

ACKNOWLEDGEMENTS

This report was prepared by Environmental Defence. Permission is granted to the public to reproduce or disseminate this report, in part, or in whole, free of charge, in any format or medium without requiring specific permission. Any errors or omissions in this report are the responsibility of Environmental Defence.

©November 2019 by Environmental Defence.

Environmental Defence would like to thank John Danahy, Professor Emeritus and Associate Director Centre for Landscape Research, John H. Daniels Faculty of Architecture, Landscape, and Design, University of Toronto for providing the Lakeview Village Mississauga rendering and explainer text, Kevin Thomason, Smart Growth Waterloo, Opticos Design Inc., Ryerson City Building Institute, and Smart Prosperity Institute for photos and graphics.

Environmental Defence gratefully acknowledges the support of the Friends of the Greenbelt Foundation for their contribution to our work to raise awareness of the value of the Greenbelt and its role in sustainable communities in Ontario and the McLean Foundation and the Salamander Foundation for their support of our Greenbelt and Livable Communities programming.



ENVIRONMENTAL DEFENCE is a leading Canadian advocacy organization that works with government, industry and individuals to defend clean water, a safe climate and healthy communities.

ENVIRONMENTAL DEFENCE 116 Spadina Avenue, Suite 300 Toronto, Ontario M5V 2K6

Visit environmental defence.ca for more information.



TABLE OF CONTENTS

1.0	A vision for complete communities		4
2.0	Why build complete communities		6
	2.1	Who pays for new growth?	7-8
	2.2	Municipal finances: Where does the money come from?	9
	2.3	What's the cost to you? Local taxes and municipal debt	10
	2.4	Taxpayers are footing the bill and the environment is not accounted for	11
3.0	Cons	equences of unsustainable growth	12
	3.1	Loss of parkland, loss to livable healthy cities	12
	3.2	Farmland at risk	13
	3.3	Case study: The challenge of affordable growth and intensification in Hamilton	14
	3.4	Highways create congestion and other inconvenient truths	15
4.0	Solutions for healthy sustainable growth		17
	4.1	The case for "Missing Middle" housing and better transit	18
	4.2	Case study: From kitchen table to community vision	19
	4.3	Case study: Integrating growth and transit	21
	4.4	Growing the greenbelt: A resilient solution to farmland loss, flooding and sprawl	22-23
5.0 Wh	5.0 What you can do		
	5.1	Learn from the past: The battle for the Oak Ridges Moraine	24
	5.2	Community leadership needed	25
	5.3	Municipal actions needed	26
6.0	Conclusion		27
7.0	Community and municipal resources		28
8.0	References 2		29-35



1.0 A VISION FOR **COMPLETE COMMUNITIES**

Starting after the Second World War, a car-dependent urban development model began to dominate city and town planning in North America. As a result, the suburbs began to expand rapidly, multi-lane highways became the dominant transportation mechanism, single family houses on large lots became the homes of choice, and farmland and natural areas began to disappear at alarming rates.

By the early 1970s, leading urban thinkers began to realize the long-term consequences of this form of growth and began to advocate for change. Ontario was often at the leading edge of these conversations and early debates about the form that urban growth should take took place, often in heated ways.

Governments began to respond to the increasing evidence of the negative impacts of a "sprawl" approach to growth, and to citizen activism. As a result, from the mid-1970s through to the 2000s, citizens and local leaders worked together to create plans for protecting greenspace for future generations. They also began to think about how cities themselves could be better planned to accommodate more people in a manner that was sustainable. Thanks to their efforts, today Ontario has the Niagara Escarpment Plan¹, the Oak Ridges Moraine Conservation Plan², and the Greenbelt Plan³ that protect over 2 million acres within the Greater Golden Horseshoe and beyond. They also created urban design rules that were intended to slow sprawl and create more livable, transit ready and sustainable cities and towns.

The goal of this report is to provide citizens with the knowledge needed to understand how complete, sustainable communities can be created and to help citizens engage productively with their communities and municipal elected officials.

Let's start with a look at the attributes of sustainable growth, what we've lost to urban sprawl to date, and how we can create healthy, more affordable communities for everyone.

