OUR COMMUNITIES, OUR HEALTH AND OUR FUTURE

Understanding and Changing the Built Environment

Prepared by the Social Planning Council of Cambridge and North Dumfries for the Ontario Healthy Communities Coalition

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Social Planning Council of Cambridge and North Dumfries

20 YEARS

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"Built Community …includes the land-use planning and transportation policies that impact our communities in urban, rural, and suburban areas. It encompasses all buildings, spaces, and products that are created or modified by people. It includes our homes, schools, workplaces, parks/recreation areas, business areas and roads."

- Health Canada

THE HEALTHY COMMUNITIES / HEALTHY CITIES MOVEMENT

Healthy Communities/Healthy Cities (HC) is an international movement that involves thousands of projects, initiatives and networks world-wide. The HC model is an ecological approach to community development based on the broad determinants of health. It uses an integrated planning framework to support collaborative community initiatives aimed at strengthening community capacity to promote and sustain health. The key elements of the HC approach are wide community participation, multi-sectoral involvement, local government support and the development of healthy public policy.

THE ONTARIO HEALTHY COMMUNITIES COALITION

The Ontario Healthy Communities Coalition (OHCC) was established in 1992 by provincial associations and community coalitions that had adopted the HC model and were actively working on HC initiatives. It was intended to create a vehicle for sharing information and resources, to promote the HC model and to support the efforts of local communities in applying the HC model within their local context. The mission of OHCC is to work with the diverse communities of Ontario to strengthen their social, environmental and economic well-being.

Currently OHCC has over 350 members within three categories of membership. Community members are inter-organizational and multi-sector coalitions that are working on a Healthy Community initiative or project. Provincial Association members collaborate with OHCC to promote Healthy Communities approaches, share information and resources and work together on specific initiatives. OHCC has 15 provincial association members in Ontario, including Parks and Recreation Ontario, Association of Ontario Health Centres, Francophones for Sustainable Environment, Ontario Professional Planners Institute, Ontario Public Health Association, Conservation Council of Ontario and Community Arts Ontario. Network members support the goals of OHCC and receive information about OHCC, its activities and events.

OHCC builds capacity for Healthy Communities by engaging its members and clients in creating a shared vision of a healthy community, facilitating community dialogue aimed at finding areas of common interest, and establishing collaborative initiatives that enage the community's energy, spirit and wisdom.

The OHCC Central Office in Toronto provides bilingual educational resources and vehicles for sharing information, tools, resources and community stories, including a semi-annual newsletter, monthly e-bulletin and website. Its regionally-based consultants provide training, consultation, information to community groups and coalitions along with opportunities for networking with others that are working within a HC model. Between April 1, 2007 and March 31, 2008, OHCC delivered 803 services to 10,537 service contacts, primarily community organizations and coalitions, in 85 locations within Ontario. OHCC also organizes regional and provinicial conferences, often in partnership with its member or affiliate organizations.

OHCC receives funding from the Ontario Ministry of Health Promotion as a Health Promotion Resource Centre focussed on building community capacity for Healthy Communities. It also takes on additional projects from time to time, such as the development of FoodNet Ontario, funded by the Ontario Trillium Foundation from 2007-2009. In 2007, with funding support from the Public Health Agency of Canada, OHCC launched *Healthy Communities and the Built Environment* (HCBE), a year-long, multifaceted, collaborative project aimed at raising public awareness of the links between health and the built environment and encouraging stakeholders to take action to improve the health of their communities in whatever ways they can.

THE PURPOSE OF THIS PUBLICATION

The purpose of this publication is twofold. The first is to provide information specifically related to the HCBE project. The second is to further inform the reader by conveying additional information and resources in specific topic areas.

The publication begins with an overview of the HCBE project and summary of results. The remainder of the document is divided into a collection of modules, each one relating to a particular aspect of how the built environment impacts on health, and containing a positive message of how communities can be designed to promote health. Case studies are used to showcase community-based efforts to create healthy communities that:

- are safe, compact and walkable
- promote alternative transportation
- have efficient public transportation systems
- preserve natural surroundings and wildlife
- have easily accessible social gathering areas & green spaces
- provide easy access to medical, social and health care services

The scope is intentionally broad in order to assist a variety of readers (including health promoters, planners, municipal elected officials and staff, community organizations and environmental groups) in their decision-making about their future work in the areas covered by the report.

THE HCBE PROJECT

WHY WORRY ABOUT HEALTH AND THE BUILT ENVIRONMENT?

"When so many of our patients have the same problems, we must realize that poor health is not caused only by a lack of discipline, but may be the result of the built environments in which we live."[1]

"The available evidence lends itself to the argument that a combination of urban design, land use patterns, and transportation systems that promote walking and bicycling will help create active, healthier, and more liveable communities."[2]

As seen from the above quotes, the relationship between our health and our physical environment is increasingly being recognized. The built environment affects many aspects of everyday life – it impacts our opportunities for physical activity, the availability of healthy foods, our level of exposure to toxins, even our risk of injury. The Environmental Health Committee of the Ontario College of Family Physicians, in their *Report on Public Health and Urban Sprawl in Ontario: A review of the pertinent literature*, explains that both direct and indirect implications of sprawling development have far reaching and tremendous impacts on health, including:

- air pollution and its association with asthma & other respiratory illnesses
- traffic fatalities and injuries
- obesity, diabetes and cardiovascular disease resulting from a lack of physical activity

Clearly, understanding and changing the built environment will have a positive influence on population health.

IDENTIFYING THE NEED

During the course of their work together OHCC staff, members, and clients identified a need for greater understanding within the general public of the links between health, land-use planning and design, and the environment. In their efforts to provide information and raise awareness they found few examples of relevant and local research. As well, a lack of integration between the work of public health professionals, land-use planners, environmental groups and community and business associations was noted.

This led to a number of organizations engaging in discussions regarding the health impacts of the built environment. Of these, seven collaborated with the OHCC on the development of the *Healthy Communities and the Built Environment* (HCBE) project. A grant received through the Public Health Agency of Canada's Population Health Fund funded the project for a 12-month period. A steering committee was formed to provide ongoing direction and input. Appendix 1 lists the membership of this steering committee.

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[1] *Jackson, R., Am J Public Health, 2003 September, 93(9):1382-1384*
[2] *Handy, S., How the built environment affects physical activity: views from urban planning. American Journal of Medicine, Vol 23 (2S), p.73*

PROJECT GOALS

The overall goal of the HCBE project is to improve the health of Ontarians and reduce health care costs through health promotion and chronic disease prevention strategies linking health and the built environment.

To that end a number of short term objectives were established. These focused on increasing awareness of the links between health and the built environment, and on increasing communication and collaboration across sectors. The following activities and deliverables were considered important to the achievement of these objectives:

1. Conducting a literature review of recent and current Canadian research in the areas of land-use planning, community design, and their impact on the health of the population;
2. Conducting an environmental scan of strategies, programs and practices currently being used in the area of land use planning by public health units, environmental organizations and community groups;
3. Developing case studies of best practices of multi-sectoral collaborative initiatives that include population health goals in community planning and policy development;
4. Supporting multi-sectoral collaboration to develop community plans and healthy land use policies;
5. Increasing awareness of the health impacts of the built environment;
6. Working with partners to provide information and knowledge exchange on healthy land use policies, planning for healthier new communities, and practical ways to make existing communities healthier;
7. Supporting the development, implementation and evaluation of community projects aimed at creating healthier communities, with a focus on the built environment;
8. Publishing a document summarizing what we have learned from the project.

PROJECT COMPONENTS

Community Workshops

Public engagement was a key element of this project and a community animator was hired. With her assistance materials and strategies were developed to publicize and promote the HCBE project to groups and organizations across the province. Over a 12-month period a series of workshops was organized in collaboration with project partners and local groups and stakeholders. In total, 23 workshops were held in seventeen different locations. These workshops varied in length (from a half day to a full day event) and in size (attendance varied, but in one community attendance exceeded 180 people). The issues discussed also varied, reflecting each community's needs. Participants came from diverse backgrounds and included municipal leaders, developers, school administrators, public health professionals, planners, researchers, environmental activists and interested citizens. The following is a sample of some of the workshop topics that were delivered:

- Active transportation
- Green space design
- Climate change and the built environment
- Traffic demand management; vision and strategic planning
- Healthy, sustainable planning and design
- Food systems and alternative transportation
- Incorporating public health into municipal decision-making
- Designing and building sustainable communities
- Walkability and growth plan review

Regional Forums

The local workshops set the stage for another component of the project - five regional forums that were held between February and June 2008. Each forum was either a day long or half day session and most followed a similar format, beginning with a welcome from a prominent local political figure such as a Mayor or Regional Chair. Forums typically featured either keynote speakers or panel discussions on the impacts of land-use planning practice on health. Specific examples were shared illustrative of 'healthy and smart' planning in each region. Various components of the HCBE project were presented and discussed. Following these presentations participants broke into small groups to discuss local strengths and successes as well as gaps that needed to be addressed. This input helped identify possibilities for continued or future collaboration.

OHCC's province-wide public engagement process generated a great deal of media interest. Local newspapers in participating communities covered the workshops and forums, with many providing detailed discussions.

Project Publications

An extensive body of research material was produced. The following reports and papers are available on the OHCC website at www.ohcc-ccso.ca.

Tucs, E. and Dempster, B. (2007). *Linking Health and the Built Environment: An Annotated Bibliography of Canadian and other Related Research.* **Toronto: Ontario Healthy Communities Coalition (available as a searchable data base or as a PDF document).**

"The primary intention of this literature review was to find and report on studies that identified and explored the relationships between the built environment and the health of Ontario's population, with attention to our diversity. The central interest was research from respected sources that elucidated significant health-related impacts and influences of land-use planning and the built environment upon populations in both urban and rural contexts – especially where the research might enable appropriate and innovative land-use planning and practice that could facilitate movement toward healthier communities."

Tucs, E. and Dempster, B. (2007). *Best and Promising Practices of Multi-Sectoral Collaboratives: Indicators for Reflection and Assessment.* **Toronto: Ontario Healthy Communities Coalition.**

"In the interests of assessing best and promising practices of multi-sectoral collaboratives, the intent of this research was to develop a suite of indicators. In keeping with the Healthy Communities and the Built Environment project, these indicators were directed

specifically toward collaboratives that included in their aims improvements in public health through changes in land use planning and/or the built environment. The indicators provided a framework that was applied in the associated project on developing case studies of such collaboratives."

R.A. Malatest & Associates (2007). *Building Healthy Communities Environmental Scan Final Report.* **Barrie: Simcoe Muskoka District Health Unit.**

"This report presents the findings from interviews conducted with representatives of 28 Health Units and 50 community / environmental organizations throughout Ontario. These findings are intended to help inform work to influence the built, natural, social and economic environments that affect the health of the population."

Bergeron, K. (2008). *Healthy Communities and the Built Environment Provincial Roundtable Final Report.* **Toronto: Ontario Healthy Communities Coalition.**

"The purpose of this report is to provide an overview and identified next steps from a roundtable held on June 12, 2008 at 89 Chestnut Street, Toronto, Ontario."

One World Inc. (2008). *Healthy Communities and the Built Environment Evaluation Report.* **Toronto: Ontario Healthy Communities Coalition.**

"The evaluation report of the Healthy Communities and the Built Environment project is based on a review of the regional public forums, a review of the community workshops, a post-process collective evaluation with Steering Committee members (including Ontario Healthy Communities Coalition [OHCC] staff0 and an evaluation by the community-based organizers of the workshops and forums."

Tucs, E., & Dempster, B. (2008). *Healthy Communities and the Built Environment: Principles and Practices of Multi-Sectoral Collaboratives.* **Toronto: Ontario Healthy Communities Coalition.**

"This report is a set of seven case studies focused on the experiences, lessons and best, good, and promising practices and principles of multisectoral collaboratives working to create healthier communities through community design, land use planning and planning policy development in Ontario."

EVALUATION AND OUTCOMES

The results of the HCBE project were documented and compared to anticipated outcomes by an external, professional evaluator. Areas of inquiry focused on relevance, effectiveness, process integrity, and lessons learned. The evaluation was conducted based on the following sources of data:

- A review of the community workshops;
- A review of the regional public forums;
- A post-process evaluation with steering committee members and project staff; and
- An evaluation by the community-based organizers of the workshops and forums.

Various methods were used to gather data - evaluation forms were handed out to workshop and forum participants, a teleconference was held with steering committee members, and local organizers were invited to participate in an e-survey.

Overall results were very positive. The consensus was that the workshops and forums had been successful and met everyone's expectations. The evaluator noted:

> "Feedback received from the participants, the organizers and the steering committee members showed clearly that the objectives of the workshops and the forums were met. The activities provided support for multi-sector collaboration to develop community plans and healthy land use policies. The workshops and forums increased awareness of the health impacts of the built environment, provided partners with opportunities to work together to provide information and exchange knowledge on healthy land use policies, on planning for healthier new communities and on practical ways to make existing communities healthier. The level of satisfaction with respect to the information provided, the opportunity to network and share with key partners and organizations was high. Furthermore, the participants felt that they were given an opportunity to speak and to be heard."[3]

From an organizational perspective it was felt that "much has been learned about contracting out with partners, that a lot was accomplished and the initiative was timely. [Steering committee] members enjoyed working with the various partners and were impressed at how well they collaborated."[4]

A number of post-project activities were reported. In Waterloo Region, for example, these focused on engaging academic, community-based and public sector stakeholders to explore the idea of creating a Centre for the Advancement of Healthy Communities.

Notwithstanding these positive messages, the project was not without its challenges. Chief among them was the fact that "the project management effort required was underestimated, particularly given the provincial reach of the project and the support provided to each community in developing a workshop appropriate to its context."[5] It was suggested that the level of time commitment that was necessary should be taken into consideration when organizing future events.

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[3] One World Inc. (2008). *Healthy Communities and the Built Environment Evaluation Report.* Toronto: Ontario Healthy Communities Coalition, p.17.
[4] Ibid, p.3.
[5] Ibid.

FOLLOW-UP WORKSHOPS AND CONSULTATIONS

After completion of the project OHCC staff and consultants continue to support the development, implementation, and evaluation of community projects aimed at creating healthier communities by improving the built environment. A wide range of facilitation services are available. Questions may be directed to OHCC or:

paulyoung@publicspaceworkshop.ca.

Lessons learned from the HCBE project:

✓ The topic of healthy communities and the built environment is of great interest to an interdisciplinary audience.

✓ People are interested in learning how to increase their effectiveness in concrete, action-oriented ways.

✓ Obtaining stakeholder buy-in right from the start is a critical element in any change process.

✓ Working across the province is a challenge - it takes time and it takes a core group of committed individuals.

✓ Contracting out is useful when support or expertise is needed that groups cannot otherwise provide. In this project it increased the capacity and opportunities for OHCC partners to be involved in project implementation.

MODULE 1. ACTIVE TRANSPORTATION

MAKING THE CASE FOR ACTIVE TRANSPORTATION

Kim Bergeron, Jill Ritchie, Sue Shikaze, Alicia Tyson, Lisa Kaldeway

This module will define active transportation and the role for community stakeholders; identify benefits to implementing active transportation opportunities within communities; identify the role of land-use planning and highlight three active transportation case studies.

Active Transportation and the Role for Community Stakeholders:

Active transportation refers to human-powered modes of transportation. The most common modes of active transportation are walking and cycling. Infrastructure that supports active transportation in communities includes sidewalks, trails, multi-use pathways, cycling lanes and roads. When this type of infrastructure is not present, in disrepair, not clearly marked or when proper safety measures such as lighting are not provided, engaging in active transportation becomes difficult. Therefore, there is a role for community stakeholders such as municipal elected officials and staff, public health professionals, non-government organizations and physical activity interest groups (i.e. cycling, walking or trail clubs) to work together to ensure that their community provides safe, accessible active transportation infrastructure for their residents.

Benefits of Active Transportation Opportunities:

There are health, economic, social, and environmental benefits for communities to provide active transportation opportunities to their residents.

Health Benefits:

Physical activity is associated with positive health outcomes, with improved fitness, and with physical, mental and social health. Coronary heart disease is the leading cause of death in Canada and is the largest source of direct and indirect health costs. Sedentary living is the most prevalent risk factor for coronary heart disease regardless of how sedentary is defined.[6] . Reducing Canadians' reliance on cars and increasing walking and cycling can increase physical activity levels, lower the risk of obesity, lower the risk of hospitalizations from asthma and address other health conditions such as heart disease, some cancers and type 2 diabetes caused by inactivity.[7] Research suggests that there is a great need for programs, policies, and practices that build environments in which routine physical activity is essentially a way of life.[8] This involves providing opportunities for physical activity, easy access to recreation, and reduced automobile dependency. Heart and Stroke Foundation of Canada[9] states the ability to walk or cycle safely in neighbourhoods is integral to being physically active, maintaining a healthy body weight, and increasing social interaction.

"We have made our generation the most sedentary in history."

Dr. Sheela Basrur, former Ontario Medical Officer of Health

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[6] Craig,C (2004). The impact of physical activity and the renewal of the health care system. *Canadian Fitness and Lifestyle Research Institute.* Retrieved October 6, 2008 from www.cflri.ca

[7] Frank, L., Kavage, S. & Litman, T. (2006). Promoting public health through smart growth: building healthier communities through transportation and land use policies and practices. *Smart Growth BC.* 1-43. Retrieved on October 10, 2008 from http://www.smartgrowth.bc.ca/Publications/

[8] Fenton, M. (2005). Battling America's epidemic of physical inactivity: Building more walkable, liveable communities. *Journal of Nutrition Education & Behaviour*, 37 [Supplement 2], s115-s118.

[9] Heart and Stroke Foundation of Canada (2006). *Tipping the scale of progress: Heart Disease and Stroke in Canada 2006*. Ottawa, Ontario.

Economic Benefits:

Economic benefits include reduction in development, public service and transportation costs.[10] Canadians engaging in more active modes of transportation will have the potential to lower the economic burden of obesity in Canada, which was estimated to cost $4.3 billion in 2001.[11] As a result, a reduction in health care costs will occur. Active transportation infrastructure supports local businesses as cyclists and pedestrians are more likely to spend their money at local destinations, thus increasing the economic viability within their community and increasing revenue for local business.[7, 10]

Social Benefits:

The social benefits of active transportation opportunities include the potential for a healthier population and the improved ability to interact and move within the community which can lead to a better quality of life. By spending more time commuting, and less time participating in recreational and community activities, connections among people – the social networks and the norms of reciprocity and trustworthiness that arise from them – are significantly reduced.[12] Mixed land use and downtown intensification can improve well-being by building community cohesion.

Active transportation can also increase the social capital of its residents. Social capital is defined as "the degree of citizen involvement in a community, the degree to which people know and trust their neighbours, and the numerous social interactions and transactions that people have as we go about our daily business."[7] Community designs that include active transportation infrastructure promote connected and supported communities both figuratively and physically. They provide *people* with choices to engage in opportunities in their daily lives that take them out of their private realm (home or car) and place them within the public realm (streets; parks; shops) more often. Moreover, researchers have found that "it may also help reduce unhealthy activities such as crime, drug use and alcoholism, because neighbours watch out for and help each other."[7]

Environmental Benefits:

Transport Canada[13] identified that urban passenger travel created almost half of the greenhouse gas emission of Canada's transportation sector, or approximately ¼ of Canada's natural total. Urban planning policies that promote other modes of transportation assist in the reduction of the number of vehicles traveling for daily events. This will create communities where pollution emissions and exposure are reduced. In addition, automobile dependent communities require more land for roads and parking than communities that are designed with active transportation infrastructure.[12] Smart Growth policies provide infrastructure that supports alternative modes of transportation, thus reducing a negative impact on the environment. Other environmental benefits

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[10] Litman, T. (2007). Evaluating criticism of smart growth. *Victoria Transport Policy Institute.* Victoria, B.C. 1-80. Retrieved on October10, 2008 from www.vtpi.org.
[11] Katzmarzyk, P. & Janssen, I. (2004). The economic costs associated with physical inactivity and obesity in Canada: An update." *Canadian Journal of Applied Physiology*, 29, 90-115.
[12] Putnam, R. (2000). Bowling along: The collapse and revival of American community. New York: Simon and Schuster.
[13] Transport Canada (2006). *Part 4: key issues in transportation and themes for 2007-2009* Ottawa, Ontario. Retrieved on October 10, 2008 from
http://www.tc.gc.ca/programs/environment/sd/sds0709/keyissues.htm

include: protection of green space; preservation of natural habitat and reduction of our ecological footprint.[10]

In summary the health, economic, social and environmental benefits of ensuring that there are active transportation opportunities in a community can create *efficient:* planning; communities; resource allocation; and transportation systems. This efficiency leads to cost savings at the local, provincial and federal level.

