Neighborhood Sustainability Indicators
Report on a Best Practice Workshop

Report prepared by Alex Jozsa and David Brown

Table of Contents

Mandate

This report has two main objectives:

- To describe the role of sustainability indicators in the neighborhood context.
- To summarize and report on the outcomes of the Neighborhood Sustainability Indicators Workshop held at McGill University, June 10-11, 2005.

The report has five sections. The first section provides a brief introduction to the rationale for devising and applying sustainability indicators at the neighborhood level and situates the role that indicators might play within the Montreal context. The second section offers an overview of the nature of sustainability indicators and the processes that are used to identify indicators for a specific neighborhood. In the third section, the presentations of participants from Calgary and Baltimore who have significant experience in neighborhood indicator programs, and a representative of the Milton-Park community are summarized. In section 4, a preliminary list of indicators identified by workshop participants is presented. Finally, section 5 indicates the "next steps" for the project. The workshop agenda, as well as the names of presenters, organizers, and participants are listed in the appendices.

1. Introduction

Over the past decade, countless projects, plans, programs and policies have been launched across Canada in the name of enhancing community sustainability. The definition of what counts as "sustainable" however is usually somewhat vague. In each community at a certain point in the process, someone asks, "how would we know what sustainability looked like if we saw it", or "how do we know whether we are moving towards sustainability or not?" To answer these questions, a growing number of communities have been exploring the use of sustainability indicators.

Indicators are a tool that can be used to measure if a community is moving towards or away from sustainability. While many communities, including Montreal and Toronto, have developed elaborate profiles of neighborhoods that provide useful information for planning, there are currently few neighborhood indicator programs that have been created and used by citizens to assess quality of life in residential areas, and help guide development decisions.

The most comprehensive set of neighborhood level indicators in Canada has been created in the context of the redevelopment of Southeast False Creek in Vancouver, BC.[1] This is a large brownfield site that is being redeveloped as a mixed-use community and is intended to serve as a model of a sustainable neighborhood. The indicators that have been created to help guide planning decisions in this neighborhood incorporate ecological, social and economic dimensions, and include timelines and targets. The indicators are linked to an operational definition of sustainability and represent an attempt to translate the somewhat vague concept of neighborhood sustainability into tangible goals.

---

1 City of Vancouver: http://www.city.vancouver.bc.ca/ctyclerk/cclerk/20050301/ph2.htm

Other Canadian cities have created indicator sets to help with planning decisions in already established neighborhoods. In Saskatoon for example, City officials teamed up with the University of Saskatoon and community-based non-governmental organizations (NGOs) to develop quality-of-life indicators that help identify the best levers and investments to promote equitable living standards.2 The City's Planning and Building Department includes these indicators in neighborhood profiles that rate neighborhood progress on such issues as affordable housing and incidence of sexually transmitted disease, social inclusion, physical safety, and education.

To explore how sustainability indicators could benefit Montreal's neighborhoods and complement City driven initiatives, the McGill School of Urban Planning hosted a two-day workshop on neighborhood level sustainability indicators. This workshop is especially salient given the fact that sustainability indicators are currently being developed for Montreal's Milton-Park neighborhood. This initiative will be partially funded by the Green Municipal Fund, which is administered by the Federation of Canadian Municipalities (FCM).3 The Milton-Park project is being led by the Urban Ecology Center/SodecM, a local organization, with participation from other stakeholders including consultants, the McGill School of Urban Planning, *L'université du Québec a Montréal* (UQÀM), neighborhood groups, and citizens.

Montreal Context

Over the past three years, the City of Montreal has moved forcefully ahead with a number of initiatives that explicitly address sustainable development issues. These include:
- The City's *Master Plan*
- The City's *Transport Plan (currently under preparation)*
- The *Policy on the Protection and Enhancement of the Natural Environment*
- The *Plan Stratégique de développement durable de la collectivité montréalaise*

While each of these planning and policy initiatives focus on different aspects of sustainable development, all are expected to work in concert to achieve tangible results at the regional, municipal, borough and local levels. The *Plan Stratégique de développement durable* which was introduced in November 2004, is the City's first sustainable development plan, and is intended to play a key role in monitoring environmental improvements through the use of a set of city-wide indicators.

To be effective, the City and other organizations concerned with Montreal's environment must work together to develop and implement the *Plan Stratégique de développement durable*. The City of Montreal will assume a leadership role, with the technical and financial support of the *Conférence régionale des élus de Montréal et du Conseil régional de l'environnement* (CRE) *de Montréal*, while close to 100 organizations have

---

2 Community-University Institute for Social Research: http://www.usask.ca/cuisr/docs/pub_doc/quality/sun.pdf

3 Established by the Government of Canada to stimulate investment in innovative municipal infrastructure projects, the Green Municipal Fund supports partnerships, leveraging both public and private sector funding to encourage municipal actions to improve air, water and soil quality, and to reduce greenhouse gas emissions. Green Municipal Fund: http://www.fcm.ca/english/gmf/gmf.html

contributed to the development of the strategic plan and are expected to participate in its implementation over the next four years. This plan focuses on six areas of intervention[4]:

- Reduction of Greenhouse gases

- Reduction of water and energy consumption

- Responsible waste management

- Protection of the natural environment

- Enhancement of the quality of life in neighborhoods

- Promotion of activities, management practices and decision-making processes that will support sustainable development.