Some attributes of sustainable growth include:

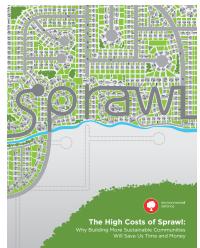
- » A mix of housing types available for all residents, young and old, wealthy, middle-class and low or no income
- » Access to greenspace, nature, clean air and water
- » Access to local farm fresh food
- » Less time commuting, more time with our families, friends and co-workers
- » Lower property taxes, lower commuting costs and better services

Unchecked suburban growth makes achievement of all of these sustainability goals very difficult. Why is that?



Environmental Defence's High Costs of Sprawl: A Report on Why Building More Sustainable Communities Will Save Us Time and Money⁴ (released in 2013) outlines the growing problems inherent in sprawl development. Six years later, the findings and recommendations of that report are still valid. Farmland, forests, wetlands and clean water sources continue to be lost to suburbanization, and the scale is staggering.

- » 175 acres of farmland per day, for an annual loss of 63,940 acres per year⁵
- » 85 per cent of southern Ontario's wetlands have been lost⁶
- » Housing is unaffordable with thousands of people homeless every night in the City of Toronto⁷, for example, and many people have few choices about the type of homethey can live in
- » Thousands die every year due to health impacts from traffic and air pollution⁸
- » Hundreds of millions of dollars in damage occur due to flooding⁹ that is exacerbated by the growing amount of land covered in hard surfaces and buildings



To counter these threats, our work has shown us that there are six key attributes of smart, sustainable planning that can be applied in every town and city. If these principles are applied, they can move our towns and cities toward creating the complete communities we need.

Six Principles for Complete Communities:

- 1. Maintain our existing urban boundaries to stop loss of farmland and natural areas
- 2. Encourage transit investment (motorized and human-powered) over building new or expanded highways
- 3. Saying NO to new one-storey buildings in most areas; instead build-up in towns and city centres where even 3-4 stories can substantially improve walkability, reduce carbon emissions and provide much needed housing
- 4. Keep property taxes low by building more densely and making sure new development pays for new services
- 5. Support decisions that create mixed- and low-income housing, green buildings, and cycling/ walking paths within our cities
- 6. Conserve and connect greenspaces, enhance wetlands and river systems to reduce flooding and improve the ability of these natural areas to absorb the rainfall of more frequent and intense storms

Citizens can help ensure more communities take this better path by learning about smart community building ideas, working with your community, and by challenging our municipal leaders to make good decisions.

Together, we can make a difference and ensure that our progress toward creating smarter communities continues

2.0 WHY BUILD COMPLETE **COMMUNITIES**

By 2041, it is estimated 13.5 million people will call the Greater Golden Horseshoe home and the majority will live in urban areas.¹⁰ This may seem like a lot of people for one area to support, while at the same time conserving the farmland, water sources and natural areas needed to provide for them. It is, but we can protect natural and cultural values, and provide the jobs and housing we need, if we concentrate most of our building within the borders of our existing towns and cities.

It may be a surprise – and it is important to know – that there isn't a shortage of available land for creating new housing within our towns and cities. In fact, studies indicate there is an excess of land already designated for housing that will meet our needs to at least 2041.¹¹ For instance, in York Region there is currently a 23-year supply of land designated for housing.¹² This York Region land is mostly still farmland that was added to urban areas in previous planning exercises. Because it is still farmland, most people would not recognize it as being part of "the city". Building here will require the creation of new roads, water and sewer lines but no new lands need to be added.

By contrast, the City of Toronto is 23 years ahead of schedule in meeting the Province's targets for creating new housing without designating any new land.¹³ Toronto, with no more farmland available within its borders, can only accommodate new residents and businesses by re-using lands or buildings, and in some cases creating higher densities. But it still has lots of room for growth without getting physically larger in area.

There are several advantages of the Toronto growth model over that of York Region. The first is that building within existing urban areas rather than building new roads, water and sewer pipes is cheaper and uses less land. It is also easier for people to get to and from work if they have to travel shorter distances, and denser populations make it easier and cheaper to build and maintain public transit, bike lanes and sidewalks. As a result, denser or more compact towns and cities can often offer their citizens higher quality of life while levying lower property taxes.