The Role of Land-use Planning:

How communities are designed and the land-use planning decisions determined at the municipal level have an impact on active transportation opportunities. Land-use planning decisions that don't take into account how people will move within and between neighbourhood, business and retail areas using human-powered means is in conflict with the current planning policies in Ontario. The Ontario Planning Act[14] and the Ontario Provincial Policy Statement[15] include clear direction to municipalities to build strong healthy communities by "a) planning public streets, spaces and facilities to be safe, meet the needs of pedestrians, and facilitate pedestrian and non-motorized movement, including but not limited to walking and cycling; b) Providing for a full range and equitable distribution of publicly-accessible built and natural settings for *recreation*, including facilities, parklands, open spaces areas, trails, and where practical, water-based resources (Section 1.5.1.)"[15]. Therefore, there is provincial support for municipal decision-makers to design their communities to provide active transportation opportunities. Moreover, the Ontario Professional Planners Institute, of which most municipal land-use planners are members, supports the current planning direction and has identified five priorities for action.

Land-use planning for Active Transportation can lead to Creating Active Communities:

Promoting active transportation, weighing-in on land-use planning and encouraging changes to the environment to make the healthy choice the easy choice for residents can lead to creating active communities. An active community is "where the built and social environments support and enable healthy active living by providing opportunities for people to engage in daily physical activity. Active communities are created when community stakeholders, decision-makers, interest groups and residents place value on and work towards: the health, safety and quality of life for all individuals; environmental sustainability; and equal access to all for opportunities to be physically active. Active communities are vibrant and economically successful because they encourage healthy activity, social interaction and citizen engagement."[16] The concept of active communities provides the overarching framework to engage those interested in promoting the benefits of physical activity (i.e. active transportation) to work together for a common vision for their community.

Actions to consider that will make your community more Active Transportation friendly:

1. *Encourage mixed development.*
2. *Build well-connected pedestrian and bicycle networks.*
3. *Redesign and retrofit existing high-volume roads to improve access for pedestrians and cyclists.*
4. *Install traffic calming measures to increase safety for pedestrians and cyclists.*
5. *Create pleasant, attractive, legible and human-scale settings. Human scale means design with people in mind and not cars.*
6. *Shift the financial incentive balance from driving to walking and cycling.*
7. *Making walking or biking socially desirable*

Heart Health Resource Centre @heart newsletter, Issue 24, Winter 2007

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[14] Ontario Ministry of Municipal Affairs and Housing. (2006). *Ontario Planning Legislation*. Queen's Printer for Ontario, Toronto, Canada.

[15] Ontario Ministry of Municipal Affairs and Housing. (2005). *Provincial Policy Statement*. Queen's Printer for Ontario, Toronto, Canada.

[16] Physical Activity Team of the HKPR District Health Unit and Health for Life. (2007). *Active Communities Charter*. Haliburton, Kawartha, Pine Ridge District Health Unit, Port Hope, Ontario.

Ontario Professional Planners Institute Call to Action

Five Priorities:

1. *Implement healthier land use and transportation design.*
2. *Balance walking and cycling and transit use with automobile use.*
3. *Address air quality related to mixed land uses and higher densities.*
4. *Plan for different community needs including high growth and declining economies.*
5. *Enable communities to take control and manage growth in a healthy and sustainable fashion.*

http://www.ontarioplanners.on.ca /pdf/HSC_Call_to_Action_2007.pdf

The following pages describe three case studies of how active transportation opportunities are being implemented in rural and small community settings through the development of community partnerships and land-use planning. Each case study highlights the problem the community faced, their opportunity to make a difference and what they did, how they did it and what they accomplished.

Figure 1: Children's Rates of Walking or Cycling to School
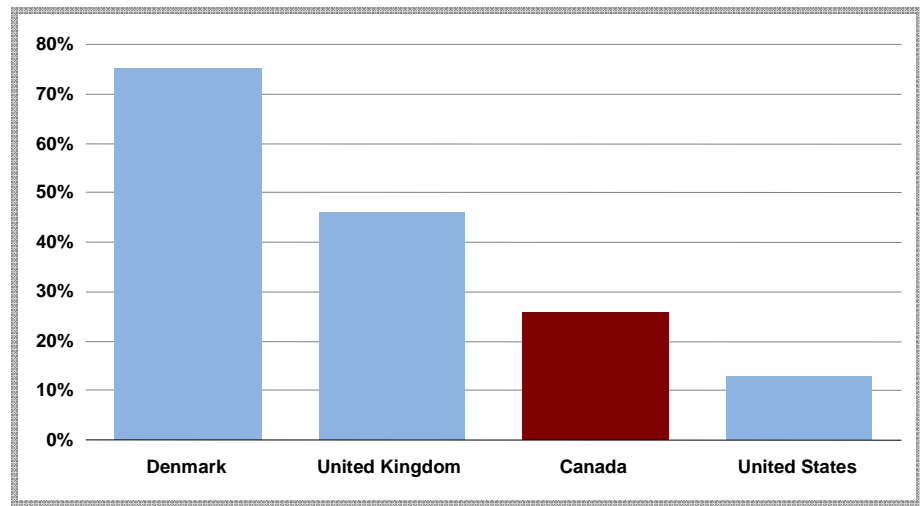
Source: Federation of Canadian Municipalities: Centre for Sustainable Community Development

CASE STUDY: STUDENTS ON THE MOVE – ACTIVE AND SAFE ROUTES TO SCHOOL PARTNERSHIP IN PETERBOROUGH

Active and Safe Routes to School – Peterborough is a partnership between public health, school transportation services, municipal transportation planning, environmental educators and local school boards. Our goal is to promote active and efficient transportation for a safer, healthier and greener community.

Problem:

Every day children in Peterborough, a mid-sized city of about 75,000 residents, make the trip to and from school. Some of them walk or ride their bicycle. Others are driven in their family car and many of them ride a school bus. In 2006, the City of Peterborough began developing a Sidewalk Strategic Plan in consultation with local walking advocates. The purpose of this plan is to assist with prioritizing spending on sidewalks by ranking missing segments and ramps based on a consistent set of criteria that includes proximity to a school walking route. Through the consultation process, it emerged that students were being bussed within school walkout zones because of a lack of sidewalks. At two schools in the southeast end of the city, 285 students (45% of students eligible for bussing) who lived within the walkout distance were qualified for a school bus due to the absence of a sidewalk on the collector road adjacent to the schools. Providing bussing to these students places a financial burden upon local school board budgets. It is also an indication that the design of the neighbourhood is failing to provide children with opportunities for incidental physical activity such as walking or cycling to school.

Opportunity:

In 2006, the sidewalk was built on the collector road. Changes to school bus eligibility were scheduled for September 2007. Active and Safe Routes to School-Peterborough recognized that there was an opportunity to assist families with choosing safer, greener, and healthier travel options.

What we did: *Students on the Move*

Active and Safe Routes to School-Peterborough implemented a *Students on the Move* project. The purpose of this project was to gain a better understanding of how students at the two schools travel to and from school, to learn more about what factors influenced families' transportation choices, and to develop child-friendly maps of the community to assist with planning the trip to school. This project is generously supported by Safe Kids Canada and FedEx.

How we did it:

- Conducted a Student Travel Survey

- Conducted a Family Survey

- Engaged in neighbourhood walkabouts and consultation with municipal land information services

Students on the Move is an initiative to create child-friendly maps that assist families with planning their trip to school. This project is generously supported by Safe Kids Canada and FedEx.

In 2006, Ontario spent $720 million dollars bussing children to school.

-Upper Grand District School Board Transportation Consortium

What we found:

From the Student Travel Survey:

- Among the students who lived less than 1 km from the school, 22% of the students at one school and 63% of the students at the other school ride the school bus.

- Among the students who lived less than 1 km from the school, 31% at one school and 11% at the other school are driven.

From the Family Survey:

- Weather, traffic, time and fear of bullies/abduction were the top factors affecting their choice of transportation on the trip to school.

- To the question, "what would make it easier for your child(ren) to walk or bike to school?", many parents answered that sidewalks were a major concern. A parent suggested it would be easier for their child to walk to school "if there were sidewalks on all the streets." Another respondent noted, "During the past summer, new sidewalks were completed – this makes it much safer for our child."

- Several families indicated that the presence of crossing guards would make it easier for them to let their children walk to school. A preference for the school bus was also evident. One parent wrote, "I think the bus is the best way. The bus guarantees they arrive at school safely and home again safely. I'd rather be certain of my child's safety rather than save money with bus cut backs and such."

What we produced:

Based on these findings the Active and Safe Routes to School-Peterborough (ASRTSP) partnership worked with a graphic designer to develop a child-friendly map that features information such as safe drop off zones, places to park and walk, local playgrounds, the location of adult crossing guards and posted speed limits. ASRTSP distributed and evaluated the child-friendly maps during October 2008.

What we experienced along the way: Roadblocks

Progress towards changing the school bus policy and improving the walkability of the local neighbourhoods was affected by some unexpected challenges.

- *Walkways and crossing guards*

The changes to school bus eligibility were to be supported by the improvement of a walkway along the edge of a cemetery. Parents were concerned about their children's personal safety along the walkway and wanted an adult crossing guard located at one end of it. The City determined that this location did not meet its criteria for an adult crossing guard. This dispute resulted in the bus changes and the walkway improvements being delayed for one year.

- *Sidewalk debate*

The families also wanted a sidewalk to be built along an adjoining road. Since this sidewalk was also determined to be a high priority by the Sidewalk Strategic Plan, the City budgeted for its construction. Other local residents, however, raised concerns about the construction of the sidewalk. The City delayed construction of the sidewalk until public consultation could be completed. This delayed the bussing changes and the walkway improvements again indefinitely.

What we learned along the way:

The ongoing costs of bussing the students and the conflict created by efforts to add needed sidewalks are a clear illustration of the importance of ensuring that infrastructure that supports active transportation is included when new developments are being designed and constructed.

Our successes include:

Municipal Sidewalk Policies

In March 2008, Peterborough City Council adopted a 14-year implementation schedule for Priority 1 and 2 sidewalks identified in the Sidewalk Strategic Plan. The Sidewalk Strategic Plan is an analytical tool that prioritizes all segments of missing sidewalk, facilitating high cost-benefit ratios for sidewalk infrastructure spending. Peterborough City Council also adopted a new *Provision of Sidewalk Policy* that clarifies that sidewalks should be provided on both sides of the street in all developments, including redevelopments and new developments. The new policy also states that sidewalk ramps should be provided at all legal crossings points.

Progress on Cycling Route Development

In the last five years Peterborough has expanded and improved its bikeways network through the creation of a 4.2 kilometre multi-use trail, improved existing trail surfaces, and constructed a bridge for pedestrians and cyclists over the Trent Canal. In 2007 the City added on-street cycling lanes along several key routes.

"If just nine families participate regularly in a Walking School Bus over the course of a school year, they can collectively prevent almost 1,000 kg of carbon dioxide from being released into the atmosphere."

www.saferoutestoschool.ca

CASE STUDY: CREATING ACTIVE RURAL COMMUNITIES - CYCLING AND ACTIVE TRANSPORTATION PLANNING IN HALIBURTON COUNTY[17]

Haliburton County is a large rural area located about 220 km north of Toronto, Ontario. It is over 4,500 square km in size, with a landscape of lakes and forest. The county has a year-round population of about 17,000 and expands to approximately 65,000 during the summer with cottagers. Two main villages, Minden and Haliburton, located about 24 km apart, are the hubs of most social and economic activity. There are smaller hamlets located throughout the county.

Problem:

Some of the challenges a rural community faces when promoting active transportation include large distances between destinations (20 km or more); a prevalent "car culture"; an extensive road network and a small tax base, so that the focus on transportation tends to be on maintaining existing roads for cars rather than creating or improving walking or cycling infrastructure. As well, there are limited resources within municipal governments to make planning for active communities a priority.

Opportunity:

Different sectors in the community recognized that adding walking and cycling to the local planning agenda would require initiative from interested citizens and organizations.

What we did: Formed Two Community Coalitions

In 2004, the Communities in Action Committee (CIA) formed to begin promotion and planning for active transportation. In 2005, the Haliburton Highlands Cycling Coalition (HHCC) was formed to advocate and plan for cycling. The main goals for both these coalitions are to advocate for active transportation and cycling at the municipal level, and to promote both broadly throughout the community.

What we engaged in:

Developing Partnerships. Bringing stakeholders onto the coalitions helped to raise public and political awareness of active transportation and cycling. Between the CIA and HHCC, sectors represented on the committees include public health, tourism, economic development, trails, community-based research, transportation planning, municipal recreation and community development. Other important stakeholders such as education and municipal governments are provided with regular updates and opportunities for input.

Planning. Both the CIA and HHCC have hired and worked with consultants to develop plans and used those plans as advocacy tools and action strategies with municipal governments. The CIA completed an Active Transportation Plan for Minden. The HHCC completed a Cycling Master Plan for Haliburton County.

Advocacy. Both coalitions emphasized long-term advocacy with decision makers as the key to seeing the plans come to fruition. The coalitions understood that much of the implementation, particularly around physical infrastructure, requires leadership from and partnership with local governments.

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[17] Sections of the Haliburton County Case Study have been published at
http://www.bicyclinginfo.org/library/details.cfm?id=4279

Promotion. Promotion of active transportation messages to the public focused on village hubs and promoted a doable message. The "Park the Car and Get Movin'!" campaign encouraged people to park their cars in free parking areas and walk to do their errands when they are in town. The HHCC approached promotion by holding events. Each May/June a series of cycling workshops and rides are organized to encourage people to get out and cycle, culminating in a Cycling Festival in June to bring people together to celebrate bicycling with fun events and activities for the whole family.

Small-town opportunities. One of the greatest opportunities in a rural community is its small-town nature. Key individuals wear many different hats, so when someone joins a coalition under one official hat, they also bring their unofficial hats with them. For example, one of the trail representatives on the CIA is also the county roads engineer. He is very generous about sharing his professional expertise and insights into the planning process even though he is there in a different capacity.

Changes that we influenced:

The work of both coalitions is ongoing. Successful advocacy to make active transportation and cycling a planning priority takes time, with success measured in small steps. The past three years have brought these specific achievements:

- Municipalities purchased and installed bike racks, and provided in-kind support to install active transportation signs.
- Four municipalities hosted events for the World Record Walk in October 2007, which demonstrated their interest in promoting walking.
- Increased interest and engagement from municipal and county councils and staff, through participation in workshops and community forums hosted by the CIA and HHCC. In 2007, Minden Hills council also adopted the International Charter for Walking.
- Municipalities have contributed funding for two important trail projects in Haliburton and Minden; these trails are key active transportation corridors.
- Financial contribution from local council towards 2008 Cycling Festival.
- A successful letter-writing campaign to the county advocating for paved shoulders on an upcoming road reconstruction project.
- Increased public participation in an annual cycling festival and workshops.

Additional Outcomes we have experienced:

A particularly important intangible success is the social development that continues to happen through both projects. New networks and partnerships form when people volunteer at or attend events or participate in focus groups. This process builds human capacity in the community for future planning and advocacy work. In addition, these projects have raised awareness about the benefits of healthy active living. More people have been observed walking, cycling, and participating in activities such as the commuter challenge.

*"The medium is the message" holds true in a small community, where prominent community members who are **early adopters** catch the attention of everyday people. Prominent people are easily identified, and word of mouth is one of the most effective ways to get a message out. As more people express their values by walking (and cycling) the talk, they send a message to local politicians, which can influence decision making.*

Active Communities Charter – A Roadmap for Policy Development

The Active Communities Charter outlines values and principles to help guide decision-making and policy development to support active, healthy living. The Charter also provides a useful, evidence-based "container" that can help generate a vision or strategic direction for municipalities that will make walking and cycling priorities in decision-making. Municipalities and community-based organizations are encouraged to endorse the Charter as is, or use the document as a starting point for developing their unique charter for moving forward on an active community design framework. The Charter can be viewed and endorsed online at: http://www.hkpr.on.ca/uploadedFiles/ActiveComm Charter(1).pdf

Our successes include:

Completion of an Active Transportation Plan for Minden & Cycling Master Plan for Haliburton County:

These plans have been presented to county and municipal councils as tools to help guide planning. What is unique about these plans is that they were commissioned and created by community-based organizations, rather than the municipality or county. In this way, these groups have enhanced the capacity of municipalities and have introduced themselves as partners in the planning process.

Stronger Partnership with Municipalities:

County and municipalities are increasingly recognizing community-based groups such as the Communities in Action Committee & Haliburton Highlands Cycling Coalition as credible resources and partners. The County recently approached both of these groups to partner on a proposal for Transportation Demand Management funds. As well, the Municipalities of Minden Hills and Dysart have sent council and staff representatives to workshops and public forums hosted by these partnerships.

CASE STUDY: CREATING AN ACTIVE COMMUNITY AT THE DISTRICT LEVEL - ACTIVE TRANSPORTATION IN MUSKOKA

During the past decade, many organizations and community groups have been promoting the active living message in the District of Muskoka. Awareness and education campaigns were successful in bringing the necessary attention to the issue. Community events, contests and promotions engaged residents in physical activities. Walking clubs and mayor's walks were established in each municipality to support active living practices. An active living policy was created for municipal day camps. A tremendous amount of time and resources were invested in the promotion of physical activity creating awareness of the issue. However, it was soon realized that in order to support and sustain healthy active living, the community infrastructure needed to support the behaviour change.

Problem:

How to move a health promotion strategy aimed at increasing physical activity levels in individuals into a strategy that creates a supportive social and built environment that promotes and sustains healthy active living.

Opportunity:

There was a natural progression in the development of this strategy project by project, year after year. The focus slowly shifted from the exclusive promotion of physical activity to individuals to the inclusion of a broader scope or bigger picture vision that included the social and built environments as integral components in the creation of a healthy active community. This movement evolved over time and reflects the development of an Active Transportation Strategy in the District of Muskoka.

What we did: Developed Partnerships

Active Trails Muskoka

In 2005, a district-wide committee, Active Trails Muskoka (ATM), was established to create a "Map Clip" that featured trails from each municipality in the district. Support was provided through a "Communities in Action Fund" grant (Ontario Ministry of Health Promotion), Take Heart Muskoka (OHHP-Taking Action for Healthy Living community partnership) and municipal councils. The objectives of this project were to create a physical support for physical activity, to promote Muskoka trails, to include all municipalities, to develop a district focus on trails and to encourage collaboration between trails committees, municipalities and community groups.

Muskoka Trails Council (MTC)

The Muskoka Trails Council (MTC) was instrumental in the Active Trails Muskoka project. Members of MTC provided support for and promotion of the Map Clip. The same year the Map Clips were released, the MTC hosted a Trails Summit. This was an excellent event supporting and promoting Muskoka trails, the environment and the promotion of the Map Clips. Active Trails Muskoka committee members presented a session on the benefits of physical activity for optimal health and the link to trail use for healthy active living at the Trails Summit.

What we engaged in: Knowledge Exchange Events

Two important knowledge exchange events: Active Transportation Workshop and Designing Active Communities Strategic Session were held. These paved the way for the development of stronger partnerships and the implementation of an active transportation strategy across the District.

Active Transportation Workshop

On September 14, 2006, the Muskoka Trails Council and Take Heart Muskoka, with assistance from the Ontario Ministry of Health Promotion, hosted a *Go for Green* Active Transportation (AT) Workshop in Bracebridge. Over 75 interested community members attended the one-day event. A *10 Step Action Plan* and a district-wide vision statement were created to unite these groups and to guide AT projects toward a common goal. Ultimately, it was discovered that even though the language was different among community groups, a common vision existed among all represented partners.

Common Vision:

> *"Muskoka will have an active transportation network that is safe and accessible. These environmentally sound routes will sustain a healthy active lifestyle for everyone."*

Community Active Transportation Committee

An additional outcome of the AT workshop was the creation of a community Active Transportation Committee. This grassroots committee was established under the umbrella of the Muskoka Trails Council. The initial goal of this committee was to raise awareness of Active Transportation and accomplish the tasks outlined in the *10 Step Action Plan.*

District Ad-hoc Active Transportation Committee

As a result of the tremendous community interest in Active Transportation and in addition to the *community* Active Transportation Committee, a District Municipality of Muskoka Ad-hoc Active Transportation Committee was established. This committee held a number of community consultations on the topic of AT. Based on a review of community committee meetings, recent discussions with area municipal staff and other key stakeholders, and the recent public consultations, it was recommended that a *District Active Transportation Strategy* include the following components:

- Recommended role for the District of Muskoka in funding active transportation initiatives and, if necessary, criteria to ensure consistent review of funding requests;
- Compilation of an inventory of existing active transportation routes;
- Development of an active transportation network focused on Muskoka Roads;
- Recommended Official Plan policy and development guidelines;
- Recommendations for coordination with other government agencies and non-profit organizations;
- Recommended principles and criteria that would assist Muskoka's Engineering and Public Works Department in the review of road reconstruction projects as it relates to active transportation.
- Furthermore, the groups indicated that stronger official plan policy, Muskoka-wide subdivision design guidelines and possibly some provision for active transportation considerations within municipal development charge by-laws are potential areas to explore in a District Active Transportation Strategy.

