



Health in Official Plans: A Toolkit

2018 Submission to the
County of Peterborough
Official Plan Review



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Acronyms

ADHD – Attention Deficit and Hyperactivity Disorder
CCHS – Canadian Community Health Survey
CMA – Census Metropolitan Area
CPTED – Crime Prevention Through Environmental Design
GPGGH – Growth Plan for the Greater Golden Horseshoe
OPHS – Ontario Public Health Standards
PPH – Peterborough Public Health
PPS – Provincial Policy Statement
TCAT – Toronto Centre for Active Transportation
UVR – Ultraviolet Radiation

MESSAGE FROM

Dr. Rosana Salvaterra, Medical Officer of Health

It is no surprise that the increase in sprawling built environments coincides with a dramatic rise in incidence of chronic diseases and conditions. Ontario's population is facing high rates of cardiovascular diseases, diabetes, and cancer while physical activity levels and nutritious food consumption are much lower than what is recommended. These conditions and behaviours are exacerbated by compounding social issues, such as poverty; unaffordable housing; and food and income insecurity.

There is growing evidence demonstrating that the way our communities are planned, designed, and built can support healthier lifestyles and behaviours; thereby reducing the amount of chronic diseases and conditions. Many policy levers to do this are at the control of the municipal level in areas such as planning, transportation, parks and recreation, and housing. For County of Peterborough residents, there is an opportunity to begin the pendulum shift towards healthier community designs by engaging in the County of Peterborough Official Plan review. Peterborough Public Health considers the Official Plan review as an opportunity to consider how residents of all ages and abilities can thrive, be healthy, and resilient in this community.



As such, I am extremely pleased to present this comprehensive report to the County of Peterborough. This report signifies Peterborough Public Health's commitment to support the County of Peterborough with evidence, local data, and policy examples to assist with the Official Plan review process. This report aims to educate, raise awareness, and encourage the implementation of the key policies that will help make the County of Peterborough a healthy community for all current and future residents.

R Salvaterra

Introduction

Designing communities to improve health and wellbeing is not a new concept to the professions of planning and public health. In the mid-1800's, huge advances in the prevention of communicable diseases (e.g., cholera, typhoid fever, typhus) were made through the modification of the built environment.¹ At that time, health was largely determined by how and where a person lived and worked. Today, this is still true; however, instead of *communicable diseases*, it is the prevalence of low-density, auto-dependent communities that are contributing to the dramatic rise in *chronic diseases and conditions*.² In fact, the communities that have been built over the past 50 years have been shown to decrease access to physical activity, healthy food, and natural environments, while at the same time increase access to harmful substances (such as tobacco and alcohol).³ This type of land use planning has resulted in increased incidences of chronic diseases and conditions, such as diabetes, heart disease, cancer, osteoporosis, and poor mental health.⁴ Furthermore, air pollutants from motor vehicle emissions also cause chronic diseases, including diseases of the lungs and heart and some cancers.⁵ Similar to the collaborative effort of planning and public health from a century ago, we are at a critical juncture that can benefit from using a health and wellbeing lens as a focal point of community design and land use planning. By doing so, we can improve health outcomes of residents, decrease the prevalence of many chronic diseases and conditions, and increase the livability, productivity, and resilience of the Peterborough community.

Public Health Mandate in Ontario

Ontario's local boards of health are mandated by the Health Protection and Promotion Act (R.S.O. 1990, c. H.7, s.2) and guided by the Ontario Public Health Standards (OPHS)⁶ to apply a population health approach; an approach that is grounded in principles of prevention, upstream interventions, and societal factors that influence health. With respect to the *Healthy Environments Standard* in OPHS, there is a broad goal that requires local public health agencies "to reduce exposure to health hazards and promote the development of healthy built and natural environments that support health and mitigate existing and emerging risks, including the impacts of a changing climate."⁷

In addition to the requirements of the OPHS, there have been numerous other agencies and organizations who have called upon public health to work more closely on land use planning issues with the goal of preventing diseases and conditions through healthy community design.

- Chief Public Health Officer's Report on the State of Public Health in Canada 2017: [Designing Healthy Living](#)
- Ontario Professional Planners Institute: [Healthy Communities Sustainable Communities](#)
- Canadian Institute of Planners: [Healthy Communities Practice Guide](#)

Purpose of this Report

Based on the mandate for local boards of health in Ontario and the call to action issued by many agencies directing public health and planning professionals to collaborate, this document has been produced for the following purposes:

- 1) To provide recommendations to the County of Peterborough for their Official Plan review.
- 2) To demonstrate the impact each recommendation would have on health outcomes of County residents.
- 3) To demonstrate how each recommendation links to provincial land use policy, including the Provincial Policy Statement (PPS) and the Growth Plan for the Greater Golden Horseshoe (GPGGH).
- 4) To demonstrate how each recommendation links to existing local plans and policies.
- 5) To provide examples of existing Official Plans, policies, and tools from other communities from across Ontario and Canada that could be used to implement our recommendations.

To achieve the above stated purposes, this report has been organized into five areas of focus:



These areas of focus have been modified based on the document created by the British Columbia Provincial Health Services Authority titled: [Healthy Built Environment Linkages: A toolkit for design, planning, health](#) (version 1).⁸ The Healthy Built Environment Linkages document was chosen to provide the framework due to the amount of research and evidence used to guide its development. Essentially, it is a resource that “works through the entire pathway of tracking what happens between planning principles and health outcomes.”⁹ The planning principles recommended in the Healthy Built Environment Linkages document were applied to the health statistics, demographics, and geography of the County of Peterborough. By doing so, the following list of recommendations have been drafted and will guide the content of our submission to the County of Peterborough Official Plan Review:

- [Build healthy, complete, compact, and equitable communities and settlement areas across the County of Peterborough.](#)
- [Enable walkability for every age and ability level in all settlement areas.](#)
- [Reduce automobile dependence by creating a well-connected and safe active transportation network.](#)
- [Use a Complete Streets design approach to prioritize safety for all transportation users.](#)
- [Increase access to affordable, high quality housing through provision of diverse housing forms and tenure types.](#)
- [Enhance agricultural capacity and the agri-food sector to impact the local food system.](#)
- [Increase access to healthy, local foods for all residents in all communities.](#)
- [Improve community scale infrastructure to support the local food system.](#)
- [Ensure greater quantity and quality of green and open spaces including environmentally sensitive areas.](#)
- [Ensure green and open spaces are comfortable for human use which includes improving air quality and mitigating against heat.](#)
- [Ensure that green and open spaces are accessible for all ages and abilities.](#)

FOCUS AREA 1

Healthy Community Design



“Healthy communities are places that are safe, contribute to a high quality of life, provide a strong sense of belonging and identity, and offer access to a wide range of health-promoting amenities, infrastructure, and opportunities for all residents.”¹⁰ Whether these are communities in large cities, or communities in small villages and hamlets; communities can be seen as very complex ecosystems. Researchers have long studied community systems to better understand how the interactions between different elements within a community produce direct health and indirect social and behavioural impacts.¹¹ For example, specific community design features (like wide sidewalks, well-lit streets, safe open spaces) can stimulate relatively high levels of physical activity, which helps to reduce the risk of heart disease and stroke (direct health impact).^{12,13} High levels of physical activity are also associated with improvements in mental health and community connections (indirect social and behavioural impact).¹⁴ For every community design feature, there is a direct and indirect impact that relates to health.¹⁵ Consequently, it is essential that healthy community design principles are the core of the County of Peterborough Official Plan. Additionally, due to the vast and varied landscape across the County of Peterborough, it is important that design features are applied consistently, to ensure that all communities are equitable and achieve health equity. Health equity means that all people, regardless of where they live “have a fair chance to reach their full health potential and are not disadvantaged by social, economic, and environmental conditions.”¹⁶



Village of Lakefield, Township of Selwyn, County of Peterborough.





RECOMMENDATION #1

Build healthy, complete, compact, and equitable communities and settlement areas across the County of Peterborough.

Why does this matter in the County of Peterborough?

According to the GPGGH, communities that are designed as complete and compact meet people's needs for daily living throughout an entire lifetime by providing convenient access to an appropriate mix of jobs, local services, public service facilities, and a full suite of housing to accommodate a range of incomes and household sizes.¹⁷ There are many settlement areas across the County of Peterborough that have the ingredients needed to be a complete and compact community. However, a number of statistics indicate that there is still a need to increase focus on the *healthy* and the *equitable* components of our communities and settlement areas. This is due to the high rates of chronic diseases, conditions, and injuries observed across Peterborough County and City, as well as our growing number of low-income, food, and housing insecure households.^{18,19} Furthermore, when a community's design enables greater access to unhealthy options such as alcohol, tobacco, and unhealthy food, there is a direct correlation to higher amounts of alcohol consumption, tobacco use, and poor food choices.²⁰ According to local statistics, the Peterborough County and City has a higher number of smokers and binge drinkers, as well as a lower number of people eating fresh fruits and vegetables when compared to the provincial averages.^{21,22,23} There are many factors that lead to such high numbers; however, unhealthy built environments can certainly be one contributing factor.

This warrants a change in how communities are planned to ensure the County of Peterborough does not have higher rates of unhealthy behaviours, chronic diseases, conditions, and injuries. To add to this, our community needs to prepare for the new 20,200 residents that are projected to move to the County of Peterborough before 2041.²⁴ To manage this growth, it will be important to develop policies to ensure that this growth happens in a healthy, complete, compact, and equitable manner to ensure optimal health and wellbeing for new and current residents.

How will this impact health?

Healthy, Complete, Compact Communities

The World Health Organization defines health as “a state of complete physical, mental, and social well-being and not merely the absence of disease.”²⁵ All three dimensions of health (physical, mental, social) are interconnected and must be in balance to achieve optimal health and wellbeing. The way in which communities are designed can have an immense effect on all three dimensions.²⁶ For example, if people live in communities that have a high density of unhealthy food choices, research shows that these individuals will choose unhealthy foods more often, leading to a higher risk of chronic disease and unhealthy weight. Once an individual has a chronic medical condition, they are much more likely to also experience poor mental health which can lead to feelings of loneliness and less social connections.^{27,28}

The World Health Organization defines health as “a state of complete physical, mental, and social well-being and not merely the absence of disease.”



The following section will demonstrate the connection of each dimension of health to community design, and provide a snapshot of the status of each for the Peterborough region:

Physical Health and the Built Environment

Physical features of the built environment have a profound impact on human physical health. This can happen in two ways: First, the way humans interact with the built environment can directly cause chronic diseases and conditions, and second, chronic diseases and conditions may develop due to other factors (e.g., smoking, etc.) but can be exacerbated by features in the built environment (e.g., poor air quality).²⁹

To have a better understanding of the health status of residents who reside in the County of Peterborough, an analysis of local health data was conducted. Below is a snapshot of some of the key findings of this analysis (for this section, Peterborough refers to both County and City):

- In 2013, the top leading causes of death in Peterborough were neoplasms (cancer), circulatory diseases, respiratory diseases, and unintentional injuries, representing 72% of all deaths. These statistics are similar to Canadian and Ontario statistics.³⁰
- Hospitalizations for respiratory diseases in Peterborough are significantly higher than the provincial average. From 2010 to 2016 the hospitalization for respiratory disease rates ranged between 728.2 and 844 per 100,000 in Peterborough while in Ontario, in the same period of time these rates varied between 573 and 599 per 100,000.³¹
- From 2009 to 2016 there was a significant increase in Emergency department visits for all unintentional injury rates in Peterborough County and City. These rates are significantly higher than Ontario rates.³²

Social Health and the Built Environment

People need to feel a sense of belonging and connectedness to others and society in order to be healthy. Communities should be designed to “create environments that meet the needs and wants of residents, including walkable streets, public plazas; parks and recreation facilities; and public buildings, meeting spaces, and mixed-use destinations for people to meet that promote a sense of community and place, and reduce social isolation, stress, depression, and hopelessness.”³³ Research has shown that people who have a strong sense of community belonging are more likely to report having excellent or very good physical and mental health.³⁴ According to the 2014 Canadian Community Health Survey (CCHS), 66% of residents across Peterborough report a strong or somewhat strong sense of community belonging. This is lower than the provincial (68%) but the same as the Canadian (66%) average. Peterborough’s sense of belonging has decreased 10% since 2003.³⁵

Mental Health and the Built Environment

Humans need to have good mental health and well-being in order to realize their potential, cope with the normal stresses of life, work productively, and contribute to their community. Land use plans “...should protect natural environments and develop healthy built environments to help people reduce stress, depression, and health disparities, and mutually support each other in performing all functions of life and developing their maximum mental capacity.”³⁶ Community features such as noise, poor quality housing, lack of places to gather, and low walkability are linked to an increased risk for stress and poor mental health.³⁷ The Mental Health Commission of Canada reports that mental illness is the leading cause of disability in Canada³⁸ and can decrease a person’s life expectancy by 10 to 20 years.³⁹ According to Statistics Canada, in 2014 the proportion of the population reporting very good or excellent mental health (aged 12+) in Peterborough was 67%, which is lower than the provincial average of 70%.⁴⁰ Peterborough’s rate is down from 74% in 2003.⁴¹



Equitable Communities

Equity in health is achieved when everyone has equal opportunities for good health. Unfortunately, there is a large body of evidence that demonstrates considerable health inequities exist in our province and in the Peterborough region.⁴² These inequities are systematically related to social position, so that health worsens with declining social position related to income, education, ethnicity, and other factors.⁴³ Land use planning can have a significant impact on these social determinants of health.⁴⁴ Community planning with an equity lens means considering the ways in which municipal planning decisions and their consequences are experienced by and distributed among different groups in our society, particularly vulnerable groups like children, seniors, people with low incomes, people with disabilities, or new immigrants.⁴⁵ Where the unique needs of vulnerable populations are not considered, and interventions are not responsive to these needs and barriers, the intervention may in fact exacerbate health inequities. An example of this is neighbourhood renewal without integrated commitments to affordable housing, transportation and food, which can lead to further marginalization of low-income residents who can no longer afford to live in the very neighbourhood designed to support them.⁴⁶

In the Healthy Community Design sections below and in other theme areas (Transportation, Housing, Food, Healthy Natural Environments) an effort has been made to give examples of how planning policies and approaches may impact the health of specific vulnerable populations, as well as examples of strategies to support health equity for these groups.

What can be done to create healthy, complete, compact, and equitable communities?

The [Planning by Design: A healthy communities handbook](#) produced by the Ministry of Municipal Affairs and Housing in 2009 provides information on the various tools enabled under provincial legislation available to municipalities to encourage and support the development of healthy, complete, and compact communities. In addition to these tools, other possibilities to implement this recommendation include:⁴⁷

- Incorporating a healthy community checklist for all development applications that encompasses a wide range of measures that improve public health through the built environment and also require applicants to incorporate a certain number of features into their proposals.
- Incorporating Crime Prevention Through Environmental Design (CPTED) principles to enhance and protect public safety in all healthy communities' checklists.
- Requiring mixed use development instead of only encouraging it.
- Offering incentives for brownfield remediation and redevelopment.
- Requiring site plans to incorporate sustainable building features and streetscape features.
- Fast tracking development applications that incorporate healthy community principles such as incorporating public art, green space, and pedestrian and cyclist corridors.
- Considering increases to density and height for development applications where the applicant is providing community benefits such as streetscape improvements, walk and cycling paths, affordability, or green roofs.
- Adopting minimum standards for building height to encourage more compact, intensified built form that compliments the rural character across the County of Peterborough.



Rotary Greenway Trail, County of Peterborough.



- Zoning regulations to limit the density of unhealthy options such as alcohol, cannabis, tobacco, and ultra-processed foods. Zoning should also focus on minimum separation distances to limit access of these options to vulnerable populations, especially children and youth.^{48,49} Restricting density of alcohol and other harmful substances “can lead to ‘substantive reductions in violent crime/injury occurrences’.”⁵⁰

To achieve *equitable* communities, land use planning is most successful and has the greatest potential to promote health equity when it involves community members in setting priorities.⁵¹ Community engagement is a way to build greater knowledge of local issues and increase community consensus around interventions.⁵² “Participation from community members or engagement of stakeholders from disadvantaged groups is a way to better represent the voices of those who are less powerful or frequently excluded from decision-making.”⁵³ The County of Peterborough Official Plan would benefit from the incorporation of policies to ensure that all residents are engaged in the land use planning process.

How does it link to the PPS and the GPGGH?

PPS:

- Part V, Section 1.1.1.a-h, pg. 6
- Part V, Section 1.1.3, pg. 7-9
- Part V, Section 1.3.1.a-c, pg. 13
- Part V, Section 1.4.3.a-e, pg. 14-15
- Part V, Section 1.5.1, pg. 15

GPGGH:

- Section 2.2, Sub-section 2.2.1 #4a-g, pg. 14
- Section 2.2, Sub-section 2.2.2, #4a-f, pg. 15
- Section 2.2, Sub-section 2.2.5, pg. 19-22
- Section 2.2, Sub-section 2.2.6, #1-3, pg. 22-23
- Section 2.2, Sub-section 2.2.7, pg. 23-25
- Section 4.2, Sub-section 4.2.10, pg. 52

Local policies and plans supportive of this recommendation:

- [Peterborough Climate Change Action Plan](#) (2016)
 - Strategy L1: Strengthen land use policy and the development review process to better support climate change mitigation and adaptation, pg. 7
- [Age-friendly Peterborough 2017 Community Action Plan](#)
 - 2.4 A safe, well-maintained, and connected active transportation network, pg. 26
 - 2.6 Complete community design, pg. 28
- [Greater Peterborough Area Community Sustainability Plan](#) (2012)
 - Theme: Land Use Planning
 - Goal: We will support the building of sustainable, healthy and diverse communities through planning policies and decisions that are developed and made in a transparent, open and accessible manner, pg. 26



Examples of Official Plans supportive of this recommendation:

- [County of Lambton Official Plan](#) (2017)
 - Section 2: Quality of Life – includes a large number of policies geared to improving quality of life of residents, pg. 2-1
 - Improving Quality of Life Policies
 - Housing Policies
 - Affordable Housing Policies
 - Food Policies
 - Climate Change Policies
 - Sustainability Policies
- [City of Thunder Bay Official Plan](#) (2018)
 - Guiding Principles include a wide range of topics, including: complete and compact; environmental sustainability; accessible and active; connected; healthy, safe, and inclusive; food security; diverse and affordable; inclusive, pg. 4
 - Includes a healthy and safe community approach, pg. 6
 - Wide range of General Goals that include health, pg. 7
- [Town of Midland](#) (Draft Official Plan 2017)
 - Vision, Guiding Principles, Successful Community Principles include “healthy complete communities,” pg. 1-2
 - 3.0 General Development Policies, pg. 3-1
- [Town of Innisfill Official Plan](#) (2018)
 - The Official Plan is titled “Our Place” to indicate that the goals and objectives of *Placemaking* is the central focus of the Plan.
 - 2.1 What Makes Our Place Great – details a *placemaking strategy* for the Town, pg. 2-1



Lock 31 Trent Severn Waterway, Buckhorn, County of Peterborough.



Examples of tools used to implement Official Plan policies:

Various policies, programs, tools, and checklists can be used to ensure that the healthy, complete, compact, and equitable goals of an Official Plan are being implemented.

- Official Plans that include healthy complete community language should include a development review tool that assesses health impacts. The Region of Peel is one of the first municipalities in Ontario to develop a [Healthy Development Assessment](#) that measures the health-promoting potential of planning and development proposals. This Healthy Development Assessment Tool was adopted as part of [Regional Official Plan Amendment 27](#).
- CPTED principles used to evaluate planning and development proposals.
 - [Town of Innisfill Official Plan](#) (2018) policy 14.1.6 (pg. 14-3)
 - [City of Thunder Bay](#) (2018) implementation policies inclusive of CPTED (pg. 114)
- Site Plan controls that incorporate all elements of complete, compact, and equitable community design.
 - [Town of Midland](#) (Draft Official Plan 2017)
 - 7.4.2. Scope of Site Plan Control Policies (pg. 7-11)
- Community improvement plans, policies, and programs to achieve complete, compact, and equitable designs.
 - [City of Peterborough Central Area Community Improvement Plan](#) (2017)
 - [City of Barrie Built Boundary Community Improvement Plan](#) (2016)
 - [City of Cornwall Brownfield Community Improvement Plan](#) (2015)
 - Township of Smith-Ennismore-Lakefield [Community Improvement Plan](#) (2012) and [Village and Hamlet Core Design Guidelines](#) (2012)
- Zoning bylaws to limit access to unhealthy options such as ultra-processed foods, alcohol, tobacco, and cannabis.
 - [The Corporation of the District of Central Saanich](#) (2010)
 - Prohibits drive-throughs in all land use zones, Bylaw #1309, Amendment #1667.
 - [The Town of the Blue Mountains Official Plan](#) (2016)
 - B2.6 Drive-Through Service Facilities Policies, pg. 44
 - [City of Spruce Grove, Alberta](#)
 - Bylaw that regulates where minor and major alcohol sales are permitted. It requires a separation of 100 metres between a proposed major alcohol establishment and community or recreation activities.
- Public engagement policies and strategies to ensure timely, appropriate, and inclusive engagement for all land use planning decisions.
 - [International Association of Public Participation \(IAP2\) Spectrum](#)
 - [IAP2 Quality Assurance Standard](#)
 - [City of Guelph Community Engagement Framework](#)
 - [City of Kingston Public Engagement Framework](#)



Jackson Park, City of Peterborough.



FOCUS AREA 2

Healthy Transportation Systems



There is a strong relationship between how communities are developed and the transportation choices that individuals make. Over the past century, our society has become largely dependent on the automobile as the main source of transportation. However, this has led to a reduction in physical activity, an increase in chronic diseases and mental health conditions, as well as an increase in fine particulate matter and greenhouse gas emissions.⁵⁴ As a result, there is renewed interest among planners and public health professionals to better integrate local land use and transportation planning to improve health and safety, while at the same time provide residents a choice in transportation options.⁵⁵ According to the Ontario Professional Planners Institute, alternative modes of transportation, such as walking and cycling, should be institutionalized as part of land use planning on a routine basis, rather than as an afterthought through retrofits.⁵⁶ This is critical as some groups (children and youth, seniors, people from lower income populations, people with disabilities, etc.) face a variety of barriers in meeting their transportation needs, and may be particularly dependent on alternative modes of transportation.⁵⁷ Addressing transportation barriers for these groups by developing healthy, safe, and accessible transportation networks will ensure that all residents, including vulnerable populations, have equal access to places where they live, learn, shop, work, play, and obtain services, and in turn will experience better and more equitable health outcomes.



Lang-Hastings Trail, County of Peterborough. Photo courtesy of the Peterborough Examiner.





RECOMMENDATION #2

Enable walkability for every age and ability level in all settlement areas.

Why does this matter in the County of Peterborough?

Statistics show that walking is the oldest and most basic form of transportation for all humans - regardless of age, ability, income level, or place of residence.⁵⁸ "Every day, every person is a pedestrian. No matter where we are going or how we choose to get there, every journey begins and ends with a walk."⁵⁹ However, despite history, walking has received little attention in the planning, design, and development of communities. In fact, for many years, communities were built in ways that limited walking through the use of low density, non-mixed use designs, which has contributed to significant urban sprawl.⁶⁰ As such, there are many opportunities to improve conditions for walking and in so doing, make our communities more livable.⁶¹ Typically, a walkable distance is considered 400 – 800 meters (or a 5 to 10 minute walk).⁶² A walkable community offers a safe and pleasant pedestrian experience, with accessible destinations and desirable amenities. There are distinct health, environmental, community, social, and economic benefits associated with walkable communities compared to communities with limited or no attention to walkable designs.⁶³

"Every day, every person is a pedestrian. No matter where we are going or how we choose to get there, every journey begins and ends with a walk."

How will this impact health?