These and other new policies and plans concerning the broad range of environmental issues reflect the concerns raised at the series of consultation meetings that led up to the Montreal Summit in the spring of 2002. They are important initiatives that may well make a substantial contribution to the quality of life in Montreal. Their success, however, will depend on the way in which competing priorities are managed, effective vertical and horizontal coordination, and the support that they receive from Montreal's residents.

Stratégie de mise en œuvre de projets pilotes de Quartiers 21

Launched by the City of Montreal in 2005, the *Stratégie de mise en œuvre de projets pilotes de Quartiers 21 (Quartiers 21)* program is a component of the *Plan Stratégique de développement durable.* The initiative's name, *Quartiers 21*, refers to the pressing need to implement sustainable development in our communities in this new century. The *Quartiers 21* project also makes reference to Agenda 21, an outcome of the United Nations Conference on Environment and Development (World Summit) held in Rio de Janeiro in 1992. Chapter 28 of Agenda 21 underscores the role of local initiatives in implementing sustainable development and calls on local governments and citizens to actively participate in making such projects happen on the ground.[5]

Quartiers 21 has as main objectives:

- To reduce automobile use

  - Build new communities to be less automobile dependent

  - Reduce the presence of the automobile in existing communities by promoting public transportation, and cycling and walking as transportation modes

- Promote mixed land use

- Increase pedestrian safety

---

4 Ville de Montéal, Plan Stratégique de développement durable (introduction): http://www2.ville.montreal.qc.ca/cmsprod/fr/developpement_durable/media/content/introduction.pdf

[5] United Nations Department of Economic and Social Affairs, Division for Sustainable Development, Agenda 21: http://www.un.org/esa/sustdev/documents/agenda21/

- Improve the energy efficiency of buildings, particularly residential buildings

At the time of writing, three neighborhoods – Villeray, Saint-Michel and Parc-Extension – will implement *Quartiers 21* projects in the next year.6 The Ville-Marie and Sud-Ouest neighborhoods are also slated to undertake *Quartiers 21* projects.

Neighborhood Sustainability Indicators Workshop

The McGill School of Urban Planning and the Urban Ecology Center/SodecM received funding from the City of Montreal to coordinate and host a workshop on best practices for engaging residents and local community groups in sustainable development initiatives that could be applied at the neighborhood level. The workshop was intended to complement the *Quartiers 21* initiative by providing a forum where representatives of local groups could meet and discuss best practices with practitioners from other cities who are grappling with related issues.

The forum also focused on quality of life issues, a term that is intended to include standard environmental quality issues. Special attention was given to the coordination between policies and plans, a critical factor in the success of sustainable development initiatives at the community level. As well, consideration was given to the interconnectivity between different development components, such as, transportation, commercial development, new development projects, waste management, and community services.

---

6 Ville de Montréal, Communiqués:
http://ville.montreal.qc.ca/portal/page?_pageid=65,106529&_dad=portal&_schema=PORTAL&_pir
ef65_263689_65_106529_106529.next_page=htdocs/portlet/communiques/fr/detail.jsp&_piref65_
263689_65_106529_106529.id=4281&annee=2005&mois=10

2. The Role of Indicators in Promoting Sustainable Neighborhoods

What are sustainability indicators?

Sustainability indicators reflect key trends in the environment, social systems, economy, human well-being, and quality of life. In short, they measure what counts to people. For example, environmental indicators might include things such as the concentration of different pollutants in the air, the amount of resources consumed locally (e.g., water and electricity), and the quantity of waste produced. Tracking shifts in the social environment can include factors such as community participation in volunteer activities or the availability of affordable housing, while economic changes can be represented by topics such as unemployment rates or business starts. Indicators are a tool that can help visualize and measure progress in our efforts to move towards urban sustainability. Likewise, indicators can identify areas that are worsening so that appropriate action can be taken.[7]

The attractiveness of indicators is that they can capture key aspects of local conditions and assess the congruence between ongoing development processes and community goals and make this information accessible to decision makers and residents.[8] Indicator data is often presented through the use of easy to read graphics like charts and pie diagrams. This makes local conditions and trends understandable to a wide audience, as overly technical or scientific language and analysis are avoided. The process of developing indicators can also promote citizen participation – indicator initiatives often include a variety of participants including community groups and citizens, universities and educational institutions, and municipal departments. Finally, indicators help educate residents about pertinent environmental, social, and economic issues in their community.

Sustainability Indicators in a Neighborhood Context

Indicators can play several important roles in promoting, implementing, and monitoring neighborhood sustainability:

- A neighborhood can use indicators to help determine what conditions exist and whether the direction the neighborhood is headed is consistent with community goals.