- It was also suggested that efforts be focused on better coordinating road projects so as to incorporate road widening, sidewalks and other active transportation infrastructure in a comprehensive manner. In general, a more seamless active transportation network is desired.

Designing Active Communities Strategic Session

On November 23, 2007, the community Active Transportation Committee, Muskoka Trails Council, and Take Heart Muskoka collaborated to host an Ontario Healthy Communities Coalition "Healthy Communities & the Built Environment" community forum. The Muskoka event, "Designing Active Communities" strategic session was designed to create an opportunity for community partners to put their knowledge into action. Objectives for the session were:

- Network with key stakeholders;
- Learn about an active community framework;
- Receive tips and tools to support an active District of Muskoka;
- Participate in round table discussions to identify next steps.

Community stakeholders participated in identifying local barriers to creating active communities, solutions to overcome those barriers and to reflect on the solutions identifying which level of government (Provincial, District or Municipal) was responsible for implementing those solutions.

What we learned along the way:

There is no single right answer and many possible solutions. The evolution of an active transportation strategy takes time, commitment and the involvement of many community partners. Every active community will have similar strategic elements but will ultimately reflect the unique needs of each community, their state of readiness, available resources, the community partners involved, the natural environment, the current infrastructure and their stage of development. Although the paths may be different, the goal is the same – healthy active communities.

Our Successes include:

Community Mobilization:

There has been tremendous interest and involvement in Active Transportation by many community partners across the District of Muskoka. There is a great mix of participants representing many various community groups, agencies, networks, volunteer organizations and clubs. Participants are comprised of municipal staff members, paid employees, community volunteers, decision makers and interested citizens. Both the private sector and public sector are represented. Collaboration between community groups has fostered coordination between sectors, reduced duplication and combined resources to increase overall capacity. This is a win/win situation for all.

District Municipality of Muskoka's Role in Active Transportation

The District Municipality of Muskoka has played an integral role in the success of active transportation initiatives. Shortly after the district-wide AT workshop, an Active Transportation Committee was created by District Council and an annual line item of $200,000.00 was established in the budget. This commitment to active transportation by

the District Municipality of Muskoka enhances the work being accomplished at both the municipal and grass roots levels thus creating synergy between these groups and helping to advance an AT strategy in a comprehensive and timely manner.

Active Transportation Routes and Trails Systems are Interconnected in Rural Settings.

In the District of Muskoka, there is a connection between 'purposeful' and 'recreational' infrastructure. It was found that although in some instances purposeful and recreational routes require different forms of infrastructure, the most effective method for designing an active Muskoka was the combination of these initiatives by both district and area municipalities in order to accommodate and best support our dispersed populations and communities, and municipalities with relatively small budgets.

Concluding Remarks

The overview and case studies have provided a lot of information, lessons learned, challenges and successes when partnering with community stakeholders to develop active transportation opportunities or design active communities in Ontario. We would like to leave you with a summary of our collective lessons learned from engaging in this work.

Developing Partnerships is Imperative

- Multidisciplinary collaboration leads to exponentially greater impact.
- Especially in a small community, there is strength in coalitions. Seek out other individuals and organizations to see if their goals can fit with yours. Having many varied interests represented on a coalition increases your ability to connect with other key individuals and organizations in the community, with the added benefit that often one person wears more than one "hat" at the table. Building a strong network increases your profile, credibility and gives you access to greater information, resources and expertise.
- Public health needs to make the time to develop professional relationships with Municipal Planners, Engineers and Parks and Recreation specialists. Not only are these three professionals essential to moving forward in making changes to the way communities are designed, but they often understand the concept of healthy and active communities, are interested in improving the quality of life for residents and can be your best supporters.
- Find your municipal champion, build a relationship, and use your relationship with them to get a foot in the door. It is important for the interest of 'health' to be represented in planning decisions – whether this is through representation on the development pre-consultation meetings or being on the list to review development proposals.

Work at Different Levels: Individual, Community and Policy
- It is important to work at both the policy and practical levels. Work at the big picture changes (policy), but also individual/community level (practical). This means engaging different groups: decision makers (policy), community members (practical) to help engage all. Top down and bottom up – and hopefully meet in the middle!
- Focus efforts on embedding the concepts of active community design into municipal policy documents. This means that you are not creating recommendations for each development proposal. If the municipality sets the rules at the outset, they are harder to argue.
- It is much easier and economical to include active transportation facilities in the initial design and construction of new developments.

MODULE 2. MENTAL HEALTH

THE BUILT ENVIRONMENT AND MENTAL HEALTH: IMPACT, CHALLENGES AND PROPOSED SOLUTIONS
Nimira Lalani

The environment has generally moved further up the agenda over recent years, and, indeed, became one of the central political issues upon which different political parties positioned themselves in the recent federal election. The "built environment", defined as everything that has been built, created or modified by people is contrasted with the "natural environment", which generally refers to air, water and land (Williams & Wright, 2007). Many definitions of mental health exist; however, the author shares the views of other researchers and policy-makers who distinguish between mental health and mental illness, as this distinction can help to draw attention to the myriad influences on mental health, beyond biology, and encourage a more holistic view of mental health (Public Health Agency of Canada, 2006). The fact that we both live in an environment and enjoy, to varying degrees, a certain level of mental health is obvious, if not articulated. However, the relationship between the two has been a relatively under-researched area, compared to the research in existence on the built environment and physical health. In this section, I will explore why this is an important area to investigate, how the built environment can exert its effects, either directly or indirectly on mental health and well-being (drawing from the literature and my own experiences), and what can be done to foster more mentally healthy communities.

Why We Should Care: the Emerging Evidence

From a public health perspective, the built environment is rapidly moving up the agenda as a central influencing factor on people's health and well-being. The built environment is now convincingly linked to the degree to which people engage in physical activity, have access to healthy and affordable food, have a sense of belonging to their neighbours and community, and enjoy a certain level of life satisfaction (Butterworth, 2000; Frank et al, 2006; Jackson & Kochtitzky, 2007; Heart and Stroke Foundation, 2007). Obesity and overweight statistics are at their highest levels ever, putting Canadians at risk for a smorgasbord of different – and multiple - chronic diseases, including cancer, diabetes and cardiovascular disease (e.g., Healthy Weights, Healthy Lives, 2004; Canadian Cancer Society/Cancer Care Ontario, 2006; Heart and Stroke Foundation, 2007; Lau, 2007). The recognition of the role the environment plays in contributing to these problems has even led to a new term: the "obesogenic" environment. People who are overweight and/or obese suffer not just the negative physical consequences of excess weight, but also the psychological pain associated with a society that is, paradoxically, becoming increasingly weight-obsessed (McVey, Adair, de Groh & Collier, 2008). A contributing factor to excess weight gain, and a powerful influence on mental health, is physical inactivity. The Physical Activity Report Card recently granted Canada a "D" - or failing grade - for children and youth (Active Healthy Kids Canada, 2008). Given that physical activity is known to be as effective a treatment for such mental health problems as anxiety and depression and an important factor in promoting mental health (Public Health Agency of Canada, 2006; Jackson & Kochtitzky, 2007), designing environments to increase opportunities for physical activity can be both mentally protective and therapeutic for individuals and communities.

The built environment in North America, with its partiality for car-dependent suburbs, while offering convenience and privacy to those with cars, is unintentionally undermining overall community health by widening the physical and social distances between neighbours, amenities and workplaces. The cost of spread-out urban development, known as "urban sprawl", is now being recognised as significantly contributing to overall health and well-being (Bray, Vakil & Elliott, 2005; Williams & Wright, 2007). Several reasons have been proposed as explanations. First, the lack of walkable areas in such communities can diminish opportunities for social contact and trust as people rely on cars to move around. Such environments can contribute to social isolation and a loss of connection (e.g., Leyden, 2003) and can be more acutely felt by vulnerable groups such as women, older people and people with disabilities (Ontario College of Family Physicians, 2005). People living in areas which have limited or no public transit are forced to move to areas with stronger transportation links when they age, thus undermining their continuity in their original communities (Frumkin, 2002). Second, the longer distances involved in commuting can contribute to driver stress and its associated ill-effects (high blood pressure, etc.), even leading to more aggressive driving and an increase in "road rage" types of behaviours (Frumkin, 2002; Bray et al, 2005; Williams & Wright, 2007).

Environments that encourage more cars on the road (travelling at faster speeds because of long distances and wide roads) while providing only limited walkable areas increase the risk of road traffic accidents and casualties. Third, greater urban sprawl takes its toll on the natural environment by leading to destruction of habitats for other species. This impacts on mental health through the lack of opportunity to engage with the natural environment (Frumkin, 2003; Ontario College of Family Physicians, 2005). However, it should be noted that not all studies point to a conclusive relationship between urban sprawl and mental health – indeed, the research remains mixed and inconclusive, with some studies pointing out that high density in urban areas can lead to similar effects: a sense of limited personal control and therefore reduced mental well-being (Freeman, 2001 cited in Williams & Wright, 2007). Perhaps neither extreme bodes well for mental health and it is the ability to exercise a *choice* between safeguarding one's privacy and interacting with one's community that remains important (e.g., Halpern, 1995).

So far, we have looked at the impact of the built environment on the physical health of communities, and, indirectly, on impacts on mental health. From a spiritual point of view, people develop strong attachments to places, which mould their personal and collective identity (Butterworth, 2000). In many cultures, one's attachment to the land of one's forebears is, and remains, deep. Forced separation and/or broken attachments to these places, as has been the case for many Canadian Aboriginals, can leave deep psychological wounds that have been likened to the grief of losing an important personal relationship (Butterworth, 2000). The term "ontological security" (Giddens, 1984 cited in Butterworth, 2000) refers to the sense of security that one has in the day-to-day predictability of everyday life, which frees one up to pursue more 'higher level' needs. The impacts of poor quality housing are not equally distributed: people from low socioeconomic backgrounds and/or from certain minority ethnic communities are at greater risk of experiencing ontological insecurity, due to inferior quality housing and certain characteristics of their housing (e.g., high-rise, proximity to sources of noise, greater crowdedness; Srinivasan et al, 2003; Evans, 2003). Poor quality and/or insecure housing has been linked to poor psychological health (Galea, Ahern, Rudestine, Wallace & Vlahov, 2005) and depressed immune systems (Srinivasan, O'Fallon, & Dearry, 2003). Frumkin (2003) cites the importance of "healthy places" and engaging in collaborative, interdisciplinary research to unpick the elements of this concept.

Challenges with the Evidence

The relationship between the built environment and mental health is not always straightforward, in part because of the complexities and breadth of both concepts. Unlike more objective measures of physical health, multiple definitions of mental health abound and many are contested, differing not just between, but also within, cultures and disciplines (Fernando, 2002). In addition, research findings can unearth more questions than answers: for example, do less mentally healthy people end up in less healthy environments (the 'drift' hypothesis) or does the (built) environment itself contribute to more or less mentally healthy communities (the 'selection' hypothesis; Halpern, 1995)? Are observed associations due to such aspects of the built environment as cumulative psychosocial stress and/or concentrated disadvantage (e.g., absence of green space, greater exposure to violence and trauma, etc.; Galea at al, 2005)? Much of the research in this area is cross-sectional, rather than (quasi)- experimental, making temporal relationships difficult to identify (Weich, Blanchard, Prince, Burton, Erens & Sproston, 2002; Evans, 2003). In addition, it is difficult to tease out the individual contributions of different environmental factors on health and well-being. How, for example, does one know what the relative contribution of housing design and other environmental characteristics (physical, spatial, social, etc.) have on (mental) health? Are strategies and interventions focused on preventing mental illness similar to, or the same as, the ones which will promote a more holistic version of mental health?

Proposed Solutions

The solutions are multi-faceted and draw on a range of different partners. From a research perspective, Evans (2003) and Galea et al (2005) have proposed that stronger research designs be applied to studies that seek to elucidate the psychosocial and biological process underlying the links between the built environment and mental health. Srinivasan et al (2003) has called for greater research into sustainable communities and for different disciplines to form coalitions so that they can meaningfully answer questions related to the characteristics of safe neighbourhoods, safe and affordable housing, provision of green spaces and access to public transportation. Frumkin (2003) has echoed the need for inter-disciplinary collaborations across diverse disciplines (e.g., health, urban planning, architecture, transportation engineering, environmental psychology, and geography).

While we do need more research, we also need to adopt a 'precautionary principled' approach to action by taking steps now to implement what "works": this includes creating and designing walkable, mixed-use environments with access to green space, services and facilities. From a health equity perspective, priority should be given to those areas with existing high levels of mental and/or physical ill-health and/or with high levels of people from identified "vulnerable groups". Such an approach will also have economic benefits in that long-term health costs associated with chronic disease will be lowered.

Canadians themselves can take on a more active role by engaging with their neighbourhood/community association and assessing their environment for its accessibility to nearby shops, services, public transit, etc. The public can engage in dialogues with municipal planners and the private sector to discuss retrofitting less walkable communities and developing communities that promote physical and mental well-being (Heart and Stroke Foundation of Canada, 2007). Efforts to engage community residents as active and equally valued participants in all stages of the development of community design, including the health impact assessments of different policies, should

be encouraged by professionals and the public (e.g., public health, urban planning) and private sectors (e.g., architecture). Such involvement would bridge the professional-user gap between architects and residents and better ensure that environments are designed more democratically, thus helping to bolster residents' ownership and tenure in their community (Butterworth, 2000).

A Final Note

As an immigrant twice-over, I have experienced living in multiple dwellings in a variety of Canadian cities as well as in inner-city areas in Europe. This experience has afforded me the opportunity to reflect on the impact of the built environment on my mental health. I too experienced the sense of isolation and disconnection when living in a car-dependent suburb near Toronto, with limited access to shops and meeting places. I too am familiar with threats to my own ontological security from experiencing housing instability and from the loss of my connection to my original homeland. More positively, I definitely felt safer and more connected in more affluent neighbourhoods where housing complexes were low-rise, services and amenities were within walkable range, all of which facilitated social contact between neighbours. This 'lived experience' has underscored my interest and passion in this area and has enabled me to validate the research in this field.

In Conclusion

As the World Health Organisation [WHO] has aptly noted, health is more than the absence of illness or disease (WHO, 1948). By the same token, the built environment is "more than just bricks and mortar" (Halpern, 1995) and mental health is more than (just) the absence of mental illness. As social and sentient beings, our collective physical, mental and spiritual well-being is influenced by a range of different, interacting factors that shape our "choices" to engage in healthy and productive living, whether this be in terms of physical activity or the less tangible quality of life. While disciplines have evolved more or less individualistically (and sometimes competitively), effective public health action requires a multi- and inter-disciplinary approach that views health as holistically and multi-dimensionally as the WHO and "sustainable communities" as a subject worthy of thoughtful consideration by multiple stakeholders.

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TRANSPORTATION: A VEHICLE FOR MENTAL HEALTH
Michelle Gold

Transportation affects mental health. Access to goods and services, recreation and the workplace is the purpose of transportation, and uncontrolled or poorly designed land use results in barriers to access and poorer mental health. The cost of transportation can also prevent people from getting to the places, goods, and services they need to be healthy.

Urban sprawl – low-density, car-dependent suburbs on the outskirts of metropolitan areas – typically results in residents spending a significant amount of time commuting. Long hours in traffic have been found to generate feelings of distress and frustration, back pain and high rates of heart disease, arthritis and asthma. Lengthy commutes and traffic congestion affect blood pressure and mood, increase workplace absenteeism, reduce time for community participation, and lessen overall life satisfaction.[1]

There is also evidence that the design of roadways impacts mental health by influencing community cohesion, sense of belonging and social support. Excessive vehicle traffic in neighbourhoods reduces resident interaction, thereby lowering opportunities for social support. Traffic noise has been shown to induce sleeplessness, irritability and depression. The disruptive effects of wide, fast moving or congested roadways have been referred to as a "community severance effect."[2] In one study, residents in high-traffic streets were more likely to withdraw from the street – drawing blinds, closing windows and walking less. However, residents in low-traffic streets were more likely to interact with others in their neighbourhood, and had three times as many friends and twice as many acquaintances.

Mental health is also affected by "locational disadvantage." Because of geographic location, certain populations have limited access to goods, services, education, jobs, and social and recreational opportunities. This is a major challenge in northern, remote and rural communities, whose populations have poorer health on average than people living in urban areas.[3,4] The distance factor, compounded by insufficient transportation options, has been found to reduce utilization of non-acute health care in rural populations.[5]

To lessen this impact, organizations in many Ontario communities operate specialized transportation programs that take people to a variety of supportive resources, including mental health services. This is particularly important in rural and remote areas that lack public transportation. Such programs, often utilizing a bus or other multi-person vehicle, may also have a vocational component, providing client-drivers with training and a paid work experience. Yet while either operated by volunteers or primarily financed through local grants or targeted fundraising activities, the programs appear to be necessary short-term fixes, rather than long-term transportation strategies.

In 1986, the World Health Organization met in Ottawa and declared *supportive environments* to be one of five key strategies to promote health. The Ottawa Charter for Health Promotion recommended that the built environment be monitored to ensure "positive benefit to the health of the public."[6] With this in mind, it is encouraging to note that transportation planning is beginning to shift from a narrow focus on mobility – the movement of people and goods, generally only resulting in highway and public transit development – to accessibility-based analysis.[7] Accessibility-based transportation planning broadens the lens by looking at ways to improve options for reaching desired goods,

"19% of people cycling to work reported that their commute was the most pleasant activity of their day. This was true of just 2% of drivers."

-Statistics Canada's Canadian Social Trend report, 2005

services, and activities. With this approach, walking, cycling, telecommunication and land use planning are all considered.

Accessibility-based planning recognizes three aspects of land use design that influence transportation and have implications for mental and physical health: density, land use mix and connectivity.[8] Density refers to the concentration of structures and activities within an area, which determines the distance to one's destination. High density land use has the potential to support alternative, more active modes of transportation, such as walking and cycling. This contributes to a sense of community and promotes physical activity that enhances health. Mixed-use zoning supports integrated blends of residential, commercial, cultural, recreational and civic structures. Connectivity is the degree to which transportation networks, including streets, railways, walking and cycling routes, interconnect. Good connections create more accessible destinations and travel routes that are attractive, vibrant and safe. Higher density, mixed-use zoning, supported by good connectivity, increases access to desired destinations. It also expands options, lessens travel time and lowers transportation costs.

Affordability of transportation also affects people's access to goods, services and activities, such as health care, education, work and recreation. Improving affordability can generate significant economic, social and health benefits for people with low incomes, as reducing transportation costs is equivalent to an increase in income. It is essential to maximize the availability and affordability of transportation options to support access, taking into account people's needs and abilities.

Some communities have already found effective ways to do so. In Ottawa, the Community Pass Pilot Program discounted the cost of a public transit pass for people receiving income support through the Ontario Disability Support Program, including people with a mental health disabilitiy.[9] Beyond decreased financial pressures, the majority of users reported significant increases in mobility and sense of well-being. Having affordable public transit increased the number of activities people participated in outside the home, including visiting family and friends, going to medical and dental appointments, and attending cultural events and clubs or groups. Three-quarters of participants reported an increase in independence and improved feelings of self-worth, and about half described improvements in their mental health.

Transportation is clearly a determinant of health. We all need to be able to get to the places, goods, services and people that sustain our physical and mental well-being. If we are to lessen the negative impacts of poorly designed and insufficient transportation systems, land use planning must incorporate elements of design into the built environment that enhance accessibility and affordability. Our health is depending on it.

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MODULE 3. PARKS AND PUBLIC SPACES

PARKS AS ACTIVITY PROMOTING ELEMENTS OF THE BUILT ENVIRONMENT
Andrew T. Kaczynski

Parks are increasingly regarded as important community resources that confer numerous types of benefits to both individuals and society. For example, parks can facilitate environmental benefits (e.g., reducing air pollution), economic benefits (e.g., enhancing real estate values), and psychological benefits (e.g., mental restoration), to name but a few of their contributions to the communities in which they are found. However, in recent years, parks are being especially recognized for their ability to promote health and physical activity (Bedimo-Rung, Mowen, & Cohen, 2005; Kaczynski & Henderson, 2008).

Interest in the relationship between parks and physical activity has been fuelled by the wider adoption of social ecological models in public health. Social ecological models posit that an individual's behaviour is influenced by both personal and interpersonal factors as well as his or her surroundings (Sallis & Owen, 2008). In physical activity contexts, social ecological models often emphasize the role of the built environment in restricting or facilitating active behaviours, and they embrace numerous fields that may contribute to increasing active living such as urban planning, economics, political science, transportation systems, and parks and recreation (Sallis et al., 2006). This section explores current evidence linking parks with physical activity, including the level of physical activity that occurs in parks and the role of park proximity and park design in encouraging greater activity among children and adults.