Walking is one of the least expensive and most broadly accessible forms of physical activity.⁶⁴ It is rarely associated with physical injury and can easily be adopted by people of all ages, abilities, and socio-economic status.⁶⁵ As such, walking is the most popular choice for physical activity across the globe. This holds true for Peterborough as, according to the 2011/2012 Canadian Community Health Survey (CCHS), 75% of County and City residents selected walking as their most likely form of exercise in the last three months.⁶⁶

Research shows that walking regularly (30 minutes each day) can have a profound effect on human health. In addition to the numerous health benefits demonstrated in Figure 1, walking also helps lower the risk of cancer, heart disease, diabetes, stroke, arthritis, osteoporosis, unhealthy weight, and can prevent the onset of depression.⁶⁷ Recent studies have shown an association between walking and a reduction in deaths from all causes, ranging from 19–30 per cent depending on the frequency and length of walking activities.⁶⁸

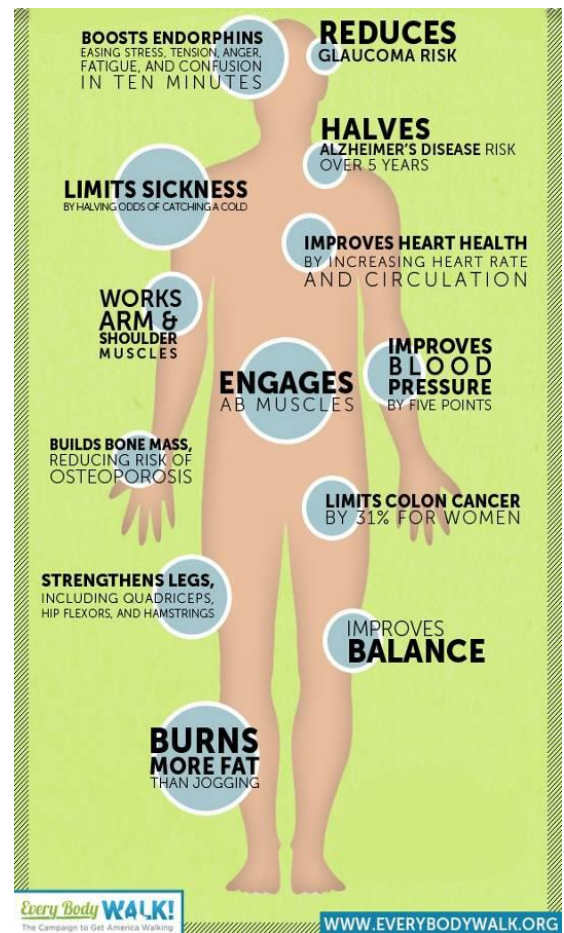


Figure 1. The Anatomy of Walking

Source: [C3 Collaborating for Health, Review The benefits of regular walking for health, well-being and the environment](#)



Walking has important community benefits which can also impact health status. These benefits include:

Environmental

- A study from Washington, DC found that a 6% decrease in air pollutants caused by motor vehicles corresponded with a 5% increase in walkability.⁶⁹

Equity, social cohesion, and sense of belonging:

- “Walkable neighbourhoods are linked to more walking even among individuals and older adults with mobility issues.”⁷⁰
- People living in walkable neighbourhoods see their neighbours more often, and are more likely to know and trust them, which corresponds to higher levels of health, social cohesion, and community belongingness.⁷¹
- Walkable neighborhoods are associated with more active school travel which has been linked to mental health benefits including reduced stress, depression, and anxiety, and increased happiness. The increased physical activity specifically associated with the school journey has been found to increase student alertness and attention during the school day.⁷²
- The Winnipeg Regional Health Authority states that people who walk to work are healthier, happier, have better workplace attendance records, and increased productivity.⁷³



Walking School Bus (Warsaw Public School), Township of Douro-Dummer, County of Peterborough.

Economy

- Walkable neighbourhoods, where blocks are lined with small-scale storefronts rather than auto-centric big-box supercenters, also net as much as ten times tax revenue per acre for municipalities.⁷⁴

What can be done to make communities more walkable?

According to the GPGGH, a walkable community can be characterized by “roads laid out in a well-connected network, destinations that are easily accessible by transit and active transportation, sidewalks with minimal interruptions for vehicle access, and a pedestrian-friendly environment along roads to encourage active transportation.”⁷⁵ These characteristics can also be described as the “3 D’s”: Density, diversity, and design.⁷⁶ According to Halton Region⁷⁷ (Figure 2), the 3D’s are described as:

Density

- The places we live and work are close enough together to make distances short enough to easily choose walking, biking, and other modes of active transportation.
- Many people and jobs in an area can support and attract retail, services, and public transit.

Diversity

- A variety of community settings (e.g., grocery stores, community centres, retail, restaurants and services) within a 5 - 10 minute walk or a short bike ride.

Design

- **Connectivity** – Sidewalks, pathways, bike lanes and trails connect people to a variety of destinations, making it easy to get around.



Figure 2. The 3Ds: density, diversity, and design. Source: [Halton Region Public Health](#).



- **Beautification** – Interesting and pleasant things to look at creates an inviting environment for active transportation.
- **Safety** – Many design features can increase the feeling of safety and reduce injuries.
- **Accessibility** – Regardless of age or ability, everyone is able to get around with ease.

Research showcased in the Toronto Public Health report *A Walkable City*⁷⁸ highlights some of the impacts the “3D” characteristics can have on walkability:

- In a Montreal study, women aged 45 and older living in neighbourhoods with a higher density of destinations, such as shops and services, were 53% more likely to walk at least 30 minutes per day, five days per week;
- In another study, conducted in the United States, when the number of different shops and services in a neighbourhood increased from three to four, the number of walking trips increased by 24%;
- One study found that communities with small blocks and extensive sidewalk systems had, on average, three times the volume of pedestrians when compared to communities with long blocks and short, incomplete sidewalk systems.

In the County of Peterborough, many towns and villages are favourable for walking due to their small size. However, these towns and villages lack the population density, infrastructure, and destination variety to score high on a walkability scale. For this reason, it is vital that the County of Peterborough Official Plan prioritizes walking as a viable mode of transportation, and includes policies in the Official Plan to create walkable towns, villages, and settlement areas throughout the County.

How does it link to the PPS and the GPGGH?

PPS:

- Part V, Section 1.1.1.a-h, pg. 6
- Part V, Section 1.1.3.2.a-b, pg. 7
- Part V, Section 1.1.3.4, pg. 8
- Part V, Section 1.4.3.d, pg. 14
- Part V, Section 1.5.1.a, pg. 15
- Part V, Section 1.6.7, pg. 17-18
- Part V, Section 1.8.a-b, pg. 20

GPGGH:

- Section 2.2, Sub-section 2.2.1 #4b, d, f, pg. 14
- Section 2.2, Sub-section 2.2.5 #5b, pg. 20
- Section 2.2, Sub-section 2.2.7 #1b, pg. 23
- Section 3.2, Sub-section 3.2.2 #2a-f, 3, 4a-e, pg. 33
- Section 3.2, Sub-section 3.2.3 #4a-b, pg. 34
- Section 4.2, Sub-section 4.2.9 #1c, pg. 51
- Section 4.2, Sub-section 4.2.10 #1a, b, 2a, pg. 52-53

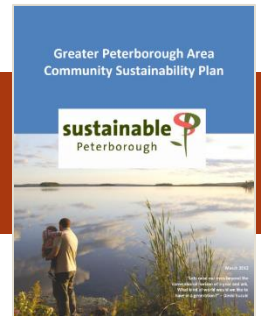
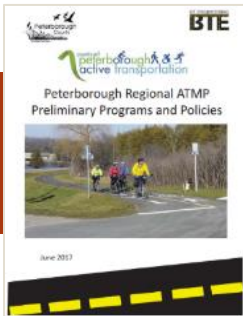


Walking in the County of Peterborough.



Local policies and plans supportive of this recommendation:

- [Active Transportation Master Plan](#) for the County of Peterborough (2017), pg. 2-3
 - Municipalities should consider incorporating provisions for “Complete Streets” as part of municipal planning and reconstruction projects in urban and rural areas.
 - A standard for the maintenance of trails, multi-use pathways and sidewalks should be developed by municipalities upon completion of the Active Transportation Master Plan. The standard should address all seasons.
- [Peterborough Climate Change Action Plan](#) (2016), pg. 5
 - Develop a Complete Streets Policy and Guidelines, including consistent sidewalk requirements and guidance on paved shoulders/cycle lanes.
- [Age-friendly Peterborough 2017 Community Action Plan](#), pg. 26-28
 - A safe, well-maintained, and connected active transportation network
 - Complete community design
- [Greater Peterborough Area Community Sustainability Plan](#) (2012)
 - Theme: Land Use Planning
 - Support the creation of pedestrian-oriented communities that encompass all elements we need without our communities, pg. 26



Examples of Official Plans that prioritize walking:

- [City of Thunder Bay Official Plan](#) (2018)
 - Transportation Policies, pg. 43
 - Active Transportation Policies, pg. 54
 - Pedestrian Policies, pg. 55
- [Town of Midland](#) (Draft Official Plan 2017)
 - General Development Policies, pg. 3-1
 - Transportation Policies, pg. 5-1
- [United Counties of Leeds and Grenville Official Plan](#) (2015)
 - a. General Settlement Area Policies, pg. 13
 - b. Transportation Policies, pg. 84



Examples of tools used to implement Official Plan policies:

- Walkability Audits as part of transportation studies
 - [Downtown Brooklin Transportation Study Report](#) – Walkability Audit (pg. 27)
- Sidewalk policies
 - [City of Peterborough sidewalk policy](#) and [sidewalk strategic plan](#)
- Design Guidelines
 - [Town of Midland](#) (Draft Official Plan 2017)
 - The Transportation Policies include specific policies and design guidelines to support walkable environments.
 - 5.3 Active Transportation (pg. 5-2)
 - 5.3.2 Sidewalks/Streetscapes (pg. 5-3)
 - [Region of Peel Pedestrian and Bicycle Facility Design Guidance](#) (no date)
 - Specific design guidelines to ensure consistent pedestrian environments across the Region of Peel
- Complete Street guidelines
 - See recommendation #4 below for examples.
- Traffic Calming policy
 - [City of London Traffic Calming Policy](#)
 - [Township of Springwater Traffic Calming Policy](#)
 - [Town of Kingsville Traffic Calming Policy](#)



Rotary Greenway Trail, County of Peterborough.





RECOMMENDATION #3

Reduce automobile dependence by creating a well-connected and safe active transportation network.

Why does this matter in the County of Peterborough?

The PPS and the GPGGH place a significant emphasis on the creation of communities that are built and retrofitted to support and enhance active transportation.^{79,80} This emphasis is an effort to achieve healthy, complete, compact, and equitable communities, but also to meet targets set out in the Provincial Climate Change Action Plan.⁸¹ As a result, the inclusion of an active transportation network across the County of Peterborough could be viewed as a mandatory requirement. As a requirement, it is critical that the active transportation network is implemented to be efficient, accessible, and comfortable for all residents to ensure maximum usage and cost-effectiveness.

How will this impact health?

Everyone in a community needs to get around. How we get around can impact our health in many different ways. According to the Ontario Public Health Association⁸², active transportation contributes to health the following ways:

Chronic Disease Prevention and Healthy Weights

Alternative/active transportation provides opportunities to integrate physical activity into daily living. In Peterborough County and City, cancer and circulatory diseases are the leading causes of death.⁸³ Research shows that both of these chronic diseases are directly linked to a person being inactive.⁸⁴ “Each hour of moderate or vigorous physical activity per week is associated with a 4% to 9% reduction in the risk of death from all causes. This translates to 10% to 23% lower risk of death from all causes for adults who follow the Canadian Physical Activity Guidelines and achieve the required 150 minutes each week.”⁸⁵

“Each hour of moderate or vigorous physical activity per week is associated with a 4% to 9% reduction in the risk of death from all causes. This translates to 10% to 23% lower risk of death from all causes for adults who follow the Canadian Physical Activity Guidelines and achieve the required 150 minutes each week.”

CO2 Emissions and Air Quality

In a report on climate change, the Ministry of Health and Long-Term Care projects that air quality will deteriorate in the future due to “...higher levels of ground-level ozone and airborne particulate matter, including smoke and particulates from wildfires, and increased production of pollens and spores by plants.”⁸⁶ The report also suggests that this deterioration in air quality will have a negative effect on various aspects of health including an exacerbation of respiratory disease and asthma.⁸⁷ Local data shows that Peterborough County and City already (from 2003 to 2015) has significantly higher rates of hospitalization for respiratory disease compared to the rate for Ontario.⁸⁸ Providing more opportunities for people to use active transportation is one way to reduce greenhouse gas emissions and improve air quality.



Road Safety

Roads should be designed and built to be safe for all users. Pedestrians and cyclists are the most vulnerable road users, and prevention of injuries is an important public health concern. Peterborough Regional Health Centre data shows that from 2003-2016, pedestrian emergency department visits are 1.25 times higher, and cyclist emergency department visits are 1.37 times higher than the provincial average (Figure 3).⁸⁹

Social and Health Equity

Not everyone can drive. Age, disability, choice, or affordability can all keep people from owning and operating a vehicle. Ensuring everyone has a safe, convenient, accessible way to get around is an equity matter; everyone deserves to be able to access health care, employment, education, and other important services. Statistics shows that 10% of the population in the County of Peterborough are living in low income households.⁹⁰ Many of these individuals cannot afford to own a car, but deserve the right to have a safe way to get around.

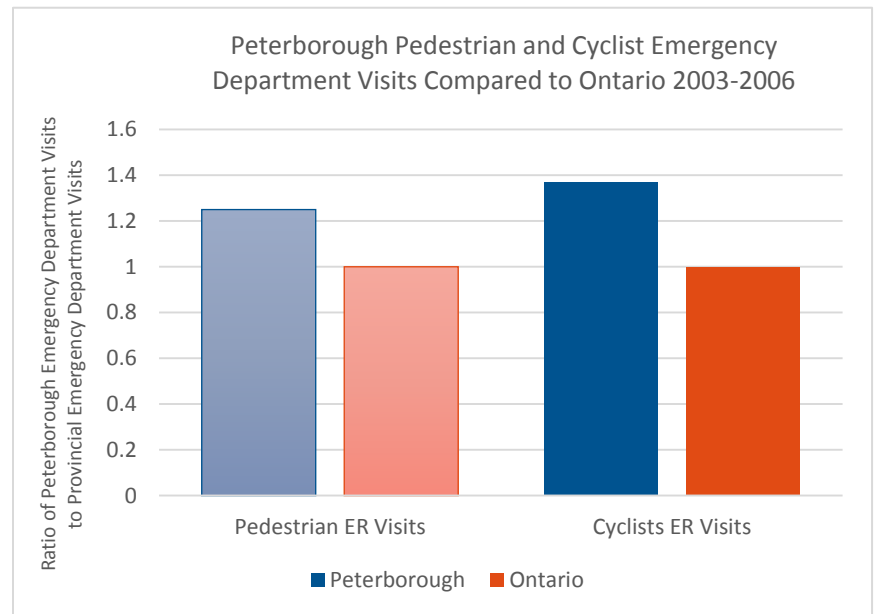


Figure 3. Peterborough Pedestrian and Cyclist Emergency Department Visits Compared to Ontario 2003-2006

What can be done to create a well-connected and safe active transportation network?

Currently, there is a good active transportation network developing across the County, but more is required to ensure it is complete and fully connected. Presently, only 4% of County residents report using active transportation as their preferred mode to travel to work.⁹¹ This represents a dropping trend since the 2006 census.⁹² Yet, 23% of County residents report that they are a 15 minute or less commute to work.⁹³ The Census does not indicate whether the 15 minute or less commute is by car or active modes; however, with a well-connected active transportation network, there is definite potential to shift some automobile trips to active modes. To increase the percentage of residents choosing active transportation, research shows that an active transportation system must⁹⁴:

- Be safe
 - Reduce vehicle speed limits
 - Calm traffic
 - Separate pedestrians and cyclists from traffic
 - Increase safety at intersections



The modified design for Hudson Avenue in Thunder Bay, Ontario that features an “Active Living Corridor” and painted buffers. Source: City of Thunder Bay and Toronto Centre for Active Transportation, [Backgrounder: Rural Complete Streets](#).



- Make active transportation attractive
 - Improve route quality and speed
 - Provide end-of-trip facilities
 - Utilize marketing and education programs
- Enable active transportation through land use planning
 - Create destination accessibility, street connectivity and density
- Make active transportation accessible
 - Walking and cycling facilities for vulnerable users
 - Affordable housing in vibrant communities
 - Culturally competent community-based programs



Rotary Greenway Trail, City of Peterborough. Source: [County of Peterborough Active Transportation Master Plan](#).

Therefore, to ensure the County of Peterborough develops a complete and safe active transportation network, the County of Peterborough Official Plan should include policies and tools that will create a positive and safe active travel experience for all residents.

How does it link to the PPS and the GPGGH?

PPS:

- Part V, Section 1.1.1.a-h, pg. 6
- Part V, Section 1.1.3.a-b, pg. 7
- Part V Section 1.1.3.4, pg. 8
- Part V, Section 1.4.3.d, pg. 14
- Part V, Section 1.5.1.a, pg. 15
- Part V, Section 1.6.7, pg. 17-18
- Part V, Section 1.8.1.a-b, pg. 20

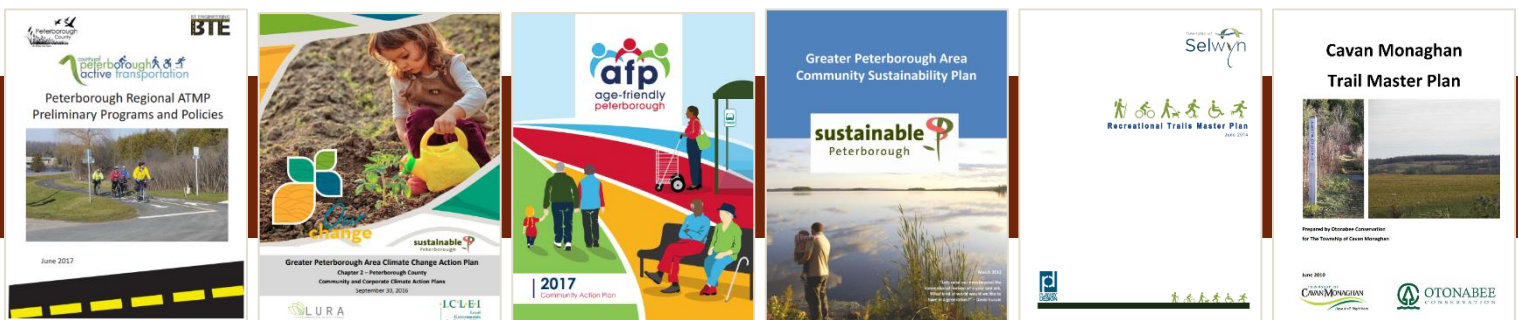
GPGGH:

- Section 2.2, Sub-section 2.2.1 #4, pg.14
- Section 2.2, Sub-section 2.2.5 #4, 5b, 13a, pg. 20-21
- Section 2.2, Sub-section 2.2.7 #1a-b, pg. 23
- Section 3.2, Sub-section 3.2.2 #2a-f, 3, 4a-e, pg.33
- Section 3.2, Sub-section 3.2.3 #4a-b, pg. 34
- Section 3.2, Sub-section 3.2.8 #4, pg. 38
- Section 4.2, Sub-section 4.2.10 #1a-b, pg. 52



Local policies and plans supportive of this recommendation:

- [Active Transportation Master Plan](#) (2017) for the County of Peterborough
- [Peterborough Climate Change Action Plan](#) (2016), pg. 5
 - Build an active transportation network and support active transportation
- [Age-friendly Peterborough 2017 Community Action Plan](#), pg. 26-28
 - A safe, well-maintained, and connected active transportation network
 - Complete community design
- [Greater Peterborough Area Community Sustainability Plan](#) (2012)
 - Theme: Transportation
 - Provide accessible and complete active transportation opportunities that are attractive alternatives to the private automobile, pg. 30
- [Township of Selwyn Recreational Trails Master Plan \(2014\)](#)
- [Township of Cavan Monaghan Trails Master Plan \(2010\)](#)



Examples of Official Plans that support active transportation:

- [Town of Innisfill Official Plan](#) (2018)
 - Active Transportation Policies, pg. 5-2
- [County of Simcoe Official Plan](#) (consolidated 2016)
 - Active Transportation Facilities, Corridors, Pathways, and Trails Policies, pg. 100
 - Local municipal policies for prime settlement areas, Sect. 4.8.47; pg. 100
 - Policies to implement the County's ATMP policies, Sect. 4.8.48; pg. 101
- [City of Thunder Bay Official Plan](#) (2018)
 - Active Transportation Policies, pg. 54
 - Connected and Accessible Network Policies, pg. 55
 - Active and Passive Public Parkland Policies, pg. 58
 - Housing Affordability Policies, pg. 75

Examples of tools used to implement Official Plan policies:

- [County of Simcoe Official Plan](#) (consolidated 2016)
 - 4.8 Transportation
 - 4.8.42 Design of Development for secondary & subdivision plans, pg. 99
- [County of Renfrew](#) (consolidated 2018)
 - 17.5 Site Plan Control, pg. 171
 - Requiring that each site be designed to encourage active transportation and be safe for vehicle and pedestrian movements.
- [City of Thunder Bay Official Plan](#) (2018)
 - Community Improvement Policies & Selection criteria for projects, pg. 102
 - Secondary plan requiring for vehicular and active transportation, pg. 104





RECOMMENDATION #4

Use a Complete Streets design approach to prioritize safety for all transportation users.

Why does this matter in the County of Peterborough?

Over the past few years, there has been a surge in the number of municipalities considering and using a “Complete Streets” approach to transportation planning. According to the Toronto Centre for Active Transportation (TCAT)⁹⁵, a Complete Street is one that is designed for all ages, abilities, and modes of travel. It is a street that provides safe and comfortable access for pedestrians, bicycles, people with disabilities, and motorists. In 2012, the Office for the Chief Coroner for Ontario released the Pedestrian Death Review⁹⁶ and the Cycling Death Review⁹⁷, which included recommendations for municipalities to adopt a Complete Streets approach to increase the safety of all road users.

In a rural context, such as the County of Peterborough, a Complete Streets approach will enhance safety for various road users, including automobiles, trucks, buses, farming equipment, cyclists and pedestrians (including children, older adults, and people with mobility devices), as well as equestrian-related modes.⁹⁸ A disproportionate amount of pedestrian deaths occur in rural areas compared to urban areas due to higher traffic speeds.⁹⁹ Policies and infrastructure changes such as sidewalks, marked pedestrian crossings, paved shoulders, reduced vehicle speeds, and multi-use paths can lessen the risk of injuries and fatalities.



The modified design for Hudson Avenue in Thunder Bay, Ontario that features an “Active Living Corridor” and painted buffers. Source: City of Thunder Bay and Toronto Centre for Active Transportation, [Backgrounder: Rural Complete Streets](#).

How will this impact health?

The implementation of Complete Streets will result in improved conditions for cyclists, pedestrians, older adults, and children as well as supports vibrant, healthy communities. Evidence shows that Complete Streets:¹⁰⁰

Improve safety for cyclists and pedestrians

Safety on rural roads is a pivotal concern, with evidence suggesting that a disproportionate number of pedestrian deaths occur in rural areas. A pedestrian hit in a rural area is also far more likely to die: 11 out of every 100 rural pedestrian collisions are fatal, as opposed to two per 100 in urban areas.¹⁰¹

Reduce greenhouse gas emissions

According to Sustainable Peterborough, 27% of the emissions in the County of Peterborough comes from the transportation sector.¹⁰² Any shift from automobile travel to active modes of travel would significantly lower greenhouse gas emissions and improve air quality. Exposure to poor air quality is linked to “poor

Safety on rural roads is a pivotal concern: 11 out of every 100 rural pedestrian collisions are fatal, as opposed to two per 100 in urban areas.



respiratory and cardiovascular health even at low levels of exposure, especially among people at greater risk, such as those with asthma and other lung conditions, children and older adults”.¹⁰³

Stimulate economic growth with increased shopping activity, sales, and property values

By improving livability, complete streets can increase local business activity and property values.¹⁰⁴

Provide better and more transportation option

Opting to bike or walk instead of driving to work can save between \$5,700 - \$8,700 a year, freeing up transportation costs for other spending.¹⁰⁵

What could Complete Streets look like in the County of Peterborough?

To create safe streets for all road users, a wide range of Complete Streets solutions can be applied. There is no “one size fits all” solution or specific design standards that can be universally applied, especially in a rural context.¹⁰⁶ How a street is “completed” is unique based on numerous variables including, but not limited to, surrounding community context, role of the street in the overall network, and the traffic volume for all travel modes.¹⁰⁷ Typical features that could be used to make a street Complete include: wider and better sidewalks, universal design features (curbcuts and ramps), crosswalks, bike lanes and paths, center turn lanes, lower traffic speeds, and landscaping.¹⁰⁸



A pedestrian refuge island on Church Street in Elmira, Ontario. Source: Region of Waterloo and Toronto Centre for Active Transportation, [Backgrounder: Rural Complete Streets](#).



Bollard-separated cycle track along paved shoulder of Waterloo Regional Road 42 near Cambridge. Source: Google Streetview and [Active Transportation Planning Beyond the Greenbelt: The Outer Ring of the Greater Golden Horseshoe Region](#).



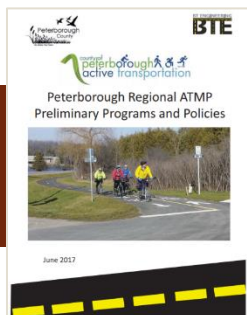
How does it link to the PPS and the GPGGH?