- Indicators help evaluate whether local actions are having the desired impacts.

- Indicators can establish a common understanding among different stakeholders such as community groups, borough and City governments concerning critical issues that need to be addressed and help build consensus for effective actions.

- Indicators can allow a group to hold itself, its public officials, its funders and supporting institutions accountable to neighborhood goals.

---

7 V. Maclaren. 1996. *Urban Sustainability Reporting,* Journal of the American Planning Association, Vol. 62, No. 2, Spring.

8 H. Bossel. 1999. *Indicators for Sustainable Development: Theory, Method, Applications.* Winnipeg: IISD.

- Neighborhood indicators provide a tangible opportunity for a community to learn about itself; the development of neighborhood indicators depends on extensive public consultation, thereby providing a means for citizens to directly participate in future of their neighborhood. Citizen participation in the indicator development process also promotes community pride and a sense of personal efficacy.

Types of Indicators

Indicators can be classified in several different ways. One important distinction is that between input and outcome indicators. Input indicators reflect public or collective resources being put into advancing community sustainability or addressing community sustainability challenges (e.g., dollars invested in public transportation spending compared to road construction). Outcome indicators measure conditions or trends in the community or environment (e.g., number of new cancer cases, number of poor air quality days). Both types of indicators are important: input indicators signal policy priorities while outcome indicators can track the effectiveness of public or collective action in changing economic, social or environmental conditions.

Indicators can also be classified as subjective or objective. Subjective indicators are measures of perceptions by individuals about conditions, issues and trends. Objective indicators are facts independent of personal perceptions, based on the measurement of actual conditions.9 Thus, a measure about people's attitude toward crime in the neighborhood is a subjective indicator, while a count of the number of burglaries or assaults that have occurred in the same area represents an objective indictor.

Indicator Identification Process

Identifying neighborhood sustainability indicators involves several steps, which are outlined in sequential order:

- Community consultation
- Community diagnostic
- Indicator identification
- Indicator selection
- Measurement
- Monitoring

Community Consultation

To ensure a democratic process, an extensive local process is required to identify the range of indicators that the community or key stakeholders consider important for their locale. This process usually begins with a formal or informal literature review, including reviewing City Plans and programs, and examples or case studies of neighborhood indicators in other communities. As well it is important to bring together key stakeholders to discuss and debate the broad objectives of the development of neighborhood indicators.

---

9 V. Maclaren. 1996. *Developing Indicators of Urban Sustainability: A focus on the Canadian Experience.* Toronto: ICURR

Neighborhood workshops, meetings, and focus groups are then organized to select specific indicators and measures.

For example, when the Sustainable Calgary began developing indicators at the request of the Dover community, the former organization created an outreach program through a series of informal meetings with diverse community members including meetings in the local pub, tea with seniors, rec-room meetings with youth, and discussions with new immigrants. At these meetings citizens were asked to consider the following questions:

- What is it we want to sustain?

- What makes Dover a good place to live?

- What would a sustainable community look like?

- How will a development plan or project affect the things we believe are important for a healthy, sustainable Dover?

- What do we have to do to make sure this development plan or project will make our community a better place to live?

Community Diagnostic

A community diagnostic facilitates the identification and selection of neighborhood sustainability indicators. The main purpose of a community diagnostic is to become familiar with the neighborhood, assess current conditions and develop an understanding of the processes underway that sustain and change the quality of residential life.

A community diagnostic identifies main stakeholders including local institutions (e.g., universities and health facilities), citizens' associations (e.g., non-profit housing groups) and socio-cultural organizations (e.g., multicultural groups). The identification of these groups can later be used to gain insight into factors such local perceptions and the use of community facilities. In addition, these stakeholders can make important contributions to the indicators project via the provision of data and/or local expertise.

In addition, a community diagnostic can aid in identifying goals and setting priorities. The diagnostic should focus on local and citizen participation (as opposed to being selected by an outside agency), as this will ensure indicators will reflect the priorities of the neighborhood.

Indicator Selection, Measurement and Monitoring

Before selecting indictors, it is crucial to identify the target audience(s). The target audience influences the indicators selected because different groups have diverse priorities and perceptions of the most pressing issues. Effective neighborhood level indicators not only reflect the priorities of local residents, but also offer credible information that may be used by professionals and politicians to develop policies and actions that specifically target these priorities.

There are numerous criteria in selecting neighborhood sustainability indicators; the main ones are outlined below.

- Easy to understand – Is the indicator simple enough to be interpreted by the general user and the public?

- Scientific validity – Do the indicators provide accurate and reliable measures that

are drawn from commonly accepted data?

- Data availability – Is consistently collected, statistically measurable trend data (data going back for at least five or ten years) for the issues to be examined collected? Who collects the data?

- Relevance – Is the indicator relevant to both local circumstances and opportunities for policy making?

- Forward-looking – Does the indicator focus on short and long-term future changes rather than simply evaluate past trends?