Proximity to Parks and Physical Activity

Over the past decade, a significant amount of research has documented how various factors in the built environment are related to physical activity (Humpel et al., 2002; Saelens, Sallis, & Frank, 2003; Saelens & Handy, 2008). Parks have often been featured as a key variable within this body of literature. The prevailing evidence generally suggests that living closer to parks has a positive impact on residents' physical activity levels (Mowen, Kaczynski, & Cohen, 2008). In their review of built environment and physical activity studies published prior to 2006, Kaczynski and Henderson (2007) found that 14 of 20 articles that included parks or open space reported at least some, if not entirely, positive associations between park availability, access, use, or proximity and respondents' physical activity levels.

For example, in one study, adults who had used parks in the past month were over four times more likely to meet public health recommendations of engaging in physical activity at least five times per week for more than thirty minutes per episode (Deshpande et al., 2005). In other research, the level of neighbourhood walking engaged in by older adults in Portland was significantly associated with both the total acreage of green space in the neighbourhood and the number of parks, paths, and trails per neighbourhood acre (Fisher et al., 2004; Li, Fisher, Brownson, & Bosworth, 2005). Similar results have been reported among the fewer studies that have examined youth (Roemmich et al., 2006; Frank, Kerr, Chapman, & Sallis, 2007). In one study, when the youths' access to sedentary activities (e.g., video games) was restricted, their physical activity levels increased and this increase was magnified with a greater amount of nearby parkland. For Example, living in an area with a large community park versus an area with no neighbourhood park was associated with an increase of almost 40 minutes of moderate-to-vigorous physical activity per day (Epstein et al., 2006).

Table 1: Associations between Types of Park or Recreation Settings and Physical Activity

Type of Setting	Total N	Positive Association	Mixed Associations	No Association
Trails	17	7	7	3
Parks	13	4	4	5
Open space	7	5	1	1
Recreation centers	7	4		3
Exercise facilities	4	2	1	1
Sports facilities	3		1	2
Swimming pools	3	1		2
Golf courses	3	3		
Lake/beach/coast	3	2	1	

Source: Kaczynski & Henderson, 2007; includes studies published up to 2006

Table 1 provides a summary of research on how different types of recreation settings are associated with physical activity (this table and more detail on the individual studies included in it can be found in Kaczynski & Henderson, 2007). In most of these studies, participants were asked about the availability of different resources in their neighbourhood (or "nearby" or "within walking distance") and about how physically active they generally were. As is clear from the table, more research has examined natural settings such as trails, parks, and open space. These types of outdoor resources, including golf courses and coastal areas (i.e., lake/beach/coast), also appear to show stronger relationships with physical activity, as evidenced by the number of studies that reported a positive or mixed association (at least some positive relationships) rather than no association. In contrast, indoor or more built facilities (e.g., recreation centers, exercises facilities, sports facilities, swimming pools) were somewhat less likely to show positive associations with physical activity. Parks and other outdoor resources may be more strongly-related to physical activity because of their wide-spread distribution throughout communities, their aesthetic attractiveness, their intergenerational appeal, or the usually free cost to access them. Moreover, participation in physical activities at indoor facilities may require specialized equipment or skills or may be intimidating to people who are not acclimated to the written and unwritten rules and behaviours expected in such settings. These and other ideas about the physical activity-promoting potential of different types of recreation infrastructure investments should be investigated further in future research.

Unfortunately, research on proximity to parks and physical activity in Canadian settings is rather limited to date. Chad et al. (2005) studied adults aged 50 years and older in Saskatoon, Saskatchewan and inquired about the presence of numerous park- and recreation-related facilities within a 5-minute walk or drive from their homes. Among this sample, significantly higher physical activity scores were observed for respondents reporting the presence of a nearby biking trail, walking/hiking trail, golf course, public park, skating rink, swimming pool, and tennis courts. Another study with adults in Waterloo, Ontario examined how three variables – the number and total size of neighbourhood parks within 1 km of participants' homes as well as distance to the closest park – were associated with participants' levels of moderate-to-strenuous physical activity in three contexts: total, neighbourhood-based, and park-based (Kaczynski, Potwarka, Smale & Havitz, 2009). In general, it was found that the number and total area of nearby parks were significant predictors of physical activity that occurred in neighbourhoods and parks, but that distance to the closest park did not play a significant role in predicting moderate-to-strenuous physical activity in any of the three contexts. As well, living near more parks and parkland showed more positive relationships with physical activity among

women than men, and among younger (18 to 34 years) and older (55+ years) adults rather than middle-aged adults (35-54 years). These types of studies continue to emerge from Canadian communities but more research is still needed to better understand the role of parks and other recreation facilities in promoting physical activity and active living in Canadian contexts.

Physical Activity in Parks

In addition to survey techniques that have documented the relationships described above, other innovative methodologies have been used for examining the association between parks and physical activity. For example, systematic observation procedures have been developed for documenting the physical activity behaviours of people in unstructured settings (McKenzie, Cohen, Sehgal, Williamson, & Golinelli, 2006). Using these techniques, Cohen et al. (2007) recorded between 524-4628 observations in each of eight parks in several minority communities in Los Angeles over the course of a week. They found that 66% of all park users were sedentary, 19% were walking, and 16% were engaged in more vigorous physical activity. Males were twice as likely to be vigorously active as females, and females were also less likely to use the neighbourhood parks. They also reported that both park users and neighbourhood residents stated that a nearby park was their most common place for exercise. In another study, observations of 29 total parks in Chicago and Tampa found similar results in that 11% of park users engaged in vigorous activity, 23% were observed walking, and 65% were classified as sedentary (Floyd, Spengler, Maddock, Gobster, & Suau, 2008).

Collectively, this small but growing body of research suggests that a range of physical activity intensities occur in parks, including a great deal of sedentary behaviour. This latter observation should not be cause to denigrate parks for at least a couple of reasons. First, parks facilitate a wide variety of benefits for users (e.g., social activities, stress relief), many of which are accomplished through less active pursuits. Second, the large number of parks in most communities and the large numbers of people who use them suggest that even if less than half of all park visitors engage in moderate or vigorous intensity activities, significant population-level health benefits are still being realized. This section focuses on the activity benefits of parks but methodologies to observe physical activity should also be combined more often with interviews of park participants to gather additional information about their use of parks and their motivations and perceived benefits for doing so. Similarly, as is discussed in the next section, behaviour observation and interview data should also be paired with information on park attributes and features to provide a more comprehensive picture of how park environments impact physical activity therein.

Park Design and Physical Activity

In addition to studies that have investigated the availability of parks in neighbourhoods or that have observed physical activity in these settings, other research has shown that the design of parks may be just as, if not more, important than residents' proximity to them. For example, in one study of 33 parks in Waterloo, Ontario, it was found that the number of features in the park was more important than its size or its distance from study participants, and that having a trail in the park was the most important factor in determining whether or not it was used during the course of the study (Kaczynski, Potwarka, & Saelens, 2008). Another study of physical activity behaviour in 12 parks in Australia, "confirmed that fewer people use public open space with fewer attributes" (p. 174). From these few examples, it appears that park environments that possess a multitude of features are patronized more often, perhaps because they facilitate a greater variety of physical activity behaviours.

In examining specific park features, Cohen et al. (2006) found that several elements of parks were related to varying increments in non-school physical activity among adolescent girls. With respect to facilities, girls who lived near (<0.5 miles) parks with playgrounds, basketball courts, multi-purpose rooms (usually gymnasia), walking paths, swimming areas, and tracks had higher levels of non-school physical activity. However, living near parks with skateboard areas and areas for lawn games were negatively related to physical activity. With respect to amenities, nearby parks with streetlights, floodlights, shaded areas, and drinking fountains were all related to greater weekly minutes of physical activity. In another study, Potwarka, Kaczynski, and Flack (2008) found that being a healthy weight (rather than at risk or overweight) among 2-17 year olds was not related to the number of parks within 1 km of home, the total area of parkland within 1 km, or the distance to the closest park from home. However, in looking at specific park facilities, children with a playground within 1 km of home were almost five times more likely to be classified as being a healthy weight compared to those children without playgrounds in nearby parks.

Emerging research suggests that playgrounds can contribute to physical activity and healthy weights among children.

Other studies have directly observed physical activity levels in specific areas within parks. For example, in four suburban parks in a south-eastern U.S. city, it was found that visitors' use of playgrounds, courts, and paths was significantly related to higher intensity activity, while use of shelters was related to lower intensity activity (Shores & West, 2008). In Floyd et al.'s (2008) study, the greatest energy expenditure in Tampa parks was observed in racquet sport areas and basketball courts, while dog play areas, picnic shelters, and fishing piers were associated with the lowest energy expenditure. In Chicago parks, energy expenditure per person on basketball courts, playgrounds, and soccer fields was significantly higher than that observed on baseball/softball fields.

An emerging body of research suggests that parks designed with more features offer greater opportunities for physical activity and that certain facilities (e.g., trails, courts, playgrounds) are more strongly-related to park-based physical activity. However, more research is needed to identify those areas of parks that encourage greater activity as well as park areas and attributes that can negatively impact visitors' physical activity participation.

Figure 2: Playground at Waterloo Park, Waterloo, Ontario

Summary

In summary, in addition to their numerous other documented benefits, parks can facilitate increased physical activity and active living behaviours. With careful design, parks can be attractive and healthy community assets, especially perhaps for children and older adults whose mobility and activity may be more restricted to their immediate neighbourhood environments. The current evidence suggests that there is enormous potential for parks to increase physical activity across Canada and both researchers and practitioners should consider these important community resources in future health promotion efforts.

Despite recent advancements in understanding of how parks are related to physical activity, several areas remain for future research and physical activity promotion. For example, almost all research on parks and physical activity to date has used cross-sectional study designs where physical activity and park availability are measured at the same point in time (Kaczynski & Henderson, 2007). Thus, it is difficult to ascertain if proximity to parks increases physical activity behaviour or if people who already enjoy using parks for physical activity simply choose to live near these resources. In future, it will be valuable to examine longitudinal changes in physical activity behaviour when a new park is built (or substantially modified) in a neighbourhood or when individuals move between areas that are more or less endowed with park space. Such situations represent prime opportunities for collaboration between researchers and practitioners interested in the physical activity benefits of parks.

As well, the ability of parks to facilitate improved physical activity levels and health in disadvantaged areas of communities needs to be better understood and promoted. Statistics show that people with lower incomes and from minority backgrounds tend to have poorer physical activity participation. This may be explained by fewer intrapersonal resources, such as less disposable income and less education about the benefits of physical activity. However, research also shows that areas with a greater disadvantaged population frequently have fewer environmental resources that might support physical activity (Taylor, Poston, Jones & Kraft, 2006). This phenomenon has been referred to as "deprivation amplification" (Macintyre, 2007). Although the findings of some studies have not supported this idea (Abercrombie et al., 2008), others have found significant disparities in the availability of parks or recreation facilities by income level or racial composition of neighbourhoods (Gordon-Larsen et al., 2006; Moore et al., 2008; Powell et al., 2006). For example, Estabrooks et al. (2003) reported that low, medium and high socio-economic status (SES) neighbourhoods did not differ in their number of pay-for-use facilities, but low and medium SES neighbourhoods had significantly fewer free-for-use resources than high SES neighbourhoods. Further, an observational study of 28 parks in six Montreal neighbourhoods found that parks located in areas where residents had poorer health were more likely to have physical incivilities (e.g., litter, graffiti), limited provision of facilities for exercise, and be located adjacent to industrial sites and multi-lane roads (Coen & Ross, 2006). Overall, more research and discussion is needed to better understand why these disparities often exist in communities and how parks might promote environmental justice and mitigate the health-demoting effect of living in a socio-economically disadvantaged area (Taylor, Floyd, Whitt-Glover, & Brooks, 2007).

In conclusion, parks appear to be an important physical activity resource for youth, adults, and older adults. More collaborative research is needed between academics and professionals, but given their ubiquity and relatively low cost of service provision, it is likely that thoughtfully-designed parks have significant untapped potential for population-level physical activity promotion.

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INCORPORATING COMMUNITY GARDENS INTO GROWING URBAN ENVIRONMENTS[18]

Candace Wormsbecker

Community gardens offer a wide spectrum of benefits to a community and serve a diverse group of people. The benefits of community gardens are varied and are summarized here in four broad categories: health, personal well being, community development and environmental.

The Public Health Agency of Canada (2008) has stated the two main health benefits that community garden participants experience are physical activity and stress relief. Gardening is considered a moderate to intense form of exercise and uses all three types of recommended activities – endurance, flexibility, and strength activities. Gardening also provides a source of fresh fruits and vegetables to those that may not otherwise have access.

In a study conducted with community garden coordinators in the Region of Waterloo it was reported that community gardens provide them with a sense of personal well-being through stress relief, education, and the creation of friendships (Dow, 2003). Community gardens can provide low-income families a sense of independence, skill development, food security and economic savings. Additionally, they provide access to culturally appropriate fruits and vegetables that may be otherwise unavailable (Wakefield et al, 2007).

The benefits of community gardens to the larger community include: beautifying the area, providing a sense of community, increasing feelings of safety and community pride, as well as providing a broader food security by becoming less reliant on global imports (Dow, 2003).

Community gardens can also have a positive impact on surrounding property values. Voicu and Been (2006) determined that community gardens had a significant increase for property values in New York City. They found that property values immediately within the vicinity of the gardens increased by 9.4% over a five year period. Not only did the immediate property values go up, the city also estimated they will receive a financial benefit of $503 million from taxes over the next 20 years.

Community gardens can also benefit the community by converting neglected spaces into positive spaces for the community. Under-utilized and empty spaces are readily exploited by criminals (McKay, 1998; Kuo, & Sullivan, 2001). Community gardens help to eliminate these problems by reclaiming ownership of these spaces through the constant presence of people. At one community garden in Kitchener, police incidents surrounding the garden site dropped by 30% the first year of the garden and by 55.7% in following years (McKay, 1998). In addition to the decrease in crime, residents also had less concerns about property vandalism and walking in their community at night.

Environmental benefits of community gardens include increasing pervious surfaces and allowing for groundwater recharge, improving air quality through the addition of plants to the landscape, beautifying the environment and promoting sustainability (Dow, 2003). Community gardens offer a unique contribution to the urban built environment by providing a "hands-on" learning opportunity to gain knowledge of the natural world (Public Health Agency of Canada, 2006).

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[18] Thanks to Lyle Petersen, Carol Popovic, and Charity Fleming for their contributions

Challenges to Gardening in an Urban Environment

Despite all their benefits, community gardens continue to come and go for a variety of reasons. Some of the challenges community gardens face (as mentioned by community garden coordinators) unique to an urban environment include: land insecurity, access to land, public transportation access, water supply, vandalism, and Not In My Back Yard Syndrome (Dow, 2003).

With many gardens located on land the gardeners do not own this can be a challenge. The land that the community garden is located on could be taken away and used for other purposes if the landowner decides (North American Urban Agriculture Committee, 2003). In Waterloo Region this is particularly a concern for community gardens in the downtown core as pressures mount for densification (Dow, 2003). As land becomes intensified, the pockets that are left will increase in value, and threaten the use of the land for gardening. Not only is land difficult to find, there are also concerns over historical contamination of the land that is available. Producing safe food in an urban environment can therefore become a challenge (North American Urban Agriculture Committee, 2003).

Finding land on a transit route and with a water source can also be an issue. Even when gardeners find a place to set up a garden, many have trouble securing a water source. If accessibility and water availability are impossible or very challenging, this increases the likelihood that a garden will not succeed.

Vandalism is another concern, especially for gardens located in high traffic areas. Vandalism can range from stealing of produce to the destruction of property and equipment.

Although for the most part the community can be very supportive of the community gardens being implemented, if one or two people oppose the idea it can easily prevent a community garden from developing. Without community support for the garden it makes it difficult to start or to succeed.

Community Gardening in the Region of Waterloo – The Current Situation

Currently there are 39 community gardens in the Region. These gardens are scattered throughout the Region, but are mainly located in the urban areas of Kitchener and Waterloo. These gardens are located on private properties, church properties, community centres, and some on city owned land. Every community garden is unique in how it operates, but the majority of the community gardens are set up as individual plots that community members can 'rent' for the season.

In a survey conducted by Region of Waterloo Public Health in 2005, 38% of respondents reported growing some of their own food, with 90% of these respondents using a backyard garden to grow these foods (RWPH, 2005). Despite only about one third of the citizens actively engaged in growing their own food, 70% stated growing their own food is important to them. This same survey revealed that 2% of respondents garden in community gardens (RWPH, 2005).

There are some opportunities for support for these community gardens from the local municipalities. Presently, the City of Kitchener provides both in-kind support as well as financial support to their gardens. They will provide shelters, water, and waste pick-up to some of their gardens, in addition to a $1,000 grant to new garden start-ups. The City of

Waterloo is also slowly making strides through their Partners in Parks Program. As part of this program the City has agreed to provide passive public parkland for use as community gardens.

Growth of the Region

If Waterloo Region is to successfully respond to the challenges and opportunities of population growth, planners must have an understanding of how to balance growth and housing demands while still preserving urban agriculture opportunities which can enhance residents' quality of life. (Dow, 2003)

Waterloo Region is currently the fourth largest urban area in Ontario and tenth largest in Canada (ROW, 2008). It is also one of the fastest growing urban areas in Ontario and is projected to grow from just over half a million currently to 712,000 people by 2029, a 35% increase. Almost one-third of these migrants will have been born outside Canada, and as the baby boomers age, the region will have a significantly higher percentage of seniors.

In light of this growth projection the Region is opting to take a more progressive approach to growth management; by focusing on sustainability and attempting to balance the needs of the rural and urban communities as well as current and future generations.

Re-urbanization and densification will be a focus of development for the region over the next 20years (ROW, 2008). Most of the region's future growth will be "planned to create a more compact urban form with a wider mix of employment, housing and services in close proximity to each other". However, the revised Regional Official Plan (ROP) will also attempt to find a proper balance between the built and natural environment by preserving and enhancing urban green spaces. New areas of development will still occur but these will ensure that greenfield areas be planned to conserve and incorporate "any *environmental features* and *cultural heritage resources* as prominent neighbourhood features". New developments will also be required to support the creation of *complete communities*[19].

In doing this, the Region is moving forward in support of community gardens. The Region does call on area municipalities to "improve and facilitate access to fresh produce and other healthy foods in all residential areas" and supporting urban agriculture and community gardens is specifically mentioned as one way to achieve this (ROW, 2008).

Municipal Supports Needed to Sustain Gardens

Additional, municipal government help is necessary, however, for community garden start-up and maintenance. The most important role local governments can play is to ensure public land is available and protected for the creation and sustainability of community gardens. This involves amending land use policies, making community gardens a priority in city planning, mapping green space, and implementing a sustainability plan for community gardens.

In moving forward and ensuring community gardens' existence and growth it is therefore important that planners are proactive when they designate land uses and that community gardens are a part of the original plan rather than an afterthought (Dow, 2003). In this way

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[19] Communities that "provide for the needs of all residents, foster social equity, inclusion and collaboration and encourage healthy lifestyles" (ROW, 2008).

all the factors that are needed for a successful community garden can be made a priority, i.e. land that is free of contamination, located in close proximity to neighbourhoods, and has access to water and waste removal. Providing incentives to entice developers to put community gardens in their plans or develop green roofs may be one way to do this (Public Health Law & Policy & Raimi and Associates, 2008). In conjunction, setting a community garden standard of at least one garden for every 2500 households may also help ensure land is available for gardening.

Mapping available green space and devising plans to protect these areas, where appropriate, for gardening is essential to ensuring a community's long-term food security. This could be aided by ensuring community gardens are allowed in all zoning types and that gardens are protected from confiscation in areas of high growth.

Redirecting some of the municipal funds for urban parks to aid in the development and maintenance of community gardens would help provide not only a recreational activity for citizens but would also play an important role in alleviating poverty in the community. This money could be used to assist gardens in supplying needed resources such as water, compost and soil.

Conclusions & Implications for Growth Management

Community gardens' grassroots nature has brought communities together and provided many benefits to the individuals and neighbourhoods in their proximity. Despite the success of many of these community driven projects, as quickly as success can come so can defeat. Many community gardens struggle with challenges that could easily be alleviated with additional support from the neighbourhood in which they reside.

Recognizing gardening as a legitimate recreational activity, and community gardens as sources of food security and providers of important environmental benefits may be the first start. From here, the protection and use of green spaces for community gardens may make more sense. With the strong interest of citizens in this Region (and elsewhere) in growing their own food this is another impetus to providing more supports to community gardens.