Property taxes: Our most regressive form of taxation

Property taxes are fundamentally regressive because, if two individuals in the same tax jurisdiction live in properties with the same values, they pay the same amount of property tax, regardless of their incomes. However, they are not purely regressive in practice because they are based on the value of the property and the owner can access this money if they sell. In extreme situations, high property taxes that have escalated much faster than the rate of inflation can make ongoing ownership of a home on a fixed or low income very difficult.¹⁴

Complete communities enable healthy sustainable living for people of all ages. When we grow smarter, reduce sprawl and growth pays its way, we all benefit.

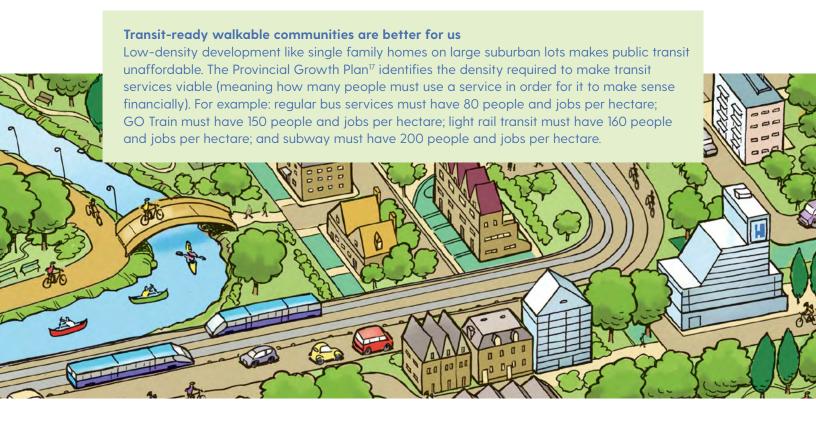
To learn more about smart growth and how your town and city plans for its future, visit Environmental Defence's Smart Growth Toolkit: www.environmentaldefence.ca/smart-growth-toolkit

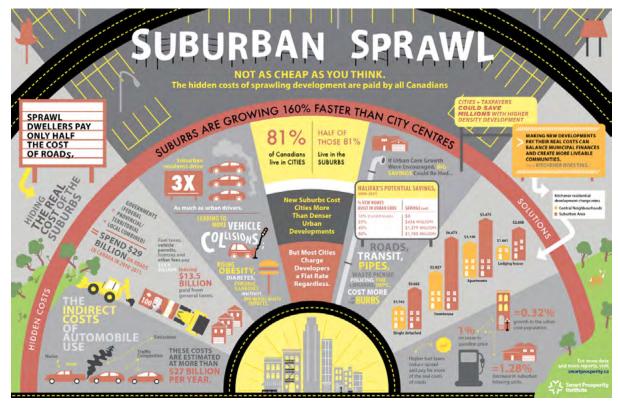


Missing Middle housing includes low- to medium-density multi-unit housing such as row-houses, stacked townhomes and walk-up apartments. These homes are family appropriate and usually at a mid-range price point on the affordability spectrum; Credit: Ryerson City Building Institute¹⁵

2.1 WHO PAYS FOR **NEW GROWTH?**

You do. All new development brings with it a number of costs that citizens pay for through property taxes. These include items like road maintenance, garbage collection, school buses, and snow removal. Some costs are obvious, such as the cost of owning a car (\$10,000/year) in a place where you must drive to get around, but others are hidden like healthcare costs from air pollution.16 And some of these costs increase with the length of your commute, like the cost of fuel and maintenance, probability of a collision, higher insurance rates, your loss of family time or recreation time. For many people, these costs are hidden because they aren't aware of how their choices – like the type of house they buy or where it is located – affects the taxes they pay and their quality of life.