- Equity – Do the measures provide the information required to promote equitable distribution of resources, opportunity and wealth, not only for the current generation but also for future generations

- Value orientation - Do the indicators reflect community values and the sustainability objectives identified by the citizens of the neighborhood?

- Congruence - Are the neighborhood indicators linked to higher level indicators and assessment? Are they linked to policy and benchmarks from reliable sources such those drawn from other experiences or provincially set targets?

- Practicality - Is it possible to implement actions that will improve performance with respect to the indicators? What is the political acceptability of these actions?

- Visibility - Is the indicator attractive to the local media?[10, 11]

3. Neighborhood Sustainability Indicator Workshop

Over two days, June 10 and 11, 2005, the Neighborhood Sustainability Indicator Workshop brought together stakeholders including local organizations, academics, consultants, and citizens.

A well attended public forum was held on the evening prior to the workshop. This event featured presentations from local organizations such as the Urban Ecology Center/SodecM and the City of Montreal, as well as experts on neighborhood sustainability indicators from Calgary, Alberta and Baltimore, Maryland. An animated question and answer period followed the presentations.

The forum was followed by a day-long workshop that was attended by invited participants representing a broad cross-section of community groups and interested citizens. The workshop started with technical presentations on the development and use of neighborhood sustainability indicators. These presentations were followed by breakout sessions in the areas of environment, society, and economy to determine potential indicators that could be used in Montreal's neighborhoods. Please refer to Appendices 1, 2 and 3 for a complete list of organizers, presenters, participants, and the workshop agenda.

---

10 V. Maclaren. 1996. *Developing Indicators of Urban Sustainability: A focus on the Canadian Experience.* Toronto: ICURR.

11 Some indictor selection criteria were provided by workshop participants.

Formal Presentations

Experts from Sustainable Calgary, and the Baltimore Neighborhood Indicators Alliance Program were invited to present and share their experiences on the identification and selection of indicators at the neighborhood level, and public participation strategies. Issues concerning data collection and making available sources of data for indicators were also addressed.

The presentations of participants from Calgary and Baltimore, and a representative of the Milton-Park community are summarized below. The presentation of a representative of the City of Montreal is reflected in the section on the Montreal Context above. Further information on the City's initiatives is readily available at:

http://www2.ville.montreal.qc.ca/cmsprod/developpement_durable/accueil/

Sustainable Calgary: The Community of Dover Sustainability Indicators Project

Sustainable Calgary is an NGO that promotes, encourages and supports community-level actions and initiatives that move Calgary toward a sustainable future. Sustainable Calgary has produced municipal level indicators, every three years since 1998. Over 2,000 citizens contributed to the selection and development of indicators for the first report.[12, 13]

In 2001, at the request of Dover Community Association, Sustainable Calgary began the process of developing sustainability indicators for this neighborhood using the following steps:
- Recruit a project team
- Review of Relevant Planning Documents
- Recruit Community Outreach Workers.
- Project Steering Committee Preliminary Workshop
- Community Outreach
- Community Workshops
- Community Outreach - Phase 2
- Indicator Selection Workshop
- Dover Community Sustainability Indicators

Twenty-four indicators divided into six sectors were decided on for the Dover neighborhood:

Community Sector
- Valuing Cultural Diversity
- Incidence of Vandalism and Personal and Property Crime
- Sense of Community

---

12 Dover Community Association. 2001. *Dover Community Sustainability Project.* Calgary.

13 N. Keough. 2005. Sustainable Calgary: The Community of Dover Sustainability Indicators Project (presentation from the Neighborhood Sustainability Indicator Workshop, McGill School of Urban Planning, Montreal).

- Accountability and Communication with Public Agencies

Housing Sector
- % Housing Ownership (Private and Co-op)
- Move-Up Housing
- Appropriate Housing Mix
- Affordable Housing
- Aging in Place

Environment Sector
- Incidence of Poorly Maintained Property
- Number of Trees Planted on Public Land
- Population Density
- Transit Usage and Accessibility

Educator Sector
- Childhood Literacy
- Local School Reputation
- Percent of Students Attending Post-Secondary
- Adult Education Classes/Participation

Health Sector
- Access to Health Care (Health Professionals/ /Alternative Health)
- Health Program Awareness and Education
- Physically Active Youth
- Incidence of Substance Abuse

Economy Sector
- Quality Child Care
- Hours Required to Meet Basic Needs at Minimum Wage
- Availability of Basic Goods and Services[14]

The Baltimore Neighborhood Indicators Alliance: Vital Signs

The Baltimore Neighborhood Indicators Alliance (BNIA) was established in 2000. The organization consists of diverse groups committed to promoting, supporting and helping people make better decisions using accurate, reliable, and accessible data and indicators to improve the quality of life in Baltimore's neighborhoods.[15]

The BNIA builds on and coordinates the related work of citywide nonprofit organizations, City and State government agencies, neighborhoods, foundations, businesses and universities to support and strengthen the principle and practice of well informed

---

14 Dover Community Association. 2001. *Dover Community Sustainability Project.* Calgary: Dover Community Association.

15 P. Armstrong. 2005. Choosing Indicators for a Neighborhood Indicators System (presentation from the Neighborhood Sustainability Indicator Workshop, McGill School of Urban Planning, Montreal).

decision making for change toward strong neighborhoods, improved quality of life, and a thriving city.