The Regional Official Plan that is being considered for this area has the potential to provide for the protection and development of community gardens given that the Planning Act also requires that Area Municipalities bring their official plans into conformity with the Regional Official Plan. However, with pressures to increase densification, protecting green space from outside pressures for development will likely remain a challenge, especially in the downtown core and in close proximity to transit. Incentives and tools will therefore need to be developed to encourage municipal planners to carry through on supportive urban agricultural policies.

The revised Regional Official Plan offers promising support for community gardens. However, ensuring this support results in lands, funds, and needed resources will be an integral part of the success of community gardens in the built environment.

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NEIGHBOURHOOD HEALTH PRIORITIES ACROSS DIVERSE COMMUNITIES AND BUILT FORMS

Alexis Kane Speer and James Dunn

In real life only diverse surroundings have the practical power of inducing a natural, continuing flow of life and use… The ability of a neighbourhood park to stimulate passionate attachment, or conversely, only apathy, seems to have little or nothing to do with the income or occupations of a population in a district (Jacobs).

The importance of neighbourhood social, economic, service and built environments on health is an increasing concern among urban residents, as well as urban planning and public health professionals (CIHI 2006). Urban dwellers identify features of their local environment as a factor that affects their health. The accessibility and quality of public space, an element of the local social and built environment, is increasingly recognized as contributing to community health. Local health priorities vary by neighbourhood, but recent data collected from four low income neighbourhoods in Toronto casts new light on the importance of public spaces. These findings have implications for policy and practice in urban planning and public health.

From the Social to the Spatial Determinants of Health

The social determinants of health cannot be understood outside of the physical context in which they exist. Research suggests that public space, which is (in principle) free and accessible to all, can form the basis of place attachment or a positive affective bond between individuals and the environment by providing opportunities for promoting community life (Rivlin 1983). Psychological sense of community, a feeling that members have of belonging, of mattering to one another and to the group, and a shared faith that members' needs will be met through their commitment to be together (McMillan & Chavis 1986), has been found associated with better health among Canadians (Ross 2002; Statistics Canada 2005). Studies have shown that access to public green spaces significantly contributes to social inclusion, while lack of access to green spaces and community facilities, as independent variables, have been found significantly associated with poor mental health (Guite et al 2006). The availability of collective resources, such as public spaces, may buffer the poorer health often found in deprived neighbourhoods. This is particularly disconcerting given that people with low income are more likely to live in deprived neighbourhoods and may be less able to purchase goods and services privately, making them more reliant on collective resources (Stafford & Marmot 2003).

Neighbourhood Health on Trial: Research and Findings

This section reports the findings of open-ended survey questions on neighbourhood health priorities for randomly selected residents of four Toronto low-income neighbourhoods. In a larger survey that included items on access to health care, neighbourhood services and amenities, health-related behaviours, social support, as well as self-perceived physical and mental health, respondents were asked to name up to three issues that in their opinion are 'the greatest priority for improving the health of residents' in their neighbourhood. Priorities were coded and categorized to investigate the extent to which residents of each neighbourhood viewed public space as a health priority and to identify specific public space concerns. In addition to calculating the prevalence of priority issues, we sought to investigate differences in health priorities between residents of the four neighbourhoods, as well as differences by gender and immigrant status in Canada.

The neighbourhoods in this study were chosen for their contrasting built forms, in addition to their demographic composition and level of available services. Each of the four neighbourhoods represents a different type of built form: urban high-rise (St. Jamestown); urban low-rise (South Parkdale); aging suburb (Weston-Mt. Denis); and sprawling suburb (Eglinton East). Selecting neighbourhoods with contrasting built environments provided the opportunity to explore the interaction between a neighbourhood's built environment, and the extent to which its residents view public space as a health priority. In addition, two of the neighbourhoods studied, Weston-Mt. Denis and Eglinton East, are "priority" under-serviced neighbourhoods as defined by the City of Toronto (City of Toronto 2008b).

The data presented in the following section were drawn from an open-ended question that asked respondents to name "the greatest priority for improving the health of residents" in their neighbourhood and can be found in Table 2. The sample consisted of a total of 785 respondents. Females made up just over half of the total sample (53.9%), and 61.3% of respondents were foreign-born. Neighbourhood health priorities were named by 604 of respondents, 76.9% of the total sample. The issues named were coded into the following categories: 'health care issues' (32.2% of all respondents); 'community social issues' (22.0% of all respondents); 'environmental issues' (18.7% of all respondents); 'other service delivery issues' (13.1% of all respondents); 'housing issues' (10.1% of all respondents); 'food security issues' (3.8% of all respondents) and 'other amenities issues' (2.3% of all respondents). 'Environmental issues' included references to public space and were further analyzed as a subset of responses.

Summary of Findings

Neighbourhood health priorities varied by neighbourhood, gender and immigrant status. While health care provision was the most commonly cited health priority in all four

Table 2: Neighbourhood Health Priority Issues by Neighbourhood

	Eglinton East	South Parkdale	St. Jamestown	Weston-Mt. Denis	Total
Health Care Issues	39.8% (49)	35.1% (69)	30.0% (68)	28.2% (67)	**32.2% (253)**
Community Social Issues	12.2% (15)	31.0% (61)	23.0% (52)	19.0% (45)	**22.0% (173)**
Environmental Issues	22.8% (28)	37.4% (46)	21.1% (48)	20.2% (48)	**21.7% (170)**
Other Service Delivery Issues	8.1% (10)	27.6% (34)	13.2% (30)	12.2% (29)	**13.1% (103)**
Housing Issues	**	20.0% (24)	11.5% (26)	9.7% (23)	**10.1% (79)**
Food Issues	**	**	**	**	**3.8% (30)**
Other Amenity Issues	**	**	**	**	**2.3% (18)**
No Issues	**	**	**	**	**2.9% (23)**
Don't Know	8.9% (11)	7.1% (14)	6.6% (15)	7.1% (17)	**7.3% (57)**
No Response	13.8% (17)	10.7% (21)	15.9% (36)	21.0% (50)	**15.8% (124)**
Total	**100% (123)**	**100% (197)**	**100% (227)**	**100% (238)**	**100% (785)**

**numbers suppressed due to low counts

Table 3: Environmental Health Issues by Neighbourhood

	Eglinton East	South Parkdale	St. Jamestown	Weston-Mt. Denis	Total
Recreational/ Community Gathering Space Issue	50% (14)	45.7% (21)	22.9% (11)	35.4% (17)	**37.1% (63)**
General Public Space Quality Issue	21.4% (6)	30.4% (14)	41.7% (20)	39.6% (19)	**34.7% (59)**
Green Space Issue	25.0% (7)	19.6% (9)	31.2% (15)	16.7% (8)	**22.9% (39)**
Other Environmental Issues	**	13.0% (6)	22.9% (11)	14.6% (7)	**15.9% (27)**
Total	**100% (28)**	**100% (46)**	**100% (48)**	**100% (48)**	**100% (170)**

**numbers suppressed due to low counts

neighbourhoods (ranging from 28.6% of respondents in Weston-Mt. Denis to 39.8% of respondents in Eglinton East), the second most common priority varied. In Weston-Mt. Denis, South Parkdale and Eglinton East, 'environmental issues' was the second most commonly reported priority (followed by 'community social issues'). Respondents from the 'urban high-rise' neighbourhood St. Jamestown reported 'community social issues' as their second most commonly cited health priority (followed closely by 'environmental issues'). It is noteworthy that South Parkdale respondents reported nearly twice as many 'environmental issues' (37.4%) as respondents from the other three neighbourhoods. Each neighbourhood reported the remaining types of issues in the following order: 'other service delivery issues', 'housing issues', 'food issues' and 'other amenities issues'.

When 'environmental issues' were further analyzed as a subset of responses, respondents, regardless of their neighbourhood, gender or whether they were newcomers to Canada, viewed public space as a health priority (see Table 3). Of the 170 respondents who named at least one 'environmental issue', 86.5% (147) named at least one 'public space issue' and some respondents named multiple public space issues (18.7% all respondents). An astounding 94.7% (161) of the environmental issues named were directly related to access or quality of neighbourhood public spaces. Of the 147 respondents who named environmental issues as a priority, 37.1% named issues concerning neighbourhood recreational facilities and community gathering spaces (8.0% overall), such as needing "a place for people to come together" or more specialized facilities to accommodate seniors and youth; 22.9% named issues concerning neighbourhood green spaces (5.0% overall), such as "not to cut nature…plant more trees and improve playgrounds", as well as park cleanliness, the presence of litter and loitering individuals; 34.7% named issues concerning the overall general quality of their neighbourhood public spaces, like the street (7.5% overall), such as increased street safety for cyclists and children, sidewalk quality, garbage disposal and "awareness to keep area clean"; and 15.9% named issues concerning other environmental problems, such as air quality (3.4% overall). Overall, 2.9% (23) of survey respondents reported that they had 'no issues', 7.3% (57) reported that they 'did not know' their neighbourhood health priorities and 15.8% (124) of respondents did not answer the question at all.

Not surprisingly, 'recreational facility/community gathering space issues' were most commonly cited among respondents from the two under-serviced 'priority' neighbourhoods (a factor considered by the City of Toronto for this designation), while residents of St. Jamestown and Weston-Mt. Denis were more likely to report issues related to general public space quality. Nearly one-third (31.2%) of the 48 'environmental issues' raised in the highest

density neighbourhood (St. Jamestown) were related to green spaces, almost twice the proportion of those in the low-density neighbourhood of Weston-Mt. Denis at 16.7% (8).

The data suggest that public space is considered a health priority in its own right, and valued separate from the quality of the overall physical environment. It is notable that not just people who are concerned with the environment in general reported public space as one of their health priorities; only 3.4% (5) of respondents who reported that public space was a priority also reported 'other environmental issues', such as pollution. Furthermore, nearly three-quarters (71.1%) of respondents who reported at least one 'community social issue' also named at least one 'public space issue' and some respondents reported 'pubic space issues' that were simultaneously 'community social issues', such as the need for recreational facilities to keep youth "busy and off the street". Given that many people named both 'public space issues' and 'community social issues' among their neighbourhood health priorities suggests that residents may be aware of the role that neighbourhood public spaces play in the social environment of their communities.

When comparing the overall neighbourhood health priorities of men and women, very little variation emerged. Women were more likely to report 'community social issues' as their second most common priority, while men were more likely to report 'environmental issues' (both report health care as their top priority) – but this difference was within 2% and unlikely to reflect substantial variation in priorities. Where there was gender variation, however, was in the types of 'environmental issues' raised by each subgroup. The most commonly cited type of 'environmental issue' reported by men were those concerning recreational facilities, reported by 41.9% (31) of the 69 men who reported 'environmental issues', while women were most likely to report issues relating to green spaces, reported by 23.2% (22) of the 95 women. Finally, women were more likely to report issues concerning general public space quality than men, at 36.8% (35) and 32.4% (24) respectively.

Larger variations were found between Canadian and foreign-born respondents. While environmental issues was the second most common issue type raised (following 'health care issues') by foreign-born respondents, it was third among Canadian-born respondents. Foreign-born respondents were more likely to report health care concerns, such as a lack of appropriate services in relevant languages or a lack of education as to what health care services are available to them, rather than availability of these facilities or services themselves. Canadian-born respondents were more likely to report 'other service delivery issues', 'community social issues' and 'housing issues'. Furthermore, a very small number of Canadian-born respondents reported having 'no issues'. The 99 foreign-born respondents who reported 'environmental issues' were more likely than their Canadian-born counterpart to report issues related to neighbourhood green space at 25.3% (5.2% of all foreign born respondents), general public space quality at 39.4% (8.2% of all foreign-born respondents), and 'other environmental issues' at 17.2% (3% of all foreign-born participants), while the 69 Canadian-born respondents who reported 'environmental issues' were more likely to report issues related to neighbourhood recreational facilities and community gathering spaces at 44.9% (10.3% of all Canadian-born respondents). Variations in health priorities among Canadian and foreign-born respondents may reflect dissimilarities in expectations regarding neighbourhood services and amenities between the Canadian and foreign-born respondents, who may have encountered various levels of quality of such amenities depending on their country of birth, or may see some amenities as more necessary than others for cultural or lifestyle reasons.

Diverse Spaces for Diverse Communities: Conclusions and Ways of Promoting Health through the Design of Public Space

'Environmental issues' were considered a local health priority by many of the urban residents surveyed in this study. The data suggest that public space is considered a health priority in its own right, prioritized by nearly one fifth of all respondents. These findings suggest that public space is in the consciousness of many residents of low-income communities and deserves to be prioritized by decision-makers. While residents recognize the importance of their local environment for their health and especially the importance of public space, local health priorities vary by neighbourhood, gender and immigrant status. The data suggest that various urban subpopulations value different elements of public space, such as the prevalence of men and foreign-born respondents to report 'recreational facility and community gathering space issues', while women and Canadian-born respondents were more likely to report general 'public space quality issues'. Furthermore, some subpopulations, such as Canadian-born respondents, may report fewer neighbourhood health priority issues. The failure to recognize diversity in the environmental needs of urban subpopulations that cohabitate may result in a spatial mismatch of resource allocation or service delivery. According to Sandercock, since the built environment often precedes the arrival of residents, it is the planner's role to continuously re-evaluate if it is meeting the needs of the *current* population. Sandercock adds that social and environmental policies need to be group-conscious by ensuring that minority groups are represented adequately, since privileged groups do not always understand the needs and interests of such subpopulations (1998).

In the last quarter century, researchers have begun to recognize that good urban spaces exhibit vitality (support life and health), fit (relate to the human body and the activities it engages with), control (permit individuals to channel the activities that go on in and around their turf), sense (provide visual, aural and olfactory stimulation) and equitable access to people of all ages and classes. Places whose design has taken this into account have been found to contribute to mental health and sense of community (Ford, 2000). There are no universal rules for creating public spaces that will successfully attract users; instead, design should reflect the needs of the local population. One way to ensure this is by allowing residents to appropriate spaces, and permit design to follow use. If municipal governments have a commitment to meeting diverse needs, then they should consider collaborative planning approaches that engage residents in the design process and in the management of community spaces so that their potential as healthy community catalysts can be realized.

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CASE STUDY: PLANTING THE SEEDS OF HOPE AND INDEPENDENCE FOR HOMELESS YOUTH

Carol Jamieson

It started as a simple project – turning a small patch of grass behind a shelter in downtown Toronto into a garden of sorts. The available spot was in the backyard of Eva's Phoenix where 50 homeless youth (aged 16-24) live for up to a year in townhouse-style units. The shelter's goal is to train and find employment in jobs offering the greatest potential for long-term careers. That often starts with providing knowledge about community building, leadership and communication skills in a real and pertinent way.

Youth at Eva's Phoenix had an idea to create a garden. Staff saw it as a unique way of teaching them how to resolve conflicts, build consensus and solve problems. So they joined forces with a team from Evergreen, a national non-profit environmental organization, to plan and design the 300-sq-ft garden. Initially, Evergreen offered technical support on organizing garden planning sessions, gardening and food preparation workshops and field trips. Eva's Phoenix recruited and monitored youth participation.

Michael Cassidy, Manager of the Community Development Program, Evergreen Common Grounds, says, "Evergreen staff watched the youth gardeners become increasingly interested in the garden, taking responsibility for weeding, watering or harvesting. Garden activities boosted their self-confidence and sense of self-worth, while teaching them practical skills on growing and preparing fresh, nutritious food. Importantly, the garden also became a social gathering place – for some a refuge – and helped break down barriers between youth, and between youth and Eva's staff."

Fast forward four years. The green space at Eva's Phoenix is no longer just a garden. It has become an integral part of the Phoenix community – planned, implemented and evaluated by a Community Garden Working Committee of Phoenix youth supported by Project Co-ordinator Eowyn Jordison and an Evergreen Gardening Consultant.

Figure 3: Four youth who were the drivers of the project:
(left to right) Corlan, Braiden, Gavin and Anthony

"In 2008, the Gardening Collective was enlarged and was more focused on food production", says Eowyn. "The collective of youth prepared a list of things we wanted to grow and got feedback from Evergreen on what was doable and what should be planted together." Corlan, a Working Committee member who hails from St. Vincent, was disappointed to hear that sugar cane just couldn't grow in our climate.

The Community Garden project operates on a limited budget. In addition to free advice, Urban Harvest, an organic nursery, provides seedlings and garden supplies at a discount to community gardening groups. All plants and seeds in the Phoenix Garden, including heirloom tomatoes, cost less than $200. In 2008, Evergreen provided potatoes and a raspberry bush. Home Depot Canada donated a generous gift card which allowed the Committee to purchase badly-needed supplies such as shovels, gloves, decorative stones and chicken wire. "We needed the wire because the squirrels were eating our squash and pumpkins," says Corlan.

Every year the Working Committee represents the cultural diversity of the current Phoenix community. The 2008 group, comprised predominately of youth of Caribbean/African and European descent, chose plants they were familiar with and incorporated their selections in menu planning. Not every plant thrived. According to Eowyn, "We planted okra but didn't harvest it. Some of our crops were more successful based on things like location and sun exposure. These crops included sweet and hot peppers, tomatoes, eggplant, green beans, bush beans and fresh herbs."

So why are people interested in being part of the Phoenix Garden Collective? When he was young, Corlan learned a bit about gardening from his father. "I like to watch plants grow. I also like to cook and eat healthy food." Eowyn, a Community Support Worker, helps Phoenix residents secure and retain housing in the community once they leave the shelter. She became involved "not because I'm an expert on gardening but because the project provides a safe environment where staff and residents can connect informally and work together on a practical and different kind of task." As for Michael, "The Garden Project at Eva's Phoenix is in line with Evergreen's mandate – making city living more liveable by connecting interested youth with an opportunity to grow and harvest food, and experience the reality of how others are growing food in the city. Along with a small collective of community gardeners, Eva's youth visit an organic farm annually, are regularly included in local gardening workshops and provided with on-site support where needed."

An integral part of the project is the weekly communal meal. Each townhouse-style unit at Phoenix accommodates an average of five residents. They share a kitchen, living room and washroom with separate bedrooms. Eowyn says, "We certainly don't have fully stocked kitchens. So, if we're at Corlan's place and we don't have a mixing bowl, we borrow one from another resident. We all contribute whatever we have to make the meal a success."

The Collective points with pride to the unique menus they create – using available food resources and the week's harvest. The hope is one day to publish the recipes and share them with other community groups.

What difference does the Community Garden make in people's lives? Corlan says, "It provides a sense of family and home, and pride in achieving and accomplishing. I like it when other residents come to visit the garden and I can share what I've learned." For

Power-Packed Phoenix Potato Salad

Produce from Phoenix Community Garden
Potatoes, Bush Beans, Tomatoes, Cayenne Peppers, Cilantro

Olive oil
Lemon juice
Garlic
Dijon mustard
Sugar
Salt
One can drained tuna

1. Peel potatoes; boil until done
2. Snip and discard ends of beans; cut beans into pieces; steam or boil until done.
3. Chop tomatoes, peppers and garlic.
4. In jar with tight lid, prepare dressing by mixing oil, lemon juice, garlic, mustard, sugar, peppers, cilantro and salt. Shake well.
5. In bowl, combine potatoes, beans, tomatoes, tuna and toss with dressing.

Eowyn, the garden helps people stay focused and eases stress. "Everyone feels pride and a sense of ownership. It makes us all more aware of the sense of community." Michael adds, "There is a proven 'value' for youth to experience and be aware of alternative employment opportunities/career paths. For example, one youth from the garden project was able to intern with Evergreen as a Garden Animator for the summer of 2008. This was an exciting experience for both youth and other residents to see a potential opportunity in the growing 'green jobs' sector."

What does the future hold for the Phoenix Garden Collective? Only time will tell. But each participant has dreams for this remarkable green oasis.

Modest ones include learning how to can and preserve fruit; cooking workshops in the winter; more outings to farms and markets, and a larger Garden Collective next year. If resources were available, Eowyn would like to see the project become part of a larger food program at Phoenix which would run year round and involve more residents and staff.

On a more ambitious scale, Evergreen wants to involve the broader community to a greater degree, perhaps expanding programming to include more festivals and celebrations and a year-long curriculum – even getting more youth involved in art and design elements at other gardens.

In basic terms, the Phoenix Community Garden could be termed a resounding success. On a small budget it produces a bountiful harvest, feeds dozens of people and promotes healthier, more diverse diets. It adds a splash of colour and beauty to the residents' home.

But the Community Garden is more than just a garden. It promotes community building and leadership skills. It gives vulnerable youth a safe place to call their own – away from the harsh realities of life on the streets. It enables them to acquire knowledge and develop attitudes and skills which support the adoption of healthy behaviours.

But, more than all this, the Phoenix Community Garden allows *youth to be youth*, have fun, build healthy relationships and work on developing and healing in a non-clinical environment. It offers a sense of belonging, opportunities to experience success and build self-esteem, and experience what it means to be part of a social network that recognizes achievement, applauds effort and embraces teamwork. An encouraging outcome is that youth like Corlan look forward to 2009 when he plans to return as a Peer Mentor and grow flowers in his special garden behind the Phoenix shelter.

