vision are neighbourhood level incarnations of the CityPlan, they take the policies stated in the CityPlan and adapt them to needs of each community.

The community vision process follows a public participation process similar to that of the CityPlan. Planners embark on an 18-month process to engage, educate and involve citizens in the planning process. Planners work with the community to create a policy document (i.e. a Community Vision). The community vision policy is then translated into an action plan. A steering and monitoring committee is formed between the planners and citizens to oversee the implementation of the action plan. Where possible, the City works with citizens on projects that can be jointly tackled, and in other cases the planners use the action plan to advocate to other City departments on behalf of the community.

An important piece of the implementation process is ensuring community ownership of these neighbourhood level plans, so that the citizens work, on their own, to ensure that the policies in the action plan are implemented. Citizens are given the skills to form committees, run events, and be acquainted with the planning process and the workings of City Hall. As well, planners remain as a liaison with the communities to ensure that they have a contact at City Hall.

3.2.2 The Resort Municipality of Whistler's Whistler 2020

Whistler 2020 includes a monitoring program to assess how the community is performing in each of the strategy areas. Indicators, data tracking, and communication mechanisms are used as part of the assessment. The monitoring program serves to keep track of the communities' progress towards sustainability, to inform the task forces in focusing and prioritizing action items, to provide accountability and transparency to stakeholders on Whistler's progress, and to provide an opportunity to engage end educate citizens in Whistler and visitors (Vance 2006). The task forces use the monitoring reports to assess and prioritize actions for the coming year (Vance 2006).

3.2.3 The City of Calgary's imagineCalgary project

ImagineCalgary is in the initial phases of implementation, which the City has labelled as the legacy framework. To date, the imagineCalgary team has worked internally with different departments within the City to find ways to meet the targets. For example, an internal integration team has been created to review planning policies and initiatives to incorporate the targets (Lewis 2006). The framework will likely involve the 25 organizations that originally signed on to the project and that have been a part of the community system working groups; their continued involvement is needed to ensure their commitment to meeting the targets that are relevant to their organizations.

Indicators will likely be used to monitor the progress. Their asset based approach identified Sustainable Calgary's State of the City report[34] as a useful reporting mechanism. The plan may be to either partner with this volunteer-run organization or to have them expand their list of indicators (Lewis 2006).

3.2.4 The Town of Okotoks Sustainable Okotoks

The Town's progress towards meeting sustainability has been monitored by an "MDP Report Card" (1998-2003) that evaluates the progress of the Municipal Development Plan in meeting established targets, two Annual Reports produced in 1998 and 2000 that focus on Sustainable Okotoks, and three Community Surveys that include questions pertaining to Sustainable Okotoks initiatives conducted in 1997, 2000, and 2003 (The Town of Okotoks 2005).

3.2.5 Plan Winnipeg 2020 Vision

The implementation of the policies in Plan Winnipeg 2020 are to be monitored, recorded and published annually as part of the Plan Winnipeg Progress Report. Progress will be measured against indicators, which form the base of an annual Quality of Life report. This report will provide insight into whether or note the

[34] Sustainable Calgary is a non-profit organization that has voluntarily produced State of the City reports every three years since 1998. For more information, please visit http://www.sustainablecalgary.ca/projects/stateofourcityreports.html.

policies and actions are making a difference in the community. The indicators are included in Plan Winnipeg 2020 Vision at the beginning of each section. Examples of the indicators are: increase in transit ridership and bicycle ridership, increase in amount of infill development, rising capital expenditures on alternative transportation relative to expenditures on new road construction, and decrease in greenhouse gas emissions.

3.2.6 Toronto's Official Plan

The implementation of the Official Plan requires municipal by-law to comply with the plan, as well Council and City Staff decision-making needs to be guided by this document. Implementation plans and strategies will be created to advance the vision, objectives and policies of the Plan, as well as address new investment decisions. The progress of the implementation of the Official Plan will be monitored through the use of established targets and indicators (Toronto City Planning 2006).

3.2.7 The City of Hamilton's Vision 2020

Vision 2020, initiated in 2020, has been monitored through the use of an annual report card, an implementation review and an annual Vision 2020 sustainable community day held in the fall of every year. A corporate training kit has also been prepared to demonstrate to City employees how to apply sustainability in the work place. A city action database was created as a searchable database of the City programs and initiatives that implement the goals of Vision 2020, and an inventory of community action was created to demonstrate the ways that Hamiltonian's are working towards sustainability in Hamilton. The City of Hamilton also uses triple bottom line (TBL) in its decision-making to ensure that the Vision 2020 sustainability principles and goals continue to be considered in council decision-making.