GPGGH:

- Section 3.2, Sub-section 3.2.2 #3, pg. 33

Local policies and plans supportive of this recommendation:

- [Active Transportation Master Plan](#) (2017) for the County of Peterborough, pg. 2
 - Due to the increasing demand for active transportation, municipal official plan updates, municipal zoning bylaws, and subdivision codes should consider a “Complete Streets” approach containing policies enhancing facilities for active transportation.
 - Municipalities should consider incorporating provisions for “Complete Streets” as part of municipal planning and reconstruction projects in urban and rural areas.
- [Peterborough Climate Change Action Plan](#) (2016), pg. 5
 - Develop a Complete Streets Policy and Guidelines, including consistent sidewalk requirements and guidance on paved shoulders/cycle lanes.
- [Greater Peterborough Area Community Sustainability Plan](#) (2012)
 - Theme: Land Use Planning
 - Support the creation of pedestrian-oriented communities that encompass all elements we need without our communities, pg. 26
 - Theme: Transportation
 - Provide accessible and complete active transportation opportunities that are attractive alternatives to the private automobile, pg. 30



Examples of Official Plans that prioritize Complete Streets:

- [City of Waterloo Official Plan](#) (2016)
 - 5.1.3 Road Network Policies, pg. 62
 - 5.4.1 Road Network Supporting Documents and Implementation Policies, pg. 73
- [Town of Midland](#) (Draft Official Plan 2017)
 - 5.5 Roads, pg. 5-7
 - 5.5.2 Road Design/Complete Streets
- [County of Simcoe](#) (2016)
 - 4.8 Transportation
 - 4.8.40 to 4.8.42 Design of Development, pg. 99



Examples of tools used to implement Official Plan policies:

- [City of Waterloo Official Plan](#) (2016)
 - 5.4.1 Supporting Documents and Implementation
 - The implementation of these Official Plan policies may be supported by additional documents that Council may approve and update as appropriate, including but not necessarily limited to:
 - City of Waterloo Transportation Master Plan, including a component to address pedestrian and cyclist movement;
 - Sidewalk Policy;
 - Multi-use Pathways Policy;
 - Traffic Calming Policy;
 - Intersection Control Policy;
 - Transportation Demand Management Policy;
 - Complete Streets Policy;
 - Green Streets and Infrastructure Policy;
 - Pedestrian Charter;
 - Parking Strategies; and
 - Development Manual.
- It is common for municipalities to require street or urban/settlement design guidelines to ensure consistent implementation of a Complete Streets approach. Many municipalities have guidelines included in their Official Plan and Transportation Master Plan or recommend that the municipality must develop and adopt guidelines in the future. Examples of this include:
 - [Niagara Region Complete Street Design Guidelines](#) (June 2017)
 - [Complete Streets: St. Thomas](#) (2016)
 - [Town of Midland Draft Official Plan](#) (2017 pg. 5-8) statement to develop guidelines and what it should contain.



Downtown Millbrook, Township of Cavan Monaghan.
Photo courtesy of Lance Anderson and Peterborough This Week.



FOCUS AREA 3

Healthy Housing



The home is central to people's lives and the place where we spend most of our time. The location, the amenities nearby, the quality (e.g., structure, size), and the cost to live in our homes all impact our health. Canadians "...eat, sleep, socialize with friends and family, and often even work from home. While housing is considered a basic human right, not all housing is created or maintained to meet the same standards. Differences in housing, such as quality, accessibility, and affordability all have impacts on the health of the people who live there. These impacts can positively or negatively affect our health, both over the short and long-term. This is why the design of homes is critically important to our health and well-being,"¹⁰⁹ both individually and at the community level. As one report clearly stated, living in a stable and affordable home that provides a warm, safe, and healthy environment can foster good mental and physical health, and improve quality of life.¹¹⁰ Alternatively, a large body of research demonstrates that living in poor quality, unsafe, unaffordable, or insecure housing increases the risk of many health problems.¹¹¹

Official plans and other programs "...can support access to affordable healthy housing through tools such as provision of diverse housing forms and tenure types; ensuring good housing quality that includes proper housing structure, heating, insulation, and ventilation in all new homes; policies and programs that prioritize the housing needs of the homeless, older adults, low income groups, and people living with disabilities; and siting and zoning that minimizes exposure to environmental hazards."¹¹²



Rural landscape, County of Peterborough.





RECOMMENDATION #5

Increase access to affordable, high quality housing through the provision of diverse housing forms and tenure types.

Why does this matter in the County of Peterborough?

Peterborough is moving into year five of the *Peterborough 10 Year Housing and Homelessness Plan*. This Plan lays out a vision that will shape the County and City's leadership in the housing and homelessness sectors from 2014-2024. "A housing and homelessness plan that reflects local needs and provincial interests is required by the Ministry of Municipal Affairs and Housing, under provincial legislation."¹¹³

Seven of the 20 commitments of the Plan are specifically related to creating housing affordability, including two commitments within the purview of local government:

- "Maximize use of government and private sector resources for new affordable rental housing...and
- Support affordable housing in municipal planning documents."¹¹⁴

The Housing and Homelessness Plan will undergo a mid-term review in 2018. Any future changes to this Plan should also be used to guide the housing policies in the County of Peterborough Official Plan. These policies should incorporate the following on housing affordability and homelessness.

Housing affordability

Data from a number of sources demonstrates a significant housing affordability problem in Peterborough County and City. The 2017 Canadian Mortgage and Housing Corporation (CMHC) Rental Market Report which reports for the Peterborough Census Metropolitan Area (CMA) identified a vacancy rate in Peterborough of only 1%, which is well below the recommended vacancy rate of 3%.¹¹⁵ Additionally, the CMHC, also reported that the average rent in Peterborough in 2017 was \$944; up by 2.8% since 2016.¹¹⁶

A household is considered to be in "core housing need" when they spend 30% or more of their before-tax income on housing and associated housing costs.¹¹⁷ The 2016 Census shows that affordability for renters is getting worse over time.¹¹⁸ In 2015, over half (52%) of all renters in Peterborough County and City (8,045 households) spent more than 30% of their before-tax household income on their shelter costs. Among home owner households, 17% (6,905 households) spent more than 30% on shelter costs.¹¹⁹ In addition, single parent families in our area have a great need for housing: "In 2011, the Peterborough CMA ranked third highest for core housing need for lone parent families (with children of all ages) among all Canadian CMAs."¹²⁰ The Peterborough CMA has consistently had the highest "core housing need" rate in Canada in each of three years (2012, 2013, 2014) – even higher than Toronto. This is a strong indicator that Peterborough County and City is in significant need of measures to achieve affordability.¹²¹



Otonabee Court, Otonabee-South Monaghan Township, County of Peterborough.



For individuals receiving social assistance the affordability problem is especially severe. A single person receiving social assistance in Peterborough County and City in 2017 had a monthly income of only \$794 (including all benefits and credits) and with that income they had to cover an estimated shelter cost of \$691.¹²² A single person receiving Ontario Disability Support Program benefits had a monthly income of only \$1,226 (including benefits and credits), and with that income they had to cover an estimated shelter cost of \$834.¹²³ Not surprisingly, as a result of these affordability issues, the social housing waitlist in Peterborough County and City continues to climb from 1,305 names in December 2015 to 1,463 names in December 2016.¹²⁴



Homelessness

Anyone in the County of Peterborough who is experiencing absolute homelessness can make use of shelter services located in the City of Peterborough. A “Point in Time Count” in March 2018 identified 259 people who were experiencing homelessness in Peterborough at that time. Of those, 58% experienced homelessness before the age of 25 years, and 27% identified as Indigenous.¹²⁵

Among older adults, homelessness is the result of several factors including “...poverty and the declining availability of affordable housing among certain segments of the aging.” Physical and mental health issues, social marginalization/lack of social support, and loss of family/caregivers are also often among cited causes. Research shows that the factors that lead to homelessness are the same for seniors as they are for anyone (a mix of structural, systemic, and individual/social); however, there are some gendered differences in how seniors become homeless. Specifically, a 2004 Toronto study found that older women are more likely to become homeless due to primarily family-related crises, while older men tend to become homeless due to primarily a lack of employment.¹²⁶

How will this impact health?

Housing affects health in a number of ways at the individual and community level:

- The quality and physical state of a home and neighbourhood has links to health outcomes;
- The stress of housing insecurity has both psychological and physical effects on health; and
- The cost of housing has a direct impact on other necessary household expenditures.

These three influences are addressed below.

Housing Quality

Well-constructed and well-maintained affordable housing can reduce health problems associated with poor-quality housing. Living in adequate quality housing is strongly associated with an increased sense of safety, decreased crime, and improved social connections, when compared to living in poorer quality housing.¹²⁷

These factors help people enjoy better health and an improved quality of life. Often individuals with a low socio-economic status have housing with poorer quality characteristics both within and around the home, they also experience crowding and increased exposure to environmental risks both inside (e.g. dampness, mould, chemical contamination, noise, temperature problems, and poor sanitation) and near the home (e.g. traffic, traffic-related pollution, and industrial pollution). Housing conditions can also have a profound effect



on the health and well-being of children. Research by the Canadian Council on Social Development has found that, children living in substandard, or problem, housing (crowded and in need of major repair) are reported by their parents to be in worse health than children in better housing.¹²⁸ Similarly, child development measures such as hyperactivity, anxiety, delayed development, and aggression have been shown to worsen as these dwelling problems increase.¹²⁹

Policies in the County of Peterborough Official Plan need to strive to provide adequate housing quality, which would include attention to the following issues:

- **Avoiding exposure from health hazards** (e.g. poor air quality, lead, asbestos, radon, house pests, volatile organic compounds, or a lack of adequate heating or cooling).
 - “Adequate quality housing with suitable ventilation contributes to good indoor air quality by reducing the presence of allergens such as dust and mould, as well as harmful chemicals such as pesticides and volatile organic compounds like benzene and acetone. Good indoor air quality helps people to maintain good general and respiratory health, especially children with asthma.”¹³⁰
 - Exposure to radon is a greater threat for individuals living in basement units and “[l]ow income renters are particularly vulnerable to radon because they are more likely to live in [these] basement suites and have less ability to relocate to higher quality housing. Insecure tenancy may be a barrier to requesting testing and mitigation. Mechanisms should be put in place to require testing and mitigation of ground level and basement rental suites in high radon areas.”¹³¹
- **Avoiding overcrowding**
 - Suitable housing means that there are enough bedrooms for the size and make-up of a household with children or older adults living with relatives. By alleviating crowding, affordable housing can reduce exposure to stressors and infectious disease.¹³² With affordable housing, people do not need to “double up” (i.e., living together) in order to pay for housing.¹³³
- **High quality building design** (e.g. energy efficiency, accessibility, safety, stairwells, recreation areas for adults and children, and bicycle parking).
 - Properly heated and energy efficient housing contributes to better health for vulnerable and low income residents, “...particularly older adults or those living with a pre-existing health condition. Housing that is affordable to heat is linked to improved general health, respiratory health, and mental health and may also promote improved social relationships and reduce absenteeism from school or work due to illness.”¹³⁴ On the other hand, “[p]oor quality housing is characterized by hazards that increase the risk of unintentional injuries such as burns and physical trauma.”¹³⁵
 - Green technology used in buildings not only benefits the individual living in the housing but the community and the environment. “Green building strategies and location-efficient housing reduce environmental pollutants, lower monthly energy costs, and improve home comfort and indoor environmental quality.”¹³⁶
 - Appropriate, accessible, and inclusive housing that meets the needs of older adults and people with physical disabilities that are “...linked to supportive services enables older adults and others with mobility limitations to remain in their homes,”¹³⁷ and will also improve health outcomes for individuals with chronic illnesses by providing an efficient platform for health care delivery.
 - While apartments are an efficient way to increase density and create affordable housing options, these buildings can contribute to social isolation, especially for those living on higher floors. For this reason, these spaces need to be designed to encourage social engagement.¹³⁸

With affordable housing, people do not need to “double up” (i.e., living together) in order to pay for housing.



The Stress of Housing Insecurity for Vulnerable Populations

Affordable housing provides families with greater residential stability and can reduce stress and related adverse health outcomes. People who are experiencing income, housing, and food insecurity have greater stress and an increased risk of morbidity and premature death.¹³⁹ The physical response to stress triggers a whole range of stress hormones that affect the cardiovascular and immune systems and can result in considerable health damage.¹⁴⁰ Effects include depression, vulnerability to infection, diabetes, high blood pressure, and a build-up of cholesterol, with the related risks of heart attack and stroke.¹⁴¹

There are several populations that are particularly susceptible to housing conditions that compound stress, and consequently, negative health outcomes. These populations are considered “vulnerable” and must be prioritized in housing policies and programs for the following reasons:

- **Children**
 - In families with young children, living in very crowded housing without outside space or significant places to play, is a significant source of stress.¹⁴² It is also detrimental to the growth and development of the children.¹⁴³
- **Moving Frequency**
 - When residents can afford housing, they tend to stay in one place. Their need to constantly move to different locations to chase a lower price or to escape terrible living conditions is no longer an issue. As a result, this “[h]ousing stability helps to reduce stress and allows people to take better care of themselves and their families.”¹⁴⁴
- **Domestic Violence**
 - When affordable housing is accessible to survivors of domestic violence, these individuals can avoid one significant barrier to leaving their abusive home. The ability to escape “...can improve mental health and physical safety.”¹⁴⁵
- **Mental Illness**
 - “Emerging research shows that access to adequate housing, specifically supportive housing, may improve health for people with mental illness. This is likely because supportive housing helps to increase social support networks.”¹⁴⁶
- **Medical Needs**
 - Housing that supports the needs of residents with medical needs, known as “medical priority rehousing is also a promising intervention used internationally that is focused on rehousing people into good quality, subsidized housing according to medical need. This strategy helps people with physical and mental illness to access safe, affordable housing.”¹⁴⁷
- **Homeless**
 - Providing housing stability to people who are homeless creates “space” for these individuals to address other pressing issues in their lives that have a profound impact on their health. For instance, one report stated that: “Prioritizing access to permanent and safe housing for the homeless decreases their use of emergency services and helps to keep them safe from violence, injury, and communicable diseases.”¹⁴⁸ The same report emphasized that “[w]hen the homeless are provided with housing, they are better able to access the healthcare services needed in order to take care of existing illnesses and diseases, and to stay healthy.”¹⁴⁹

The Cost of Housing

The high cost of housing means that some residents are foregoing other necessities. For instance, in 2014, food insecurity impacted 17% of the households in Peterborough County and City, which is a serious public health problem in our community.¹⁵⁰ Affordable housing can improve health outcomes by freeing up family resources for other needed expenditures such as nutritious food and health care expenditures, which in turn contributes to better health.¹⁵¹



What can be done to create affordable, high quality housing with a diversity of housing forms and tenure types?

The Ontario Ministry of Municipal Affairs and Housing provides information on the planning and financial tools enabled under provincial legislation that are available to municipalities to encourage and support the development of affordable housing in their communities. It provides descriptions of the tools and examples of best practices that some municipalities have used to increase the range and mix of housing types, to provide opportunities for more affordable housing development, and to make the construction of affordable housing more financially viable. The County of Peterborough Official Plan should utilize a variety of options in the [Municipal Tools for Affordable Housing Handbook](#), as well as the recently released [Municipal Guide for Facilitating Affordable Housing](#).

How does it link to the PPS and the GPGGH?

PPS

- Part V, Section 1.1, Sub-section 1.1.1.b, pg. 6
- Part V, Section 1.1, Sub-section 1.1.4.1.c, pg. 9
- Part V, Section 1.4, Sub-section 1.4.1.a-b, pg. 14
- Part V, Section 1.4, Sub-section 1.4.2.a-b, pg. 14
- Part V, Section 1.4, Sub-section 1.4.3.a-e, pg. 14

GPGGH

- Section 2.2, Sub-section 2.2.1, #4a-g, pg. 14
- Section 2.2, Sub-section 2.2.6, pg. 22-23
- Section 2.2, Sub-section 4.2.10, #1a, pg. 52

Local policies and plans supportive of this recommendation:

- [Age-friendly Peterborough 2017 Community Action Plan](#)
 - Older adults' basic needs are met, pg. 14
 - 1.1 A diverse housing supply, pg. 16
 - 1.2 Appropriate housing choices, pg. 17
 - 1.3 Supports to age in place, pg. 18
 - 1.6 Enhanced support services for vulnerable older adults, pg. 21
- [Peterborough 10 Year Housing and Homelessness Plan 2014-2024](#)
 - Providing people centered services
 - Creating housing affordability
 - Preventing homelessness and creating housing affordability
 - Transitioning out of homelessness
- [Greater Peterborough Area Community Sustainability Plan](#) (2012)
 - Theme: Healthy Communities
 - Strive for adequate and attainable housing to increase the quality of life for all, pg. 24



Examples of Official Plans supportive of this recommendation:

- [Town of Innisfil Official Plan](#) (2018)
 - 14.1 Well-being and Accessibility, pg. 14-1
 - 14.1.3 Noise and Air Quality, pg. 14-2
 - 14.3 Housing Diversity and Affordability, pg. 14-5 to 14-8
 - 14.3.7 Incentive Measures through Development Approval Process, pg.14
 - 15.2 Energy Conservation and Climate Change, pg. 15-3
 - 22.7.2 Height and Density Bonus Provisions, pg. 22-8
- [Town of Midland](#) (Draft Official Plan 2017)
 - 3.2 Housing, pg. 3-10 to 3-15
 - 3.2.7 Accessible, Assisted and/or Affordable Housing, pg.3-12 to 3-15
- [City of Guelph Official Plan](#) (consolidated 2018)
 - Section 3: Planning a Complete and Healthy Community
 - 3.13 Affordable Housing Policies, pg. 20
 - Section 7: Community Infrastructure
 - 7.2 Affordable Housing Policies, pg. 141
 - 7.2.1 Affordable Housing Targets, pg. 141
 - 7.2.6 Affordable Housing Implementation Policies, pg. 145
 - Section 9: Land Use
 - 9.2 Residential Uses, pg. 175
- [United Counties of Leeds and Grenville Official Plan](#) (2015)
 - 2.7 Housing and Affordability, pg. 29-34
 - 2.7.1 Supply of Land for Housing
 - 2.7.2 Affordable Housing
 - 2.7.3 Special Needs Housing and Age-Friendly Communities
 - 2.7.4 Second Residential Units and Garden Suites

Examples of tools used to implement Official Plan policies:

- [Town of Midland](#) (Draft Official Plan 2017)
 - 7.3.6 Increased height provisions bylaw, pg. 7-8
 - Lists affordable housing units as criteria that would qualify for increased height of a development.
 - 7.7 Development Approvals and Complete Applications, pg. 7-19
 - 7.7.2 Required information and studies, pg. 7-20
 - Affordable housing report is identified as information/study that may be required to support an application for development.
- [City of Cambridge Affordable Housing Community Improvement Plan](#) (2016)
- Secondary suites programs:
 - [County of Simcoe Secondary Suites Program](#)

FOCUS AREA 4

Healthy Food Systems



A healthy food system provides the foundation for healthy eating. When food is produced, distributed, and sold within a region, there can be a positive effect on the diets of the residents living in that region.¹⁵² Communities that have full access to a sustainable supply of healthy, locally grown, and locally produced foods are less vulnerable to external factors that can affect the nutritional quality and/or quantity of foods available.¹⁵³ Peterborough has an established dynamic food community with some of the food supply grown and produced locally.¹⁵⁴ However, according to the GPGGH, to be sustainable and to meet forecasted population growth, quality agricultural lands must be protected to ensure a vibrant rural and productive agricultural economy and a secure food supply for future generations.¹⁵⁵ To do this, the Ontario Professional Planners Institute calls for a food system approach which “...have been linked to land use planning and are a key consideration for complete and healthy communities.”¹⁵⁶

Incorporating a healthy food system approach into the County of Peterborough Official Plan will have many positive impacts including developing solutions to food problems by seeing and leveraging connections between health, social justice, culture, community, education, economic sustainability, and the environment (see table below).¹⁵⁷ Building on local research and community consultations, a model for a local food system for Peterborough, included in the [local food charter](#) (Figure 4), is used to frame six distinct components of the food system including production, processing, distribution, access, consumption, and nutrient and waste management.¹⁵⁸ The interconnected cycle requires multiple actions, policies, programs, and infrastructure to ensure successful implementation. The following section will use this local food system model and the six components to form each recommendation.

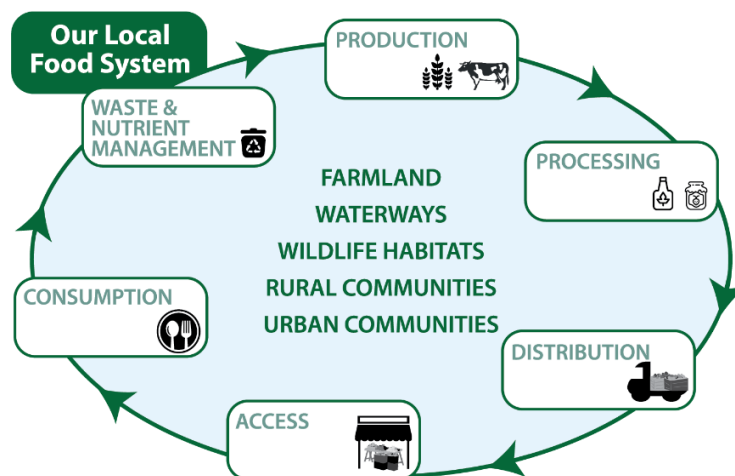


Figure 4. Local Food System, Peterborough Food Charter.

Table 1. Key differences between the existing dominant commercial food system, and the emerging system envisioned by Toronto Public Health.¹⁵⁹

EXISTING FOOD SYSTEM	›	EMERGING FOOD SYSTEM
Prioritizes mass production.	›	Prioritizes health.
Food is not seen as the business of cities.	›	Food is seen as a strategic vehicle for meeting city goals.
Founded on access to cheap fossil fuels.	›	Environmental protection is a cornerstone of food production, processing and distribution.
Market forces determine location of food stores.	›	Neighbourhoods are planned with food access in mind.
Food pricing unconnected to nutritional benefit.	›	Food pricing favours healthy choices.
Food issues carved up into separate government departments and jurisdictions.	›	Food solutions come from collaborative partnerships within and among governments and civil society.





RECOMMENDATION #6

Enhance agricultural capacity and the agri-food sector to impact the local food system.

Why does this matter in the County of Peterborough?

A robust and thriving agricultural sector is a critical ingredient to the health and wellbeing of urban, suburban, and rural communities.¹⁶⁰ Not only does agriculture provide food, but it is also a major contributor to the economic sustainability of regions, provinces, and Canada as a whole. Analysis of the 2016 Agriculture Census shows that Ontario's farmers brought in more than \$14 billion in farm cash receipts by commodity with \$75.8 million of this from the County of Peterborough.¹⁶¹ As such, farming is a vital sector in the County of Peterborough; although, since 1976, there has been a steady reduction of farm land being reported. Specifically, the census of agriculture for the County of Peterborough shows that between 1976 and 2016 there was a reduction of 37,231 hectares or 31% of local farm land.¹⁶² Loss of farm land poses an immense threat to a sustainable local food supply. If current trends continue and more farm land is lost, the result will be a fragmentation of farming communities, loss of employment, loss of farm related businesses and services, as well as the loss of some of the best farm land in the region.¹⁶³

The Greater Peterborough Area Community Sustainability Plan (2012) set a goal that "in 25 years, we will feed ourselves sustainably with local, healthy foods."¹⁶⁴ To achieve this goal, and to accommodate for the increase in population growth forecasted for the County of Peterborough, the Official Plan requires strong policies and supportive programs to ensure the continuation and enhancement of the local agricultural sector.



Local farmer's market, County of Peterborough.



How will this impact health?

Agricultural capacity is a key aspect of a healthy food system.¹⁶⁵ The Ontario government's Local Food Strategy¹⁶⁶ and Local Food Act, 2013¹⁶⁷ recognizes the importance of improving access to local food, increasing consumer awareness and education, while at the same time ensuring there is sufficient supply to meet demand. It must be noted that along with locally grown and produced foods, healthier options must also be grown and produced in our region. These priorities directly impact health by ensuring that both healthy and locally produced foods are available for consumers. Typically, locally produced foods are unprocessed (i.e., fresh or whole foods) or minimally processed (i.e., unprocessed foods altered in ways that do not add or introduce new substances including fats, sugars, or salt).¹⁶⁸ These foods provide the basis for healthy eating choices and can lead to positive overall health including a reduction in chronic diseases. A growing health concern is the current high concentration of ultra-processed foods (e.g., fast food, sugary drinks, snacks, chips, candies, cookies, sweetened cereals, sauces, dressings) in Canadian diets. These foods tend to be nutritionally poor, displace healthier choices, and are heavily marketed by industry.

A recent study found that in 2015, 48% of energy in Canadian diets (ages 2 and over) came from ultra-processed foods.¹⁶⁹ Local data indicates that families are spending one-third of yearly food expenditures on food purchased from restaurants, while only 16% of the average local household's food expenditures is spent on vegetable and fruit.¹⁷⁰ Commonly, foods available in restaurants tend to be more processed with higher amounts of sodium, unhealthy fats, and sugars. Health Canada notes that "billions of dollars are spent marketing foods high in calories, fat, sodium and sugars, with 80% of all food products advertised falling into this category."¹⁷¹

Implementing a 25% shift to local food from 2014 to 2024 would equate to approximately \$296 million of local food purchases in the County and City of Peterborough, while also providing the benefits of jobs, resulting in an economic impact of approximately \$406 million to \$491 million by 2024.¹⁷² This economic impact is also interpreted as an opportunity to reduce greenhouse gas emissions through less reliance on imported foods which is associated with trucking and shipping. A reduction in greenhouse gas emissions would also produce positive health impacts which are detailed below in the **Healthy Natural Environments** section.

A focus on increasing local production and availability of healthy, minimally processed foods will be supportive of the food system and the health of County residents.

What can be done to enhance local agricultural capacity and the agri-food sector?