To some, this project may represent just another patch of 'green' in downtown Toronto. But to Phoenix residents, the Community Garden can create substantial change in their lives, providing another developmental step on the road from crisis to stability.

MODULE 4. LANDSCAPE DESIGN

SUSTAINABLE LANDSCAPES FOR HEALTHY COMMUNITIES[20]
Melanie Kramer

As the fall days shorten, I notice the tomato plants in my neighbour's front yard hold memories of their yield from the summer in the form of a few lingering, green tomatoes. Tall sunflowers lend a sense of privacy to her yard while feeding insects and birds through the summer and drawing neighbours out of their yards to comment on their colourful exuberance. The tree in her yard shades her windows during the heat of a summer day, and in the winter, the lack of leaves allows sunlight to filter through, warming any surface that it encounters. This one yard contributes not only to my neighbour's health by providing fresh food, privacy, and social interactions, but it contributes to the health of the neighbourhood by providing cleaner, cooler air, bringing neighbours out of their own yards to socialize and comment, and by feeding insects that will pollinate other flowers as they continue through the maze of narrow streets, small yards, schoolyards and parks in the neighbourhood. While a city is often defined by its buildings, what happens between them is equally as important. In addition to aesthetic benefits, a carefully planned landscape can provide cleaner air, a variety of habitats, increased community safety, green linkages, open spaces for recreation, opportunities for food growing, and locations for social gatherings.

Understanding the urban landscape can begin with something as small as one yard, or with something as large as a greenbelt. Whether one is located in a large or small urban area or town, planners, designers, housing providers, community groups and residents can improve the air and water quality around them and make their outdoor spaces more inhabitable and healthier, in this way becoming part of a larger movement towards environmental sustainability and healthy communities. It is when a variety of initiatives, policies, designs and plans work with one another that they can be most effective toward promoting community health, in this case with an emphasis on environmental health and its effect on human health.

But the creation of sustainable landscapes is not limited to professionals. Taking action can take place on a variety of scales. Gardening, planting a tree, using natural heating and cooling techniques, resource efficiency, rain barrels, pesticide reduction, food production, and the creation of social landscapes are all steps one can take toward making the landscape around them more sustainable, and in this sense make a move toward a healthier, more vibrant, community.

LANDSCAPES FOR ENVIRONMENTAL HEALTH

Trees for Environmental Sustainability

Trees can benefit communities in many ways. Not only do they provide shade, give shelter to birds, and add to the beauty of a city, but they also perform many important functions that contribute to environmental sustainability and citizen health. Trees cool the air, help rain make its way into the earth to replenish groundwater levels, tree roots hold soil

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[20] Parts of this article have been excerpted with permission from an article entitled Sustainable Landscaping for Communities written by Melanie Kramer in 2008 for the Social Housing Services Corporation in Ontario.

A single mature tree can absorb carbon dioxide at a rate of 48 lbs. per year and release enough oxygen back into the atmosphere to support 2 human beings.

www.coloradotrees.org/ benefits.htm#carbon

together and can stabilize slopes, and they help to reduce carbon dioxide and other pollutants in the atmosphere, making the air cleaner and healthier for humans to breathe.

Reducing carbon dioxide, the main "greenhouse gas" that we produce, is important in order to slow climate change and improve the health of our cities. Minimizing pollutants such as sulphur dioxide, carbon monoxide, ozone, nitrogen oxides, and fine particulate matter can help improve the quality of the air we breathe, thus improving human health. These pollutants can affect our lungs and our breathing, sting our eyes, cause the air to heat up faster, contribute to smog, and create long-term problems in our environment.

Trees remove particulate matter and some airborne pollutants by intercepting them in the air, primarily with their leaves. Most of these pollutants are not absorbed, but are washed to the ground with rain, or decompose into the soil when leaves or needles fall. Pollution removal rates differ according to the quantity of air pollution, the percentage of tree cover, the length of time trees have leaves, precipitation, and other meteorological variables.

> *Large healthy trees greater than 77 cm in diameter remove approximately 70 times more air pollution annually (1.4 kg/yr) than small healthy trees less than 8 cm in diameter (0.02 kg/yr)… In urban areas with 100% tree cover (i.e., contiguous forest stands), short-term improvements in air quality (one hour) from pollution removal by trees were as high as 15% for ozone, 14% for sulphur dioxide, 13% for particulate matter, 8% for nitrogen dioxide, and 0.05% for carbon monoxide.*

> www.fs.fed.us/ne/syracuse/gif/trees.pdf

In another study it was found that:

> *One sugar maple [30 centimetres in diameter at breast height] along a roadway removes in one growing season 60mg cadmium, 140 mg chromium, 820 mg nickel, and 5200 mg lead from the environment.*

> www.coloradotrees.org/benefits.htm#pollutants

In addition, planting trees is one of the cheapest and most effective ways to draw excess carbon dioxide from the atmosphere. By absorbing ("sinking") the CO2 into their cells or "biomass", trees can act as "carbon sinks". Young, small trees are not as effective at removing CO2, so it is important to try to preserve large trees in addition to planting new trees.

While it is beneficial to preserve and plant trees, their location is also important. Designers and policy makers can influence these locations. Leaving large, healthy trees on a site that is to be developed can provide welcome shade, improved water retention, and minimize erosion on the site, in addition to the benefits mentioned above. Considering where to plant new trees, shrubs and plants is also important. Close to a building, trees can provide shade and cooling for the building itself, and across the landscape, planted areas are cooler than paved surfaces.

Designing with these principles in mind can lead to energy savings as well as more liveable indoor and outdoor environments. Planting a deciduous tree on the south side of a building provides shade in the summer, and the loss of leaves in the winter means that the sun can reach the building, providing warmth, particularly if passive solar design has been incorporated into the building design. A coniferous tree on the windward side of the

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building, usually the north or north-west in Canada, helps to block cold winter winds. In this way, building design and landscape design can work together to maximize environmental benefits and sustainability and potentially save on heating and cooling costs for the building.

Trees are fundamental to environmental sustainability, particularly in cities where they can make a large impact on hot, paved urban spaces. But the quality and quantity of all plant life, soil, and water can also enhance environmental health and impact humans. Avoidance of pesticides and fertilizers, planting low maintenance lawns or naturalising yards, cultivating native plants, soil care and replenishment, modest use of resources, composting, use of rain barrels, creation of rain gardens, and planting green roofs are all ways the landscape can be used to enhance environmental health and sustainability.

Landscape Practices for Environmental Sustainability

Pesticides and fertilizers can make their way onto our food and into our soil and waterways, often not breaking down for many years. Soil and water are the basic ingredients for healthy food. Therefore, protecting soil from erosion and depletion (loss of nutrients), and enhancing it with inputs such as compost and manure can keep it producing healthy plants over the long term. Mulching plantings by placing a top layer of material such as shredded bark, straw or compost can protect soil at the same time that it helps to prevent water loss to evaporation.

Conserving resources, particularly water, is also important. Replacing water-hungry lawns with low maintenance grasses or fescues helps to remove the need for fertilizers and conserves water, as does naturalizing those spaces with plants suited to that site. Placing a water-loving plant at the top of a slope means a lot of watering, but place it at the bottom of a slope where water gathers when it rains and you will save hours of unnecessary watering. When gardens or yards do need to be watered, utilising water from a rain barrel or a greywater system recycles water to places where it is most needed. Again, an environmentally sustainable landscape approach can be enhanced with other environmentally sustainable practices such as sustainable storm water management design.

The design of green roofs can also be integrated with building design, ensuring that proper weight bearing capacities can be calculated for the roof and allowing people to take advantage of the space as an amenity. Green roofs can also enhance air quality by reducing CO_2 and removing small particulate matter from the air, mitigate urban heat island effect, reduce stormwater runoff, and create habitat for birds and insects. Indeed, they can even lead to heating and cooling savings for the building.

Cultivating native plants can also create habitat, whether on a roof or on the ground. Habitat for insects such as bees and butterflies can be particularly important because they pollinate both our flower and food gardens and crops. Native plants are usually suited to the climates and microclimates of an area; however, some naturalised, non-invasive species can also be beneficial.

Designing a garden, whether it is native species, food bearing plants, or flowers, can be initiated by individual home owners or tenants, or larger bodies such as tenant organizations, community groups, schools, or a municipal parks and recreation department. In addition to imparting aesthetic beauty, gardens offer far-reaching benefits such as opportunities to spend time outside, exercise, positive play and learning spaces,

Trees lower local air temperatures by transpiring water and shading surfaces. Because they lower air temperatures, shade buildings in the summer, and block winter winds, they can reduce building energy use and building costs.

www.fs.fed.us/ne/syracruse/gif/trees.pdf

chances for intergenerational time and knowledge sharing, strengthening the connection between ourselves and the environment, food production, extending food budgets, and social exchange opportunities.

LANDSCAPES FOR SOCIAL HEALTH

Located on public or private land, gardening is rarely an entirely private activity. Gardening in one's yard may invite social comment and exchange, possibly the sharing of gardening tips, tools, or seeds. Joining a community garden can further promote the social aspects of gardening by introducing gardeners to one another, extending relationships to social gatherings (potlucks with garden produce!), group planning of the garden, and again an exchange of knowledge. Some communities and cities have begun to coordinate the matching of gardeners with unused plots of land, which may sometimes be homeowners without time or ability to garden. With cute names like "Patch Match" these exchanges need to be handled carefully to ensure safety for all parties, but they do provide creative solutions for neglected yards, unused plots of land, and gardeners seeking space to reveal their talents.

Beyond gardens, social landscapes take a number of forms. Parks, passive recreation fields, sports fields, paths, benches, plazas and courtyards are just some of the social landscapes that can be planned for an urban setting. Social landscapes can be enhanced by the placement of a bench or informal seating, a nexus point where people can meet or gather, an amenity such as a fountain or wading pool, the planting of a tree or garden nearby, and the placement of infrastructure such as bike racks or bike storage. These initiatives require different levels of commitment and range from simple and inexpensive to more intensive and costly. Planning for these landscapes can be integrated with urban design and planning, architecture, community planning, corporate development programs, schoolyard greening, recreation planning and programs, community safety initiatives and planning for particular target populations such as seniors, children and people of various abilities.

Planning and designing landscapes for people of all ages and abilities contributes to healthy communities by promoting a diversity of uses of spaces by diverse groups of people. Some solutions can be simple such as the design of raised garden beds to enable seniors and people with disabilities to reach and smell plants with little effort. Others solutions may be more complex, such as developing comprehensive pedestrian and bike path networks through a city.

The separation of these pedestrian and cycling activities from cars can increase human safety for citizens of all abilities. Creative planning solutions can be employed such as placing the vegetated boulevard *between* the car lanes and bicycle lanes as in many European cities. This is one way to encourage citizens to be more physically active as they travel throughout the city. Linking paths into larger path networks creates opportunities for citizens to join the network as they need to and to leave it when they need to and encourages transportation means that do not involve automobiles or internal combustion engines of any kind.

LANDSCAPES FOR PHYSICAL HEALTH

Creating landscapes where citizens are encouraged to be physically active may involve the creation of a path network, or the design of "end-destination" spaces such as a skating rink, wading pool, hiking trails (which should link to the path network where possible), children's play areas, sports and recreational fields, and water access points where water bodies exist. These "active landscapes" can also be costly or inexpensive and can be initiated at the government, community or citizen level, but require well thought-out planning, long-term funding for maintenance and repairs, and integration of landscape design with other areas such as transportation planning, urban design, neighbourhood development and community planning. Ensuring that landscape spaces are well maintained, identified through signage and on local maps, and safely lit is the final piece to encouraging citizen use and accessibility.

There are numerous ways that landscape design and planning can contribute to healthy communities. This can take place at a government, community, or citizen level. Planning creative landscape initiatives that respond to community needs benefits from an integrated approach which brings together other planning and policy areas such as transportation (including public transportation and bike lanes), recreation, building policy and code, renewable energy generation, urban design, stormwater management, and even planning for various target populations such as children, seniors and the differently abled. Many sustainable landscape initiatives can be taken on by individuals, while others benefit from a community based approach, or can best be guided by planners, designers and policy-makers. Working together and understanding landscape as a critical piece of design and planning, communities can create a healthier environment, increase social interaction opportunities, and encourage human physical health and safety.

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MODULE 5. UNIQUE CHALLENGES OF RURAL MUNICIPALITIES

PLANNING AND INNOVATION: HEALTH AND WELL-BEING FOR RURAL COMMUNITIES
Chris Black

> *"In sum, at the start of a new millennium, planners and their communities are well situated to help reform self-serving unsustainable behavior. Sustainable development has become a highly visible idea in public policy debates. The concept has been touted as the new large-scale vision to guide the planning agenda for the twenty-first century. If sustainability is to move beyond a vague idealism, the task ahead for planners and activists, especially at the local level where most authority to manage and control development is lodged, is to translate theory to practice."*[1]

Linkages between the built environment, community and individual health and sustainability have long been a focus of environmental planning in creating healthy and sustainable communities. New and shifting environmental factors, such as climate change or worsening air and water quality, are pushing planners and municipal officials to re-evaluate and re-direct energies in addressing issues surrounding the built environment and community health. Innovation will be a key process to address these problems in the future.

In the past, environmental problems affecting community health were not as relevant or linked to the built environment. Things have changed and the built environment now affects the health and well-being of many communities. These issues are now taxing planners and legislators as they try to address the health ramifications of past design decisions. Further, constraints in environmental planning restrict innovation which could address these issues or build healthy, vibrant communities.

Many of the reports, protocols and programs only address these issues from an urban planning perspective. Rural Ontario is left "in the dust" with no real rural framework in which to develop innovations which would address the increasing environmental problems that impact its well-being. There are different foundations for the problems impacting rural communities; thus different approaches are needed. Many current rural programs and policy responses are based on an urban problem-resolution model and are not directly transferable to rural communities.

Rural municipalities often face a dilemma. They must respond to real and local concerns about the environment, yet they are often restricted by urban-based policies and plans. They often face resource constraints, usually a lack of funding and especially a lack of staff resources. This tends to restrict innovation to address health and environmental issues or to strategically plan for them. Thus, a disconnect occurs between the need for innovation in planning and the actual innovation itself, resulting in diminishing health and well-being of a community.

The Rural Perspective

> *"Canadians living in rural and remote areas of Canada experience unique geographic challenges in maintaining their health."*[2]

Rural problems are often unique and community health is linked to the built environment in its own way. For instance, rural regions are susceptible to air and water quality, but

through localized industry or methane production and ammonia distribution (fertilizers and other applications) in farming. There may be centralized manufacturing, an industrial centre, a trucking operation or large feedlot. These all have specialized health impacts on surrounding rural communities. In order to appropriately address the problem affecting these rural municipalities, a uniquely rural approach becomes necessary.

There is diversity in rural regions today: some areas face growth pressures while others face declining populations as socio-economic demographics shift. Rural municipalities often cannot keep pace with any increase in environmental problems. Further, the relationship between environmental issues and public health also increases their relevance while a lack of resources exacerbates an inability to respond to the problem.[3]

Many rural municipalities are attempting to respond to the issues affecting sustainable and healthy communities. Some focus on regulatory policy while others experiment with community-based processes or programs and the development of more innovative tools. Despite these initiatives there is often limited innovation and responsive action in addressing many of the issues which results in rural municipalities unable to deal with the problems.[4]

As mentioned, traditional and urban-based approaches and policies do not adequately address nor reflect rural issues and therefore tend not to be applicable in rural communities. They are specifically designed as responses to urban problems. Yet rural issues necessitate a decidedly different and innovative planning strategy.

Planning & Innovation

> *"[R]ural and small town places tend to be more vulnerable than their urban counterparts. Their economies are less diversified and are affected by corporate and public policy decision-makers in distant urban places. …Environmental degradation and the unsustainable use of natural resources have a direct impact on health.[5]*

Planning deals with managing change and to a large extent designing responses to the various impacts and consequences of the built environment. Managing planned change has long been the focus of development planners over the years, accomplished through land use policies and legislation. Planning can achieve an impact in creating environmentally healthy and sustainable communities through the practice of changing futures. For example, a future can have a probable outcome or a preferable outcome (Figure 4). Probable outcomes result from maintaining a given direction without change and with normal input. Preferable outcomes result through change and involve social processes (citizen groups, town hall meetings, referendums, public participation).
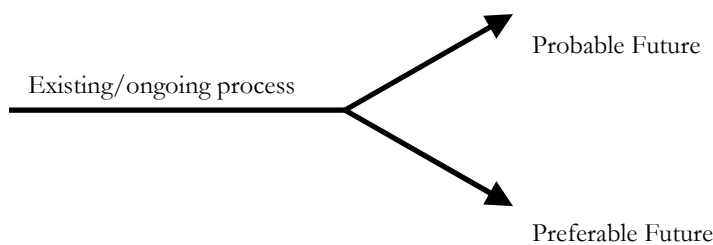

Figure 4: Two Possible Futures through Planning

Different issues, different industries and a very different culture dictate a different approach to developing appropriate responses for rural Ontario. Implementation of successful strategies will shift the outcomes to a preferable future. Many urban environmental programs that address the built environment and its impact on community health (transportation, pesticide use, water management, air quality initiatives) are not directly transferable to rural communities. Given the dissimilarities between urban and rural settlements, planning approaches will have quite different responses and outcomes in a rural environment.

Other issues and concerns such as backyard burning, septic system management and private land stewardship are unique to rural communities with no comparable problems in a highly regulated and planned urban area. Rural communities tend to have a different approach to interacting with the environment than urban dwellers do because many of the environmental priorities in rural Ontario have traditionally focused on local and immediately relevant issues relating to the health and lifestyle associated with living in a rural area.

This is further compounded by the increasing attention on environmental issues surrounding the health of rural communities. Health and the environment have become key components of rural development and the planning profession will need to be in the forefront directing or facilitating local and regional solutions. This has come about as a result of three key reasons: first, there is an increased awareness of environmental issues and a call for action to address these concerns; second, clean air, pure water, environmental sustainability, and even economic prosperity are viewed as a right; and third, the magnitude of environmental issues that might affect health, and the consequences of urban sprawl, continues to demand appropriate planning responses.

Environmental issues have the potential to reduce the quality of life and significantly impact rural communities. Pressures on the environment have noticeable effects that migrate across geographical borders as well as over time. And while some municipalities are pursuing innovative responses to environmental concerns, little has been done on preparing a rural environmental framework.[6,7,8] These and other factors point to the need to establish a decidedly rural model for sustainability and environmental issues that would benefit all rural communities and residents.

Creating a Rural Sustainability

> *"Health is a key component of sustainable development. In fact, long-term social, economic and environmental development would be impossible without healthy men, women and children and families, communities and countries."*[9]

Planning and sustainability are complementary and integrative[10] and interactive and predictive.[11] They work in conjunction with health to build a whole community. The common themes in environmental planning within rural municipalities today revolve around formal processes. Most municipalities stress legislation (for example, the Clean Water Act, the Planning Act, the Environmental Protection Act) or policy (Provincial Planning Statement, Official Plans, municipal bylaws) in their approach to health and environmental issues.

The foundation of sustainable development is the integration of environmental, social, and economic aspects of community health into development, which is the purpose of planning. Planning must play a central role in assisting communities to create a healthy future.[12]
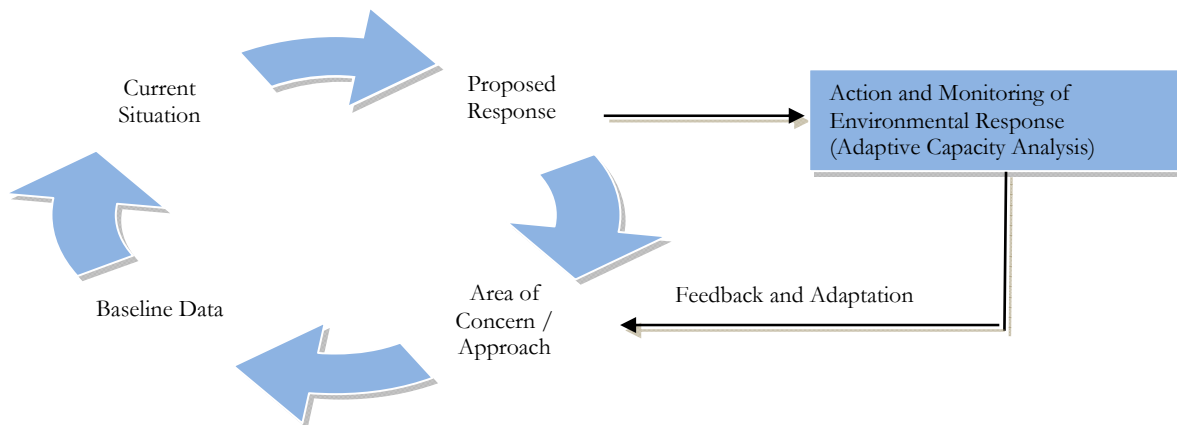
Figure 5: Model of Approach and Analysis Leading to Proposal and Implementation of Environmental Innovation in Rural Communities

Adopting sound principles of sustainability and environmental planning leads to strong structural components within the planning process. Our responses define how we deal with the issues that can threaten the health of our rural communities. Understanding approaches and best practices towards creating a sustainable environment and a healthy, liveable community will ultimately contribute to our success as rural planners.