3.2.8 Ottawa 20/20

The implementation strategy for Ottawa 20/20 consists of evaluating the challenges to implementation and creating strategies to address each them, a communications strategy to City staff and the general public, the preparation of a financial plan that outlines short-term and long-term project, consideration of the Ottawa 20/20 principles and priorities, collaboration with other levels of government to establish new legislative powers and sources of sustainable funding, putting mechanisms in place within the City to ensure that Ottawa 20/20 is implemented, and a monitoring process to assess the city's progress towards meeting the goals of the growth management plans. Additionally, each growth plan (i.e. Environmental Strategy, Official Plan) will be independently monitored (City of Ottawa 2003d).

3.2.9 The City of Montréal ’s first strategic plan for sustainable development

Each of the actions to meet the goals in Montréal’s first strategic plan for sustainable development include indicators that specify the role of the City and of the partners in realizing the action, the main steps in actualizing the action, the anticipated results, and the indicators to monitor progress.

3.2.10 Halifax Regional Municipality’s Regional Municipal Planning Strategy

The Regional Municipal Planning Strategy is to be implemented through the legislative procedure set out by the Municipal Planning Act, i.e. the HRM is to implement region-wide planning policies through this Regional Plan, Secondary Planning Strategies, Land Use By-laws, the Subdivision By-law and Functional Plans (HRM 2005).

Section 4: Concluding Thoughts

4.1 Conclusion

Municipalities have been developing sustainable community plans for over a decade in Canada. Given the equivocal nature of this planning approach, this paper developed a framework to evaluate the extent to which sustainability is considered in these community plans, as well as to demonstrate how municipalities are approaching sustainable community plans in Canada.

The case- studies were evaluated according to their public engagement process, inclusion of an educational component, whether their plan was future-oriented and recognized ecological limits, their support of local economic development that is mindful of ecological limits, integration of the three dimensions of sustainability, their consideration for the regional context, their promotion of a liveable and accessible built form, their encouragement of a place-based economy that considers community's unique characteristics, their incorporation principles of ecological design and ecological infrastructure, and their consideration for the cultural dimension of sustainability.

Overall, the review demonstrates that the communities studied are heading in the right direction, as their sustainability plans reflect the majority of the criteria identified in the literature. By and large, municipalities have moved to develop plans that incorporate collaborative public engagement processes, are future oriented, are cognizant of ecological limits, are reflective of the three dimensions of sustainability, are supportive of local businesses, and promote a liveable and accessible built from. Municipal plans in Canada could improve their level of sustainability by including an educational component in the public participation process and by including policies that encourage sustainable practices within businesses, policies that promote the growth of a sustainable business industry, policies that encourage businesses to meet a community's unit characteristics, policies that take into account and reinforce regional planning, and policies that incorporate principles of ecological infrastructure.

These plans may themselves be deemed as sustainable, but the extent to which they may successfully be realized was not extensively considered. Each of the case studies did include an implementation framework in their plans, which demonstrates a willingness to monitor the actualization of these plans. In order to complete the assessment of these case studies, future research will be needed to evaluate the decision-making process within each of these municipalities and the degree to which sustainability is being actualized on the ground.

One of the goals behind this paper has been to assist policy makers in addressing the ICSP portion of the gas tax agreements. By developing a framework based on the key principles of sustainable community planning, a tool has been created that could potentially serve to evaluate ICSP submissions. In

order to gauge the applicability of this framework, it was applied to several Canadian case studies to determine the degree to which sustainability has been addressed in municipal community plans. Additionally, this analysis served to familiarize federal policy makers with how sustainability is being addressed in current municipal plans and to determine the degree to which ICSPs may already exist in some Canadian municipalities. Ideally both of these activities will provide greater clarity to the notion of ICSPs and support policy makers in their endeavours towards promoting sustainable community planning in Canada.

4.2. Suggestions for Future Research

This paper provided a review of the implementation of sustainable community planning principles in a selection of Canadian municipal policy plans. While this review is useful in providing a pulse on the state of planning in Canada, an analysis of policy plans alone does not demonstrate the degree to which municipalities in Canada are becoming more sustainable. Specifically, what is on paper may not be reflective of what is on the ground, or of what is currently being proposed to be built on the ground. The impact of these plans depends upon the physical manifestation of these principles in Canadian communities.

The physical manifestation of sustainability depends upon the decisions made by local officials. Amongst their responsibilities, city councillors are in charge of approving infrastructure proposals, development proposals, policy plans and regulations. In order to be approved by a city council, development proposals and permits must conform to the policies set by these municipal plans. An opportunity, then, for future research would be to review a selection of recently approved proposals or permits in these municipalities to assess the degree to which these documents reflect sustainability principles. Reviewing these documents as opposed to doing an analysis of what is currently built may be more effective, as it takes several years for council decisions to come to physical fruition.

In addition to this type of primary research, it is suggested that municipal plans be compared to those of other OECD countries to examine whether the application of sustainability differs from what has been found in this analysis.

Finally, as suggested earlier, further research could also focus on a better understanding of the evolution of the provincial and territorial planning frameworks in Canada and of the impact that federal policies are having on them. How these frameworks impact the state of community planning and its implementation on the ground would also be a useful research question.