Enhancing agricultural capacity and the agri-food sector to impact the local food system across the County of Peterborough requires *at a minimum* the adoption of the policy directions in the PPS (2014) and the GPGGH (2017). There are additional strategies that should be implemented to enhance the local food system cycle. The Peterborough Food Action Network has drafted a list of actions.¹⁷³ For this recommendation, the focus will be on "production" and "waste and nutrient management":

Only 16% of the average Peterborough local household's food expenditures is spent on vegetables and fruit.



Local family enjoying a healthy meal.



Production (Plant It/Grow It):

- Permit on-farm market gardens, farm stores, pick your own farms, roadside/farm gate sales.
- Ensure sufficient land is designated for agricultural purposes.
- Increase support for urban agriculture and urban forestry on private/public land in towns, villages, and settlement areas (e.g., grow food in parks, gardens, edible landscaping which include fruit trees, vegetables, backyard hens).
- Encourage the municipal acquisition/designation of land for urban agriculture.
- Support for new farmer training to grow the local food system.

Waste and Nutrient Management: Compost It!

- Ensure wasted food is minimized (e.g., citizen education/awareness, supporting local gleaning programs, sustainable waste management policy and practices).
- Develop land protection policies that prioritize the importance of returning nutrients to farmland.

How does it link to the PPS and the GPGGH?

PPS:

- Part V, Section 1.1.5.8, pg. 10
- Part V, Section 2.3, pg. 24-26

GPGGH:

- Section 2.2, Sub-section 2.2.1, #3d, 4g, pg. 14
- Section 2.2, Sub-section 2.2.8, #3h-j, pg. 26-27
- Section 2.2, Sub-section 2.2.9, #3ciii, pg. 29
- Section 4.2, Sub-section 4.2.6, pg. 46-47
- Section 4.2, Sub-section 4.2.9, #1d, pg.52
- Section 4.2, Sub-section 4.2.10, #1g, pg. 53

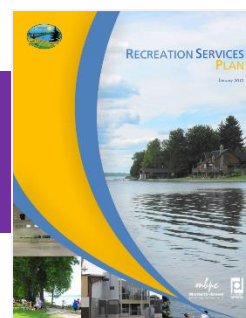
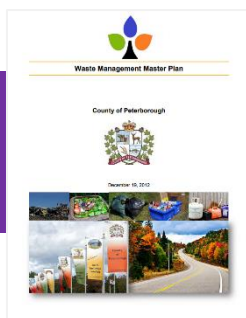


Just Food Box, Nourish Project, City of Peterborough: The bi-monthly Nourish Just Food boxes include vegetables and fruit purchased from local farmers whenever possible.



Local policies and plans supportive of this recommendation:

- [Greater Peterborough Area Community Sustainability Plan](#) (2012)
 - Theme: Agriculture, pg. 14
 - Maintain adequate farmland availability to support our sustainable agricultural needs.
 - Facilitate the production, storage, processing, distribution, and marketing of local, healthy food.
 - Encourage farmers to practice good environmental stewardship.
- [County of Peterborough Waste Management Master Plan](#) (2012)
 - Materials Ban – Organics, pg. 122
- [Peterborough Climate Change Action Plan](#) (2016)
 - Support localization of the food system, pg. 6
 - Encourage purchasing of locally produced food, pg. 6
 - Reduce the amount of wasted food, pg. 7
 - Strengthen land use policy and the development review process to better support climate change mitigation and adaptation, pg. 7
 - Identify climate change risks and prepare for potential impacts, pg. 8
 - Facilitate best management practices for low emission farming and climate change adaptation, pg. 8
- [Age-friendly Peterborough 2017 Community Action Plan](#)
 - Older adults' basic needs are met, pg. 14
 - Supports to age in place, pg. 15
 - Enhance supports for vulnerable older adults, pg. 21
- [Township of Selwyn Recreation Services Plan](#) (2012)
 - A robust parkland system
 - Parkland design and amenities
 - Community gardens, pg. 124
- [Township of Cavan Monaghan Recreation Master Plan](#) (2011)
 - Sustainable provision of parks and facilities
 - To plan and implement parks and open spaces, community greening initiatives and to support and enhance the natural environment and engage residents in environmental stewardship opportunities, pg. 61



Examples of Official Plans supportive of this recommendation:

- [The City of Sudbury Official Plan](#) (Draft 2017)
 - In this draft, the Agriculture sections have been changed to be called “Local Food Systems” section 6.0 (pg. 95)
- [Town of Innisfill Official Plan](#) (2018)
 - 14.2 Food access policies, pg. 14-4
- [United Counties of Leeds and Grenville Official Plan](#) (2016)
 - 3.2 Agricultural Areas, pg. 36

Examples of tools used to implement Official Plan policies:

- [Greater Sudbury Food Strategy](#) (2017) supports the local food system policies of the Official Plan
- The [2040 City of Chilliwack Official Community Plan](#) utilizes the [City of Chilliwack Area Agricultural Plan](#) (2012) to implement the agricultural related policies.
- The Strathcona County, Alberta [Agricultural Master Plan](#) (2015)



A beef farm, County of Peterborough.





RECOMMENDATION #7

Increase access to healthy, local foods for all residents in all communities.

Why does this matter in the County of Peterborough?

Building production capacity to support healthy local food demand will require targeted strategies to ensure all residents have access to this food, and can consume it in a manner that is meaningful to them. Typically, the “access” and “consumption” components of a local food system require policies and programs that focus on the food environment as part of the local food system. Health Canada’s 2016 Healthy Eating Strategy states “(e)vidence shows that many factors in our food environment influence our ability to make healthy food choices and to follow a healthy eating pattern. The food we have in our homes, schools, grocery stores, restaurants, as well as social influences and food marketing, have a major impact on our choices and make healthy eating a challenge for many of us. An increasing number of foods high in calories, fat, sodium and sugars are readily offered in multiple settings, thereby challenging our ability to make healthy choices.”¹⁷⁴ A “healthy food environment” ensures equitable access to healthy foods through a variety of means including opportunities for food production and food distribution networks, community programs and infrastructure that support healthy eating, along with retail and food service outlets.¹⁷⁵ Research shows that built environment components such as the way communities are designed, planned, and zoned significantly influence one’s diet and the foods they choose to eat.¹⁷⁶ “Experts believe that current food environments are set up so that it is easy for people to eat unhealthy food”¹⁷⁷ thereby increasing the prevalence of chronic diseases and conditions. It is for this reason that the County of Peterborough has an opportunity to instill supportive policies in the Official Plan to ensure all residents have equal access to healthy local foods, regardless of their income, age, ability, and place of residence.

How will this impact health?

Healthy eating is fundamental to good health and is a key element in healthy human development, from the prenatal and early childhood years to later life stages.¹⁷⁸ Healthy eating is equally important in reducing the risk of many chronic diseases including cardiovascular diseases (heart disease, stroke, hypertension), diabetes, and some cancers along with lowering the risk of micronutrient deficiencies.¹⁷⁹ Individuals who eat healthy foods are more likely to lead longer, healthier lives.¹⁸⁰

An analysis of statistics associated with nutrition and healthy eating for residents in Peterborough County and City revealed the following:

- There are a low number of residents eating the recommended number of fruits and vegetables each day. In fact, in 2013 only 36% of Peterborough County and City residents are eating 5 or more vegetables and fruit each day, which is lower than the provincial average of 39%. Females ages 12 and older residing in Peterborough County and City are higher than the provincial average (47% vs 45%); however, men residing in Peterborough County and City eat significantly fewer vegetables and fruit than the provincial average for men (24% vs 32%).¹⁸¹
- A comparison of CCHS data from 2007/2008 to 2013/2014 demonstrates a decline in vegetable and fruit consumption over this period.¹⁸² Consumption rates of fruit and vegetables are a strong indicator of overall diet quality, which indicates that there are many Peterborough County residents who are probably not consuming a healthy diet.

There are many reasons why consumption of fruits and vegetables may be low in the Peterborough area. One likely contributor is food insecurity, which is the inadequate or insecure access to food because of financial constraints. Food insecurity is associated with an unhealthy diet and numerous poor health outcomes



including adult mental health, depression, anxiety, non-communicable diseases (e.g, cardiovascular disease, hypertension, type 2 diabetes, some types of cancer).¹⁸³ Households with low incomes (i.e., social assistance, worker's compensation, or employment insurance), lone mothers with children, recent immigrants and off-reserve Indigenous peoples have a much higher prevalence of food insecurity.¹⁸⁴

Income Affects Health



When money is tight, people use their food budget to pay other expenses.



Families resort to cheap, low-nutrient food, emergency food services and/or skipping meals.



Poor diets increase the risk of infections and diseases like diabetes, heart disease and cancer.



Children in low-income families are more likely to get sick and struggle in school.

An analysis of statistics associated with income and food for residents in Peterborough County and City revealed the following:

- According to PPH's *2017 Limited Incomes: A Recipe for Food Insecurity* report, the monthly cost of feeding a family of four in the County and City of Peterborough was \$899.¹⁸⁵ This represents 28% of the income of a family supported by one adult earning minimum wage, or 35% of the income of a family receiving Ontario Works, leaving little money for other necessities. In comparison, the average-income family spends 11% of their income on a nutritious diet.¹⁸⁶
- Statistics from the CCHS 2011/12-2013/14 (cycles combined), Peterborough Public Health performed a weighted household analysis of food insecurity across Peterborough County and City to show food insecure households that are: 1) marginal (worry about running out of food and/or limit food selection because of lack of money for food); 2) moderate (compromise in quality and/or quantity of food due to a lack of money for food); and; 3) severe (miss meals, reduce food intake and at the most extreme, go day(s) without food).¹⁸⁷
 - This analysis showed that the rate of household food insecurity (marginal, moderate and severe responses combined) locally was reported as 16% compared to 12% for Ontario.¹⁸⁸
 - For low-income households in Peterborough County and City, 38% report being food insecure (compared to 30% in Ontario). When severe food insecurity is assessed, low-income households in Peterborough County and City report a higher rate than Ontario low-income households (20% vs. 9%).¹⁸⁹
 - For local households with children under the age of 18, the rate of food insecurity (marginal, moderate and severe combined) is 29% compared to 16% in Ontario households.¹⁹⁰ Of particular concern are the 11% of households with children under the age of 18 who report severe food insecurity in comparison to 3% of households with children under the age of 18 in Ontario.¹⁹¹

Cost of feeding a family of 4 = \$899 each/month

INCOME MATTERS



Ontario Works
35% of monthly income required for healthy food



Minimum Wage
28% of monthly income required for healthy food



Average Income
11% of monthly income required for healthy food



What can be done to increase access to healthy, local foods for all residents?

Healthier diets are possible when:

- people live in close proximity to healthy food sources and farther away from unhealthy food sources (i.e. supermarkets vs fast food outlets),
- zoning supports healthier choices and limits unhealthier choices (e.g., drive-throughs),
- farmers markets are accessible in neighbourhoods (benefits to consumers and producers by providing market access to locally grown vegetables, fruit, etc.),
- community gardens are incorporated into neighbourhoods.

Increasing access to healthy, local foods for all residents in all communities across the County of Peterborough requires targeted strategies that will impact the “access” and “consumption” sections of the food system cycle. The Peterborough Food Action Network has drafted a list of actions:¹⁹²

Distribution/Access: Learn About It! Cook It!

- Encourage distribution of local, healthy food by:
 - Limiting the location and/or density of fast food outlets, in particular location of drive-throughs and proximity to residential and school zones.
 - Increasing access to affordable healthy choices, particularly in areas where access to healthy food is limited. Examples of initiatives to address “food deserts” include: zoning and financial incentives to stores in underserved areas (e.g., permits for convenience stores conditional on availability of vegetables and fruit, grants to buy refrigerators for fresh produce, zoning by-laws to allow for street vendors with healthy food choices, etc.).
 - Zoning for Community Food Hubs where food literacy can be enhanced and the local food system developed.
 - Local procurement policies for food offered and sold in County-owned facilities and programs (e.g., recreation centres, childcare centres, summer camps, long-term care).
 - Encourage the provision of grocery stores, retail food venues, small to medium-sized food stores, mobile food vendors or other food sources as part of a complete community.
 - Encourage the provision of temporary and permanent farmers markets/pop-up markets (e.g., zoning by-laws).
 - Plans for future subdivisions/developments that include a review for access to healthy local food.

Consumption: Eat It! Enjoy It! Learn About It!

- Zoning for Community Food Hubs and sites for food festivals/events and farmers’ markets.
- Policies to support agricultural production and urban agriculture opportunities (e.g., community gardens, farmers’ markets).
- Encouraging businesses that sell local food.
- Healthy and local food availability in county and municipal-owned facilities/public institutions.



Community Garden, County of Peterborough.



How does it link to the PPS and the GPGGH?

PPS:

- Part V, Section 1.1.1.a-e, h, pg. 6
- Part V, Section 1.1.3.2, pg. 7
- Part V, Section 1.1.3.8, pg. 8
- Part V, Section 1.1.4.1, pg. 9
- Part V, Section 1.6.2, pg. 15
- Part V, Section 1.6.7.1, pg. 17 – movement of goods
- Part V, Section 1.6.10.1, pg. 19 – food waste
- Part V, Section 1.7.1.h, pg. 20
- Part V, Section 1.8.1.g, pg. 21

GPGGH:

- Section 2.2, Sub-section 2.2.1, #4a-g, pg. 14
- Section 4.2, Sub-section 4.2.5, #2, pg. 46
- Section 4.2, Sub-section 4.2.6, pg. 46-47
- Section 4.2, Sub-section 4.2.10, #1g, pg. 53

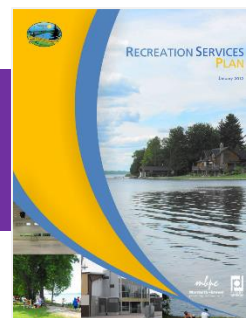


School Community Garden, City of Peterborough.



Local policies and plans supportive of this recommendation:

- [Greater Peterborough Area Community Sustainability Plan](#) (2012)
 - Theme: Agriculture, pg. 14
 - Facilitate the production, storage, processing, distribution, and marketing of local, healthy food.
- [County of Peterborough Waste Management Master Plan](#) (2012)
 - Materials Ban – Organics, pg. 122
- [Peterborough Climate Change Action Plan](#) (2016)
 - Support localization of the food system, pg. 6
 - Encourage purchasing of locally produced food, pg. 6
 - Reduce the amount of wasted food, pg. 7
 - Strengthen land use policy and the development review process to better support climate change mitigation and adaptation, pg. 7
 - Identify climate change risks and prepare for potential impacts, pg. 8
- [Age-friendly Peterborough 2017 Community Action Plan](#)
 - Older adults' basic needs are met, pg. 14
 - Supports to age in place, pg. 15
 - Enhance supports for vulnerable older adults, pg. 21
- [Township of Selwyn Recreation Services Plan](#) (2012)
 - A robust parkland system
 - Parkland design and amenities
 - Community gardens, pg. 124
- [Township of Cavan Monaghan Recreation Master Plan](#) (2011)
 - Sustainable provision of parks and facilities
 - To plan and implement parks and open spaces, community greening initiatives and to support and enhance the natural environment and engage residents in environmental stewardship opportunities, pg. 61



Examples of Official Plans that prioritize healthy local food:

- [The City of Sudbury Official Plan](#) (Draft 2017)
 - In this draft, the Agriculture sections have been changed to be called “Local Food Systems” section 6.0, pg. 95
- [Town of Innisfill Official Plan](#) (2018)
 - 14.2 Food access policies, pg. 14-4
- [The City of Waterloo Official Plan](#) (2016)
 - 3.9.1 Planning districts, pg. 34
 - Plan for the provision of one small to mid-size food store for every 10,000 residents; and
 - Plan for the distribution of food stores such that all residents will have access to a food store within two kilometers of their residence.
 - 8.7.4 Community Gardens, pg. 159
- [City of Thunder Bay Official Plan](#) (2018)
 - Urban Settlement Policies, pg. 71
 - Urban Agriculture Policies, pg. 77
 - Local Food Policies, pg. 80
 - Community Services, Facilities, and Recreation Policies, pg. 56
 - Active and Passive Parkland Policies, pg. 58

Examples of tools used to implement Official Plan policies:

- The [City of Peterborough](#) has community garden policy to support development of sites on city-owned land.
- The [City of Kingston](#) has a community orchard and edible forest policy to support the implementation of edible nature as stated in their Parks & Recreation Master Plan.
- [City of Toronto Food Strategy](#) (2010)
 - Food Projects to increase access to healthy, affordable fresh fruit and vegetables in priority neighborhoods where residents have to walk more than one km to access healthy options.
 - Grab Some Good TTC Pop-up Markets
 - Grab Some Good Healthy Corner Stores initiative
 - Grab Some Good Mobile Food Markets
- [New York City: Food Retail Expansion to Support Health](#) (FRESH)
 - Promotes the establishment and expansion of neighbourhood grocery stores in underserved communities that offer nutritious, affordable, and fresh food options by providing zoning and financial incentives to grocery store operators and developers.
 - Financial incentives for this program include real estate tax reductions (land taxes and building taxes), sales tax exemption, and mortgage recording tax deferral.
 - Zoning incentives include additional development rights, reduction in required parking, larger as-of-right stores in light manufacturing districts.
- [The Corporation of the District of Central Saanich](#) (2010)
 - Prohibits drive-throughs in all land use zones, Bylaw #1309, Amendment #1667.
- [The Town of the Blue Mountains Official Plan](#) (2016)
 - B2.6 Drive-Through Service Facilities Policies, pg. 44





RECOMMENDATION #8

Improve community scale infrastructure to support the local food system.

Why does this matter in the County of Peterborough?

Food environments are part of larger, complex food system that encompass the various activities and relationships of all aspects of food.¹⁹³ At the community level, infrastructure at the production, processing, distribution, and access points of the food system can support the local food system and impact environments that create access to local and healthy food. Programs and places that support County residents to access infrastructure is critical.

Food hubs defined as “actual or virtual spaces that collect and distribute food to processors, retailers, restaurants, and/or consumers,”¹⁹⁴ and are considered an important service at a local level. Food hubs are quickly becoming a popular infrastructure choice to support a food system approach as they provide space and support for activities including food preparation, handling, processing, education, and or/training.¹⁹⁵ The need for seasonal storage capacity of locally grown foods has also been discussed locally (e.g., root cellars) and would be a benefit to County residents and the local agricultural community.¹⁹⁶

Peterborough is home to an active community gardens movement; it has been reported that Peterborough has one of the highest numbers of community gardens per capita in Canada.¹⁹⁷ Community gardens can provide many benefits, including the promotion of community health and food security, and the reduction of storm-water runoff and greenhouse gas emissions.¹⁹⁸

How will this impact health?

A multitude of factors including an increase in availability of ultra-processed foods/convenience foods and current food environments have led to food deskilling (loss of food skills) which is considered an impediment to healthy eating.¹⁹⁹ There is an increasing focus on food literacy and its significant influence and impact on eating patterns because food literacy:

- includes food skills (techniques, knowledge and planning ability),
- the confidence to improvise and problem-solve,
- the ability to access and share information, and;
- is made possible through external supports of healthy food access, living conditions, learning opportunities and sociocultural environments.²⁰⁰

Along with infrastructure at the community level to allow people the opportunity to participate in the local food system, food literacy and increasing understanding of the use of healthy and local foods in diets is critical.

Due to a lack of income, almost one in six households in the County and City of Peterborough are food insecure so having the ability to purchase healthy food is a challenge. The Peterborough Food Action Network’s definition of community food security notes the importance of dignified access for all in our local food system.²⁰¹ Unique approaches to local and healthy food access through community projects and programs have been a long standing approach to food systems work in Peterborough.

Having places for healthy local food throughout the County of Peterborough, as envisioned by the Nourish Project, have been identified in provincial research as important for providing services to impact the health of community members by not only increasing food literacy but by also focusing on services related to employment, community education, and alternative food access programs (e.g., mobile markets, food donation distribution).²⁰² Increasing access to healthy and local food but also addressing education and income has the potential to impact health inequities.



What can be done to improve community scale infrastructure?

Enhancing the amount of infrastructure available to support a local food system in the County of Peterborough will impact the “processing” and “distribution” sections of the food system cycle. To do this, there is a need for land use designations to allow for the development of small-scale food processing facilities and distribution centres (e.g., community kitchens, food co-ops, and community food centres).²⁰³

Municipalities can also support increased access to healthy food through community-led planting, management and harvesting of fruit trees, nut trees and/or shrubs on municipally owned lands.²⁰⁴ Such a policy in the County of Peterborough has the potential to grow and support both community gardens and gleaning led by citizens with support by agencies including Nourish and Peterborough Public Health. Support (i.e., training, shared infrastructure) for people interested in growing food without purchasing farmland through start-up farms has also been discussed locally.²⁰⁵ Food hubs could be seen as the next step to support growing to processing, distributing, and increasing access to healthy and local food.

The Peterborough Food Action Network has drafted a list of actions that focus on the “processing” and “distribution” components of the local food system:²⁰⁶

Processing: Cook It!

- Policy, by-laws, infrastructure, technology to support local/regional processing, storage, procurement and food-related businesses
- Supporting infrastructure to support processing of local, healthy foods (e.g., food hubs, incubator kitchens, commercial kitchens, community bake ovens)

Distribution/Access: Sell It! Cook It!

- Encourage distribution of local and healthy food by:
 - Zoning for Community Food Hubs where food literacy can be enhanced and the local food system developed.
 - Support for culinary tourism (e.g., restaurants selling local food).
 - Local procurement policies for food offered and sold in County-owned facilities and programs (e.g., recreation centres, childcare centres, summer camps, long-term care).
 - Encourage the provision of grocery stores, retail food venues, small to medium-sized food stores, mobile food vendors or other food sources as part of a complete community.
- Encourage the provision of temporary and permanent farmers’ markets/pop-up markets (e.g., zoning by-laws).

How does it link to the PPS and the GPGGH?

PPS:

- Part V, Section 1.1.1.a-h, pg. 6
- Part V, Section 1.1.3.2, pg. 7
- Part V, Section 1.1.4.1, pg. 9 – movement of goods/food
- Part V, Section 1.7.1.h, pg. 20
- Part V, Section 1.8.1.g, pg. 21

GPGGH:

- Section 2.2, Sub-section 2.2.1, #4a-g, pg. 14
- Section 4.2, Sub-section 4.2.5, #2, pg. 46
- Section 4.2, Sub-section 4.2.6, pg. 46-47
- Section 4.2, Sub-section 4.2.10, pg. 53



Local policies and plans supportive of this recommendation:

- [Greater Peterborough Area Community Sustainability Plan](#) (2012)
 - Theme: Agriculture, pg. 14
 - Facilitate the production, storage, processing, distribution, and marketing of local, healthy food.
- [Peterborough Climate Change Action Plan](#) (2016)
 - Support localization of the food system, pg. 6
 - Encourage purchasing of locally produced food, pg. 6
 - Reduce the amount of wasted food, pg. 7
 - Strengthen land use policy and the development review process to better support climate change mitigation and adaptation, pg. 7
 - Identify climate change risks and prepare for potential impacts, pg. 8
 - Facilitate best management practices for low emission farming/climate change adaptation, pg. 8
- [Age-friendly Peterborough 2017 Community Action Plan](#)
 - Older adults' basic needs are met, pg. 14
 - Supports to age in place, pg. 15
 - Enhance supports for vulnerable older adults, pg. 21



Examples of Official Plans that support this recommendation?

- [Town of Innisfill Official Plan](#) (2018)
 - 14.2 Food access policies, pg. 14-4
 - 14.2.6 We shall encourage the establishment of community kitchens and food co-ops within the Town's commercial areas.
- [City of Thunder Bay Official Plan](#) (2018)
 - Urban Settlement Policies, pg. 71
 - Urban Agriculture Policies, pg. 77
 - Support community kitchens and local food hubs.
- [The City of Sudbury Official Plan](#) (Draft 2017)
 - 6.2.4 Urban Agriculture Policies, pg. 103
 - Community kitchens and local food hubs will be supported in all settlement areas where appropriate.
- [Town of Midland](#) (Draft Official Plan 2017)
 - 3.0 General Development Policies, pg. 3-1
 - 3.1.10 Local Food Production Policies, pg. 3-7



Examples of tools used to implement Official Plan policies:

- Community garden policies
 - [City of Peterborough](#)
 - [Town of Whitby](#)
 - [City of Kingston](#)
- The [City of Toronto](#) community bake oven policy to support the use of this type of infrastructure in community parks.
- The [Municipality of Mississippi Mills](#) (see pg. 80 for staff report) built a community bake oven on municipal property to complement programming at the local library and farmer's market.
- The inclusion of a regional infrastructure to support local and healthy food processing. Examples of this include the [Ontario Agri-Food Venture Centre](#).



Myrtle's Kitchen at Peterborough Public Health, City of Peterborough.