We could look at this process as a diagram (Figure 5): identify an area of concern; accumulate baseline data; describe the current situation; propose a response to mitigate impacts; monitor, analyze and input new feedback; and change the approach as necessary based on new information.

Within this framework, planners can guide sustainable development and aid in the resolution of environmental and health concerns within rural communities. The results and outcomes benefit not just rural Ontario, but will provide new and innovative strategies to approach health issues resulting from the built environment.

Approaching Rural Health & Well-Being

"Health [is] important to the well being of individuals, families and communities…because of the strong and numerous links between the environmental, social and economic dimensions of sustainable development."[13]

Sustainable development mandates that one start from understanding the components of a healthy community in order to develop planning innovations. From such a premise, we can begin to identify the constraints to health imposed by the built environment and prescribe solutions and responses. This includes responses to those environmental issues that can have severe ramifications on the health of a municipality: climate change, air and water quality, pollution, population densities. These have the potential to significantly alter rural living and can impact both the health and economic prosperity of many rural communities. Environmental planning and sustainable development provide planners with a workable framework to approach rural health and well-being.

Rural communities are often faced with health and well-being issues that are different in scope and quality than in an urban built environment, but that can nevertheless be addressed through environmental planning. Responses often take the form of mitigation or adaptive measures. An example is seen through the work of Wall and Marzall on rural community adaptation to climate change. They suggest that although there is growing acceptance and consensus to the fact that the climate is changing and that humans are continuing to influence this change, the directions that responses might take are still rooted in mystery. They identify the two primary response processes as mitigation and adaptation.[14]

Municipalities have few methods in which to approach and develop responses to environmental issues. Most responses or approaches would be conducted within the hierarchy of official plans, by-laws, local ordinances and strategic or community plans (including growth or development plans). Many rural communities, while having official plans (mandated by the provincial Planning Act), do not integrate specific local environmental issues within their local policies. This usually falls under the broader spectrum of the environment which institutionalizes the approaches a municipality will take to address or mitigate some environmental planning concern. Often these are guided in content by the overarching legislation of the province.
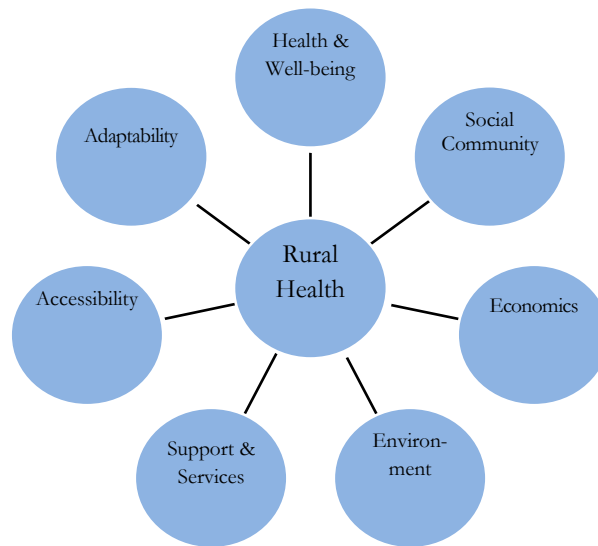
Figure 6: The Components of Healthy Rural Communities

Identifying various innovative strategies allows planners to frame health and environment within a workable planning paradigm. Within this framework, the concept of sustainability can be explored and health issues addressed as a primary component in achieving sustainability in the rural built environment. Understanding the two basic choices (mitigation or adaptation) rural communities can make with regards to planning for rural health can help direct successful responses within a best practices framework.

Conclusion and Recommendations

> *"The growing recognition…of the social and health dimensions of sustainable development is due, in large part, to the overwhelming seriousness of health threats currently facing our societies."*[15]

So where does this discussion lead us and what can we do to achieve healthy and sustainable rural communities? First we must be aware that a community's cultural, physical and economic environment is dynamic and constantly changing. The built environment today is not what it was twenty or fifty years ago. Major shifts in function and structure have occurred. Populations have shifted and resource bases changed, driving development and producing environmental impacts. This has put continual pressure on rural infrastructure and services, programs and processes, and on the local community.

Rural communities typically face more resource constraints than their urban counterparts. Many do not have separate departments for planning within their municipality and often rely on regional or upper-tier governments to provide planning services. Many rural municipalities are also under pressure to bring their communities into conformity with changing provincial legislation. This affects resources as well as the built environment and consequently impacts community health.

There are, however, some initiatives which can be taken. Various programs can be developed at a local level to address many of the issues that surround health and the built environment. Local community involvement and support is crucial to success. Get the community involved, engaged and interactive in designing their vision of a healthy community. Develop cooperative partnerships between municipality and community. Community involvement is a cornerstone of success. (Many rural municipalities have taken this a step further, forming committees to advise councils and relying on public opinion obtained through consultation and town hall meetings for direction.)

Develop and embed environmental values and strategies within municipal policy such as official plans and by-laws. Encourage open communication that fosters innovation both in the corporate corridors of the municipality and in the citizenry. Try new ideas and programs while maintaining existing successful approaches. Use visioning to identify community perspectives and ideas. These responses need to be locally and rurally specific in their approach, and can be derived through consultations or town-hall meetings.

Rural municipalities can draw on the skills of community residents to tackle environmental issues and problems stemming from the built environment.[16] Such fundamental activities can have far-reaching effects on addressing the various health and environmental issues facing rural communities. In fact, it is evident that those communities with strong social resources and cohesion have the best chance at resolving health and environment issues.[17]

Planners stand at the forefront of this evolution in focus and approach and can facilitate change to bring about innovations in the built environment, thereby fostering health and well-being in rural communities. Older urban-specific paradigms are no longer applicable in the new rurality. Innovation, change and community involvement is and will be successful to the degree this is put into practice.

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MODULE 6: CREATING THE CONDITIONS FOR CHANGE

CASE STUDY: OPERATION SAFE, STRONG AND CLEAN
Jennifer Croft, Pam Coulter

One of the objectives of those promoting health is to influence policy makers to recognize the impact of their decisions on the health of a community. However, opportunities to directly influence municipal planning and decision making often seem elusive to the health promotion sector. A pilot project to establish a partnership between one Ontario public health unit and a local municipality has demonstrated that not only is collaboration possible, but it is a highly effective way to influence municipal processes in order to build a healthy community.

In February 2008, the Grey Bruce Health Unit and the City of Owen Sound established a partnership, *Operation Safe, Strong and Clean,* with the goal of building a healthy community by influencing policy and decision making. A Health Promoter and the Municipal Director of Community Services collaborated to facilitate cooperation between the two organizations. A direct liaison was established between an interdisciplinary team of public health staff and the municipality's internal operations. Opportunities for collaboration were identified; alignments were made between complementary positions and projects in the two organizations; policy changes were explored; and procedures were established for consultation during planning and decision making.

This section describes the conditions leading to the establishment of the partnership between the Health Unit and the City, the outcomes of the collaborative efforts and the successes and challenges of this approach.

Healthy Community Development and Public Health

The release of the *Ottawa Charter for Health Promotion* by the World Health Organization in 1986 sparked the development of new approaches to health and wellness. The *Ottawa Charter* asserted that building healthy public policy should be on the agenda of policy makers of all sectors and at all levels. Furthermore, the *Charter* emphasized that fundamental conditions for health can only be ensured by coordinated action between community partners including government, health and other social and economic sectors, nongovernmental and voluntary organizations, local authorities, industry and the media. This approach to health promotion was strengthened with the 2005 *Bangkok Charter*, which encouraged progress towards a healthier world through strong political action, broad participation and sustained advocacy.

Ontario public health units have been handed the torch for leading and enabling healthy community development with the impending implementation of the new *Ontario Public Health Standards* (Ontario Ministry of Health and Long Term Care, 2008). The new *Standards* direct public health professionals to acknowledge the broad impact of the determinants of health and to strive to influence societal changes to reduce health disparities and inequities. Public health units are guided to assume a leadership role in creating conditions for change through the coordination and alignment of programs and services with those of other partners.

Through organizational restructuring the Grey Bruce Health Unit has positioned itself to effectively respond to the call for partnership and collaboration for healthy community

development. Previously, the Health Unit's programs and services were planned and implemented homogenously across the region. However, demographic and geographic characteristics of the region presented challenges to meeting the unique needs and priorities of individual communities. The Grey Bruce Health Unit serves an area that is greater in both size and population than the province of Prince Edward Island. The region consists of 17 member municipalities with populations ranging from 4000 to 10,000 and includes the City of Owen Sound, with a population of 22,000. The communities in the region are very diverse: retirees and tourists are drawn to Georgian Bay, the Blue Mountains and the Bruce Peninsula; Bruce Power Corporation attracts young professional families to the Lake Huron shoreline; southern Bruce and Grey Counties are prime agricultural regions; and the City of Owen Sound serves as a commercial centre for the region.

Following its organizational restructuring in 2005, the Grey Bruce Health Unit maintained a program-based structure for regional program planning and development. However, geographically-based interdisciplinary teams were created to ensure program implementation addressed the unique needs and priorities of individual communities. This geographic organizational structure has positioned the Health Unit to lead and support local initiatives to promote healthy and sustainable communities.

Healthy Community Development and Municipalities

Ontario municipalities are also acknowledged as having a responsibility for healthy community development. In 2005 the Ministry of Municipal Affairs and Housing released its *Provincial Policy Statement* directing land use planners and developers to build "strong, liveable and healthy communities" in order to enhance social, economic and environmental well-being. The Ontario Professional Planners Institute has demonstrated commitment to building healthy communities in the release of its 2007 position paper *Healthy Communities, Sustainable Communities.* This ground-breaking report examines the relationship between where people live, work and play and their quality of life, and emphasizes the importance of urban design, active transportation and green infrastructure.

As an urban centre in a rural region, the City of Owen Sound has identified the need to address the role of the municipality in the health of the community and surrounding area. The City's 2008 Strategic Plan outlines approaches for program and facility development for "Healthy Communities" and the need to play an advocacy role in identifying and promoting the health needs of the community. Additionally, the City's Official Plan incorporates policies that aim to promote healthy community development over the next 20 years across all aspects of development from transportation and storm water management to urban design policies. Within the policy frameworks provided by both the Strategic Plan and the Official Plan, the City of Owen Sound is well-positioned to consider partnerships to strengthen its objectives for a healthy community.

Partnership between the Grey Bruce Health Unit and the City of Owen Sound

In 2007, the Grey Bruce Health Unit launched a strategy *Operation Safe, Strong and Clean* to provide leadership, information and research to support the geographic team approach to healthy community development. In initiation of this strategy, the Health Unit's directors of Health Promotion and Health Protection met with the Owen Sound City Manager to discuss opportunities for collaboration between the two organizations. The outcome was the establishment of a six-month pilot project to develop a liaison between the two

organizations. In February 2008, a Health Promoter from the Grey Bruce Health Unit and the City's Director of Community Services formed a partnership for healthy community development. Objectives of the project were to increase opportunities for alignment and collaboration; to identify and create opportunities for innovative approaches to health and wellness; to incorporate health and wellness into municipal planning and operations; and to influence a culture that supports community health and well-being. Lessons and recommendations extracted from the project would be used to foster collaborative relationships with other communities in the region.

The design of the partnership involved physical accommodation of the Health Promoter within City Hall. This arrangement encouraged ongoing communication and provided first hand opportunities for observation of municipal operations and procedures. The physical presence of the Health Promoter also served as a reminder to municipal staff to incorporate a health perspective in planning and decision making. Interviews were conducted with the interdisciplinary members of the Health Unit geographic team assigned to the City of Owen Sound and with key staff in various positions within the municipality. During the course of the interviews, potential collaborations were identified, in addition to the barriers perceived to be preventing these collaborations. The identified opportunities for collaboration provided a starting point for the partnership and the acknowledged barriers provided a focus for enhanced cooperation.

Over the course of the project, collaborations and alignments were initiated across a variety of topic areas. The City began circulating land use planning and development applications to the Health Unit for comment and recommendations regarding social, environmental and physical health impacts. Additionally, the City invited Health Unit participation in all strategic and master planning activities, including the development of a transportation master plan and the formation of a police services strategic plan. The City embraced opportunities for youth development by participating in a newly formed youth coalition and establishing a policy for inclusion of youth in all City strategic planning. Collaborations between City bylaw enforcement and Health Unit tobacco enforcement increased communication and reduced duplication of services. Information and advice from the interdisciplinary team at the Health Unit supported the development of municipal bylaws and procedures regarding domestic fowl, cats, drug houses, found needles, parking, safe beaches, workplace wellness, injury prevention and emergency planning.

In addition to specific alignments and collaborations, greater mutual benefits of the partnership occurred. An alignment of visions from each organization resulted in the creation of a mutual vision for healthy community development (see Figure 6). This mutual vision has acted as a guide for identifying future areas for collaboration and development in the areas of housing, transportation, recreation, education, employment, and the environment. The partnership also fostered a greater awareness of how planning and decision making occurs in each organization and how this impacts healthy community development. Both organizations developed an appreciation for the programs, services, and scope of practice offered by the partnering organization.

"With consistent support from the City, youth in our community have had opportunities to strengthen community partnerships, be actively involved the community and ensure they feel valued in the community."

Lisa,
Youth Team

"As a manager, being able to share the outcomes of the Owen Sound pilot with other municipalities will assist in explaining the concepts of healthy community development, as well as show the many ways in which we can collaborate to improve the health of the community."

Denna,
Manager

Partnership Successes and Challenges

Several aspects of the *Operation Safe, Strong and Clean* project contributed to the overall success of the partnership. Foremost was the support and endorsement the project received from leaders, decision makers and senior staff of both organizations. Leaders from both organizations committed physical and human resources, in addition to managerial support for emerging collaborative opportunities. The strategies previously developed by both organizations for healthy community development also ensured a commitment to the partnership process.

The advanced level of collaboration achieved in the short six-month time frame can be attributed to the successful establishment of a liaison between staff of both organizations. The Grey Bruce Health Unit Health Promoter and the City Director of Community Services were able to develop a relationship of mutual trust, which allowed for an openness and honesty in facilitating collaborations. Additionally, having one designated coordinator for each organization allowed other staff members to easily identify channels of communication between organizations. Furthermore, the physical presence of the Health Promoter at City Hall allowed opportunity to spontaneously include a health perspective in municipal activities and events of the day.

The majority of the challenges that occurred in the partnership could be attributed to the relatively short duration of the project, lasting only six months. It is anticipated that most challenges will resolve with ongoing collaboration and communication. Initially, there was some wariness on the part of municipal staff when approached regarding the incorporation of a health perspective in municipal operations. A frequently asked question was "What does public health have to do with this?" However, this resistance lessened throughout the duration of the project as the public health team credibly demonstrated the links between public policy and procedures and the health of the community.

It also became evident throughout the project that collaboration needs to extend beyond the health unit and the municipality to include corporations, community groups and private citizens. An overall awareness of the impact of the built, natural and social environment on the health of the community would decrease resistance to healthy community initiatives. For example, although City land use planning now incorporates recommendations from the Health Unit, there is a need to convince private corporate developers that it is to their overall best interests to view projects with an eye toward healthy community development.

Next Steps for Operation Safe, Strong and Clean

Although the six-month pilot project has been completed, the partnership and collaboration between Grey Bruce Health Unit and the City will endure. The continued liaison between public health professionals and the City will ensure ongoing alignment between programs and services provided by the two organizations.

Lessons and recommendations extracted from the pilot project will be used to foster collaboration with other communities in the region. For instance, a need has been identified for building awareness among area municipalities regarding the influence of their decision making on health. In spring 2009, a workshop on the social determinants of health will be provided to organizational leaders from other communities in the region. The ultimate objective of the workshop will be to increase readiness for partnership for

healthy community development across the region. Additionally, professional development opportunities for public health staff will continue to focus on building healthy communities to ensure staff members feel confident and knowledgeable in community collaborations and partnerships.

Figure 7: Mutual Vision for Healthy Community Development
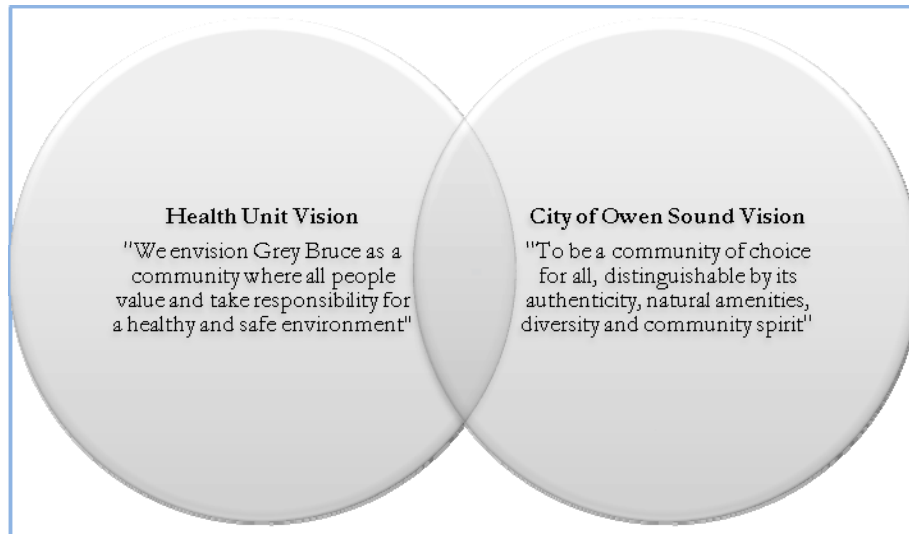
A Healthy Community provides all people with the ability to make choices in a community that offers opportunities for access to: affordable housing, transportation, healthy and nutritious foods, recreation, education and employment, medical and social services, clean air and water and a safe environment within an inclusive and socially cohesive atmosphere.

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h/ssha/pho/communities/projects_and_committees/ontario_public_health_standards/april7/o
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Conference on Health Promotion, Ottawa, November 21, 1986. Retrieved July 2, 2008 from
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http://www.who.int/healthpromotion/conferences/6gchp/bangkok_charter/e/print.html

STRATEGIES FOR BUILDING HEALTHIER COMMUNITIES

As evidenced in the preceding sections, we all have a role to play; there are many simple actions that you (or your organization) can take to help create a healthier community. This list can serve as ideas.

GET INVOLVED

- Join existing activities such as cycling advisory committees, pedestrian committees, or local environmental groups.
- Call a meeting, get organized and get the facts.
- Use existing participation opportunities to inform and educate.
- Advocate multiple views.
- Encourage participation in planning for health.
- Help communities and decision makers imagine change.
- Inspire with examples.
- Conduct an "audit" – a guided walking or cycling tour.
- Build a vision of "sustainability" / "health".

INFRASTRUCTURE IMPROVEMENTS

- Retro-fit existing roads to increase safety (e.g. traffic calming, speed reduction).
- Explore context-specific ideas (bike lanes, sidewalks, greening, etc.).

ENCOURAGE A CULTURE OF WALKING AND CYCLING

- Participate in programs such as Active and Safe Routes to School.
- Promote a road-sharing culture.
- Provide bicycle parking facilities.
- Host events, open up the streets for people.
- Employ transportation demand management strategies.
- Reconnect to "place" through arts, natural heritage and cultural heritage.

LAND USE AND POLICY DECISIONS

- Promote sustainable, compact and healthy communities (Smart Growth).
- Promote alternative development standards.
- Before developing green fields, look to existing settlements.
- Transportation policy should start with pedestrians not cars.
- Develop appropriate and supportive bylaws.
- Ensure people are involved in the planning process.

HELPFUL TOOLS & RESOURCES

To assist you in your efforts to bring about healthy community change, we offer the following resources:

BOOKS & PUBLICATIONS

Environmental Health Committee, Ontario College of Family Physicians. (2005).
 Report on Public Health and Urban Sprawl in Ontario: A review of the pertinent literature.
Toronto: Ontario College of Family Physicians. Available online at:
http://www.ocfp.on.ca/local/files/Communications/Current%20Issues/Urban%20Sprawl-Jan-05.pdf

Federation of Canadian Municipalities. *Quality of Life in Canadian Communities Theme Reports.*
Available online at: http://www.fcm.ca/english/View.asp?mp=477&x=767

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Waterloo Public Health. Available online at:
http://www.region.waterloo.on.ca/web/region.nsf/97dfc347666efede85256e590071a3d4/BC5A
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Frumkin, H,. Frank, L. & Jackson, R. (2004). *Urban Sprawl and Public Health: Designing, Planning, and
Building for Healthy Communities.* Washington: Island Press.