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Annex 1

Contacts and interview questions

City of Vancouver:
Edna Cho, Planner with Community Visions Program

- Was an educational component included in the CityPlan process?
- If yes, please elaborate

Resort Municipality of Whistler:
Mike Vance, General Manager of Community Initiatives

- Please describe the process of how and to what extent the public was involved in the initial stages of Whistler 2020 process.

City of Calgary:
John Lewis, Strategic Planner with the imagineCalgary project

- Please describe the implementation component of the imagineCalgary project.

City of Winnipeg:
Garry Couture, Planner

- Was an educational component included in the Plan Winnipeg process?
- If yes, please elaborate

Annex 2

Recommendations from the National Round Table on the Environment and the Economy's report on "Environmental Quality in Canadian Cities: The Federal Role

High-priority Measures

Transit, Land Use and District Energy Measures

1. Eliminate GST on green municipal infrastructure
2. Incentives for district energy systems
3. Stable funding for transit
4. Capital gains tax changes to promote redevelopment of underutilized urban land
5. Framework for location- efficient mortgages
6. Equalize GST treatment of new and renovated housing

Federal House in Order Measures

7. Sustainability guidelines for siting and design of federal facilities
8. Sustainability practices for federal government operations
9. Sustainability guidelines governing Canada Lands properties

Federal Infrastructure Spending

10. Sustainability criteria to govern federal infrastructure program spending
11. Earmark share of funding for innovative sustainable community projects
12. Greater use of conditional funding

Medium-term Measures

Tax Measures

1. Capital gains tax exemptions on land kept as farmland
2. Make employer-provided parking a taxable benefit, and eliminate the taxation of transit passes
3. Increase taxation on commercial parking,(e.g., an excise tax)
4. Grant tax breaks on donations of inventory lands
5. Restructure excise taxes on vehicles according to environmental impact
6. Eliminate GST on hybrid vehicles
7. Provide incentives to build and purchase energy-efficient homes and commercial buildings
8. Provide more incentives to consume renewable fuels instead of nonrenewables fuel

Federal House in Order Measures

9. Create an entity to coordinate federal sustainability initiatives and monitor spending criteria

10. Implement a sustainability performance audit for all infrastructure spending

Other Measures

1. Use actual sale price to calculate capital gains tax to allow “bargain sales” to land trusts
2. Provide heritage preservation tax credits

3. Provide incentives for the use of information/ communications technology for transportation demand management
4. Provide incentives for developers/investors to move to sustainable buildings
5. Create a fund to educate developers and local planners
6. Increase spending on R&D for renewables and the use of information/ communications technology in transportation demand management
7. Research/implement value pricing in relation to road and vehicle use (e.g., road and congestion pricing, pay-as-you-drive insurance, weight/distance for trucks, different excise tax for rail and trucks)
8. Restructure fuel taxes according to environmental impact
9. Tax credits for purchase of development rights for land conservation
10. Make projects compete for federal funds based on sustainability criteria
11. Improve infrastructure for multimodal freight transfer and provide incentives for the trucking industry to use it
12. Review national building code to support sustainability (e.g., mid-rise buildings)
13. Encourage the creation of funds on the model of the Toronto Atmospheric Fund
14. Provide federal tax-exemption for bonds for green infrastructure
15. Provide federal guarantees on green infrastructure projects (to allow triple-A bond ratings)
16. Introduce a federal tax on greenfields development
17. Shift taxation (GST, capital gains) of properties to focus on the land component
18. Place limits on capital gains exemption for primary residences
19. Implement tax breaks on new construction on previously urbanized lands
20. Broaden the scope of donated conservation lands subject to tax incentives
21. Eliminate capital gains taxes on donations of ecologically sensitive lands to land trusts
22. Reduce taxation on farm income, and remove $500,000 lifetime capital gains exemption for farms
23. High-density tax rebates
24. Provide tax incentives/credits for the renovation of vacant or underused buildings
25. Implement a vacant land tax
26. Co-ordinate with other levels of government to provide tax-free/reduced tax reinvestment zones

27. Provide additional incentives for employers to purchase transit passes for their employees
28. Empower municipalities to tax free parking spaces provided by employers
29. Increase gas tax levels
30. Provide incentives for utilities to implement net metering (for electricity)
31. Provide incentives for utilities to convert from coal to natural gas
32. Implement measures to create affordable first-time owners' housing in already urbanized areas
33. Establish a federal fund for the acquisition of key lands or easements
34. Link farm support policies to land use and long-term sustainability policies
35. Expand funding for community energy systems programs
36. Replace federal purchases of harmful fuels with renewable and less-harmful fuels
37. No federal infrastructure program funding for roads, other than the Trans-Canada
38. Increase the amount of infrastructure funding for sewage treatment
39. Expand Smart Communities program to other cities, focus on innovative information/communications technology applications that support urban sustainability
40. Establish an urban component for the Climate Change Action Fund (CCAF), the Community Access Program, EcoAction and Green Municipal Enabling Funds
41. Include a component on the quality of urban environments as part of the National Guide to Sustainable Municipal Infrastructure
42. Extend the life of the CCAF program
43. Initiate a fund to cover liability associated with innovative sustainable community projects