Credit: Smart Prosperity Institute¹⁸

2.1 WHO PAYS FOR **NEW GROWTH?**

As individuals and citizens, we can encourage and support our local governments to make better growth related decisions by asking them to:

- » Make new developments pay for all of the new costs the community will have to take on, using full analysis of all costs and benefits over the long term of proposed new developments
- » Support building new schools, businesses and homes within the existing boundaries of your town or city
- » Invest in creating new public transit or enhance the capacity and usefulness of what is already in place¹⁹

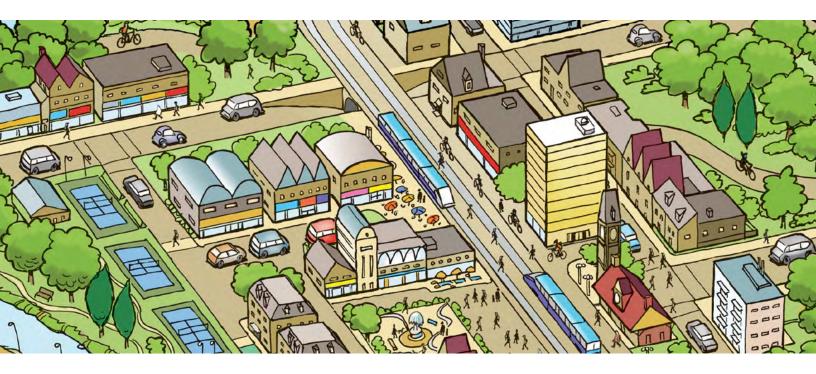
As Charles Marohn of Strong Towns says, instead of building more car lanes we need to build more corner stores. Not only does being able to walk to services reduce household costs but it reduces air pollution, GHG emissions and is healthier because it gets people to walk more.²⁰

2.2 MUNICIPAL FINANCES: WHERE DOES THE MONEY COME FROM?

Revenue for municipalities comes from taxes, user fees, grants and development charges regulated by the Development Charges Act.²¹ Development charges (DCs) were created to capture and recover the costs of growth or new development.²² There are a number of deficiencies in this Act. One of them is that municipalities can't collect development charges to pay for some municipal services like hospitals, museums, theatres, convention centres, and municipal buildings. Another deficiency is that other costs, like transit, may be picked up through a municipal development charge bylaw but only by municipalities that already have transit in place, as the charges can only be based on existing services, not those that are being planned. All these exemptions tell us that development charges fall short of paying for growth. As a result, citizens must make up the shortfall through their municipal taxes and/or user fees.

Municipalities can, and do, amass debt when they build services and infrastructure for growth that isn't fully funded by development charges. Every municipality publishes data on their debt in their annual financial statements, and each year municipalities must file a financial information report to the province under the Municipal Performance Measurement Program (MPMP).²³ If you would like to know how your municipality compares with others, ask your municipality for a copy of the BMA Management Consultants' annual study.²⁴ This data provides information on municipal debt and servicing costs for all municipalities that pay for the service.

Some municipalities carry more debt than others. York Region, home of the very expensive York Durham sewer system, had the highest debt per capita in southern Ontario at \$3,048 in 2016, according to the BMA study.²⁵



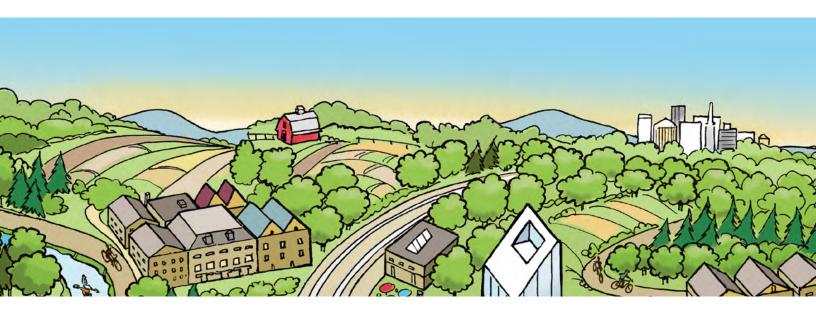
2.3 WHAT'S THE COST TO YOU? LOCAL TAXES AND MUNICIPAL DEBT

Development charges (DCs) were created to support efficient, sustainable growth. But even 17 years ago, experts identified the need to fix them.