Government of Ontario. (2005). Planning Act: Provincial Policy Statement. Available online at:
Health Canada. (November 2007). People, Place and Health. *Health Policy Research Bulletin, 14,* 1-
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Jacobs, J. (1961). *The Death and Life of Great American Cities.* New York: Vintage Books.

Louv, R. (2005). *Last Child in the Woods: Saving our Children from Nature-Deficit Disorder.* Chapel Hill,
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http://www.region.waterloo.on.ca/web/region.nsf/97dfc347666efede85256e590071a3d4/BC5A
659B6394CB718525722D006E344E/$file/UA_Feasibility.pdf?OpenElement

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Schumalis, T. (2007). *Healthy Growth: Health and the Built Environment in Waterloo Region.* Waterloo:
Region of Waterloo Public Health. Available online at:
http://www.region.waterloo.on.ca/web/region.nsf/97dfc347666efede85256e590071a3d4/BC5A
659B6394CB718525722D006E344E/$File/Final%20Healthy%20Growth%20Report.pdf?Open
Element

Urban Strategies Inc. (2003). *Reurbanization and Quality of Life: A Supplementary Report in Support of
Waterloo Region's Growth.* Available online at:
http://www.region.waterloo.on.ca/web/region.nsf/0/DF8D8858DE483EAF8525722D0059B54
3/$file/Phase%203%20report%203.pdf?openelement

Williams, M. & Wright, M. (2007). *The Impact of the Built Environment on the Health of the Population: A
review of the review literature.* Barrie: Simcoe Muskoka District Health Unit. Available online at:
http://www.simcoemuskokahealth.org/pdfs/BHCLitReview_FINAL_UPDATED7april08.pdf

ONLINE TOOLS, CHECKLISTS & CALCULATORS

Designing Active Communities Toolkit
Developed by the Physical Activity Team of the Haliburton, Kawartha, Pine Ridge District (HKPRD) Health Unit, the tools in this toolkit were developed to support municipalities, public health practitioners and community organizations in the process of creating policy to support healthy, active community design. The toolkit includes:

Checklist for Planners: Offers principles and specific criteria that will aid in the design of active communities and is linked to Provincial planning policies.

Guidelines for Reviewing Official Plans: Provides a brief overview of the contents of an Official Plan and its role in land-use planning.

The Case for Healthy Active Communities: Helps develop the business case for including a theme of healthy, active community design in planning documents.
http://www.hkpr.on.ca/healthy-lifestyles-master.asp?id=3270

Walkability Toolkit
This publication by walkON includes helpful information on a variety of topics, including organizing an advocacy group, influencing planning policy, and working with the media.
http://www.walkon.ca/files/Tool%20Kit.pdf

Walkability Checklist
This checklist explores the walkability of neighbourhoods
http://www.walkon.ca/type/pedestrian-supports

Walkability Score
This website helps you find a walkable place to live by calculating a Walk Score for any address.
http://www.walkscore.com/

Bikeability Checklist
Find out how bikeable is your community is.
http://www.bicyclinginfo.org/pdf/bikabilitychecklist.pdf

Earthday Network Footprint Calculator
 Helps you find out how many planets it takes to support your lifestyle.
http://www.earthday.net/footprint/index.html

Zerofootprint Calculator
Allows you to accurately calculate your carbon footprint and will provide you with tips on how to reduce it.
http://www.zerofootprint.net/

Virtual World: The New Suburb?
This virtual new urban neighbourhood includes comparisons to typical suburban developments.
www.nationalgeographic.com/earthpulse/sprawl/index_flash.html

LINKS TO RELATED WEBSITES

Active & Safe Routes to School
This community-based initiative "promotes the use of active and efficient transportation for the daily trip to school, addressing health and traffic safety issues while taking action on air pollution and climate change."
www.saferoutestoschool.ca

Active Living by Design
The vision of Active Living by Design is "healthy communities, where routine physical activity and healthy eating are accessible, easy and affordable to everyone."
www.activelivingbydesign.org

Canada Mortgage and Housing Corporation – Sustainable Community Planning
This website provides best practices in design and development, tools for planners and designers, and other research on sustainability.
www.cmhc-schl.gc.ca/en/inpr/su/sucopl

Communities in Action
This website provides information on active transportation initiatives in Haliburton, Ontario.
http://haliburtoninaction.r8.org

Commuter Challenge
"Commuter Challenge is a national program that encourages Canadians to walk, cycle, take transit, carpool or tele-work instead of driving alone to work."
www.commuterchallenge.ca/english/whats.html

Green Communities Active and Safe Routes to School
"Active & Safe Routes to School promotes the use of active and efficient transportation for the daily trip to school, addressing health and traffic safety issues while taking action on air pollution and climate change."
www.saferoutestoschool.ca

Haliburton Highlands Cycling Coalition
The purpose of the Haliburton Highlands Cycling Coalition is to represent the interests of the cycling public within Haliburton County.
www.cyclehaliburton.ca

Learning for Sustainable Futures
"LSF's mission is to promote, through education, the knowledge, skills, perspectives and practices essential to a sustainable future."
www.lsf-1st.ca

Metrolinx
The final piece in a 3-part approach by the provincial government, the mandate of Metrolinx is to provide an integrated multi-modal transportation network that will improve the travel experience across the metropolitan region that stretches from York and Durham, through Toronto, Peel, Halton and onward to Hamilton.
www.metrolinx.org

MetroQuest Online
This Vancouver-based company develops technology and processes that communicate complex planning concepts to lay people.
http://www.metroquest.com

New Urban News
"A professional newsletter for planners, developers, architects, builders, public officials and others who are interested in the creation of human-scale communities."
www.newurbannews.com

Ontario College of Family Physicians
The OCFP has published an information series of four booklets on the health impacts of urban sprawl.
www.ocfp.on.ca

Ontario Healthy Communities Coalition
"The OHCC (Ontario Healthy Communities Coalition) works with the diverse communities of Ontario to strengthen their social, environmental, and economic well-being."
www.healthycommunities.on.ca

Ontario Heart Health Network
"The goal of OHHN is to promote and support opportunities for those involved in the planning and delivery of community-based heart health / chronic disease programs to learn, share and network with their peers."
www.hhrc.net/connections/ohhna.cfm

Ontario Smart Growth Network
"The Ontario Smart Growth Network brings provincial and community leaders together to help design compact and healthy communities."
www.smartgrowth.ca

Peterborough Moves
"Peterboroughmoves.com was designed to provide tips, tools, guidelines and local information to help Peterborough City and County residents walk, bike, carpool, and bus in their community."
www.peterboroughmoves.com

Places to Grow
"Places to Grow is the Ontario government's program to manage growth and development in Ontario in a way that supports economic prosperity, protects the environment and helps communities achieve a high quality of life."
www.placestogrow.ca

San Francisco College of Behavioral & Social Sciences - City Links
This website provides links to some of the "Healthy Cities" of the United States and Canada.
http://bss.sfsu.edu/pamuk/urban/links.html

Sustainable Communities Network
The Sustainable Communities Network "link[s] citizens to resources and to one another to create healthy, vital, sustainable communities."
www.sustainable.org

walkON
walkON is a community partnership of Heart Health projects from Central West Ontario offering a menu of program activities to engage the community in the creation of environments that support walking.
www.walkon.ca

FINANCIAL RESOURCES

The Federation of Canadian Municipalities Green Municipal Fund for municipal governments (for plans, feasibility studies and capital projects)
www.sustainablecommunities.fcm.ca

Transport Canada's Moving on Sustainable Transportation grants program
www.tc.gc.ca/programs/environment/most/aboutmost.htm

The Provincial Municipal Investment Initiative (revenue from the gas tax)
www.infrastructureontario.ca/en/miii/index.asp

Bicycle Trade Association of Canada (provides grants for advocacy initiatives)
www.btac.org/grant_program.html

Evergreen promotes the connection between a sustainable natural environment and healthy communities.
www.evergreen.ca

GLOSSARY OF TERMS

Active Community: An active community connects "people with their environment and with each other, making them want to be active and involved" (Alberta Government, 2008).

Active Transportation: Active transportation refers to human-powered modes of transportation. The most common modes of active transportation are walking and cycling (Bergeron, et al, 2008).

Built Environment: The built environment is part of the overall ecosystem of our earth. It includes the land-use planning and policies that impact our communities in urban, rural, and suburban areas. It encompasses all buildings, spaces, and products that are created or modified by people. The built environment includes our homes, schools, workplaces, parks/recreation areas, business areas and roads. It extends overhead in the form of electric transmission lines, underground in the form of waste disposal sites and subway trains, and across the country in the form of highways (Health Canada 1997, in McMackin 2005: 3).

Community Gardens: "Community gardens are safe, beautiful outdoor spaces on public or private lands, where neighbours meet to grow and care for vegetables, flowers and native plant species. The gardeners take initiative and responsibility for organizing, maintaining and managing the garden area. This participation builds skills and creates positive community development that is widely accessible to a diverse range of people." (City of Toronto http://www.toronto.ca/parks/programs/community.htm)

Complete Community: Complete communities "provide for the needs of all residents, foster social equality, inclusion and collaboration, and encourage healthy lifestyles" (Region of Waterloo, 2008). A complete community is one in which community member needs are met within the community. For example, a complete community may include access to health care, education, child care, groceries, and recreation within the proximity of the community.

Complete Street: A Complete Street is safe, comfortable and convenient for travel via automobile, foot, bicycle, and transit.

Environmental Health Management: Environmental health management involves the intentional modification of the natural and built environment to reduce risks to human health or to provide opportunities to improve health (Curry, 2003. Retrieved from http://www.euro.who.int/Document/E90678.pdf).

Green Space: Green space refers to a "plot of undeveloped land separating or surrounding areas of intensive residential or industrial use that is maintained for recreational enjoyment" (Webster's New Millennium Dictionary of English, Preview Edition (v.0.9.6)).

Greenbelt: Ontario's Greenbelt is a geographical area that spans 1.8 million acres of permanently protected green space. (Adapted from information provided by the Ontario Greenbelt website www.ourgreenbelt.ca)

Health: "Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity." (World Health Organization, 1948).

Healthy Community: "A healthy community is one that is constantly creating and improving those physical and social environments and expanding those community resources which enable people to mutually support each other in performing all the functions of life and in developing to their maximum potential" (Hancock and Duhl, 1986).

Health Promotion: "Health promotion is a process of enabling people to improve their health status by influencing the behaviours and conditions that affect their health" (Francisco and Fawcett, 1993: 403).

Healthy Public Policy: Healthy public policies are decisions or actions that aim to positively impact peoples' health. (Adapted from "From the Ground Up" publication)

Infrastructure: Infrastructure encompasses the basic structure or features of a system. The infrastructure of a community within a geographical area includes features such as transportation, communication, water, sewage and electrical systems.

Land Use Planning: "[Land use] planning means the scientific, aesthetic, and orderly disposition of land, resources, facilities and services with a view to securing the physical, economic and social efficiency, health and well-being of urban and rural communities" (Canadian Institute of Planners).

Liveable Community: Healthy communities must be liveable in that they need to include elements such as parks, community halls, arts facilities and seniors centers' (Adapted from Canada Mortgage and Housing Corporation).

New Urbanism: An alternative to modern, automobile-oriented planning and development.

Official Plan: An Official Plan describes a municipal council's policies on how land in the community should be used and deals mainly with issues such as where new housing, industry, offices and shops will be located; what services (i.e. roads and parks) will be needed, how the community will grow and community improvement initiatives. It is prepared with community input and helps to ensure that future planning and development will meet the specific needs of a community. (Ontario Ministry of Municipal Affairs and Housing, 2006)

Open Space: Open spaces are physical locations, such as trails or parks that exist within a community for the use of recreation and socialization.

Quality of Life: Quality of life refers to the physical and psychological factors that contribute to individual and community life. These factors may be based on the following dimensions: economic well being, health, environmental quality, freedom, social participation and self-perceived well being or satisfaction. (Adapted from Andre and Bitondo, 2001. Retrieved from http://sru.soc.surrey.ac.uk/SRU47.html).

Reurbanization: Reurbanization "describes four distinct types of activity, all of which serve to increase the residential or employment density on sites located within the existing built-up area. The four types of activity captured under the definition of reurbanization include:

- Infill: new development on formerly vacant land;
- Intensification: an expansion in the use of an existing structure or structures that serves to increase the density on a site;
- Adaptive reuse: a change in the use of a structure, typically from commercial /industrial to residential, that results in greater density; and
- Redevelopment: the wholesale change or conversion of an area, often involving some form of land assembly and/or demolition, which results in significantly higher density than existed previously." (Region of Waterloo, 2008).

Secondary Plan: A land use policy plan for a district or large neighbourhood within a municipality which provides more detailed land use policies and designations than those found in a municipal official plan. Examples of secondary plans related to Active Communities are: Transportation Master Plans, Trails Master Plans, and Cycling Master Plans. (Ontario Ministry of Municipal Affairs and Housing, 2006)

Smart Growth: Smart growth refers to development that avoids wasteful practices or damaging effects to the environment and communities. (Adapted from "Retracting Suburbia: Smart growth and the future of housing"). Retrieved from http://www.mi.vt.edu/data/files/hpd%2010(3)/hpd%2010(3)_danielson.pdf).

Social Capital: Social capital refers to "the degree of citizen involvement in a community, the degree to which people know and trust their neighbours, and the numerous social interactions and transactions that people have as we go about our daily business" (Frank, et al, 2006).

Social Determinants of Health: "Thirty years ago, the Lalonde report was published in Canada. This report presented evidence of key factors that determine health status. The report went on to say that to improve the health of Canadians we need to improve access to the key factors --like income, education, and community supports. The evidence continues to mount about how these things help make us healthy. They are called the determinants of health. These are the elements that determine our own health, the health of our loved ones and the health of our community." (Peterborough County-City Health Unit http://pcchu.peterborough.on.ca/PH/PH-SDH.html)

Sustainable Landscapes: Sustainable landscapes "should include an attractive environment that is in balance with the local climate and requires minimal resource inputs, such as fertilizer, pesticides and water." The design for such landscapes will include "functional, cost efficient, visually pleasing, environmentally friendly and maintainable areas" (Bousselot, Badertscher & Roll, 2008).

Transit Oriented Development: "Transit oriented development is a major solution to the serious and growing problems of peak oil and global warming by creating dense, walkable communities connected to a train line that greatly reduce the need for driving and the burning of fossil fuels."(www.transitorienteddevelopment.org/tod.html)

Urban Sprawl: Urban sprawl refers to the geographical spreading of a city and its suburbs.

Walkability: Walkability refers to a pedestrian network based on six criteria: (1) connectivity; (2) linkage with other modes; (3) fine grained land use patterns; (4) safety; (5) quality of path; and (6) path context. (Adapted from Michael Southworth, J. Urban Planning and Development. Volume 131, Issue 4, December 2005 pp. 246-257).

Walkable Communities: Walkable communities promote walking as the dominant form of transportation. The benefits of walkable communities are founded in the health, social interaction and environment of the communities. These are community settings that provide the opportunity to live and work within the community. Walkable communities encourage socialization and foster a close-knit feel. A focus on walking promotes community health by increasing the level of physical activity and reducing the level of greenhouse gases that the community would otherwise emit with the use of public transit or automobile. (Adapted from the "Walkable Communities Podcast" http://www.smartgrowth.org/library/articles.asp?art=3617).

AUTHORS AND CONTRIBUTORS

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Andrew Kaczynski is a graduate of the University of Waterloo and a native of Ontario. He is currently an Assistant Professor in the Department of Kinesiology at Kansas State University and an Adjunct Faculty Member in the Department of Health Studies and Gerontology at the University of Waterloo. His research focuses on relationships between the built environment and physical activity, and parks and recreation and community health.

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Carol Jamieson is a freelance researcher, writer and fundraiser specializing in the not-for-profit sector. For the past three and a half years she has worked part-time as Corporations and Foundations Specialist at Eva's Initiatives which operates three Toronto shelters for homeless/at-risk youth – Eva's Phoenix, Eva's Satellite and Eva's Place.

Chris Black is currently with the Ministry of Natural Resources. He holds an undergraduate degree in Environment, Resources & Development (Honours Specialization) from the University of Western Ontario as well as a graduate degree in Rural Planning & Development from the School of Environmental Design and Rural Development at the University of Guelph. His areas of interest include small-town revitalization and healthy rural communities.

James Dunn holds a Chair in Applied Public Health from the Canadian Institutes of Health Research and the Public Health Agency of Canada on Interventions in Residential Neighbourhoods and Population Health. He is a Research Scientist at the Centre for Research on Inner City Health (CRICH) at St. Michael's Hospital, Toronto, and an Associate Professor in the Departments of Geography & Planning and the Dallan Lana School of Public Health at the University of Toronto (UofT). He is also a Fellow of the Successful Societies Program of the Canadian Institute for Advanced Research. He is a member of the Editorial Advisory Board for *Social Science and Medicine, Health Reports* and *Housing, Theory & Society.*

Jennifer Croft is a health promoter with the Grey Bruce Health Unit. She received her Bachelor of Physical Education in Recreation and Leisure Studies from the University of New Brunswick. She worked for ten years as a Therapeutic Recreation Specialist in hospitals, nursing homes and community settings assisting people with disabilities to overcome barriers to active living and community inclusion. She is currently working towards her Masters in Health Science form Athabasca University.

Jill Ritchie has extensive experience working in the areas of public health and community development. For the past nine years, she has worked at the Peterborough County-City Health Unit as a Health Promoter in the Chronic Disease and Injury Prevention Program. Her work is focused pedestrian safety and community walkability. She has been a member of Active and Safe Routes to School Peterborough Committee since 1999.

Kim Bergeron has extensive experience working in public health as a Chronic Disease Prevention Coordinator. She is currently working on a PhD at Queen's University with a focus on developing a land-use planning and public health framework to promote the design of active communities in rural municipalities. Her research involves data collection from land-use planners, public health professionals, and provincial policy makers.

Lisa Kaldeway is a Health Promoter with the HKPRD Health Unit's Chronic Disease and Injury Prevention Department. She has worked with the Physical Activity Team and local Health for Life Community Partnership for the past 7 years. She is currently pursuing a Master's of Science in Health Promotion Studies through the University of Alberta.

Melanie Kramer works in the field of environmental sustainability, with a focus on urban ecology. She holds a Masters Degree in both Environmental Studies and Landscape Architecture and has researched, and written about, multiple relationships between landscapes, ecology, health and sustainability.

Michelle Gold is Senior Director, Policy and Programs at the Canadian Mental Health Association, Ontario. She provides leadership in public policy, as well as providing provincial level advice on health and intersectoral system planning to promote mental health and support people with mental illness.

Nimira Lalani holds a Master of Science degree, Department of Community Health Sciences, Faculty of Medicine from the University of Calgary. She has worked for the past twelve years within the field of public health and health promotion as a university lecturer, health promoter, researcher, and freelance consultant in Canada and the UK. Her career portfolio is diverse and is underpinned by a commitment to innovation and social justice.

Pam Coulter received her Bachelor of Arts degree from the University of Guelph in 1991. She worked as a land use planning consultant from 1992 to 2000 on a variety of land use planning projects from wind energy to quarries in the public and private sector. In 2000 Pam became employed by the City of Owen Sound. Pam is the Director of Community Services for the City which includes the City's Land Use Planning and Building Divisions, Culture, Recreation, Events and Facility Bookings.

Sue Shikaze is a Health Promoter with the HKPR District Health Unit, Chair of the Communities in Action Committee, and founding member of the Haliburton Highlands Cycling Coalition. She has played a key role in the development of cycling initiatives in Haliburton County, including the Shifting Gears Cycling Festival and Cycling Master Plan project. Sue believes in the importance of creating supportive environments to encourage people to walk and cycle more, and promotes the health benefits of AT and cycling throughout the community.

APPENDICES

APPENDIX A: MEMBERSHIP OF THE HCBE STEERING COMMITTEE

Name	Organization
Lorna Heidenheim	OHCC & Ontario Inclusion Learning Network
Alexandru Taranu	Ontario Professional Planners Institute
Andrea Bodkin	Ontario Public Health Association
Janet May	Ontario Smart Growth Network
Christine Bushey	Simcoe Muskoka District Health Unit
Shelley Bolden	Waterloo Region Public Health
Dina Etmanskie	Waterloo Region Healthy Communities
Lisa Tolentio	Project Coordinator

APPENDIX B: HCBE WORKSHOP AND FORUM LOCATIONS

Sault Ste. Marie
London
St. Thomas
Waterloo Region
St. Catharines
Greater Toronto Area
Peterborough
Lindsay
Muskoka
Haliburton County
Barrie
Ottawa
Timiskaming