Rental vs. Ownership

1. Extend the Residential Rehabilitation Assistance Program to all urban areas
2. Allow the rollover of profits for investment in additional rental housing
3. Grant more favourable tax deductions for depreciation (e.g., CCA) and losses, allowing pooling across properties
4. Allow the deferral of tax on depreciation and capital gains on the sale of a rental property if another rental property is purchased
5. Expand the list of allowable soft costs that can be deducted from the first year of operation in rental buildings.
6. Change the treatment of GST on rent from GST-exempt to zero-rated so that GST credits can be claimed against expenses by building owners
7. Allow developers to pay GST gradually on rental construction as the units are occupied
8. Eliminate or lower the GST on the inputs of new rental construction
9. Change CMHC's mortgage underwriting and equity requirements to support the creation of new rental housing
10. Provide tax-exempt bonds for the construction of affordable/rental/dense housing

11. Provide tax shelters for investors in rental housing
12. Allow tax credits on investments in labour-sponsored funds directed at affordable housing

Annex 3
Indicators

Resort Municipality of Whistler (Whistler 2020)

Arts, Culture & Heritage Strategy

- Proportion of residents attending arts, culture and heritage offerings
- Proportion of residents rating their arts, culture and heritage experience as positive
- Proportion of visitors experiencing a arts, culture and heritage event or visiting a centre
- Proportion of visitors rating their arts, culture and heritage experience as positive
- Total dollars contributed to Whistler's economy due to arts, culture and heritage
- Total number of offerings in Whistler including local arts, heritage or culture
- Total number of arts, culture and heritage contributors living in Whistler
- Total funding and donations provided to local arts, culture and heritage projects,
  organizations and offerings

Built Environment Strategy

- Proportion of visitor survey respondents rating the village experience positively on a scale of vibrancy
- Total developed area in Whistler
- Proportion of new housing and new or renovated commercial and institutional floor space meeting a basic "Green Building Standard"
- Number of dwellings per area of modified green space
- Average resident commuting distance
- Average distance from dwellings to the closest location with basic services
- Average floor area per bed unit of dwellings
- Average density of housing stock
- Proportion of all dwellings within 300m of a "quality" transit stop
- Proportion of "Green Standard" building built by a local building company

Economics Strategy

- Real median household income
- Total number of full time equivalent (FTE) employees
- Whistler Net Local Product (NLP)
- Income distribution
- Occupancy rate
- Average length of stay (ALS)
- Employee Satisfaction

- Total built capital investment
- Total amount of new, existing and closed businesses
- Business Vitality Index
- Net government transfer payments

Energy Strategy

- Total primary energy used
- Total greenhouse gas emissions (GHG) from primary energy used
- Total land area impacted by structures, cleared and inundated areas from total primary energy used
- Proportion of primary energy use from renewable sources
- Number of hours that the particulate matter 2.5 (PM2.5) measure is over the 15 ug/m3 health reference level
- Number of hours that Ministry of Water, Land, Air, Protection British Columbia (MWLAP) air quality index for Whistler rates less than "Good"
- Proportion of new/renovated building floor space serviced by flexible energy infrastructure
- Energy Efficiency Index
- Peak load variability from the average peak load
- Total energy generation capacity in the Sea to Sky region

Finance Strategy

- Lifecycle Infrastructure costs (roads, water, sewage, snow clearing, parks) per total equivalent population (RMOW)
- Total value of Marketing Dollars (RMOW, TW, WB etc…) /Visitor
- Total built capital investment (RMOW, Building Permits, Key Organizations)
- Total value of funding for Whistler 2020 projects
- Taxation and other revenue source mix (RMOW)
- Reserves balance (RMOW and Stratas) or Borrowing Power for RMOW and key orgs.
- Index of Typical Financial Ratios
- Ratio of school/hospital tax paid by Whistler to benefits received (or net transfer government payments)
- Ratio of Whistler 2020 infrastructure decisions using lifecycle costing analysis

Health & Social Strategy

- Proportion of resident population aged 18 or over, under or above a healthy Body Mass
- Index (BMI) level
- Proportion of the resident population aged 12 and over currently diagnosed with a list of health illnesses
- Proportion of resident population aged 12 and over rating their health status as good to excellent

- Level of perceived social support reported by resident population aged 12 and over
- Proportion of residents aged 12 and over who volunteered in the past year
- Number of reported crimes, bylaw infractions, and conservation officer charges
- Proportion of low birth weights to resident mothers
- Proportion of residents living in the community 1 and 5 years ago
- Proportion of resident population aged 12 and over who show symptoms of depression, based on their responses to a set of questions that establishes the probability of suffering a "major depressive episode"
- Proportion of resident population that feel they were discriminated against in the past year because of race, gender, age, physical appearance, sexual orientation
- Proportion of population aged 16 and over engaged in heavy drinking
- Proportion of resident population 16 and over using drugs classified as illegal