Baltimore's Vital Signs use 40 key indicators to "take the pulse" of Baltimore neighborhoods measure progress toward common neighborhood results for strong neighborhoods, good quality of life, and a thriving city over time.

There are 40 Vital Signs organized into seven topic areas:
- Housing and Community Development
- Children and Family Health, Safety and Well-being
- Workforce and Economic Development
- Sanitation
- Urban Environment and Transit
- Education and Youth
- Neighborhood Action and Sense of Community.

Vital Signs helps communities:
- Develop long-term results and outcome indicators to help track progress.
- Utilize the outcomes to plan strategies and direct resources for long term to neighborhood improvement,
- Understand the overall impact these strategies have on changing neighborhood conditions.16

A Neighborhood Indicators Initiative in Montreal: The Milton-Park Sustainability Laboratory Project

Bounded by Sherbrooke Street to the South, des Pins to the North, St-Laurent to the east, and McTavish to the west, the Milton-Park neighborhood is located in the Plateau Mont-Royal borough. The neighborhood has several unique characteristics: it is dense, multicultural, houses a very significant number of university students and has a strong sense of community identity. Numerous citizens' groups and committees actively participate in the neighborhood, including 23 non-profit housing organizations.

The Milton-Park Sustainability Lab project shares many of the *Quartiers 21* objectives such as reducing automobile use, promoting public transit, cycling and walking, diversifying land use, and improving the energy efficiency of buildings. In addition, the Sustainability Lab project will implement City's *Plan Stratégique de développement durable* on the ground, while focusing on issues that are important to the neighborhood's residents.

The Sustainability Lab project is led by the Urban Ecology Center/SodecM, a local group that focuses on urban environmental and democracy issues, with participation from other stakeholders including consultants, the McGill School of Urban Planning, UQÀM, FACE, a primary and secondary school, neighborhood groups, and citizens.

---

16 BNIA. 2005. *Vital Signs: Measuring Baltimore's progress towards strong neighborhoods and a thriving city.* Baltimore: BNIA.

The participation of these groups will result in information sharing, a main principle of the Sustainability Lab project. In addition, participating institutions – including McGill University and FACE – are currently undertaking greening projects and are actively working to improve well-being and the quality of life in the neighborhood.

As a pilot project, another main objective of the Milton-Park Sustainability Lab is to develop practical knowledge on neighborhood initiatives. This experience could then be shared and adapted to other Montreal neighborhoods. The results of the project will be distributed to a variety of organizations operating in Montreal, in order to help these groups address their own unique issues and challenges related to sustainability.

Objectives of the Milton-Park Sustainability Lab

The Milton-Park Sustainability Lab is centered around the "sustainable communities" paradigm, which has as its main objectives:

- Enhancing the energy efficiency of buildings

- Reducing automobile use, thereby decreasing traffic

- Prioritizing cycling through the design of roads

- Improving pedestrian safety in the neighborhood

- Implementing waste diversion programs such as composting

- Greening streets and alleys

- Promoting social cohesion and a sense of community

- Providing support for local commerce and integrating green practices into daily business practices

In addition, the Milton-Park project will work with the Plateau Mont-Royal borough to identify the roots of social problems in the community, and link solutions to participation in environmental programs. It will do so by:

- Supporting the socio-economic development of the neighborhood

- Promoting strategies that draw on the participation of citizens

- Involving the public in the decision-making process for site and land use planning projects in the neighborhood

- Promoting social integration and the sense of belonging to the community through programs related to the environment, housing, food security and neighborhood safety.

- Promoting respect and tolerance for different cultures

- Developing neighborhood indicators to measure progress in the above mentioned objectives in the short and medium term[17]

---

17 Groupe de recherche en aménagement urbain durable. 2005. *Milton Parc : Laboratoire de développement Durable*. Montreal: SODECM

4. Preliminary Neighborhood Indicators

This section introduces preliminary indicators that could be used at the neighborhood level. The indicators presented should not be considered a complete list of neighborhood indicators as they are based largely on the output of the breakout sessions at the one-day workshop. A more refined list of indicators that includes monitoring procedures will need to be developed before the indicators may be effectively applied.

It is important to note that some indicators are more easily quantitatively measured than others. Indicators that measure factors such as levels of pollutants, income, or percentage of home ownership are easily quantified. Qualitative aspects such as community participation and democracy are more difficult to measure.