"Even a charge applied uniformly across the city can encourage inefficiency: developments that impose higher municipal costs (usually developments on the fringes) end up being subsidized by those that incur lower costs (usually developments in existing, high-density neighbourhoods). Overall, cities should remove distortions in the property tax system, eliminating the overtaxation of apartments and commercial and industrial properties relative to single-family houses. And they should set user fees and development charges so they do not work against planning objectives." Enid Slack, PhD and Director of the Institute on Municipal Finance and Governance, University of Toronto, Munk School.²⁶

Municipalities have tools to reflect the higher costs of development in low-density areas and can reduce DCs to spur the creation of new housing options (e.g. 2-3 stories of apartments built over street-level retail). In recent years, many municipalities have increased their DCs for low density sprawl and some have reduced charges to incentivize intensification within urban boundaries. For example, the City of Brampton has a program to incentivize the type of development they want to attract to the downtown area.²⁷

Too often, taking on debt to cover the cost of growth is expected. This may lead to a never-ending cycle of municipal debt, higher taxes, less services, more development, more debt, on and on. And the spring 2019 changes to the Development Charges Act move Ontario in the opposite direction by reducing municipal DC revenue. It does so by reducing the DC costs to developers when they build new homes.²⁸ It is unlikely that developers will pass these cost savings onto homebuyers. And the shortfall in DC revenues will need to be recovered, either through lower service levels or higher taxes for existing residents.



2.4 TAXPAYERS ARE FOOTING THE BILL AND THE ENVIRONMENT IS NOT ACCOUNTED FOR

Highways and big sewer pipes facilitate inefficient development as they are generally oversized when built, to accommodate more future low-density growth. Because systems are oversized, taxpayers are forced to pick up the additional building costs and pay for on-going maintenance.

Municipalities have a choice; they can build in an existing serviced area or build in a "greenfield" farmland site. But the price difference between these two options is alarming. In the Region of Peel, water and wastewater servicing for 50,000 people costs an estimated \$133 million when siting more development in an already serviced area. That amount almost doubles when the region is servicing greenfield development for the same 50,000 people. It increases to \$202 million to support 667 hectares of greenfield development or \$277 million for a 1,163 hectare greenfield development (2013 dollars).²⁹

Study³⁰ after study³¹ has shown that sprawl is the most expensive and most unsustainable type of growth. Not only because of the development charge shortfall and the cost of ongoing servicing, but also due to the many costs external to our accounting system that aren't quantified. These external costs, which include road salt impact on streams, increases in asthma, heart and lung disease due to air pollution, loss of wildlife habitat, biodiversity and farmland are not accounted for, even though individuals and society must all eventually pay for their impacts.

It's not just about environmental and fiscal sustainability, we also need to create cities people want to live in.

"The city of the future must meet the needs of its residents. Yet in surveying residents of 25 major cities, McKinsey finds that a fifth of those cities fall short of delivering satisfaction. Respondents cited numerous inadequacies: crime, congestion, fire emergency response, waste management, active mobility options, police security, lack of basic utilities, public transit, as well as poor quality of housing and government services. Given the fierce competition for talent across cities, dissatisfied urbanites are likely to vote with their feet and leave for more attractive environments."32 Excerpt from Thriving amid turbulence: Imagining the cities of the future, McKinsey & Company