Learning Strategy

- Community Learning Index Score
- Whistler primary and secondary school performance Indicator
- Proportion of total kindergarten children considered vulnerable based on the Early
- Childhood Development Index (EDI)
- Proportion of visitors visiting Whistler for the purpose of a learning vacation
- Proportion of residents who have completed a post secondary education program
- Proportion of residents experiencing a "cross cultural (country)" learning exchange during the past year
- Proportion of visitors experiencing new learning about First Nations, or Whistler culture and heritage
- Proportion of residents experiencing recent learning about the natural environment and environmental sustainability
- Proportion of visitors experiencing new learning about the natural environment and environmental sustainability

Materials & Solid Waste Strategy

- Proportion of multi-unit accommodation dwellings with access (within property) to garbage facility, complete recycling, composting.
- Total material throughput
- Total amount of waste landfilled
- Proportion of Whistler businesses, major suppliers, and 2020 partners with a purchasing policy that contain guidelines pertaining to 2 or more upstream material issues
- Proportion of total hazardous waste diverted from landfills

- Proportion of total waste diverted from landfills
- Concentration of specific hazardous compounds and heavy metals in biosolids

Natural Areas Strategy

- Length of trail and recreational or logging road in the Sea to Sky Land Resource Management Plan (LRMP) area
- Number of wildlife species at risk within or near the RMOW
- Proportion of sensitive and important areas (SIA) that are in the Protected Area Network (PAN) 1 and PAN 2
- Protected area network (PAN) 1 and PAN 2 interior area
- Reserved for ecosystem quality indicators
- Reserved for ecosystem quality indicators
- Reserved for ecosystem quality indicators
- Total Impervious area in the RMOW below 750 m
- Corridor partners with similar natural area strategies
- Proportion of all green space area that is non-modified green space

Partnership Strategy

- Proportion of Whistler 2020 partners answering positively to questions about the quality of collaboration within Whistler partnerships (mutual benefits, trust, accountability, outcomes etc…)
- Number of partners agreeing to use Whistler's Partnership Principles (included in the Partnership Strategy)
- Proportion of eligible Whistler 2020 partner members/voters participating in organizational and municipal elections (e.g., member attendance at AGMs and voter turnout for municipal elections)
- Proportion of community members/business owners that feel there are adequate opportunities available to provide input into decision-making that affects them
- Proportion of community members that feel that Whistler 2020 partners are responsive to their concerns and input
- Proportion of residents who trust that Whistler 2020 partner leaders have the interests of the resort community in mind when making decisions
- Proportion of community members who support the Whistler 2020 vision
- Number of organizations that have signed the Whistler 2020 Volume 2 Partnership Agreement
- Proportion of media professionals that feel they have access to public information needed for reporting on stories relevant to the resort community
- Proportion of residents who feel free to voice their opinions openly

Recreation & Leisure Strategy

- Proportion of residents responding positively to questions about their recreation and leisure experiences, offerings and service in Whistler

- Proportion of visitors responding positively to questions about their recreation and leisure experiences in Whistler
- Proportion of visitors responding positively to questions about recreation and leisure value, offerings and service levels
- Proportion of residents participating in recreation activities above specified frequency, duration and intensity
- The cost of Whistler's basic "recreation" baskets for a two parent two child family compared to other communities
- Number of visits to Whistler Medical Clinic due to recreational activity accidents
- Number of direct full time equivalent (FTE) jobs in recreation and leisure services
- Total fossil fuel used per participant in motorized commercial recreation
- Trail length in Protected area network (PAN) 1 and PAN 2 areas

Resident Affordability Strategy

- Average hourly household income required for an two parent two child family to afford a specified basket of goods
- Proportion of Whistler two parent, two child households earning below the income required to afford a specified basket of goods
- Average hourly income required for an individual to afford a specified basket of goods
- Proportion of Whistler individuals earning below the income required to afford a specified basket of goods
- Average hourly household income required for a lone parent two child family to afford a specified basket of goods
- Proportion of Whistler lone parent, two child households earning below the income required to afford a specified basket of goods
- The cost of Whistler's basic "shelter" baskets for a two parent two child family compared to other communities
- The cost of Whistler's basic "food" baskets compared or a two parent two child family to other communities
- The cost of Whistler's basic "transport" baskets for a two parent two child family compared to other communities
- The cost of Whistler's basic "activity and entertainment" baskets for a two parent two child family compared to other communities

Resident Housing Strategy

- Proportion of employed labour force that both live and work in Whistler
- Proportion of permanent and seasonal workforce revealing positive perceptions about the liveability of housing in Whistler
- Proportion of residents paying more than 30%, 50% of their gross income on housing
- Average distance from resident restricted housing to the nearest convenience services