ENVIRONMENT		
Issue Area	**Topic**	**Potential Indicators**
Green Space	Accessibility	Proximity to metro stops (meters) or # metro stops nearby
	Trend in growth	# hectares green space and /or % change
	Tree planting	# new trees planted or surface area subject to tree planting
	Ecological health of green space	# hectares natural green space
	Recreational use of green space	Green space per 1,000 population
	Tree canopy	# hectares tree cover
Transportation	Cycling Accessibility	# kilometers cycling paths
		# bike racks
	Pedestrianization and traffic calming	# meters traffic calmed streets
		# traffic calming initiatives in the neighborhood
	Access to public transportation	# users of public transit
		Cost of a monthly bus pass
		Population living within 500 meters of a bus or metro stop
	Congestion	# parking spaces
	Car Use	# vehicles / per family household
		Average # Vehicle kilometers traveled per day
		Average length of commuter trips
		Mode of transportation used to get to work

Noise pollution	Incidence	% residents regularly disturbed by noxious noise (over X decibels)
Visual pollution	Incidence	# cases of graffiti removal per year
Air pollution	Ozone	Average annual ozone levels
	Fine particulate matter	Average annual concentration of fine particulate matter
Waste	Management / Diversion	Volume per capita of recycled per year
		Composted waste – Volume waste composted through City composting programs; e.g., leaves and Christmas trees
		Space devoted to community compositors
	Efficiency of waste collection (responsibility resident local government, business)	Average volume of waste collected by sector (residential, commercial, institutional)
	Hazardous Waste – Management of toxic substances	# drop off points that safely dispose of hazardous waste
		% toxics produced and treated locally
	Trend in	Volume collected per year
	Production	Space left in local land fills
		Volume of waste land filled per year
Energy Consumption and Efficiency	Electricity consumption	Total # kilowatts of electricity used by the neighborhood
	Energy efficient buildings	# energy efficiency buildings in the neighborhood
		# participants in energy efficiency programs
Water Quality	Tap water quality	Concentration of toxins such as cadmium and chlorine
	Surface water quality	Average annual phosphorous levels
Human and Environmental Health	Toxins present in humans and the environment	Lead levels in blood
Biodiversity	Native animals, birds and plants	# species native animals, birds and plants
		# native animal, bird and plant species in danger (of extinction)
Hazards / Disasters	Occurrence	# natural disasters (ice storms, flooding)
		# human caused disasters (arson, contamination)

SOCIAL		
Housing	Accessibility and affordability	# coop housing
		# HLM
		# OBNL
Health	Streets and alleys	# pedestrians using local streets and alleys per day or during peak periods
	Access to health services	# CHSLD
		# CLSC
		# Clinics
		# Hospitals
		# Home care services
Recreation / culture	Availability	# Recreation services e.g., community centres
		# Cultural facilities e.g., libraries
Promotion of healthy lifestyles	Eating habits	# elementary and high schools that have healthy eating programs
		# students participating in healthy eating programs (e.g., health food choices in school cafeterias)
	Exercise	Average # hours physical activity per person
Safety	Police resources	Crime rate (# criminal code, violent, property crimes)
		Incidence of crimes committed by youth
	Perception of safety – fear (a survey would need to be conducted)	% residents who are experience fear in the neighborhood (alone on the street)
Community pride (a survey would need to be conducted	Empowerment / taking charge Individual, collective, social network	% residents believed others would try to take advantage of them if they got a chance
		% resident who have one or no person outside of their family to call on in case of an emergency
Social Mix	Participation in community life of a diverse group of people	Diversity in positions of power and influence (# or % of positions held by visible minorities and/or women)
ECONOMIC		
Business sustainability	Green business	# of businesses certified by *Eco-Quartier's Appellation Verte*
	Continuity of business	Average # years of operation of local established businesses

Economic structure	Cooperatives / cooperation	# cooperative businesses in neighborhood each year
	Informal economy	Volunteers (# hours volunteered in the neighborhood or people participating in a volunteer activity 3 or more hours per week)
		% residents engaging in unpaid work (child care or caring for senior family members)
	Access and distribution network	% residents and business with high speed internet
Employment	Local job availability	# of residents working in the neighborhood
	Jobs and gender	Unemployment rates, male and female
	Jobs available for young people	Unemployment rate of young people (15-25 years) willing to work
Income	Poverty	Average personal income per capita
		Average household income
		Average spare disposable in come ($)
	Price of transit	Ratio of monthly pass compared to average monthly income
Access and availability	Access to services and jobs	# services and jobs available in the neighborhood
	Level property ownership	% of population owning / renting
	Housing affordability	% population spending 30% or more on shelter costs (owners and/or renters)
	Food market availability	# food stores / cost of "food basket"
	Primary needs business availability	# pharmacies
	Taxes levels	Property taxes as a % of average annual household income
	Disparity rich/poor	Ratio of
Capacity to work	Education	% population with post secondary education (25 years+)
		% population without highschool
	Day care availability	# day care centres
	Community ownership of business	# locally owner business vs. chain businesses
Community investment	Public / private investment	# projects undertaken by public and private sectors

	Vacant land	Amount (e.g., metres squared or # lots) of vacant land

5. Next Steps

The steps outlined in this section are suggestions to forward the neighborhood sustainability indicators agenda in Montreal.