FOCUS AREA 5

Healthy Natural Environments



Nature can have a profound impact on the health of individuals therefore, ensuring that there are vibrant, adequate, and accessible natural environments is an essential component of a healthy community. According to the Provincial Health Services Authority in British Columbia, “the way we design our lives to fit within the natural environment is fundamental in determining our health and well-being. Our health stands to improve when land use decisions enhance the ability of natural environments to mitigate negative health impacts associated with development. Consider for instance, the capacity of a park to cool and filter the air in a dense neighbourhood, or the ability a greenway has to inspire active transport and access to nature; such interventions foster a livable environment, help encourage physical activity and promote better mental health.”²⁰⁷

While healthy natural environments are important for the health and well-being of all residents, these environments should be assessed for spatial equity to ensure that high quality spaces are located in a variety of areas (e.g., residential, commercial, industrial lands, in low to high income neighbourhoods) which benefit all members of the community (e.g., young and old of varying abilities).²⁰⁸

Given that natural environments and open spaces are valued by many, communities that provide and protect these spaces may benefit economically through an increase in individuals settling in and/or visiting the area.



Douro Park, Township of Douro-Dummer, County of Peterborough.





RECOMMENDATION #9

Ensure greater quantity and quality of green and open spaces including environmentally sensitive areas.

Why does this matter in the County of Peterborough?

An adequate amount of preserved natural spaces supports biodiversity and ensures a healthy ecosystem that sustains everyone. Research shows that there is “...a relationship between biodiversity and measures of ecosystem functioning such as improved water quality, soil health, and pollination.”²⁰⁹ However, global climate change is changing the temperature of the planet thereby threatening this delicate ecosystem. It is estimated that,

“the average temperatures in Ontario could rise as much as 8°C by 2070. Due to this rise in temperature, it is hypothesized that in the future Ontario will see less snow and more droughts as well as the following:

- Increases in extreme hot weather days with temperatures above 35°C
- Less snow but more freezing rain
- Increased air pollution
- Altered ecosystems- changes in wildlife habitats and crop yields
- Increases in warm climate diseases such as Lyme disease, West Nile Virus, and Malaria
- A decrease in the water levels in the Great Lakes by as much as one meter by 2050.”²¹⁰

These types of events would be catastrophic on many levels, not to mention pose severe risks to human health. While there are many adaptation and mitigation measures required to prevent global warming, natural solutions are shown to have some of the most positive and cost-effective results.²¹¹ “Re-greening the planet through conservation, restoration, and improved land management is a necessary step for our transition to a carbon neutral global economy and a stable climate.”²¹² As such, it is vital that the County of Peterborough Official Plan includes strong policies to protect and expand natural areas across the region.

In addition, the County of Peterborough is required to direct future growth to settlement and urban areas. As such, the Official Plan will need to ensure these growth areas contain sufficient and adequate natural elements. Expanding these elements would essentially be

“Re-greening the planet through conservation, restoration, and improved land management is a necessary step for our transition to a carbon neutral global economy and a stable climate.”



Rice Lake, County of Peterborough.



“greening” of populated areas through more and enhanced “...woodlands, public and private urban parks and gardens, urban nature areas, greening streets, trees and square plantations, botanical gardens and cemeteries.”²¹³ These natural elements create a more pleasant experience by protecting people from noise pollution, poor air quality, and extreme weather events (e.g., floods, heat waves).²¹⁴ Greening in more developed areas also contributes to a healthier ecosystem: “Public land resources such as the water catchments and treed parks support ecosystem functioning that enhance air and water quality’.”²¹⁵ In addition, “green” streets can be pleasant to walk, ride, and shop. They also provide connections to the public open space system.

How will this impact health?

According to a report by the Expert Panel on Climate Change Adaptation, “[i]ncreased risk of illness and premature death is likely to result from heat waves, smog episodes, and ecological changes that support the spread of mosquito and tick borne diseases such as West Nile Virus, Lyme disease, and even malaria.”²¹⁶ Furthermore, floods and strains on the stormwater management system can negatively impact water quality and quantity, since “...‘runoff increases the risk for microbial and chemical contamination of drinking water supplies, especially after heavy rainstorms’.”²¹⁷ Furthermore, there are vulnerable populations that are more adversely affected by these weather extremes including “...children, seniors, the socially disadvantaged, people with pre-existing illnesses, and Canada’s northern Aboriginal population.”²¹⁸

By protecting and enhancing natural areas across the County of Peterborough, particularly in the more populated settlement areas, residents will have improved health potential, as research has shown:

- “Residents living in neighbourhoods with more streetscape greenery perceive their own health as better, experience fewer acute health-related complaints and report better overall mental health status.”²¹⁹
- “Patients in hospital rooms with a view of nature generally recover more quickly, require less pain medication, and have fewer post-surgical complications than patients in rooms with urban views.”²²⁰
- Natural spaces help children to build their gross motor skills, interact socially, alleviate adverse effects of exposure to chronic stress, and reduce rates of chronic diseases and conditions.²²¹
- Children with attention deficit hyperactivity disorder (ADHD) particularly benefit from access to greenery: a 20-minute walk in an urban park benefited the concentration performance of children with ADHD at least as much as prescribed ADHD medications.²²²
- Older adults who have easy access to green spaces and water reap the health benefits. “Accessibility to everyday green and blue spaces encourages seniors to simply get out the door. This in turn motivates them to be active physically, spiritually and socially, which can offset chronic illness, disability and isolation.”²²³

“Residents living in neighbourhoods with more streetscape greenery perceive their own health as better, experience fewer acute health-related complaints and report better overall mental health status.”



What can be done to ensure greater quantity and quality of green and open spaces?

There are two categories of focus for the Official Plan: protecting natural areas, and enhancing natural and green elements:

- “Protecting” requires the preservation of natural spaces and can be done by adopting natural heritage systems plans, trails master plans, parks and recreation master plans, and agricultural systems plans. Ideally a municipality would use a variety of these plans to ensure a robust and well-connected natural system across the entire municipality.
- “Enhancing” requires the implementation of policies and programs that will bolster the amount and/or quality of green and natural space. It is particularly important for municipalities to plan in unison where population growth will occur, while at the same time planning where and how natural and green spaces will be placed and connected. As communities become more densely populated, municipalities will need to be creative with how green and natural elements are incorporated. Possible strategies include: community improvement plans, brownfield remediation policies, sustainable development tools and metrics, low-impact development policies, stormwater management plans, green infrastructure policies and metrics. It will also be important to tie in existing trails and active transportation routes.

How does it link to the PPS and the GPGGH?

PPS

- Part V, Section 1.1, Sub-section 1.1.1.c, h, pg. 6
- Part V, Section 1.1, Sub-section 1.1.4.1.h, pg. 10
- Part V, Section 1.2, Sub-section 1.2.1.e, pg. 12
- Part V, Section 1.5, Sub-section 1.5.1.b, d, pg. 15
- Part V, Section 1.7, Sub-section 1.7.1.j, pg. 20
- Part V, Section 1.7, Sub-section 1.8.1.f, g, pg. 20-21
- Part V, Section 2.1, Sub-section 2.1.2, p. 22

GPGGH

- Section 2.2, Sub-section 2.2.1, #4f, g, pg. 14
- Section 4.2, Sub-section 4.2.2, pg. 41-43
- Section 4.2, Sub-section 4.2.5, pg. 46
- Section 4.2, Sub-section 4.2.10, #1f-l, 2, pg. 53



Local policies and plans supportive of this recommendation:

- [Forest Management Plan for the Peterborough County Forest](#) (2011)
 - a) Biodiversity / Environmental Recommended Strategies, pg. 29
- [Peterborough County Climate Change Action Plan](#) (2016)
 - a) Protect and enhance natural assets, pg. 8
 - Develop and implement a Natural Heritage System Plan
- [Greater Peterborough Community Sustainability Plan](#) (2012)
 - a) Goal: Preserve, enhance and restore our natural assets to maintain ecological health, pg. 28
- Incorporating the work of Kawartha, Naturally Connected [Natural Heritage System](#) project.
- [Township of Selwyn Recreation Services Plan](#) (2012)
 - a) A robust parkland system
- [Township of Cavan Monaghan Recreation Master Plan](#) (2011)
 - a) Sustainable provision of parks and facilities
 - To plan and implement parks and open spaces, community greening initiatives and to support and enhance the natural environment and engage residents in environmental stewardship opportunities, pg. 61
- [Township of Selwyn Recreational Trails Master Plan \(2014\)](#)
- [Township of Cavan Monaghan Trail Master Plan \(2010\)](#)



Examples of Official Plans that support this recommendation:

- [County of Lennox & Addington Official Plan](#) (2015)
 - D1 Natural Heritage Resources, pg. 26-32
- [Town of Innisfill Official Plan](#) (2018)
 - Section 17 Natural Heritage System, pg. 17.1-17.10
- [City of Thunder Bay Official Plan](#) (2018)
 - Part 2: Natural Heritage System, pg. 11-21
- [City of Burlington Official Plan](#) (2018)
 - 4.2 Natural Heritage System, pg. 4-8
 - Policies
 - Environmental Impact Assessment
 - Natural Heritage Securement
 - 4.3 Urban Forestry Policies, pg. 4-21
 - 4.4 Water Resource Policies, pg. 4-24

Examples of tools used to implement Official Plan policies:

- Sustainability development guidelines, tools, and targets
 - [Brampton, Vaughan, and Richmond Hill Sustainability Metrics](#)
- Brownfield redevelopment incentives and programs
 - [Region of Waterloo Brownfield Incentive Program](#) – Brownfield regional development charge exemption program for Townships.
- Former landfill site conversion to green and open space
 - [Guelph's Pollinator park](#)
- Green development Standards or Guidelines
 - [East Gwillimbury Thinking Green! Development Standards](#) (2012)



Trent Severn Waterway, County of Peterborough.





RECOMMENDATION #10

Ensure green and open spaces are comfortable for human use which includes improving air quality and mitigating against heat.

Why does this matter in the County of Peterborough?

Poor air quality and rising daytime temperatures are two alarming consequences of climate change.²²⁴ Both are a direct result of how we design and build communities, and both require immediate action in order to prevent further harm to human and environmental health.

“Clean air is a critical environmental determinant of human health. Poor ambient air quality is the number one environmental cause of premature mortality, contributing to ...approximately seven million, or one in eight, premature deaths worldwide.”²²⁵ Poor outdoor air quality comes from a number of factors, including emissions from various natural and human-made sources, and is influenced by atmospheric and weather conditions.²²⁶ There has been significant efforts put into clean air policies and programs over recent years and as a result, the air quality in Ontario has been improving.²²⁷ However, as we move away from less dense development and build more densely populated areas, it will be fundamental to include policies and programs to ensure air quality continues to improve.²²⁸

In contrast, rising temperatures are contributing to more heat alerts and emergencies for many municipalities. As the built environment continues to expand and our climate continues to change, “extreme heat events/heat waves are expected to increase in frequency, length, and severity, resulting in increased health risks for many Canadians.”²²⁹ Large expanses of asphalt, concrete, and roofs retain the heat from the sun thereby increasing the ambient temperature in the surrounding environment creating what is commonly known as a heat island. On a hot sunny day, roof and pavement surface temperatures can be 27–50°C hotter than the air, while shaded surfaces are typically closer to air temperature.²³⁰ Heat islands, while more common in dense urban communities, are also a concern for any populated area with infrastructure, including small towns, villages, and hamlets found throughout the County of Peterborough.

Municipalities need to be responsive to the increase in poor air quality and temperatures by developing mitigation strategies. Enhanced green spaces including natural elements such as trees and other vegetation have many beneficial impacts including purifying air and providing a cooling function.^{231,232,233} Co-benefits of introducing urban vegetation and green spaces into a community include improved air quality, water quality (often via improved stormwater

Co-benefits of introducing urban vegetation and green spaces into a community include improved air quality, water quality (often via improved stormwater management), decreased temperatures, and savings in energy and pavement maintenance.



Queen Street, Village of Lakefield, County of Peterborough.



management), decreased temperatures, and savings in energy and pavement maintenance. In addition, one study reported that, “green spaces and indices describing the presence of green vegetation have been associated with reduced negative perception of noise, urban heat, concentrations of pollution and psychological stress.”²³⁴

How will this impact health?

AIR QUALITY AND HEALTH

The World Health Organization lists various negative health outcomes related to ambient air quality including, “...stroke, heart disease, lung cancer and both chronic and acute respiratory diseases, including asthma.”²³⁵ As mentioned before, while the rate of respiratory disease may not always be directly caused by poor air quality, poor air quality will exacerbate these health conditions. This is a concern for Peterborough County and City considering hospitalization rates from 2003 to 2015 for both sexes for respiratory diseases (including asthma, chronic obstructive pulmonary disease, and lower respiratory disease), are significantly higher than the Ontario rate.²³⁶ However, it is important to note that while the rates are higher for the City and the County, overall they have declined from 2003 to 2016.

When assessing Township specific data, the Central East Local Health Integration Network reported in 2015-2016 that there were more hospitalizations of residents from the townships of Asphodel-Norwood, Douro-Dummer, and Otonabee-South Monaghan compared to the other municipalities across the County.²³⁷

When assessing specific segments of the population, “children are particularly vulnerable to the effects of poor air quality since their respiratory systems are still developing and their air intake relative to body weight compared to adults is greater, leaving them more susceptible to the toxic effects of exposure. The elderly, those with pre-existing respiratory or cardiovascular problems, those who smoke and those who work or are physically active outdoors are also more vulnerable to the negative health effects of air pollution.”²³⁸

Additionally, while lower socioeconomic status groups are not always more exposed to greater levels of air pollution, they often experience greater harmful effects. In one study, it was reported that “the largest

benefit from green space exposure, in terms of chronic obstructive pulmonary disease, was observed among lower [socioeconomic status] individuals.”²³⁹ Another study revealed that “there is evidence of stronger pollution-mortality associations for people of low [socioeconomic status], even after adjusting for behavioural and occupational risk factors.”²⁴⁰

Evidence indicates that when air quality is addressed at the community level, positive health indicators, such as lung function and lung capacity, improve significantly.²⁴¹



Sandy Beach, Municipality of Trent Lakes, County of Peterborough



HEAT/UV EXPOSURE AND HEALTH

Extreme heat events are strongly linked to cardiovascular, respiratory, and cerebrovascular mortality²⁴² and it is anticipated that "[h]eat-related mortality could double in southern and central Ontario by the 2050s..."²⁴³ This same report projected that "...air pollution mortality, compounded by warmer summer temperatures could increase about 15-25% during the same interval."²⁴⁴

In Ontario, a harmonized heat warning system came into effect in 2016 and covers three different geographic areas.²⁴⁵ The County of Peterborough falls in the Southern Ontario category. The temperature range for the Southern Ontario category that triggers a heat warning is a daytime high of greater than or equal to 31°C with a night time low greater than or equal to 20°C for two or more days. A heat warning can also be triggered in the Southern Ontario category when the temperature with humidex is greater than or equal to 40°C for two or more days.²⁴⁶ Locally, Peterborough Public Health issued six extreme heat warning for 2016 and two for 2017. It is important to note that this data reports the number of warnings only and does not reflect the duration or severity of the extreme weather.

Prior to the development of the harmonized heat warning system, heat events were categorized by the Ontario Ministry of Labour as heat waves, which were defined as "at least three consecutive days exceeding 31°C."²⁴⁷ The Ontario Ministry of Health and Long-term Care conducted a modelling study to use heat wave information from 1971-2000 to predict future heat waves for the years

2050 and 2080.²⁴⁸ Figure 5 shows the results from the study for the Peterborough Public Health area. These results demonstrate that by the year 2050, heat waves are projected to increase by almost six times when compared to the amount of heat waves that happened between 1971 and 2000.²⁴⁹

When there is excessive heat, typically there is a lack of shade. Lack of shade is a great concern to public health as it means there is risk of ultraviolet radiation (UVR) exposure. UVR exposure is a carcinogen and the main cause of skin cancer, otherwise known as malignant melanoma. From 2010 to 2013, the incidence of malignant melanoma standardized rates (both sexes), continue to be significantly higher in the County and City of Peterborough compared to the Ontario rates.²⁵⁰ In fact, the incidence of the age standardized rates for malignant melanoma for the Peterborough Public Health jurisdiction ranks the highest in the province for 2010, 2012, and the third highest in 2013.²⁵¹

What can be done to reduce the negative impact of poor air quality and excessive heat?

Official Plan policies must include statements that protect and expand tree canopies as well as natural heritage features to ensure human and environmental health are protected from the harmful effects of poor air quality and excessive heat. Strategies and tools that can assist with the implementation of these Official Plan policies include:

- Development of an Urban Forest Strategy that sets minimum targets for shade canopies in urban/settlement areas.

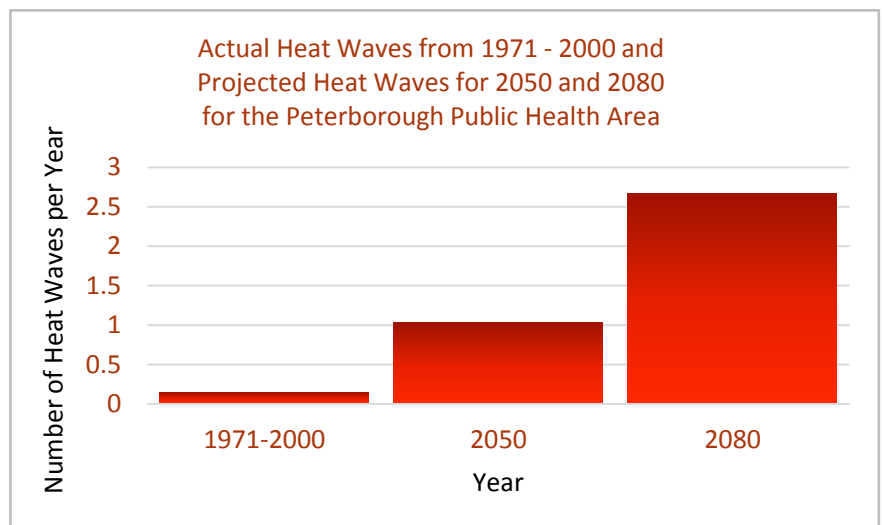


Figure 5. Actual Heat Waves from 1971-2000 and Projected Heat Waves for 2050-2080 for the Peterborough Public Health Area.



- Conduct regular shade audits that a) inventories the type of trees and calculates the tree canopy coverage and, b) identifies areas for further planting with a focus on high air polluting areas (e.g., high traffic and industrial areas) abutting residential homes.
- Develop tree replacement policies.
- Utilize best practices to ensure the most appropriate native plants and trees are planted that provide optimal air purification.²⁵²
- Site new parks, playspaces, and playing fields away from high air polluting areas (e.g., major intersections and thoroughfares).
- Create development standards that require new developments to integrate shade and sun protection design features and landscapes.²⁵³

How does it link to the PPS and the GPGGH?

PPS

- Part V, Section 1.1, Sub-section 1.1.1.h, pg. 6
- Part V, Section 1.1, Sub-section 1.1.3.2.a3, pg. 7
- Part V, Section 1.5, Sub-section 1.5.1, pg. 15
- Part V, Section 1.7, Sub-section 1.7.1.j, pg. 20
- Part V, Section 1.8, Sub-section 1.8.1.f-g, pg. 21

GPGGH

- Section 2.2, Sub-section 2.2.1 #4e-g, pg. 14
- Section 4.2, Sub-section 4.2.5 #1-2, pg. 46
- Section 4.2, Sub-section 4.2.9 #1c, pg. 51
- Section 4.2, Sub-section 4.2.10 #1d, e, 2a, pg. 52-53

Local policies and plans supportive of this recommendation:

- [Forest Management Plan for the Peterborough County Forest](#) (2011)
 - a) Biodiversity / Environmental Recommended Strategies, pg. 29
- [Peterborough County Climate Change Action Plan](#) (2016)
 - a) Protect and enhance natural assets, pg. 8
- [Greater Peterborough Community Sustainability Plan](#) (2012)
 - a) Goal: Preserve, enhance and restore our natural assets to maintain ecological health (pg. 28)
- [Township of Selwyn Recreation Services Plan](#) (2012)
 - a) 5.8 Parkland design & amenities, pg. 118
 - Comfort and convenience, pg. 120



Examples of Official Plans that support this recommendation:

- [Town of Innisfill Official Plan](#) (2018)
 - 15.1 Urban Forest Policies, pg. 15.1
- [City of Campbell River Sustainable Community Official Plan](#) (2012)
 - 6.5 Maintain a healthy urban forest, pg. 6-78
- [The City of Waterloo Official Plan](#) (2016)
 - 8.7 Environmental Sustainability Policies 3 & 4, pg. 159

Examples of tools used to implement Official Plan policies:

- Forest Master Plans that include clear shade canopy targets
 - [City of Cambridge](#): Urban Forest Plan, Tree Management Policies and Guidelines for Development, Tree Bylaw, and regular forest canopy assessments.
 - [York Region Forest Management Plan](#) – provides canopy targets for every lower-tier municipality in the Region, pg. 6
- Strategic plans with canopy targets, species recommendations, etc.
 - [City of Peterborough Urban Forest Strategic Plan](#)
- Incorporate regular shade audits
 - [Region of Waterloo Shade Audit Guide and Toolkit](#)
- Design Guidelines that include street tree requirements
 - [Town of Collingwood Urban Design Manual](#) (2010)
 - Street Trees, pg. 10-6
 - Tree Canopy, pg. 10-10



Asphodel Park, Township of Asphodel-Norwood, County of Peterborough.





RECOMMENDATION #11

Ensure that green and open spaces are accessible for all ages and abilities.

Why does this matter in the County of Peterborough?

The impacts of parks and green environments have a profound impact on human health and extend beyond social and psychological health outcomes to include physical health outcomes. “Greener environments enhance recovery from surgery, enable and support higher levels of physical activity, improve immune system functioning, help diabetics achieve healthier blood glucose levels, and improve functional health status and independent living skills among older adults.”²⁵⁴ Therefore, ensuring that everyone (young and old, poor and rich, rural and urban) has access to green and open spaces is a key planning principle. More importantly, ensuring that green space is available to those with fewer opportunities (e.g., children in housing with no yard, people in unsafe neighbourhoods, physical disabilities, financial barriers) is essential.

As the County of Peterborough Official Plan incorporates policies to build more densely populated areas, it will be critical to ensure a diversity of green (and blue) spaces in both private and public areas to offer opportunities for residents to stay in one place to play, rest, and connect. In addition, some of these locations are used by residents to pass through as they navigate their neighbourhood and community. Having a balance of high people traffic and lower people traffic spaces is important and could include:

- High people traffic areas: greenways/corridors, boulevards and other “roadside greenery and vegetation barriers along streets or rail tracks,”²⁵⁵ community gardens, parkettes/pocket parks, neighbourhood and community parks, trails, playing fields, and water elements (e.g., lakes, rivers).
- Low people traffic areas: natural wildlife areas, forests, urban woodlands, cemeteries, trees, rooftop greenspaces, green facades, and water elements (e.g., streams, stormwater ponds).

How will this impact health?

A considerable body of evidence shows that exposure to the natural environment has physical, mental, and social health benefits for all age categories, which include²⁵⁶:

- enabling stress alleviation and relaxation,
- increasing physical activity and improves physical fitness,
- improving social interaction and community cohesiveness,
- improving levels of mental health,
- improving cognitive and immune function,
- lowering mortality rates, and
- providing equitable access to recreation.

Some of the most profound evidence showing the benefits of trees, parks, landscaping, gardens, forestry, and agriculture to human health, include:

- The closer someone lives to a park, the better their health outcome. For example, “people who live within 800 metres of a park get 50% of their vigorous physical activity while at the park. People who live just 800m further away get just 16% of their physical activity while at the park.”²⁵⁷
- The less green a person’s surroundings, the higher their risk of morbidity and mortality – even when controlling for socioeconomic status and other possible confounding variables.²⁵⁸
- The restorative benefits of nature can be experienced in as little as a ten minute walk.²⁵⁹



- Children who spend time outdoors in nature have better physical activity rates, cognitive development, and social and emotional development.^{260,261}
- Research also shows that exposure to green space is especially beneficial to individuals living in low-income neighbourhoods^{262,263} and are particularly beneficial when these spaces are perceived as safe and well maintained.
- There is a strong association between green space and healthy birth outcomes among mothers living in low socioeconomic neighborhoods.²⁶⁴
- When assessing community level greenspace, areas with high amounts of greenspace have been reported to have a 6% lower mortality rate when compared to areas with low amounts of greenspace.²⁶⁵

What can be done to ensure accessible healthy natural environments?

The County of Peterborough Official Plan must include supportive policies to ensure there are sufficient natural areas; however, ensuring that these natural areas are fully accessible for all residents, regardless of age and ability, requires a more in-depth analysis and strategic vision. In 2015, the Ontario Ministry of Municipal Affairs and Housing passed Bill 73, the Smart Growth for our Communities Act, which encourages municipalities to put parks plans in place that involve input from school boards and community members.²⁶⁶ In accordance with this Planning Act change, PPH strongly recommends the development of Parks and Recreation Master Plans for all lower-tier municipalities in the County of Peterborough.