- Average density of resident restricted housing stock
- Average waiting time for an opportunity to place a successful offer (time to potential first strike) on a price restricted residential unit
- Average number of market and restricted housing rental units available
- Proportion of new restricted housing meeting the standard for the "Whistler Green" building system or similar system
- Total number of restricted dwelling units created through non-cost initiatives
- Number of market property owners who are Whistler residents

Transportation Strategy

- Proportion of visitors to Whistler arriving in a single occupancy vehicle (SOV)
- Proportion of Whistler residents traveling to work via public transit, walking or biking
- Proportion of surveyed visitors answering positively to questions about the travel experience to Vancouver, Vancouver to Whistler and within Whistler and from Whistler/Vancouver to home
- Proportion of residents answering positively to questions about their transport experiences in Whistler
- Total length of roads in the RMOW
- Proportion of commercial transportation/mobile energy used from renewable sources
- Proportion of all motorized vehicle trips to/from/within Whistler that are private SOV trips
- Number of registered passenger vehicles
- Number of ICBC injury accident claims on the Sea to Sky highway and within Whistler
- Total amount of Common or Criteria Air Contaminant (CAC) emissions due to transportation in Whistler

Visitor Experience Strategy

- Proportion of visitors intending to recommend Whistler to others
- Total number of visitors to Whistler
- Proportion of visitors surveyed stating that their expectations of the total trip experience were met or exceeded
- Proportion of visitors in different visitor markets responding positively to a question about value, including service levels
- Proportion of surveyed visitors who feel safe and secure in Whistler
- Proportion of visitors surveyed agreeing that Whistler (village, parks, roads) is clean and well maintained
- Proportion of surveyed visitors answering positively to questions about the pre trip, arrival and post trip communication experience
- Proportion of visitors ranking their experiences, as crowded as expected

- Proportion of residents revealing positive attitudes towards tourism and visitors
- Proportion of business owners that feel there is a collective effort climate amongst businesses
- Number of top 5 rankings in specific travel media reader polls

Water Strategy

- Number of streams containing healthy populations of macro-invertebrates
- Number of lakes scoring healthy on criteria developed by Whistler Fish Technician
- Water Quality Index
- Number of stormwater and flood events attended to by municipal staff
- Total Impervious area in the RMOW below 750 m
- Concentration of specific human contaminants in source drinking water
- Total potable water flows
- Proportion of Biosolids that meet or exceed BC Class A Standards
- Number of days wastewater discharge flows are out of compliance with provincial permit requirements
- Number of watersheds in Whistler with management plans

The City of Calgary's imagineCalgary
Indicators to date

Target:
By 2036, all Calgarians live in a safe and clean natural environment, as measured by the quality of its air, water, soil and food sources, plus by the lack of exposure to toxic waste**.**

Indicators

- Calgary's drinking water consistently meets or exceeds the standards set by the Government of Alberta.
- Calgary's air quality is consistently measured as "good" using the Alberta Air Quality Index.
- The quality of soil in and around Calgary consistently meets or exceeds the benchmarks for quality identified by the Alberta Environmentally Sustainable Agriculture Soil Quality Benchmark Program.
- New contamination from toxic waste — onto residential, farm and wilderness lands — is avoided.
- Calgary's ecological footprint (which weighs demand for biological capacity against the Earth's ability to supply it) is reduced to below the 1999 Canadian average of 7.8 hectares per acre.

Target:
By 2036, 95 per cent of Calgarians enjoy positive and supportive living conditions, as reflected by adequate income; high rates of employment; adequate food and appropriate nutrition; appropriate, adequate and affordable housing; and high levels of personal safety.

Indicators

- Unemployment rates remain below five percent for all demographic groups in Calgary.
- Disparities between the income levels of the richest and poorest Calgarians, as measured by the Gini coefficient, do not exceed 0.25 (over 0.3 in 2006, while 0.25 is common in Scandinavian countries).
- All parents report that they have enough money to buy sufficient food for their children all of the time (80 per cent to 85 per cent in 2006).
- Food banks and food supplement programs are not required.
- Family homelessness is eliminated and individual absolute homelessness (meaning individuals are living on the street with no physical shelters of their own) does not exceed 0.01 per cent of the total municipal population (about 0.03 per cent in 2006).
- The incidence of core housing need, as measured by the Canada Mortgage and Housing Corporation, does not exceed 10 per cent (13 per cent in 2001, higher in 2006).

- Ninety-five per cent of Calgarians report that they feel very safe or reasonably safe walking alone in their neighbourhoods and downtown after dark.

Target:
By 2036, 100 per cent of Calgarians can obtain quality, affordable, timely and appropriate health information and services, as measured by satisfaction levels.

Indicators:
- Ninety-five percent of Calgarians report that they are satisfied with the quality of health services.
- Ninety-five percent of Calgarians report that they receive the high-quality services they require in a timely manner.
- Ninety-five percent of Calgarians report that they can access appropriate and accurate health information and advice in a timely manner

Target:
By 2036, the incidences of preventable illness, injury and premature death are significantly reduced.