Dissemination

It is critical that the outcomes of this report are discussed with the community. This report will be distributed to the City of Montreal and local community groups. The report will also be widely disseminated in the local press as well as community-based publications such as *Place Publique*, a journal that is published by the Urban Ecology Center/SodecM. In addition, a website will be developed to publicize the event and distribute related information, including links to other websites that deal with neighborhood sustainability indicators and related issues.

Identification of data sources and data collection

Reliable and statistically valid data are required to measure indicators. Given the small scale of neighborhoods, finding data may be a challenge. The following is a list of preliminary sources of data for Montreal's neighborhoods:

- **Statistics Canada Census tracts –** Census tracts are small areas in a census metropolitan area (CMA). Each census tract is numbered and can be located on a map of the CMA. One or more census tract can correspond to a neighborhood. Statistics Canada definition of census tracts is "…small, relatively stable geographic areas that usually have a population of 2,500 to 8,000…". Data is also available for Dissemination Units which are for still smaller areas within each census tract.

- *L'Observatoire économique et urbain et des communications*[18] **–** This City office collects data for Montreal's federal electoral districts[19].

- **Scan –** A scan should be conducted to determine local organizations in Montreal's communities that may have collected data that would be useful for neighborhood-level indicators (and may be interested in participating in a neighborhood sustainability indicators initiative).

- **Mapping –** Resources useful to the development of neighborhood sustainability indicators could be mapped using GIS. Things such as the location of data sources in the neighborhood and community facilities (e.g., schools and health cetres) could be mapped. GIS could also be used to help carry out a community diagnostic to show the distribution of a neighborhood's characteristics.

---

18 Montréal en statistiques:
http://www2.ville.montreal.qc.ca/cmsprod/observatoire_economique/accueil

19 An area represented by a member of Parliament (MP) elected to the House of Commons.

Community Indicators Research

As noted above, it can be difficult to find data at the neighborhood level from central data sources. An alternative that has proven to be successful for the Dover neighborhood is to train community researchers to gather the information on each of the sustainability indicators via fieldwork and interviews. In addition, during public consultations, participants may identify interesting indicators for which there is no known data available. These "dream indicators" should be recorded to facilitate their use should appropriate data or data collection resources become available.

Provide a "One Stop Shop" for neighborhood data

A website managed by a local organization, as is the case in Baltimore could act as a clearinghouse for data on Montreal's neighborhoods. For example, once the Milton-Park Sustainability Laboratory indicators have been developed, the neighborhood level data sources and other experiences could be posted on a website to assist other neighborhoods that are interested in developing sustainability indicators.

Technical Assistance and Training

Once data and/or a neighborhood indicators toolbox becomes available for Montreal's communities, training to access, understand, and use data and indicators should be provided. In Baltimore, BNIA staff assist users with using the organization's website where numerous data and indicators are available, as well as refer users to data sources as necessary. Access Points throughout the city are established in order to provide greater access to the BNIA's on-line resources for those who need assistance or do not have internet access. These Access Points include the public branch libraries, community centers, and some job training centers.

Collaboration

Organizations with similar or complementary programs, projects, or initiatives should coordinate their efforts to maximize efforts and information sharing.

Identify Priority Actions

Using the information collected for neighborhood sustainability indicators, it is recommended that the community decide upon priority actions that will their neighborhood a better place to live.

Appendix 1: Presenters and Workshop Coordinators

Presenters
Peter B. Armstrong
Data Manager and Analyst
Baltimore Neighborhood Alliance program

Noel Keough
Executive Director
Sustainable Calgary

Danielle Lussier
Project Leader
Infrastructure Transportation and Environment Services
City of Montreal

Céline Martin
Project Director, Milton-Park Sustainability Lab
Urban Ecology Center/SodecM

Workshop Coordinators
Professor David Brown
Director
School of Urban Planning
McGill University

Ray Tomalty
Consultant
Cooperative Research and Policy Services

Luc Danielse
Consultant and educator
Interactions

Joshua Wolfe
Consultant, part-time commissionner
Office de Consultation Publique de Montréal

Appendix 2: Workshop Agenda

Programme

LES INDICATEURS
DE DURABILITÉ DES QUARTIERS

Un séminaire sur les meilleures pratiques

LE SAMEDI 11 JUIN 2005

Macdonald Harrington Building (815) - Université McGill

9h00 Café et Inscription

9h30 Mot de bienvenue et description de la journée
Introduction and description of the event

9h45 Conférences d'ouverture : Présentations des experts
• **Noel Keough**, Executive Director, Sustainable Calgary
• **Peter B. Armstrong**, Data Manager and Analyst, The Baltimore Neighborhood Indicators
• **Émilie Thuillier**, Professionelle de recherche, GEIGER-UQÀM; Évaluation du développement durable et des Agendas 21 locaux, Montréal

PAUSE
(Les participants sont invités à choisir leur atelier.)