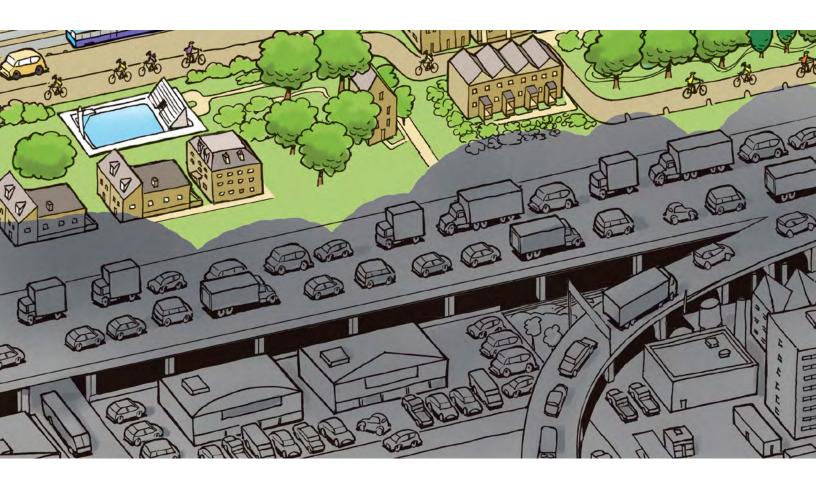


3.0 CONSEQUENCES OF **UNSUSTAINABLE GROWTH**

Low-density sprawl threatens our health, paves over farmland, increases congestion and emissions and results in higher costs for us and future generations. Here are a few examples that demonstrate the pitfalls of unsustainable growth.

3.1 LOSS OF PARKLAND, LOSS TO LIVABLE HEALTHY CITIES

As the density of our cities increases, we need more parkland, not less. Recent provincial policy changes reduce the amount of parkland required when new developments are being planned, especially for high-density developments.³³ This is a perverse shift in policy, because when people have a small amount of personal space inside buildings (because they are living in smaller, more densely packed units) they need more public space for their mental, physical and spiritual health. Reducing the amount of parkland that people have access to moves us away from healthy livable cities. For more information on advocating for improved public parks visit Parkpeople.ca.34



3.2 FARMLAND AT RISK

Agriculture and the Agri-food industry is one of the largest economic sectors in Ontario contributing \$39.5 billion to Ontario's economy and supporting 822,483 jobs.³⁵ And almost half of the land in the Greater Golden Horseshoe (GGH) is farmland. It's no wonder urbanization is the largest threat to farmland, as the region is Canada's fastest growing and most heavily populated area. In 2015, Farmland at Risk: Why Land-Use Planning Needs Improvements for a Healthy Agricultural Future in the Greater Golden Horseshoe, published by the Ontario Federation of Agriculture (OFA) and Environmental Defence, recommended freezing urban boundaries until 2031 to support smart growth.³⁶ Acting contrary to these recommendations, the current provincial government changed the Growth Plan³⁷ to allow frequent and repeated expansion of settlement areas boundaries which will put even more farmland at risk.

The OFA put together a guidebook for municipal councils, called Agriculture Matters³⁸ that provides an overview of agricultural issues affecting municipalities. Too many municipalities see farmland as a burden, or subdivisions in waiting, when in fact agriculture is economically sustainable. Rural land uses and farming require few municipal services. For instance, water and sewer servicing is provided onsite and maintained by the farm owner, and most farms are not provided with waste collection services. However, municipalities don't collect the same level of taxes for farmland as they collect for residential or commercial land and don't accurately assess that these lower revenues are also matched by lower costs. Farms also generate other income in the community, because they are businesses that employ people and purchase significant amounts of goods and services. Cost of community services studies in the U.S.³⁹ and Canada⁴⁰ document that farms are a net benefit to municipal revenues, and in some cases, even subsidize urban residents.

Recently, as the assessed value of farmland has increased, so have the taxes paid by farmers. The increased valuation is good for sellers but tax increases are not sustainable for farmers who want to stay in the business.⁴¹ If we want a farming future in the GGH, we need hard urban boundaries to stop sprawl from eating up prime agri-land and from driving up speculative land values on farms long before development actually arrives.

The "whitebelt" is the land located between the official town or city boundary and the Greenbelt

Development speculators often purchase farmland near the possible path of new sewers or roads long before a town or settlement boundary is extended, in the hope that development will be allowed to proceed. This is why developers want municipal planning rules to change to make it easier to allow city and town boundary expansions into the "whitebelt." You can see the impacts of speculative land purchase in action around the GGH where there are many formerly productive farms that are now overgrown with rotting buildings waiting to be turned into subdivisions. Town and city boundaries that are not allowed to expand for long periods (e.g. 10 or 20 years) are one way to improve the predictability of urban growth, save farmland and reduce sprawl.42