Indicators:
- Ninety-five per cent of Calgary adolescents and adults rate both their physical health and their mental health as very good or excellent.
- Suicide rates among both adolescents and adults do not exceed five per 100,000 people (13.3 in 2006).
- Ninety-five per cent of Calgarians report that their activity level is sufficient to produce health benefits (less than 50 per cent in 2006).
- Calgary's infant mortality rate is reduced to three per 1,000 live births (six or seven in 2006).
- Low birth weight is reduced to four per cent (7.3 per cent in 2006).
- Tobacco use is eliminated.
- Heavy drinking (five or more drinks on one occasion, 12 or more times per year) is reduced to 10 per cent of the population (23 per cent in 2006).
- Adult and childhood obesity is reduced to five percent (14 per cent in 2003).
- The death rate from unintentional injury is reduced to 15 per cent (20 per cent in 2003).
- The incidence of cardiac disease is reduced to 100 per 100,000.
- One hundred per cent of the population receives standard childhood immunizations.

Target:
By 2036, 85 per cent of Calgarians, in all age groups, maintain excellent or very good mental health.

Indicators:

• (Risk of) depression rates do not exceed five per cent, as measured by the Calgary Health Region (9.3 per cent in 2006).

• The number of Calgarians who are experiencing significant stress levels does not exceed 13 per cent, as measured by the Calgary Health Region (26.5 per cent in 2006).

The City of Winnipeg's Plan Winnipeg 2020 Vision

Downtown and Neighbourhoods

- More people working and living in the downtown
- Fewer vacant properties and less underdeveloped land in the downtown
- Rising value of inner city homes and commercial properties
- Fewer illegal rooming houses

Government and the Economy

- There is a lesser reliance on property tax revenue
- Citizen satisfaction with government is rising
- The average income of Winnipeggers is increasing along with a narrowing of the gap between rich and poor
- The gross domestic product and export revenues are increasing
- More young people are staying in the city to work

Planned Development, Transportation, And Infrastructure

- Transit ridership and bicycle usage is increasing
- The amount of infill development is rising
- Capital expenditures on alternative transportation is rising relative to expenditures on new road construction
- The maintenance of residential streets is improving

Public Safety, Health, And Education

- Violent crimes are decreasing
- The amount of graffiti is diminishing
- The general perception among residents of Winnipeg as a safe city is on the rise
- The amount of indoor environmental tobacco smoke is decreasing
- Enrolment in continuing education programs is rising

Environment, Image, And Amenities

- The amount of greenhouse gas emissions is decreasing
- The number of heritage buildings being adapted for reuse is increasing
- Tourism is on the rise
- Attendance is growing at cultural events
- The amount of park space is increasing

The City of Hamilton's Vision 2020

Local economy

- Percent of Families below the Poverty Line
- Percent of Labour Force with Post-Secondary Education (available from Statistics Canada in 2004)
- Rate of Participation in the Labour Force

- Shift in Tax Assessment Base
- Employment in Cultural Industries and Occupations

Agriculture and the Rural Economy

- Total Number of Farms in the City of Hamilton 2001
- Acreage of Field Crops in the City of Hamilton 2001
- Number of Hectares of Agricultural Land Lost due to Official Plan Amendments

Natural Areas and corridors

- Cumulative Area of Significant Natural Areas Protected (in the watersheds of the Hamilton Conservation Authority (HCA), Conservation Halton (CH), the Grand River Conservation Authority (GRCA) and the Niagara Peninsula Conservation Authority (NPCA) and Lands Owned by these Conservation Authorities

Improving the Quality of Water Resources

- Total Loading of Ammonia to Hamilton Harbour
- Total Loading of Phosphorus to Hamilton Harbour
- Total Water Consumption for All Uses (measured at Municipal Woodward Avenue Sewage Treatment Plant) (measured at Municipal Woodward Avenue Sewage Treatment Plant) (Metered Accounts)
- Number of “All Beaches Open” for Swimming Days
- Discharge History

Reducing and Managing Waste

- Residential Waste Generated (all destinations)

Consuming less energy

- Average Residential Electricity Consumption
- Industrial Customer’s Average Usage

Improving Air Quality

- Annual Average Inhalable Particulate Matter (P) Concentration
- Ground Level Ozone Criteria (O) Hours Exceeding 503 ppb
- Annual Average Sulphur Dioxide (SO) Concentration
- Annual Average Nitrogen Dioxide N TrendO2
- Hospitalization Rate for Respiratory Illness Per 100,000 People
- Annual Average Respirable Particulate Matter (PM)2.5

Changing our mode of transportation

- Transit Ridership Per Capita
- Number of Cars Per Capita

Land Use in the Urban Area

- Number of Residential Units with Permits Issued in the Downtown Core Area

Arts and Heritage

- Number of Heritage Designations
- Number of Visits to Historic Sites, Arts Venues and Museums Per Capita