To develop a plan, PPH recommends incorporating the following:

- Applying universal design principals to ensure green spaces will be inclusive and physically accessible to a diversity of people and abilities.
- Using a spatial equity lens, green spaces will be located in a variety of neighbourhoods and locations ensuring that amenities and opportunities are equally and equitably distributed to ensure vulnerable populations have improved access to green space.
- Decisions around the open and green spaces will take into consideration environmental sustainability.
- Ensure the Plan provides an inventory of existing green spaces and water and classifies them into categories such as open space, forests, urban forests, trails and linkages, municipal park, community park, neighbourhood park, parkettes, sports fields, community gardens, rooftop gardens, green facades, rivers, lakes, streams and ponds. The inventory will include location, type and quality of amenities, usage (active or passive), demographics of users, and spatial equity ranking.
- Ensure the Plan incorporates audits/evaluations of green spaces and recreation needs assessments using questions such as those in the following table (to be adapted to meet the needs of each individual Township):²⁶⁷



Warsaw Public School students snowshoeing, Township of Douro-Dummer, County of Peterborough.



Table 2. Green space and recreation needs assessment questions.

Impacts:	Suggested questions to pose to establish the information:
Environmental/ ecological impacts	<ul style="list-style-type: none"> What is the impact of the urban green space on air quality, noise or urban heat exposure? Does it support water management and reduce risk of flooding? Does it support contact to nature? Does it enhance biodiversity?
Lifestyle impacts	<ul style="list-style-type: none"> Does the green space support/increase physical activity levels? Does it enable active transport by foot or bike? Does it increase the time people spend outdoors? Are more people using the green space? Does it support healthy lifestyles and active recreation?
Social impacts	<ul style="list-style-type: none"> Does the green space support or enhance social cohesion? Does it promote social interaction and exchange? Does the development of a green space support gentrification processes leading to displacement of local residents?
Equity impacts	<ul style="list-style-type: none"> Do all population groups make use of and benefit from the green space? If not, who are those groups that benefit least or even face disadvantages? Does the green space enable different functions for different user groups?

Evidence also recommends that Parks and Recreation Master Plans should include the following:

- Policies that state “(o)pen space and park areas shall be provided within the built environment that are easily accessible to all residents and that are particularly located near schools, seniors’ centres, workplaces and residential developments, with priority given to lower income neighbourhoods.”²⁶⁸
- Set targets to have all residents in settlements, hamlets, and villages to be within a certain walking distance of green space. Evidence shows that when a park/green space is near home (within a 3 – 5 minute walk), residents are more likely to use the space.²⁶⁹ The World Health Organization stated that, “As a rule of thumb, urban residents should be able to access public green spaces of at least 0.5-1 hectare within 300 metres’ linear distance (around 5 minutes’ walk) of their homes.”²⁷⁰
- Opportunities to engage with nature should be available in every land use area and linkages (e.g., linear parks, trails, sidewalks) should create connections to these various green spaces to enable “...access between residential developments, schools, workplaces, public facilities and services, retail outlets, healthy food outlets, places of worship, cultural and community spaces, places of recreation, and tourist associated areas.”²⁷¹ In new developments, use “Plan of Subdivision” as a means to maximize parkland space and green infrastructure.²⁷²
- Inclusion of policies “to permit *community gardens* and certain agricultural uses in appropriate land use designations, and particularly on vacant or underutilized lands, except lands designated for environmental protection and where the cultivation of crops might have negative impacts on existing natural features or might pose a risk to human health.”²⁷³

“As a rule of thumb, urban residents should be able to access public green spaces of at least 0.5-1 hectare within 300 metres’ linear distance (around 5 minutes’ walk) of their homes.”



- Ensure that any universal design guideline address multiple purposes for all ages and abilities and include amenities such as seating, play equipment, adult fitness equipment, a variety of physical activity opportunities, outdoor game boards, culture/arts with a balance of both hard and soft surfaces (e.g., paved trails, grass, water), lighting, shade, waste and recycling receptacles, washrooms, and drinking water stations.
- Ensure the park design standards incorporate “approaches of Crime Prevention through Environmental Design: a) natural surveillance (occurs by placing windows in locations that allow users to see or be seen); b) access to control (discourages access to an area, such as doors, shrubs, fences, gates, and other physical design elements that limit access), and; c) territoriality (features that establish a sense of ownership or belonging, such as sidewalks, landscaping, porches, and other elements that establish boundaries between public and private areas).”^{274,275}
- Pursue agreements with school boards for public use of their green spaces after school hours.

How does it link to the PPS and the GPGGH?

PPS

- Part V, Section 1.5, Sub-section 1.5.1.b-d, pg. 15
- Part V, Section 1.7, Sub-section 1.7.1.j, pg. 20

GPGGH

- Section 2.2, Sub-section 2.2.1 #4e-g, pg. 14
- Section 4.2, Sub-section 4.2.5 #1-2, pg. 46



Rotary Greenway Trail, County of Peterborough.



Local policies and plans supportive of this recommendation:

- [Greater Peterborough Community Sustainability Plan](#) (2012)
 - Our Goal: We will make wise use of our water to enhance its quality and quantity, ensuring that future generations will be able to use our water to drink, fish, and swim, pg. 34
- [Active Transportation Master Plan](#) (2017) for the County of Peterborough
- [Age-friendly Peterborough 2017 Community Action Plan](#)
 - 3.2 Age-friendly parks and community facilities, pg. 33
- [Township of Selwyn Recreational Trails Master Plan](#) (2014)
- [Township of Cavan Monaghan Trail Master Plan](#) (2010)
- [Township of Selwyn Recreation Services Plan](#) (2012)
 - A robust parkland system
- [Township of Cavan Monaghan Parks and Recreation Master Plan](#) (2011)
 - Sustainable provision of parks and facilities
 - To plan and implement parks and open spaces, community greening initiatives and to support and enhance the natural environment and engage residents in environmental stewardship opportunities, pg. 61
- [Township of Douro-Dummer Parks and Recreation Master Plan](#) (2017)
 - Goal #5: Creating Opportunities for All - Encourage and facilitate healthy and active lifestyles through a range of parks, recreation and culture activities, pg. 16



Examples of Official Plans that support this recommendation:

- [Town of Innisfill Official Plan](#) (2018)
 - Section 7 Parks and Open Spaces, includes excellent parkland targets, pg. 7
 - Permitted Uses Policies
 - Scale Policies
 - Parkland Dedication Policies
 - General Policies
- [City of Campbell River Sustainable Community Official Plan](#) (2012)
 - Section 6: Parks & Natural Environment, pg. 6-72
 - A goal of this section states: By 2060, 100% of residents within the urban containment boundary live within a 5 minute walk from a park, trail or natural area.
- [Town of Midland](#) (Draft Official Plan 2017)
 - 4.5 Greenlands, pg. 4-51
 - Open Space Designation, pg. 4-52
 - Natural Heritage Designations, pg. 4-55

Examples of tools used to implement Official Plan policies:

- Examples of Parks & Recreation Master Plans that include many of the above mentioned policies and principles:
 - [Township of King](#) (2013)
 - [Loyalist Township](#) (2017)
- Although not formed as a Master Plan, the [Township of Alnwick/Haldimand](#) has taken great strides to consult with their community on the development of a Plan. Their goal is to complete a Master Plan in 2018.



Warsaw Public School students, County of Peterborough.



CONCLUSION

This document has outlined the vital role that community design plays in supporting a healthy, safe, and resilient community, such as the many settlement areas located in the County of Peterborough. Peterborough Public Health has put forth 11 recommendations within the themes of healthy community design, healthy transportation systems, healthy housing, healthy food systems, and healthy natural environments. These themes and recommendations were drafted using British Columbia's Healthy Built Environment Linkages Toolkit, given the immense amount of research used to assess each theme to health related outcomes. One drawback of using the Linkages toolkit was the focus on urban planning principles. Given the rural nature of the County of Peterborough, PPH staff selected only the principles that are most relevant to the local context. Every effort was taken to put forth recommendations and evidence that would be applicable to the County of Peterborough. In doing so, each recommendation provides the following level of detail:

- 1) why it is important,
- 2) how it will impact the health of residents,
- 3) how it could be implemented,
- 4) how it links to the PPS and the GPGGH,
- 5) how it links to local plans and policies,
- 6) examples of Official Plans applying the recommendation, and
- 7) tools used to implement this recommendation.

This document is being provided to the County of Peterborough to help inform and guide their Official Plan process. However, it is the hope that this document will also serve as an important educational tool for PPH partners and other sectors to raise awareness of the immense impact the built and natural environment can have on human health. It is recognized that not all of the recommendations and strategies will be feasible or relevant for some hamlets and villages across the County of Peterborough, and that each lower tier municipality will implement recommendations and strategies according to their own priorities. Nonetheless, investment in infrastructure and commitment to policies and programs that promote healthy and equitable communities are essential to ensure that the County of Peterborough is a place where residents can thrive, be healthy, and resilient now and in the future.

REFERENCES

- ¹ Institute for Public Health in Ireland. (2006). *Health Impacts of the Built Environment: A review*. Retrieved from: http://hiaconnect.edu.au/old/files/Health_Impacts_of_the_Built_Environment.pdf
- ² Mowat, D., Gardner, C., McKeown, D. & Tran, N. (2014) *Improving health by design in the Greater Toronto-Hamilton Area: A report of Medial Officers of Health in the GTHA*. Retrieved from: www.peelregion.ca/health/resources/healthbydesign/pdf/moh-report.pdf
- ³ Simcoe Muskoka District Health Unit. (2014). *Healthy community design: Policy statements for official plans*. Retrieved from: http://www.simcoemuskokahealth.org/docs/default-source/jfy-communities/Healthy_Community_Design.pdf?sfvrsn=0
- ⁴ Mowat, D., Gardner, C., McKeown, D. & Tran, N. (2014) *Improving health by design in the Greater Toronto-Hamilton Area: A report of Medial Officers of Health in the GTHA*. Retrieved from: www.peelregion.ca/health/resources/healthbydesign/pdf/moh-report.pdf
- ⁵ Provincial Health Services Authority. (2014). *Healthy Built Environment Linkages: A toolkit for design, planning, health*. Retrieved from: http://www.bccdc.ca/pop-public-health/Documents/linkagestoolkitrevisedoct16_2014_full1.pdf
- ⁶ Ontario Ministry of Health and Long-term Care. (2018). *Ontario Public Health Standard: Requirements for Programs, Services, and Accountability*. Toronto, ON: Author.
- ⁷ Ibid, p. 33.
- ⁸ Provincial Health Services Authority. (2014). *Healthy Built Environment Linkages: A toolkit for design, planning, health*. Retrieved from: http://www.bccdc.ca/pop-public-health/Documents/linkagestoolkitrevisedoct16_2014_full1.pdf
- ⁹ Ibid, pg. 8.
- ¹⁰ Middlesex-London Health Unit. (2013). *Linking health and the built environment in rural settings: evidence and recommendations for planning health communities in Middlesex County*. Retrieved from: <https://www.healthunit.com/uploads/linking-health-and-the-built-environment-in-rural-settings-evidence-and-recommendations-for-planning-healthy-communities-in-middlesex-county.pdf>
- ¹¹ Wellesley Institute. (2013). *Between health and place: Understanding the built environment*. Retrieved from: <http://www.wellesleyinstitute.com/wp-content/uploads/2013/05/Between-Health-and-Place.pdf>
- ¹² Mowat, D., Gardner, C., McKeown, D. & Tran, N. (2014) *Improving health by design in the Greater Toronto-Hamilton Area: A report of Medial Officers of Health in the GTHA*. Retrieved from: www.peelregion.ca/health/resources/healthbydesign/pdf/moh-report.pdf
- ¹³ Provincial Health Services Authority. (2014). *Healthy Built Environment Linkages: A toolkit for design, planning, health*. Retrieved from: http://www.bccdc.ca/pop-public-health/Documents/linkagestoolkitrevisedoct16_2014_full1.pdf
- ¹⁴ Public Health Agency of Canada. (2017). *The Chief Public Health Officer's report on the state of health in Canada: Designing healthy living*. Retrieved from: <https://www.canada.ca/content/dam/phac-aspc/documents/services/publications/chief-public-health-officer-reports-state-public-health-canada/2017-designing-healthy-living/2017-designing-healthy-living-eng.pdf>
- ¹⁵ Wellesley Institute. (2013). *Between health and place: Understanding the built environment*. Retrieved from: <http://www.wellesleyinstitute.com/wp-content/uploads/2013/05/Between-Health-and-Place.pdf>
- ¹⁶ Zupancic, T. & Westmacott, C. (2016). *Working with local governments to support health equity through the built environment. A scoping review*. BC Centre for Disease Control. Retrieved from: <http://www.bccdc.ca/resource-gallery/Documents/Educational%20Materials/EH/Equity%20BE%20Scoping%20Review.pdf>, pg. 7.
- ¹⁷ Ontario Ministry of Municipal Affairs. (2017). *Growth Plan for the Greater Golden Horseshoe*. Retrieved from: <http://placestogrow.ca/images/pdfs/ggh2017/en/growth%20plan%20%282017%29.pdf>
- ¹⁸ Salmon, B., Dawson, J. & Sauvé, S. (2014). *2014 Peterborough County and City active transportation and health indicator report*. Retrieved from http://www.peterboroughpublichealth.ca/wp-content/uploads/2011/09/AT_Health_Indicators_Report-FINAL-web.pdf
- ¹⁹ Peterborough Public Health. (2017). *Low Income and its impact on health outcomes in Peterborough City and County*. Retrieved from: <http://www.peterboroughpublichealth.ca/wp-content/uploads/2011/09/2017-PPH-Low-Income-Status-Report-web-version.pdf>
- ²⁰ Public Health Agency of Canada. (2017). *The Chief Public Health Officer's report on the state of health in Canada: Designing healthy living*. Retrieved from: <https://www.canada.ca/content/dam/phac-aspc/documents/services/publications/chief-public-health-officer-reports-state-public-health-canada/2017-designing-healthy-living/2017-designing-healthy-living-eng.pdf>
- ²¹ Public Health Ontario. Snapshots: Peterborough Public Health: Self-reported heavy drinking rate (both sexes combined) 2013-14. Toronto, ON: Ontario Agency for Health Protection and Promotion; 2016 Feb 1 [cited 2018 Feb 25]. Retrieved from: <http://www.publichealthontario.ca/en/DataAndAnalytics/Snapshots/Pages/Health-Behaviours---Alcohol-Use.aspx>
- ²² Peterborough Public Health. (2016). *Tobacco use in Peterborough: Priorities for action*. Retrieved from: <http://www.peterboroughpublichealth.ca/wp-content/uploads/2011/09/2016-Tobacco-Use-in-Peterborough-Report.pdf>
- ²³ Ontario Ministry of Agriculture, Food and Rural Affairs. (2017) *Peterborough County Profiles: agriculture, food and business, food expenditure profile*. Retrieved from <http://www.omafr.gov.on.ca/english/stats/county/index.html>
- ²⁴ Ontario Ministry of Municipal Affairs. (2017). *Growth Plan for the Greater Golden Horseshoe*. Retrieved from: <http://placestogrow.ca/images/pdfs/ggh2017/en/growth%20plan%20%282017%29.pdf>
- ²⁵ World Health Organization. (1946). *Constitution of World Health Organization Principles*. Retrieved from: <http://www.who.int/about/mission/en/>
- ²⁶ American Planning Association. (2017). *Healthy communities policy guide*. Retrieved from: <https://planning-org-uploaded-media.s3.amazonaws.com/document/Healthy-Communities-Policy-Guide.pdf>

-
- ²⁷ Public Health Agency of Canada. (2017). *The Chief Public Health Officer's report on the state of health in Canada: Designing healthy living*. Retrieved from: <https://www.canada.ca/content/dam/phac-aspc/documents/services/publications/chief-public-health-officer-reports-state-public-health-canada/2017-designing-healthy-living/2017-designing-healthy-living-eng.pdf>
- ²⁸ Patten et al. (2005). Long-term medical conditions and major depression: strength of association for specific conditions in the general population. *Canadian Journal of Psychiatry*, 50: 195-202.
- ²⁹ Public Health Agency of Canada. (2017). *The Chief Public Health Officer's report on the state of health in Canada: Designing healthy living*. Retrieved from: <https://www.canada.ca/content/dam/phac-aspc/documents/services/publications/chief-public-health-officer-reports-state-public-health-canada/2017-designing-healthy-living/2017-designing-healthy-living-eng.pdf>
- ³⁰ Statistics Canada. (2017). *Leading cause of death, by sex*. Statistics Canada, CANSIM table: 102-0561. Retrieved from: <http://www.statcan.gc.ca/tables-tableaux/sum-som/l01/cst01/hlth36a-eng.htm>
- ³¹ Public Health Ontario. Snapshots: Peterborough Health Unit: Hospitalization for respiratory disease - age standardized rate (both sexes combined). Toronto, ON: Ontario Agency for Health Protection and Promotion; 2017 Dec 29 [cited 2017 Dec 31]. Retrieved from: <https://www.publichealthontario.ca/en/DataAndAnalytics/Snapshots/Pages/Chronic-Disease-Hospitalization.aspx>
- ³² Public Health Ontario. Snapshots: Peterborough Health Unit: Emergency department visits for unintentional injuries - age standardized rate (both sexes combined). Toronto, ON: Ontario Agency for Health Protection and Promotion; 2017 Dec 29 [cited 2017 Dec 31]. Retrieved from: <https://www.publichealthontario.ca/en/DataAndAnalytics/Snapshots/Pages/Injury-ED-Visits.aspx>
- ³³ American Planning Association. (2017). *Healthy communities policy Guide*. Retrieved from: <https://planning-org-uploaded-media.s3.amazonaws.com/document/Healthy-Communities-Policy-Guide.pdf>, pg. 5.
- ³⁴ Public Health Agency of Canada. (2017). *The Chief Public Health Officer's report on the state of health in Canada: Designing healthy living*. Retrieved from: <https://www.canada.ca/content/dam/phac-aspc/documents/services/publications/chief-public-health-officer-reports-state-public-health-canada/2017-designing-healthy-living/2017-designing-healthy-living-eng.pdf>
- ³⁵ Community Foundation of Greater Peterborough. (2015). *Greater Peterborough's Vital Signs 2015*. Retrieved from: <http://cfgp.ca/vitalsigns/wp-content/uploads/2017/08/GreaterPeterboroughsVitalSigns2015TextOnlyDataSourceDocument.pdf>, pg. 3.
- ³⁶ American Planning Association. (2017). *Healthy communities policy guide*. Retrieved from: <https://planning-org-uploaded-media.s3.amazonaws.com/document/Healthy-Communities-Policy-Guide.pdf>, p. 5.
- ³⁷ Public Health Agency of Canada. (2017). *The Chief Public Health Officer's report on the state of health in Canada: Designing healthy living*. Retrieved from: <https://www.canada.ca/content/dam/phac-aspc/documents/services/publications/chief-public-health-officer-reports-state-public-health-canada/2017-designing-healthy-living/2017-designing-healthy-living-eng.pdf>
- ³⁸ Mental Health Commission of Canada (2014). *Why investing in mental health will contribute to Canada's economic prosperity and to the sustainability of our health care system*. Retrieved from <http://www.mentalhealthcommission.ca/English/node/742>
- ³⁹ Chesney, Goodwin and Fazel (2014). Risks of all-cause and suicide mortality in mental disorders: a meta-review. *World Psychiatry*, 13: p.153-60.
- ⁴⁰ Community Foundation of Greater Peterborough. (2015). *Greater Peterborough's Vital Signs 2015*. Retrieved from: <http://cfgp.ca/vitalsigns/wp-content/uploads/2017/08/GreaterPeterboroughsVitalSigns2015TextOnlyDataSourceDocument.pdf>
- ⁴¹ Statistics Canada. (2013). Table 105-0501 - Health indicator profile, annual estimates, by age group and sex, Canada, provinces, territories, health regions (2013 boundaries) and peer groups, occasional, CANSIM (database)
- ⁴² Peterborough Public Health. (2017). *Low Income and its impact on health outcomes in Peterborough City and County*. Retrieved from: <http://www.peterboroughpublichealth.ca/wp-content/uploads/2011/09/2017-PPH-Low-Income-Status-Report-web-version.pdf>
- ⁴³ United States Environmental Protection Agency. (2013). *Creating equitable, healthy, and sustainable communities: Strategies for advancing smart growth, environmental justice, and equitable development*. Retrieved from: <https://www.epa.gov/sites/production/files/2014-01/documents/equitable-development-report-508-011713b.pdf>
- ⁴⁴ Haber R. (2011). *Community planning with a health equity lens: Promising directions and strategies*. National Collaborating Centre for Environmental Health. Retrieved from: http://www.nccch.ca/sites/default/files/Community_Planning_Equity_Lens_Aug_2011.pdf
- ⁴⁵ Ibid
- ⁴⁶ United States Environmental Protection Agency. (2013). *Creating equitable, healthy, and sustainable communities: Strategies for advancing smart growth, environmental justice, and equitable development*. Retrieved from: <https://www.epa.gov/sites/production/files/2014-01/documents/equitable-development-report-508-011713b.pdf>
- ⁴⁷ Meridian Planning Consultants & GLPi. (2011). *Planning for healthy and complete communities: Draft policy discussion paper*. Town of Whitby. Retrieved from: http://www.whitby.ca/en/resources/pl-community_oprpdp-healthycompletecommunities-p201111.pdf
- ⁴⁸ Ashe, M., Jernigan, D., Kline, R., & Galaz, R. (2003). Land use planning and the control of alcohol, tobacco, firearms, and fast food. *American Journal of Public Health*, 93(9), p. 1404-1408.
- ⁴⁹ ChangeLabSolutions. (2012). *Licensing & zoning: Tools for Public Health*. Retrieved from: http://changelabsolutions.org/sites/default/files/Licensing%26Zoning_FINAL_20120703.pdf
- ⁵⁰ Ontario Public Health Association. (2017). *OPHA Issue Series: Alcohol outlet density. Strategies to reduce alcohol-related harms in Ontario*. Retrieved from: <http://www.opha.on.ca/getmedia/c2604def-2f49-428f-832f-4bb17bf07504/Alcohol-Outlet-Density.pdf.aspx>, p. 3.
- ⁵¹ Haber R. (2011). *Community planning with a health equity lens: Promising directions and strategies*. National Collaborating Centre for Environmental Health. Retrieved from: http://www.nccch.ca/sites/default/files/Community_Planning_Equity_Lens_Aug_2011.pdf
- ⁵² British Columbia Centre for Disease Control. (2017). *Fact Sheet: Supporting equity through the built environment*. Retrieved from: http://www.bccdc.ca/resource-gallery/Documents/Educational%20Materials/EH/BCCDC_equity-fact-sheet_web.pdf
- ⁵³ Haber R. (2011). *Community planning with a health equity lens: Promising directions and strategies*. National Collaborating Centre for Environmental Health. Retrieved from: http://www.nccch.ca/sites/default/files/Community_Planning_Equity_Lens_Aug_2011.pdf, pg. 8.
- ⁵⁴ Salmon, B., Dawson, J. & Sauvé, S. (2014). *2014 Peterborough County and City Active Transportation and Health Indicator Report*. Retrieved from: http://www.peterboroughpublichealth.ca/wp-content/uploads/2011/09/AT_Health_Indicators_Report-FINAL-web.pdf