10h30 BLOC I : Leçons et Mise en Oeuvre (ateliers simultanés)

A. Le rôle des indicateurs dans les initiatives de quartiers durables
(ATELIER EN FRANÇAIS)
Le rôle des indicateurs dans les projets locaux de développement durable : Comment étudier les impacts des actions, vérifier l'atteinte des objectifs et mesurer les progrès accomplis?

B. La participation publique – *Citizen participation*
(ATELIER BILINGUE)
Comment mobiliser et impliquer les citoyens dans l'élaboration d'indicateurs de quartier? Quels sont les contraintes et avantages de la participation publique et de l'implication des groupes intéressés par les indicateurs?

How to mobilize and involve residents in the formulation of local sustainability indicators. What are the constraints and possibilities of citizen participation and working with interest groups on indicators? Monitoring and follow-up will also be discussed.

C. L'élaboration d'indicateurs locaux – *Development of local indicators*
(ATELIER BILINGUE)
Comment développer des indicateurs de quartiers pertinents et fiables ? Quels sont les critères appropriés pour sélectionner des indicateurs?

How to develop local sustainability indicators that are relevant and reliable? What criteria are appropriate to select indicators?

12h00 Brefs rapports des ateliers
Les participants sont invités à choisir leur atelier de l'après-midi.

12h15 Dîner : *Un buffet sera offert sur place.*

Un mot de notre hôte, School of Urban Planning, Université McGill

13h15 Annonce des objectifs de l'après-midi

13h30 BLOC II : Se doter d'indicateurs locaux (ateliers simultanés)

(BILINGUE)

1. Identifier, élaborer et prioriser des indicateurs relatifs au développement économique.
Identifying, developing and prioritizing economic indicators.

2. Identifier, élaborer et prioriser des indicateurs relatifs à la qualité environnementale.
Identifying, developing and prioritizing environmental indicators

3. Identifier, élaborer et prioriser des indicateurs relatifs au développement social.
Identifying, developing and prioritizing social indicators

15h00 PAUSE

15h15 Séance plénière (BILINGUE)
- Rapport des ateliers
- Synthèse
- Prochaines étapes
- Remerciements

16h00 Clôture

INSCRIPTION GRATUITE

Afin de permettre de meilleurs échanges et de faciliter les discussions, nous avons limité le nombre de participants. Nous vous demandons de vous inscrire rapidement **en confirmant votre présence par courriel ou par téléphone :**

Céline Martin
celine_sodecm@bellnet.ca
(514) 281-8378

INFORMATION SUR LES INDICATEURS : http://www.ecoplan.mcgill.ca/

Ce forum public est organisé et commandité par le Centre d'écologie urbaine/SodecM, School of Urban Planning de l'université McGill et le Sommet de Montréal (Ville de Montréal).

INFO : Céline Martin au 281-VERT (8378) / celine_sodecm@bellnet.ca

Appendix 3: List of Participants

	PRÉNOM	NOM	ORGANISATION
1	Vincente	Perez	Coalition de la petite bourgogne
2	Richard	Bonneau	Conférence des élus
3	Catherine	Chauvin	Office de consultation publique
4	Caroline	Coin	CDEC Rosemont Petite Patrie
5	Pascale	Mantoura	doctorat santé publique
6	Nivea	De Oliveiva	CRE Laurentides
7	André	Bergeron	Direction de la sant. Publique
8	Melissa	Garcia Lamarca	Université de Concordia
9	Tahmi	Elhoussine	Action Rebut
10	Cameron	Stiff	Projet Concordia Durable
11	Susan	Lacoste	Centre d'écologie urbaine
12	Christian	Daigle	FECHIM
13	Luc	Gaudet	Table de concertation Saint Laurent
14	Danny	Spitzberg	Gorilla Composting
15	Kealan	Gell	Gorilla Composting
16	Jack	Douglas	Assosiation de développement durable
17	Simon	Pillarella	Action Rebut
18	Levania	Henthchel	Doctorat développement urbain
19	François	Miller	Ville de Montréal - div de l'env
20	Maria	Zonta	
21	Roberto	Caron	Étudiant (contact FCM)
22	Sandra	Arce	Institut des sciences de l'environnement
23	Louis	Haeck	Park extension youth organisation
24	Eddy	Michel	Étudiant UdM (aménagement)
25	John	Burcombe	Mouvement Eau courant!
26	Mohamed	Elfilali	CRISE
27	Clara	Whyte	Firme Ecoressource
28	Pascoal	Gomes	SDC Rosemont
30	Van	Ferrier	Parti Vert du Québec
31	Peter	Amstrong	conférencier
32	Noel	Keough	conférencier
33	Émilie	Thuillier	conférencier
34	David	Brown	organisateur - logistique
35	Ray	Tomalty	organisateur - animateur
36	Joshua	Wolfe	organisateur - animateur
37	Luc	Danielse	organisateur - animateur
38	Dimitri	Roussopoulos	organisateur
39	Olivier	Pelletier	soutien centre d'écologie urbaine
40	Céline	Martin	organisateur - animateur