Personal health and well-being

- Number of Low Birth Weight Babies Per 1000 Total Live Births
- Hospitalization Rate for Falls by Persons 65+Years
- Rate of Mortality due to Heart Disease (by gender) (age standardized to the 1991 Ontario population)
- Level of Physical Activity for Population 12 Years and Older
- Early Development Instrument (EDI)

Safety and security

- Number of Robberies
- Number of Pedestrians and Cyclists Injured by Motor Vehicles

Education

- Percentage of 18Year Olds Receiving a High School Diploma
- Number of Adult Education High School Equivalency Diplomas Granted
- Percentage of Grade 3 Students Performing at Levels 3 and 4

Community well-being and capacity building

- Number of Community Contacts at Volunteer Hamilton
- Shelter Occupancy Rate
- 2003 Voter Turnout for Municipal Elections (data available every 3 years)

The City of Ottawa's Ottawa 2020 Possible indicators

A Caring and Inclusive City

- Voter turnout;
- Diversity of City employees (gender, language, visible minority);
- Results of public opinion survey question on feeling safe;
- Percentage of new ownership and rental units available at prices at or below affordability targets;
- Participation rate in community activities;
- Number of volunteers involved in key community activities.

A Creative City, Rich in Heritage, Unique in Identity

- Participation in municipal arts and heritage programs;

- Number of heritage permit applications by type (alteration or demolition) and by outcome;
- Attendance at performing arts events;
- Per capita investment in arts and heritage.

Green and Environmentally-Sensitive City

- Area of greenspace protected through public or non-profit ownership or easements; Annual transit ridership (total and per capita);
- Solid waste per capita - volume and percentage landfill vs. recycled or composted;
- Results of well water sample testing;
- % Forest cover;
- % Stream banks with vegetative buffers;
- Area of brownfields redeveloped.

A City of Distinct, Livable Communities

- Diversity of housing types in each community;
- Comparison of the results of community-based assessments over the relevant timeframe
- % Of cycling transportation network in place.

An Innovative City Where Prosperity is Shared Among All

- Venture capital investment by industry cluster and total;
- Tourist and business travel to Ottawa;
- Percentage of adults pursuing additional education and training.

A Responsible and Responsive City

- Percentage of capital investment derived from the property tax;
- Per capita water consumption;
- Results of public opinion survey on the City's consultation process.

A Healthy and Active City

- Cost of a transit trip (adult cash fare) as a percentage of minimum wage;
- Cycling activity index;
- Participation in municipal recreation programs.

The City of Montréal's First Strategic Plan for Sustainable Development

Improve air quality and reduce greenhouse gases

- Number of days with poor air quality
- Number of trips on public transport
- Number of vehicles registered
- Annual average daily flow of traffic on bridges and highways of Montréal Number of cyclists that bicycle for practical purposes

Ensure the quality of residential environments

- Number of complaints by residents concerning the quality of life
- Bacteriological quality of water near riverbanks in the Montréal region (QUALO)
- Number of days with a high ragweed pollen rate
- Area of on-land protected spaces on the island of Montréal
- Area of parks in Montréal
- Number of kilometres of public riverbanks and access points to water

Practice responsible resource management

- Number of boil-water notices for drinking water
- Energy consumption and equivalents in greenhouse gases on the island of Montréal
- Quantity of drinking water produced annually
- Water quality index of the St. Lawrence River downstream of the island of Montréal
- Quantity of waste generated, recovered and eliminated

Encourage industries, businesses and institutions to adopt good sustainable development practices

- Number of environmental associations
- Number of organizations that participate in the Montréal's first strategic plan for sustainable development and the number of actions under way
- Number of boroughs with environmental awareness programs
- Number of industries, businesses and institutions that have environmental certification or a voluntary environmental program

Halifax's Regional Municipality's Regional Municipal Planning Strategy

Protect and promote HRM's Culture and Heritage

- Registered heritage properties and districts
- Number of heritage buildings de-registered annually
- Number of permits issued for heritage building restoration
- Support leisure and life long learning
- Age of library collection
- Benchmark comparison with external standards and comparable library systems
- Number of complaints received regarding quantity and quality of collections, facilities, programs and services
- Number of volumes added per year
- Rate of library usage per capita
- Number of active registered library users
- Ratings in HRM residents survey
- Conveniently located/accessible community library branches

Promote healthy, active lifestyles

- Participation in HRM recreation programs
- Recreation programs and registration per capita Celebrate HRM's diversity, community character and pride of place
- Number of festivals and events supported by HRM
- Library collection, programs and services reflecting community diversity and demographics
- Total net migration Promote HRM as a centre for the Arts
- Number of theatre seats per capita 40
- Percentage employed in arts/culture sector

Provide useable public open-space in all communities

- Number of hectares designated as open space (% change)