-
- ⁵⁵ Mowat, D., Gardner, C., McKeown, D. & Tran, N. (2014) *Improving health by design in the Greater Toronto-Hamilton Area: A report of Medial Officers of Health in the GTHA*. Retrieved from: www.peelregion.ca/health/resources/healthbydesign/pdf/moh-report.pdf
- ⁵⁶ Ontario Provincial Planners Institute. (2012). *Healthy communities and planning for active transportation: Planning and implementing active transportation in Ontario communities*. Retrieved from: <http://ontarioplanners.ca/PDF/Healthy-Communities/2012/Planning-and-Implementing-Active-Transportation-in.aspx>
- ⁵⁷ British Columbia Centre for Disease Control. (2017). *Fact Sheet: Supporting equity through the built environment*. Retrieved from: http://www.bccdc.ca/resource-gallery/Documents/Educational%20Materials/EH/BCCDC_equity-fact-sheet_web.pdf
- ⁵⁸ Toronto Public Health. (2012). *The Walkable City: Neighbourhood design and preferences, travel choices and health*. Retrieved from: <https://www.toronto.ca/wp-content/uploads/2017/10/9617-TPH-walkable-city-report.pdf>
- ⁵⁹ 8-80 Cities. (no date). *Walkability: Creating great cities by putting pedestrians first*. Retrieved from: <http://www.880cities.org/doablecity/walkability/#close>, p. 3.
- ⁶⁰ Ibid
- ⁶¹ Bicycle Federation of America Campaign to Make America Walkable. (1998). *Creating walkable communities: A guide for local governments*. Retrieved from: <http://www.bikewalk.org/pdfs/ncbwpubwalkablecomm.pdf>
- ⁶² Halton Region. (no date). *Walkable Communities*. Retrieved from: <http://www.halton.ca/cms/One.aspx?portalId=8310&pageId=103059>
- ⁶³ Calgary Regional Partnership. (no date). *Walkability audit*. Retrieved from: http://greenfield.calgaryregion.ca/tools/greenfield_process_walkabilityAudit.pdf
- ⁶⁴ Toronto Public Health. (2012). *The Walkable City: Neighbourhood design and preferences, travel choices and health*. Retrieved from: <https://www.toronto.ca/wp-content/uploads/2017/10/9617-TPH-walkable-city-report.pdf>
- ⁶⁵ Collaborating for Health. (2012). *Review: The benefits of regular walking for health, wellbeing, and the environment*. Retrieved from: <https://www.c3health.org/wp-content/uploads/2017/07/C3-report-on-walking-v-1-20120911.pdf>
- ⁶⁶ Salmon, B., Dawson, J. & Sauvé, S. (2014). 2014 Peterborough County and City active transportation and health indicator report. Retrieved from http://www.peterboroughpublichealth.ca/wp-content/uploads/2011/09/AT_Health_Indicators_Report-FINAL-web.pdf
- ⁶⁷ The Massachusetts Department of Public Health. (2013). *Rural walking in Massachusetts: A toolkit for municipalities*. Retrieved from: <http://walkboston.org/sites/default/files/WalkBoston%20Rural%20Walking.%20Tool%20Kit%202013.pdf>
- ⁶⁸ Ibid
- ⁶⁹ 8-80 Cities. (no date). *Walkability: Creating great cities by putting pedestrians first*. Retrieved from: <http://www.880cities.org/doablecity/walkability/#close>
- ⁷⁰ Public Health Agency of Canada. (2017). *The Chief Public Health Officer's report on the state of health in Canada: Designing healthy living*. Retrieved from: <https://www.canada.ca/content/dam/phac-aspc/documents/services/publications/chief-public-health-officer-reports-state-public-health-canada/2017-designing-healthy-living/2017-designing-healthy-living-eng.pdf>, p. 30.
- ⁷¹ 8-80 Cities. (no date). *Walkability: Creating great cities by putting pedestrians first*. Retrieved from: <http://www.880cities.org/doablecity/walkability/#close>
- ⁷² Active & Safe Routes to School. (2017). *Making the case for active school travel: Fact sheet and reference list* Retrieved from: <http://www.saferoutestoschool.ca/wp-content/uploads/2017/10/Making-the-Case-for-Active-School-Travel-Fact-Sheet-and-Reference-List.pdf>
- ⁷³ Winnipeg Regional Health Authority. (no date) *Appendix A: Active transportation and employee productivity*. Retrieved from: <http://www.wrha.mb.ca/extranet/publichealth/files/AppendixA.pdf>
- ⁷⁴ 8-80 Cities. (no date). *Walkability: Creating great cities by putting pedestrians first*. Retrieved from: <http://www.880cities.org/doablecity/walkability/#close>
- ⁷⁵ Ontario Ministry of Municipal Affairs. (2017). *Growth Plan for the Greater Golden Horseshoe*. Retrieved from: <http://placestogrow.ca/images/pdfs/ggh2017/en/growth%20plan%20%282017%29.pdf>, p. 69.
- ⁷⁶ Halton Region Health Department. (2009). *Creating walkable and transit-supportive communities in Halton*. Retrieved from: <https://www.halton.ca/common/pages/UserFile.aspx?fileId=18644>
- ⁷⁷ Halton Region. (no date). *Walkable Communities*. Retrieved from: <http://www.halton.ca/cms/One.aspx?portalId=8310&pageId=103059>
- ⁷⁸ Toronto Public Health. (2012). *The Walkable City: Neighbourhood design and preferences, travel choices and health*. Retrieved from: <https://www.toronto.ca/wp-content/uploads/2017/10/9617-TPH-walkable-city-report.pdf>, p.3.
- ⁷⁹ Ontario Ministry of Municipal Affairs. (2014). 2014 Provincial Policy Statement. Retrieved from: <http://www.mah.gov.on.ca/AssetFactory.aspx?did=10463>
- ⁸⁰ Ontario Ministry of Municipal Affairs. (2017). *Growth Plan for the Greater Golden Horseshoe*. Retrieved from: <http://placestogrow.ca/images/pdfs/ggh2017/en/growth%20plan%20%282017%29.pdf>
- ⁸¹ Ibid
- ⁸² Ontario Public Health Association. (2017). *Two Way Street: Public Health and Transportation Planning*. Retrieved: <http://www.opha.on.ca/What-We-Do/Projects/public-health-and-transportation.aspx>
- ⁸³ Statistics Canada. (2013). Health Profile. Statistics Canada Catalogue no. 82-228-XWE. Ottawa. Released December 12 2013. Retrieved from: <http://www12.statcan.gc.ca/health-sante/82-228/details/page.cfm?Lang=E&Tab=1&Geo1=HR&Code1=3555&Geo2=PR&Code2=35&Data=Rate&SearchText=Ontario&SearchType=Contains&Se archPR=01&B1=Deaths&Custom=&B2=All&B3=All#tabs1>
- ⁸⁴ Cancer Care Ontario & Public Health Ontario. (2012). *Taking action to prevent chronic disease: Recommendations for a healthier Ontario*. Retrieved from: <https://www.publichealthontario.ca/en/eRepository/takingactionreport%20Mar%2015-12.pdf>
- ⁸⁵ Mowat, D., Gardner, C., McKeown, D. & Tran, N. (2014) *Improving health by design in the Greater Toronto-Hamilton Area: A report of Medial Officers of Health in the GTHA*. Retrieved from: www.peelregion.ca/health/resources/healthbydesign/pdf/moh-report.pdf, pg. 10.

-
- ⁸⁶ Ebi, K., Anderson, V., Berry, P., Paterson, J. &, Yusa, A. (2016). *Ontario Climate Change and Health Vulnerability and Adaptation Assessment Guidelines. Technical Document*. Toronto, ON: Ministry of Health and LongTerm Care. Retrieved from: http://health.gov.on.ca/en/common/ministry/publications/reports/climate_change_toolkit/climate_change_health_va_guidelines.pdf, p. 21.
- ⁸⁷ Ibid
- ⁸⁸ Public Health Ontario. (2018). Snapshots: Peterborough Public Health: Hospitalization for respiratory disease - age standardized rate (both sexes combined) 2003-2015. Toronto, ON: Ontario Agency for Health Protection and Promotion; 2017 Dec 29 [cited 2018 Jan 10]. Retrieved from: <https://www.publichealthontario.ca/en/DataAndAnalytics/Snapshots/Pages/Chronic-Disease-Hospitalization.aspx>
- ⁸⁹ Emergency Department Statistics Original source: National Ambulatory Care Reporting System (NACRS), Canadian Institute for Health Information (CIHI) Distributed by: Ontario Ministry of Health and Long-Term Care (MOHLTC): IntelliHEALTH ONTARIO (IntelliHEALTH).
- ⁹⁰ Peterborough Public Health. (2017). *Low Income and its impact on health outcomes in Peterborough City and County*. Retrieved from: <http://www.peterboroughpublichealth.ca/wp-content/uploads/2011/09/2017-PPH-Low-Income-Status-Report-web-version.pdf>
- ⁹¹ Statistics Canada. (2017). *Peterborough, CY [Census subdivision], Ontario and Peterborough, CTY [Census division], Ontario (table)*. Census Profile. 2016 Census. Statistics Canada.
- ⁹² Ibid
- ⁹³ Statistics Canada. (2017). Census Profile. 2016 Census. Statistics Canada Catalogue no. 98-316-X2016001. Ottawa. Released November 29 2017. Retrieved from: <http://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/index.cfm?Lang=E>
- ⁹⁴ Toronto Public Health. (2012). *Road to Health: Improving Walking and Cycling in Toronto*. Retrieved from: <https://www.toronto.ca/legdocs/mmis/2012/hl/bgrd/backgroundfile-46520.pdf>
- ⁹⁵ Toronto Centre for Active Transportation. (no date). *What are Complete Streets?* Retrieved from: <http://completestreetsforcanada.ca/what-are-complete-streets>
- ⁹⁶ Office of the Chief Coroner for Ontario. (2012, July). *Cycling Death Review: A review of all accidental cycling deaths in Ontario from January 1, 2006 to December 31, 2010*. Toronto, ON: Author.
- ⁹⁷ Office of the Chief Coroner for Ontario. (2012, September). *Pedestrian Death Review: A review of all accidental deaths in Ontario from January 1, 2010 to December 31, 2010*. Toronto, ON: Author.
- ⁹⁸ Toronto Centre for Active Transportation & Clean Air Partnership. (2016). *Backgrounder: Rural complete streets*. Retrieved from: <http://completestreetsforcanada.ca/sites/default/files/documents/Rural%20Complete%20Streets-final%203.pdf>
- ⁹⁹ Ibid
- ¹⁰⁰ Toronto Centre for Active Transportation & Clean Air Partnership. (2012). *Complete Streets by design: Toronto streets designed for all ages and abilities*. Retrieved from: <http://www.tcat.ca/wp-content/uploads/2014/10/Complete-Streets-by-Design-Toronto-Streets-Redesigned-for-All-Ages-and-Abilities-Side-by-side-spread.pdf>
- ¹⁰¹ Toronto Centre for Active Transportation & Clean Air Partnership. (2016). *Backgrounder: Rural complete streets*. Retrieved from: <http://completestreetsforcanada.ca/sites/default/files/documents/Rural%20Complete%20Streets-final%203.pdf>
- ¹⁰² Sustainable Peterborough. (2016). *Greater Peterborough Area Climate Change Action Plan*. Retrieved from: <https://sustainablepeterborough.ca/wp-content/uploads/2016/11/Greater-Peterborough-Area-Climate-Change-Action-Plan-FINAL-December-2016.pdf>
- ¹⁰³ Public Health Agency of Canada. (2017). *The Chief Public Health Officer's report on the state of health in Canada: Designing healthy living*. Retrieved from: <https://www.canada.ca/content/dam/phac-aspc/documents/services/publications/chief-public-health-officer-reports-state-public-health-canada/2017-designing-healthy-living/2017-designing-healthy-living-eng.pdf>, pg. 19.
- ¹⁰⁴ Victoria Transport Policy Institute. (2015). *Evaluating Complete Streets: The value of designing roads for diverse modes, users and activities*. Retrieved from: <http://www.vtpi.org/compstr.pdf>
- ¹⁰⁵ Toronto Public Health. (2012). *Road to Health: Improving Walking and Cycling in Toronto*. Retrieved from: <https://www.toronto.ca/legdocs/mmis/2012/hl/bgrd/backgroundfile-46520.pdf>
- ¹⁰⁶ Toronto Centre for Active Transportation & Clean Air Partnership. (2012). *Complete Streets by design: Toronto streets designed for all ages and abilities*. Retrieved from: <http://www.tcat.ca/wp-content/uploads/2014/10/Complete-Streets-by-Design-Toronto-Streets-Redesigned-for-All-Ages-and-Abilities-Side-by-side-spread.pdf>
- ¹⁰⁷ Ibid
- ¹⁰⁸ Victoria Transport Policy Institute. (2015). *Evaluating Complete Streets: The value of designing roads for diverse modes, users and activities*. Retrieved from: <http://www.vtpi.org/compstr.pdf>
- ¹⁰⁹ Provincial Health Services Authority. (2014). *Healthy Built Environment Linkages: A toolkit for design, planning, health*. Retrieved from: http://www.bccdc.ca/pop-public-health/Documents/linkagestoolkitrevisedoct16_2014_full1.pdf, p.32.
- ¹¹⁰ Ibid, p.32.
- ¹¹¹ Mikkonen, J. & Raphael, D. (2010). *Social Determinants of Health: The Canadian Facts*. Toronto: York University School of Health Policy and Management.
- ¹¹² British Columbia Centre for Disease Control. (2017). *Fact Sheet: Supporting equity through the built environment*. Retrieved from: http://www.bccdc.ca/resource-gallery/Documents/Educational%20Materials/EH/BCCDC_equity-fact-sheet_web.pdf, p.11.
- ¹¹³ Welch, T. (2013). *Peterborough 10-year housing and homelessness plan 2014-2024*. ON: Peterborough. City of Peterborough. Retrieved from <http://www.peterborough.ca/Assets/City+Assets/Housing/10-year+Housing+and+Homelessness+Plan.pdf>, p. 1.
- ¹¹⁴ Ibid, p. 40.
- ¹¹⁵ Federation of Canadian Municipalities. (2017). *Crunching Canada's housing numbers*. Retrieved from: <https://fcm.ca/home/issues/fixing-canadas-housing-crunch/about-the-housing-crunch/crunching-canadas-housing-numbers.htm>

-
- ¹¹⁶ Canadian Mortgage and Housing Corporation. (2017). Rental Market Report: Peterborough CMA. Retrieved from https://www.cmhc-schl.gc.ca/odpub/esub/65776/65776_2017_A01.pdf?fr=1517255258251&sid=fE0RWnD1KluQMU7JtqDNczPBxtD7proMwxtGgFykmlQ4l9XyKhl4q3y0jx3UPByj on January 29, 2018.
- ¹¹⁷ Canadian Mortgage and Housing Corporation. (no date.). *What is core housing need?* Retrieved from: https://www.cmhc-schl.gc.ca/en/hoficlincl/observer/observer_044.cfm
- ¹¹⁸ Canadian Mortgage and Housing Corporation. (2017). Rental Market Report: Peterborough CMA. Retrieved from https://www.cmhc-schl.gc.ca/odpub/esub/65776/65776_2017_A01.pdf?fr=1517255258251&sid=fE0RWnD1KluQMU7JtqDNczPBxtD7proMwxtGgFykmlQ4l9XyKhl4q3y0jx3UPByj on January 29, 2018.
- ¹¹⁹ Statistics Canada, 2016 Census of Population, Statistics Canada Catalogue no. 98-400-X2016229. Retrieved from: <http://www12.statcan.gc.ca/census-recensement/2016/dp-pd/dt-td/Rp-eng.cfm?TABID=2&LANG=E&A=R&APATH=3&DETAIL=0&DIM=0&FL=A&FREE=0&GC=3515014&GL=-1&GID=1259688&GK=3&GRP=1&O=D&PID=110573&PRID=10&PTYPE=109445&S=0&SHOWALL=0&SUB=0&Temporal=2017&THEME=121&VID=0&VNAMEF=&VNAMEF=&D1=0&D2=0&D3=0&D4=0&D5=0&D6=0>
- ¹²⁰ Peterborough Public Health. (2015). *Report on Child Health*. Peterborough, ON: Gail Chislett, Andrew Kurc. Retrieved from: <http://www.peterboroughpublichealth.ca/wp-content/uploads/2015/12/PPH-Report-on-Child-Health-2015-FINAL.pdf>, p. 60.
- ¹²¹ Canadian Mortgage and Housing Corporation. (2017, April 6). Core housing need remains high in Peterborough and Toronto, *Housing Observer on Line*. Retrieved from: https://www.cmhc-schl.gc.ca/en/hoficlincl/observer/observer_129.cfm?obsSource=observer-en&obsMedium=email&obsCampaign=obs-20170406-core-housing-need.
- ¹²² Peterborough Public Health. (2017). *Limited Incomes: A recipe for food insecurity*. Retrieved from: <http://www.peterboroughpublichealth.ca/wp-content/uploads/2011/09/2017-Limited-Incomes.pdf>
- ¹²³ Ibid
- ¹²⁴ Affordable Housing Action Committee. (2017). *City and County of Peterborough 2017 housing is fundamental: A report to the community from the Affordable Housing Action Committee*. Retrieved from: [http://www.peterborough.ca/Assets/City+Assets/Housing/Documents/Reports/Housing+is+Fundamental\\$!2c+AHAC/2017+Housing+is+Fundamental\\$!2c+AHAC.pdf](http://www.peterborough.ca/Assets/City+Assets/Housing/Documents/Reports/Housing+is+Fundamental$!2c+AHAC/2017+Housing+is+Fundamental$!2c+AHAC.pdf)
- ¹²⁵ United Way Peterborough and District. (2016). *A roof over my head, 2018 enumeration report*. Retrieved from: <http://www.uwpeterborough.ca/wp-content/uploads/2018/06/2018ICountPTBReport-FinalSm.pdf>
- ¹²⁶ Woolley, E. (2015). *What are the pathways to homelessness in old age?* Homeless Hub 10 Years. Retrieved from: <http://homelesshub.ca/blog/what-are-pathways-homelessness-old-age>.
- ¹²⁷ Provincial Health Services Authority. (2014). *Healthy Built Environment Linkages: A toolkit for design, planning, health*. Retrieved from: http://www.bccdc.ca/pop-public-health/Documents/linkagestoolkitrevisedoct16_2014_full1.pdf, p.33.
- ¹²⁸ Jackson, A. & Roberts, P. (2001). Background paper: Physical housing conditions and the well-being of children. Canadian Council on Social Development. *Housing Conditions and Child Development*, 2001. Retrieved from: <http://www.peelearlyyears.com/pdf/Physical%20Housing%20Conditions%20and%20the%20Wellbeing%20of%20Children,%20Canada.pdf>.
- ¹²⁹ Ibid
- ¹³⁰ Provincial Health Services Authority. (2014). *Healthy Built Environment Linkages: A toolkit for design, planning, health*. Retrieved from: http://www.bccdc.ca/pop-public-health/Documents/linkagestoolkitrevisedoct16_2014_full1.pdf, p.33.
- ¹³¹ British Columbia Centre for Disease Control. (2017). *Fact Sheet: Supporting equity through the built environment*. Retrieved from: http://www.bccdc.ca/resource-gallery/Documents/Educational%20Materials/EH/BCCDC_equity-fact-sheet_web.pdf, p.12.
- ¹³² Center for Housing Policy. (2015). The Impacts of affordable housing on health: A research summary, *Insights from Housing Policy Research*. Retrieved from: <https://community-wealth.org/sites/clone.community-wealth.org/files/downloads/paper-magdool-et-al.pdf>.
- ¹³³ Provincial Health Services Authority. (2014). *Healthy Built Environment Linkages: A toolkit for design, planning, health*. Retrieved from: http://www.bccdc.ca/pop-public-health/Documents/linkagestoolkitrevisedoct16_2014_full1.pdf
- ¹³⁴ British Columbia Centre for Disease Control. (2017). *Fact Sheet: Supporting equity through the built environment*. Retrieved from: http://www.bccdc.ca/resource-gallery/Documents/Educational%20Materials/EH/BCCDC_equity-fact-sheet_web.pdf, p.12.
- ¹³⁵ Provincial Health Services Authority. (2014). *Healthy Built Environment Linkages: A toolkit for design, planning, health*. Retrieved from: http://www.bccdc.ca/pop-public-health/Documents/linkagestoolkitrevisedoct16_2014_full1.pdf, p.33.
- ¹³⁶ Center for Housing Policy. (2015). The Impacts of affordable housing on health: A research summary, *Insights from Housing Policy Research*. Retrieved from: <https://community-wealth.org/sites/clone.community-wealth.org/files/downloads/paper-magdool-et-al.pdf>, p. 8.
- ¹³⁷ Ibid, pg. 8.
- ¹³⁸ Provincial Health Services Authority. (2014). *Healthy Built Environment Linkages: A toolkit for design, planning, health*. Retrieved from: http://www.bccdc.ca/pop-public-health/Documents/linkagestoolkitrevisedoct16_2014_full1.pdf, p.32.
- ¹³⁹ Jackson, Andrew. (2004). *Home Truths: Why the Housing System Matters to All Canadians*. Canadian Centre for Policy Alternatives. Retrieved from: http://www.policyalternatives.ca/sites/default/files/uploads/publications/National_Office_Pubs/hometruths.pdf
- ¹⁴⁰ Center for Housing Policy. (2015). The Impacts of affordable housing on health: A research summary, *Insights from Housing Policy Research*. Retrieved from: <https://community-wealth.org/sites/clone.community-wealth.org/files/downloads/paper-magdool-et-al.pdf>
- ¹⁴¹ Jackson, A. (2004). *Home Truths: Why the Housing System Matters to All Canadians*. Canadian Centre for Policy Alternatives. Retrieved from: http://www.policyalternatives.ca/sites/default/files/uploads/publications/National_Office_Pubs/hometruths.pdf
- ¹⁴² Ibid
- ¹⁴³ Peterborough Public Health. (2017). *Outdoor playspaces: An evidence review*. Peterborough, ON: Monique Beneteau. Retrieved from: <http://www.peterboroughpublichealth.ca/wp-content/uploads/2011/09/2017-08-31-Outdoor-Playspaces-Evidence-Report-FINAL.pdf>

-
- ¹⁴⁴ Provincial Health Services Authority. (2014). *Healthy Built Environment Linkages: A toolkit for design, planning, health*. Retrieved from: http://www.bccdc.ca/pop-public-health/Documents/linkagestoolkitrevisedoct16_2014_full1.pdf, p.32.
- ¹⁴⁵ Center for Housing Policy. (2015). The Impacts of affordable housing on health: A research summary, *Insights from Housing Policy Research*. Retrieved from: <https://community-wealth.org/sites/clone.community-wealth.org/files/downloads/paper-magdool-et-al.pdf>, p. 7.
- ¹⁴⁶ Provincial Health Services Authority. (2014). *Healthy Built Environment Linkages: A toolkit for design, planning, health*. Retrieved from: http://www.bccdc.ca/pop-public-health/Documents/linkagestoolkitrevisedoct16_2014_full1.pdf, p.34.
- ¹⁴⁷ Ibid, p.34.
- ¹⁴⁸ Ibid, p.34.
- ¹⁴⁹ Ibid, p.34.
- ¹⁵⁰ Peterborough Public Health. (2017). *Limited Incomes: A recipe for food insecurity*. Retrieved from: <http://www.peterboroughpublichealth.ca/wp-content/uploads/2011/09/2017-Limited-Incomes.pdf>
- ¹⁵¹ Provincial Health Services Authority. (2014). *Healthy Built Environment Linkages: A toolkit for design, planning, health*. Retrieved from: http://www.bccdc.ca/pop-public-health/Documents/linkagestoolkitrevisedoct16_2014_full1.pdf
- ¹⁵² Kearney, J. (2010). Food consumption trends and drivers. *Philosophical Transactions of the Royal Society of Biological Sciences*, 365 (1554), pg. 2793-2807.
- ¹⁵³ Peterborough Food Action Network. (2011). *PLANT IT! A healthy community food system plan for the City of Peterborough*. Retrieved from: <http://www.foodinpeterborough.ca/wp-content/uploads/2014/07/CFN-Plan-It-Submission-Aug-2011.pdf>
- ¹⁵⁴ Ibid
- ¹⁵⁵ Ontario Ministry of Municipal Affairs. (2017). *Growth Plan for the Greater Golden Horseshoe*. Retrieved from: <http://placestogrow.ca/images/pdfs/ggh2017/en/growth%20plan%20%282017%29.pdf>
- ¹⁵⁶ Ontario Professional Planners Institute. (2011). *Healthy communities and planning for food systems in Ontario: A Call to Action*. Retrieved from: <http://ontarioplanners.ca/PDF/Healthy-Communities/2011/a-call-to-action-from-oppi-june-24-2011.aspx>, pg. 1.
- ¹⁵⁷ Toronto Public Health (2010). *Cultivating food connections: Toward a healthy and sustainable food system for Toronto*. Retrieved from: <http://www.toronto.ca/legdocs/mmis/2010/hl/bgrd/backgroundfile-30483.pdf>
- ¹⁵⁸ Peterborough Food Action Network. (2017). *Peterborough food charter - Our local food system: Healthy, sustainable and just food for all*. Retrieved from: <http://www.foodinpeterborough.ca/wp-content/uploads/2017/05/170508-PTBO-Food-Charter.pdf>
- ¹⁵⁹ Toronto Public Health (2010). *Cultivating Food Connections: Toward a Healthy and Sustainable Food System for Toronto*. Retrieved from <http://www.toronto.ca/legdocs/mmis/2010/hl/bgrd/backgroundfile-30483.pdf>, pg. 10
- ¹⁶⁰ Food and Agriculture Organization of the United Nations. (2017). *The state of food and agriculture: Leveraging food systems for inclusive rural transformation*. Retrieved from: <http://www.fao.org/3/I7658EN/I7658en.pdf>
- ¹⁶¹ Ontario Ministry of Agriculture Food and Rural (2017) *Peterborough County Profiles: Agriculture, Food and Business*. Retrieved from: <http://www.omafr.gov.on.ca/english/stats/county/index.html>
- ¹⁶² Sustainable Peterborough. (2017). *Cultivating a fertile environment for urban agriculture in the Greater Peterborough Area*. Retrieved from: <http://www.foodinpeterborough.ca/wp-content/uploads/2014/07/Cultivating-a-Fertile-Environment-for-Urban-Agriculture-in-the-GPA.pdf>
- ¹⁶³ Advisory Panel on the Coordinated Review of the Growth Plan for the Greater Golden Horseshoe, the Greenbelt Plan, the Oak Ridges Moraine Conservation Plan and the Niagara Escarpment Plan. (2015). *Planning for health, prosperity, and growth in the Greater Golden Horseshoe 2015-2041*. Retrieved from: http://ossga.com/multimedia/0/planning_for_health_prosperity_and_growth_-_expert_panel_report.pdf
- ¹⁶⁴ Sustainable Peterborough. (2012). *Greater Peterborough Area Community Sustainability Plan*. Retrieved from: https://sustainablepeterborough.ca/wp-content/uploads/2015/01/SP_Plan_Final_Plan.pdf, pg.14.
- ¹⁶⁵ Provincial Health Services Authority. (2014). *Healthy Built Environment Linkages: A toolkit for design, planning, health*. Retrieved from: http://www.bccdc.ca/pop-public-health/Documents/linkagestoolkitrevisedoct16_2014_full1.pdf
- ¹⁶⁶ Ontario Ministry of Agriculture, Food and Rural Affairs (2016). *Ontario's Local Food Strategy*. Retrieved from: <http://www.omafr.gov.on.ca/english/about/localfood.htm>
- ¹⁶⁷ Legislative Assembly of Ontario. (2013). *Bill 36, Local Food Act, 2013*. Retrieved from: http://www.ontla.on.ca/web/bills/bills_detail.do?locale=en&BillID=2754
- ¹⁶⁸ Moubarac, J.C. (2017) *Ultra-processed foods in Canada: consumption, impact on diet quality and policy implications*. TRASNUT, University of Montreal. Retrieved from: <http://www.heartandstroke.ca/-/media/pdf-files/canada/media-centre/hs-report-upp-moubarac-dec-5-2017.ashx?la=en&hash=9FB9794C42D6B6BA93AB91335E2B6A612656C586>
- ¹⁶⁹ Ibid
- ¹⁷⁰ Ontario Ministry of Agriculture, Food and Rural Affairs. (2017). *Peterborough County Profiles: agriculture, food and business, food expenditure profile*. Retrieved from <http://www.omafr.gov.on.ca/english/stats/county/index.html>
- ¹⁷¹ Health Canada. (2016). *Healthy Eating Strategy*. Retrieved from: <https://www.canada.ca/content/dam/canada/health-canada/migration/publications/eating-nutrition/healthy-eating-strategy-canada-strategie-saine-alimentation/alt/pub-eng.pdf>, pg. 1.
- ¹⁷² Transition Town Peterborough. (2014). *25% Shift Local Food Peterborough Part 1: economic impact*. Retrieved from: <https://sustainablepeterborough.ca/wp-content/uploads/2015/01/Shift-to-Local-Food.pdf>
- ¹⁷³ Peterborough Food Action Network. (2011). *PLANT IT! A healthy community food system plan for the City of Peterborough*. Retrieved from: <http://www.foodinpeterborough.ca/wp-content/uploads/2014/07/CFN-Plan-It-Submission-Aug-2011.pdf>
- ¹⁷⁴ Health Canada. (2016). *Healthy Eating Strategy*. Retrieved from <https://www.canada.ca/content/dam/canada/health-canada/migration/publications/eating-nutrition/healthy-eating-strategy-canada-strategie-saine-alimentation/alt/pub-eng.pdf>, pg. 1.
- ¹⁷⁵ Rideout, K., Mah, C. L. & Minaker, L. (2015). *Food Environments: An Introduction for public health practice*. Retrieved from: http://www.nccch.ca/sites/default/files/Food_Environments_Public_Health_Practice_Dec_2015.pdf

-
- ¹⁷⁶ Raine, K., Muhajarine, N., Spence, J., Neary, N. & Nykiforuk, C. (2012). Coming to consensus on policy to create supportive built environments and community design. *Canadian Journal of Public Health*, 103(3), p. s5–8.
- ¹⁷⁷ Public Health Agency of Canada. (2017). *Designing Healthy Living: The Chief Public Health Officer's Report on the State of Public Health in Canada 2017*. Retrieved from: <https://www.canada.ca/content/dam/phac-aspc/documents/services/publications/chief-public-health-officer-reports-state-public-health-canada/2017-designing-healthy-living/2017-designing-healthy-living-eng.pdf>, p.21.
- ¹⁷⁸ Health Canada. (2013) *Nutrition and Healthy Eating*. Retrieved from <https://www.canada.ca/en/health-canada/services/food-nutrition/healthy-eating.html>
- ¹⁷⁹ Ibid
- ¹⁸⁰ Ontario Chronic Disease Prevention Alliance, (2010) *Evidence-informed messages: healthy eating*. Retrieved from http://www.ocdpa.on.ca/sites/default/files/publications/OCDPA_EM_HealthyEating_Full_Package.pdf, pg. 2.
- ¹⁸¹ Statistics Canada, Canadian Community Health Survey (CCHS). Table 105-0502 - Health indicator profile, two year period estimates, by age group and sex, Canada, provinces, territories, health regions (2013 boundaries) and peer groups, occasional. Accessed: December 06, 2017
- ¹⁸² Ibid
- ¹⁸³ Tarasuk, V., Mitchell, A. & Dachner, N. (2016). *Household food insecurity in Canada, 2014*. Retrieved from: <http://proof.utoronto.ca/wp-content/uploads/2016/04/Household-Food-Insecurity-in-Canada-2014.pdf>
- ¹⁸⁴ Ibid
- ¹⁸⁵ Peterborough Public Health. (2017). *Limited Incomes: A recipe for food insecurity*. Retrieved from <http://www.peterboroughpublichealth.ca/wp-content/uploads/2011/09/2017-Limited-Incomes.pdf>
- ¹⁸⁶ Ibid
- ¹⁸⁷ Tarasuk, V., Mitchell, A. & Dachner, N. (2016). *Household food insecurity in Canada, 2014*. Retrieved from: <http://proof.utoronto.ca/wp-content/uploads/2016/04/Household-Food-Insecurity-in-Canada-2014.pdf>
- ¹⁸⁸ Statistics Canada. Canadian Community Health Survey (CCHS), Household Food Security Survey Module, 2011/12 and 2013/14 cycles combined, household weights. Accessed January 17, 2018.
- ¹⁸⁹ Ibid
- ¹⁹⁰ Ibid
- ¹⁹¹ Ibid
- ¹⁹² Peterborough Food Action Network. (2011). *PLANT IT! A healthy community food system plan for the City of Peterborough*. Retrieved from: <http://www.foodinpeterborough.ca/wp-content/uploads/2014/07/CFN-Plan-It-Submission-Aug-2011.pdf>
- ¹⁹³ Ontario food and Nutrition Strategy Group. (2017). *Ontario food and nutrition strategy: a comprehensive evidence informed plan for healthy food and food systems in Ontario*. Retrieved from: https://sustainontario.com/custom/uploads/2017/01/PCC_1939_OFNS_Draft_WEB_AODA.pdf
- ¹⁹⁴ Centre for Sustainable Food Systems. (2017). *Defining and valuing local and sustainable food*. Retrieved from: http://nourishingontario.ca/wp-content/uploads/2017/12/1_Defining-and-valuing-local-food_2017-update_v4.pdf, pg. 1.
- ¹⁹⁵ Ibid
- ¹⁹⁶ Endeavour Centre. (2015). *Root Cellar Reports*. Retrieved from: <http://endeavourcentre.org/2015/05/root-cellar-reports/>
- ¹⁹⁷ Sustainable Peterborough. (2017). *Cultivating a fertile environment for urban agriculture in the Greater Peterborough Area*. Retrieved from: <http://www.foodinpeterborough.ca/wp-content/uploads/2014/07/Cultivating-a-Fertile-Environment-for-Urban-Agriculture-in-the-GPA.pdf>
- ¹⁹⁸ Ibid
- ¹⁹⁹ Desjardins, E. (2013). *Making Something Out of Nothing*. Retrieved from: https://www.publichealthontario.ca/en/ServicesAndTools/Documents/LDCP/LDCP.Food.Skills_Report_WEB_FINAL.pdf
- ²⁰⁰ Ibid
- ²⁰¹ Peterborough Food Action Network. (2008). *What food security means to us*. Retrieved from: <http://www.foodinpeterborough.ca/what-food-security-means-to-us/>
- ²⁰² Centre for Sustainable Food Systems. (2017). *Defining and valuing local and sustainable food*. Retrieved from: http://nourishingontario.ca/wp-content/uploads/2017/12/1_Defining-and-valuing-local-food_2017-update_v4.pdf
- ²⁰³ Simcoe Muskoka District Health Unit. (2014). *Healthy community design: Policy statements for Official Plans*. Retrieved from: http://www.simcoemuskokahealth.org/docs/default-source/jfy-communities/Healthy_Community_Design.pdf?sfvrsn=0
- ²⁰⁴ City of Kingston. (2016). *Community Orchard and Edible Forest Policy*. Retrieved from: <https://www.cityofkingston.ca/documents/10180/20847/Community+Orchard+%26+Edible+Forest+Policy>
- ²⁰⁵ Sustainable Peterborough. (2017). *Cultivating a fertile environment for urban agriculture in the Greater Peterborough Area*. Retrieved from: <http://www.foodinpeterborough.ca/wp-content/uploads/2014/07/Cultivating-a-Fertile-Environment-for-Urban-Agriculture-in-the-GPA.pdf>
- ²⁰⁶ Peterborough Food Action Network. (2011). *PLANT IT! A healthy community food system plan for the City of Peterborough*. Retrieved from: <http://www.foodinpeterborough.ca/wp-content/uploads/2014/07/CFN-Plan-It-Submission-Aug-2011.pdf>
- ²⁰⁷ Provincial Health Services Authority. (2014). *Healthy Built Environment Linkages: A toolkit for design, planning, health*. Retrieved from: http://www.bccdc.ca/pop-public-health/Documents/linkagestoolkitrevisedoct16_2014_full1.pdf, p. 25.
- ²⁰⁸ Anguelovski, I., Shi, L., Chu, E., Gallagher, D., Goh, K., Lamb, Z., Reeve, K. & Teicher, H. (2016). Equity impacts of urban land use planning for climate adaptation: Critical perspectives from the global north and south. *Journal of Planning Education and Research*, 36(3), p. 333-348.
- ²⁰⁹ Provincial Health Services Authority. (2014). *Healthy Built Environment Linkages: A toolkit for design, planning, health*. Retrieved from: http://www.bccdc.ca/pop-public-health/Documents/linkagestoolkitrevisedoct16_2014_full1.pdf, p. 25.
- ²¹⁰ Peterborough County-City Health Unit (2010). *Environmental Health Status Report 2010*. Peterborough, ON: Blanchette, C, Peacock, S. & Kurc, A., p. 76.
- ²¹¹ Griscom, B, A., et. al. (2016). Natural climate solutions. *Proceedings of the National Academy of Science of the United States of America*. p. 1-6. <https://doi.org/10.1073/pnas.1710465114>

-
- ²¹² Ibid, p. 5.
- ²¹³ Townsend, M. & Henderson-Wilson, C. (2017). Greening the City: The Health Evidence of Urban Nature (Chapter 15). *Healthy Cities*. DeLeeuw, E. & Simos, J. (eds.). Springer Science+Business Media LLC, p. 376.
- ²¹⁴ World Health Organization. (2017). *Urban Green Spaces: A Brief for Action*. Retrieved from http://www.euro.who.int/_data/assets/pdf_file/0010/342289/Urban-Green-Spaces_EN_WHO_web.pdf?ua=1
- ²¹⁵ Townsend, M. & Henderson-Wilson, C. (2017). Greening the City: The Health Evidence of Urban Nature (Chapter 15). *Healthy Cities*. DeLeeuw, E. & Simos, J. (eds.). Springer Science+Business Media LLC, p. 376.
- ²¹⁶ Expert Panel on Climate Change Adaptation. (2009). *Adapting to climate change in Ontario: Towards the design and implementation of a strategy and action plan*. Report to the Minister of the Environment. ON: Toronto, Retrieved from: <http://www.climateontario.ca/doc/publications/ExpertPanel-AdaptingInOntario.pdf>, p. 22.
- ²¹⁷ Kistemann, T., et al. (2004). Microbial load of drinking water reservoir tributaries during extreme rainfall and runoff. *Applied and Environmental Microbiology*, 68(5), p. 2188–2197.
- ²¹⁸ Peterborough County-City Health Unit (2010). *Environmental Health Status Report 2010*. Peterborough, ON: Blanchette, C, Peacock, S. & Kurc, A., p. 76.
- ²¹⁹ International Well Building Institute. (2017). *The Well Community Standard Pilot*. Retrieved from: https://www.wellcertified.com/sites/default/files/resources/CommunityStandard_WELL.pdf, p. 210.
- ²²⁰ National Recreation and Parks Association. (2010). *Synopsis of the 2010 research papers: The key benefits*. Retrieved from: http://www.nrpa.org/uploadedFiles/nrpa.org/Publications_and_Research/Research/Papers/Synopsis-of-Research-Papers.pdf, p. 3.
- ²²¹ Plan H. (no date.). *Parks and greenspace*. Retrieved from: <https://planh.ca/take-action/healthy-environments/natural-environments/page/parks-greenspace>
- ²²² National Recreation and Parks Association. (2010). *Synopsis of the 2010 research papers: The key benefits*. Retrieved from: http://www.nrpa.org/uploadedFiles/nrpa.org/Publications_and_Research/Research/Papers/Synopsis-of-Research-Papers.pdf
- ²²³ University of Minnesota. (2015). Everyday access to nature improves quality of life in older adults. Retrieved from: <https://twin-cities.umn.edu/news-events/everyday-access-nature-improves-quality-life-older-adults-on-February-5>, 2018.
- ²²⁴ Ministry of Municipal Affairs and Housing. (2015). *Improving air quality*. Retrieved from: <http://www.mah.gov.on.ca/Page4712.aspx>
- ²²⁵ International Well Building Institute. (2017). *The Well Community Standard Pilot*. Retrieved from: https://www.wellcertified.com/sites/default/files/resources/CommunityStandard_WELL.pdf, p. 32.
- ²²⁶ Government of Ontario. (2016). *Air quality in Ontario*. Retrieved from: <https://www.ontario.ca/page/air-quality-ontario>
- ²²⁷ Ibid
- ²²⁸ Toronto Public Health. (2014). *Path to healthier air: Toronto air pollution burden of illness update. Technical Report*. Retrieved from: <https://www.toronto.ca/wp-content/uploads/2017/11/9190-tph-Air-Pollution-Burden-of-Illness-2014.pdf>
- ²²⁹ Health Canada. (2011). *Communicating the health risks of extreme heat events: A toolkit for toolkit for public health and emergency management officials*. Retrieved from: https://www.canada.ca/content/dam/hc-sc/migration/hc-sc/ewh-semt/alt_formats/hecs-sesc/pdf/pubs/climat/heat-chaleur/heat-chaleur-eng.pdf, p.1.
- ²³⁰ United States Environmental Protection Agency. (no date.). *Heat island impacts*. Retrieved from: <https://www.epa.gov/heat-islands/heat-island-impacts>
- ²³¹ Provincial Health Services Authority. (2014). *Healthy Built Environment Linkages: A toolkit for design, planning, health*. Retrieved from: http://www.bccdc.ca/pop-public-health/Documents/linkagestoolkitrevisedoct16_2014_full1.pdf
- ²³² Hastings and Prince Edward Counties Health Unit. (2012). *Building complete and sustainable communities: Healthy policies for Official Plans*. Retrieved from: http://hpepublichealth.ca/sites/default/files/documents/for-professionals/CDIP_Healthy_Policies_for_Official_Plans.pdf
- ²³³ Canadian Institute for Health Information. (n.d.). *Urban physical environments and health inequalities*. Retrieved from: https://secure.cihi.ca/free_products/cphi_urban_physical_environments_en.pdf
- ²³⁴ Crouse, D. et. al. (2017). Urban greenness and mortality in Canada's largest cities: a national cohort study. *Lancet Planetary Health*, 1, pp. e289-e290.
- ²³⁵ International Well Building Institute. (2017). *The Well Community Standard Pilot*. Retrieved from: https://www.wellcertified.com/sites/default/files/resources/CommunityStandard_WELL.pdf, p. 33.
- ²³⁶ Public Health Ontario. Snapshots: Peterborough Health Unit: Hospitalization for respiratory disease - age standardized rate (both sexes combined). Toronto, ON: Ontario Agency for Health Protection and Promotion; 2017 Dec 29 [cited 2017 Dec 31]. Retrieved from: <https://www.publichealthontario.ca/en/DataAndAnalytics/Snapshots/Pages/Chronic-Disease-Hospitalization.aspx>
- ²³⁷ Central East LHIN. (2017). Central East LHIN Health Link Community Profiles: Peterborough City and County Health Link Community. Hospitalizations for Asthma (2014-2015), Retrieved from: <http://www.centraleastlin.on.ca/page.aspx?id=AF8D9A1DF787486BA4A28C045A67F3E2> p. 84.
- ²³⁸ Peterborough County-City Health Unit (2010). *Environmental Health Status Report 2010*. Peterborough, ON: Blanchette, C., Peacock, S. & Kurc, A, p. 25.
- ²³⁹ British Columbia Centre for Disease Control. (2017). *Fact Sheet: Supporting equity through the built environment*. Retrieved from: http://www.bccdc.ca/resource-gallery/Documents/Educational%20Materials/EH/BCCDC_equity-fact-sheet_web.pdf, p.7.
- ²⁴⁰ Ibid, p.8.
- ²⁴¹ International Well Building Institute. (2017). *The Well Community Standard Pilot*. Retrieved from: https://www.wellcertified.com/sites/default/files/resources/CommunityStandard_WELL.pdf, p. 33.
- ²⁴² Provincial Health Services Authority. (2014). *Healthy Built Environment Linkages: A toolkit for design, planning, health*. Retrieved from: http://www.bccdc.ca/pop-public-health/Documents/linkagestoolkitrevisedoct16_2014_full1.pdf, p. 27.

-
- ²⁴³ Expert Panel on Climate Change Adaptation. (2009). *Adapting to climate change in Ontario: Towards the design and implementation of a strategy and action plan*. Report to the Minister of the Environment. ON: Toronto, Retrieved from: <http://www.climateontario.ca/doc/publications/ExpertPanel-AdaptingInOntario.pdf>, p. 23.
- ²⁴⁴ Ibid, p. 23.
- ²⁴⁵ Ministry of Health and Long-Term Care. (2016). *A Harmonized Heat Warning and Information System for Ontario (HWIS)*. Retrieved from: http://www.health.gov.on.ca/en/common/ministry/publications/reports/heat_warning_information_system/heat_warning_information_system.a_spx
- ²⁴⁶ Ibid
- ²⁴⁷ Ministry of Health and Long-Term Care. (2016). *Ontario climate change and health modelling study: Report*. Retrieved from: http://www.health.gov.on.ca/en/common/ministry/publications/reports/climate_change_toolkit/climate_change_health_modelling_study.pdf, pg. 5.
- ²⁴⁸ Ibid
- ²⁴⁹ Gough, W., Anderson, V., & Herod, K. (2016). *Ontario climate change and health modelling study*. Ministry of Health and Long-Term Care, ON: Toronto. Retrieved from: http://www.health.gov.on.ca/en/common/ministry/publications/reports/climate_change_toolkit/climate_change_health_modelling_study.pdf
- ²⁵⁰ Public Health Ontario. Snapshots: Peterborough Health Unit: Incidence of malignant melanoma – age standardized (both sexes combined). Toronto, ON: Ontario Agency for Health Protection and Promotion; 2017 Aug 20 [cited 2018 Mar 15]. Retrieved from: <http://www.publichealthontario.ca/en/DataAndAnalytics/Snapshots/Pages/Cancer-Incidence-.aspx>
- ²⁵¹ Ibid
- ²⁵² Provincial Health Services Authority. (2014). *Healthy Built Environment Linkages: A toolkit for design, planning, health*. Retrieved from: http://www.bccdc.ca/pop-public-health/Documents/linkagestoolkitrevisedoct16_2014_full1.pdf
- ²⁵³ Simcoe Muskoka District Health Unit. (2014). *Healthy community design: Policy statements for Official Plans*. Retrieved from: http://www.simcoemuskokahealth.org/docs/default-source/jfy-communities/Healthy_Community_Design.pdf?sfvrsn=0
- ²⁵⁴ National Recreation and Parks Association. (2010). *Parks and other green environments: Essential components of a healthy human habitat*. Retrieved from: http://www.nrpa.org/UPLOADEDFILES/NRPA.ORG/PUBLICATIONS_AND_RESEARCH/RESEARCH/PAPERS/MINGKUO-RESEARCH-PAPER.PDF, p. 4.
- ²⁵⁵ World Health Organization. (2017). *Urban green spaces: A brief for action*. World Health Organization Regional Office for Europe, Copenhagen, Denmark. Retrieved from: http://www.euro.who.int/_data/assets/pdf_file/0010/342289/Urban-Green-Spaces_EN_WHO_web.pdf?ua=1, p. 6.
- ²⁵⁶ Ibid, p. 6.
- ²⁵⁷ Han, B., Cohen, D. & McKenzie, T. L., (2013). Quantifying the contribution of neighborhood parks to physical activity. *Preventative Medicine*, 57(5), p. 483-487.
- ²⁵⁸ Kuo, M. (2015). How might contact with nature promote human health? Promising mechanisms and a possible central pathway. *Frontiers in Psychology*, 6(Article 1093), p.1.
- ²⁵⁹ Provincial Health Services Authority. (2014). *Healthy Built Environment Linkages: A toolkit for design, planning, health*. Retrieved from: http://www.bccdc.ca/pop-public-health/Documents/linkagestoolkitrevisedoct16_2014_full1.pdf
- ²⁶⁰ Peterborough Public Health. (2017). *Outdoor playspaces: An evidence review*. Peterborough, ON: Monique Beneteau. Retrieved from: <http://www.peterboroughpublichealth.ca/wp-content/uploads/2011/09/2017-08-31-Outdoor-Playspaces-Evidence-Report-FINAL.pdf>
- ²⁶¹ Public Health Agency of Canada. (2017). *Designing Healthy Living: The Chief Public Health Officer's Report on the State of Public Health in Canada 2017*. Retrieved from: <https://www.canada.ca/content/dam/phac-aspc/documents/services/publications/chief-public-health-officer-reports-state-public-health-canada/2017-designing-healthy-living/2017-designing-healthy-living-eng.pdf>
- ²⁶² Townsend, M. & Henderson-Wilson, C. (2017). Greening the City: The health evidence of urban nature (Chapter 15). *Healthy Cities*. DeLeeuw, E. & Simos, J. (eds.). Springer Science+Business Media LLC.
- ²⁶³ Toronto Public Health. (2015). *Green City: Why nature matters to health – An evidence review*. Toronto, Ontario. Retrieved from: http://www.ecohealth-ontario.ca/files/Green_City_Why_Nature_Matters_to_Health_An_Evidence_Review.pdf.
- ²⁶⁴ British Columbia Centre for Disease Control. (2017). *Fact Sheet: Supporting equity through the built environment*. Retrieved from: http://www.bccdc.ca/resource-gallery/Documents/Educational%20Materials/EH/BCCDC_equity-fact-sheet_web.pdf, p. 7.
- ²⁶⁵ James, P., Banay, R. F., Hart, J. E. & Laden, F. (2015). A review of health benefits of greenness. *Current Epidemiology Reports*, 2(2), p. 131-142.
- ²⁶⁶ Ontario Government. (2015). *Backgrounder: Changes to the development charges act and the planning act*. Retrieved from: <https://news.ontario.ca/mma/en/2015/12/changes-to-the-development-charges-act-and-planning-act.html>
- ²⁶⁷ World Health Organization. (2017). *Urban green spaces: A brief for action*. World Health Organization Regional Office for Europe, Copenhagen, Denmark. Retrieved from: http://www.euro.who.int/_data/assets/pdf_file/0010/342289/Urban-Green-Spaces_EN_WHO_web.pdf?ua=1, p. 16.
- ²⁶⁸ Simcoe Muskoka District Health Unit. (2014). *Healthy community design: Policy statements for Official Plans*. Retrieved from: http://www.simcoemuskokahealth.org/docs/default-source/jfy-communities/Healthy_Community_Design.pdf?sfvrsn=0 p. 34.
- ²⁶⁹ Townsend, M. & Henderson-Wilson, C. (2017). Greening the City: The health evidence of urban nature (Chapter 15). *Healthy Cities*. DeLeeuw, E. & Simos, J. (eds.). Springer Science+Business Media LLC.
- ²⁷⁰ World Health Organization. (2017). *Urban green spaces: A brief for action*. World Health Organization Regional Office for Europe, Copenhagen, Denmark. Retrieved from: http://www.euro.who.int/_data/assets/pdf_file/0010/342289/Urban-Green-Spaces_EN_WHO_web.pdf?ua=1, p. 11.
- ²⁷¹ Hastings and Prince Edward Counties Health Unit. (2012). *Building complete and sustainable communities: Healthy policies for Official Plans*. Retrieved from: http://hpepublichealth.ca/sites/default/files/documents/for-professionals/CDIP_Healthy_Policies_for_Official_Plans.pdf, p. 18.
- ²⁷² Ministry of Municipal Affairs and Housing. (2016). *Reduction in parkland dedication payments*. Retrieved from: <http://www.mah.gov.on.ca/Page6849.aspx>

²⁷³ Hastings and Prince Edward Counties Health Unit. (2012). *Building complete and sustainable communities: Healthy policies for Official Plans*. Retrieved from: http://hpepublichealth.ca/sites/default/files/documents/for-professionals/CDIP_Healthy_Policies_for_Official_Plans.pdf, pp. 18-19.

²⁷⁴ Ibid, p. 19.

²⁷⁵ Simcoe Muskoka District Health Unit. (2014). *Healthy community design: Policy statements for Official Plans*. Retrieved from: http://www.simcoemuskokahealth.org/docs/default-source/jfy-communities/Healthy_Community_Design.pdf?sfvrsn=0