3.3. CASE STUDY: THE CHALLENGE OF AFFORDABLE GROWTH AND INTENSIFICATION IN HAMILTON

Elfrida is a small town near the upper Niagara Escarpment in the east end of the City of Hamilton. A draft plan to expand Hamilton's city boundary to allow new suburban development on prime farmland in this town has not yet been approved, but it is under consideration.⁴³ If approved, the extension of the urban boundary into Elfrida will accommodate 80,000 people on 1,200 hectares of land.44

For over 10 years, at the same time as plans for Elfrida were moving ahead, the City of Hamilton has been planning a light rail transit (LRT) system to support intensification in the centre of the city (along the 14km route running from McMaster University in the west to east of the Red Hill Valley).⁴⁵ Today, the shovels still aren't in the ground for the LRT, but it presents an significant opportunity for the city to encourage investment, reduce traffic congestion, create new community spaces, support the creation of new housing, and create a walkable downtown - contrary to Elfrida which will perpetuate car-dependent sprawl and require the creation of new schools, roads, sewers and water supply.

Currently, the City of Hamilton has not met projected population growth numbers of 561,000 by 2016. Instead, the 2016 Census counted only 536,917 people, which is a shortfall of 24,083.46 Municipal reports suggest the City is unclear as to whether the Elfrida lands will be required for future urban growth to 2031.47

It seems clear that the downtown with its new LRT should be the priority for sustainable growth, rather than the proposed Elfrida development. But a clash of visions seems to be playing out in the city and the choices that are made will determine what kind of future Hamilton wants for itself.

What's New

A number of changes made to provincial legislation in 2019 affect development rules in your community.⁴⁸ For instance, recent changes to the Local Planning Appeals Tribunal (LPAT) reduce the decision-making powers of your local government over land-use planning matters. The new rules give LPAT the authority to determine good planning, which generally means the highest and best use of a property as determined by real estate values.⁴⁹ The changes also make it difficult to preserve historical buildings. And changes to the Growth Plan allow developers to apply for boundary expansions of up to 40 hectares (100 acres) at any time. Municipal councils can refuse applications for boundary expansions and those decisions are not appealable at the LPAT. However, the timelines for municipalities to make a decision have been dramatically shortened and developers can immediately appeal to the LPAT if municipalities do not or cannot make a decision in the required time period. Citizens are not allowed to participate in the LPAT appeal process when a municipality does not have time to make a decision. Other changes to the LPAT require citizens to get involved early in the process before a notice of decision is made by the municipality. All of these changes enable the voice of developers over elected councils and citizens. Even greater efforts will be needed from engaged citizens to ensure sustainable communities.

3.4 HIGHWAYS CREATE **CONGESTION AND OTHER INCONVENIENT TRUTHS**

Building more highways and widening highways doesn't reduce congestion; it encourages more drivers and more driving instead. The principle is called "induced demand" and it's why we never seem to have enough highway lanes to reduce gridlock.50

Highways are very expensive to build and maintain; taxpayers pay for snow removal, salting, major structural refurbishment and never-ending pothole repair. Instead of building new, expensive, taxpayer-funded roads and highways, it makes more sense to augment urban public transit, commuter rail and cycling routes that get more cars off the road during peak times. These approaches reduce congestion on existing roads by providing alternative ways of moving around the region.

The Regional Transportation Plan identifies priority transit, freight and mobility projects to serve Greater Toronto and Hamilton Area (GTHA) to 2041.⁵¹ The Ministry of Transportation (MTO) plans and manages highway building projects. To date, MTO has not released the 2051 Greater Golden Horseshoe Transportation Plan but they did release a 2051 environment and transportation profile.⁵²

The following key findings are contained in the document:

- » Minimize infrastructure costs by planning for transportation needs and new houses and businesses at the same time
- » Infrastructure planning and design must incorporate climate change impacts
- » Transit projects that serve strategic employment zones should be prioritized⁵³
- » The majority of congestion is along the 401 corridor, not north of the 407

Disregarding MTO's findings as well as the 2017 Ontario government-appointed GTA West Expert Panel report⁵⁴, the province is reviving the GTA West highway (also known as Highway 413) that will cut through Ontario's Greenbelt.55 The Expert Panel Report concluded that there were four specific alternatives that would provide travel benefits comparable to the proposed highway.56

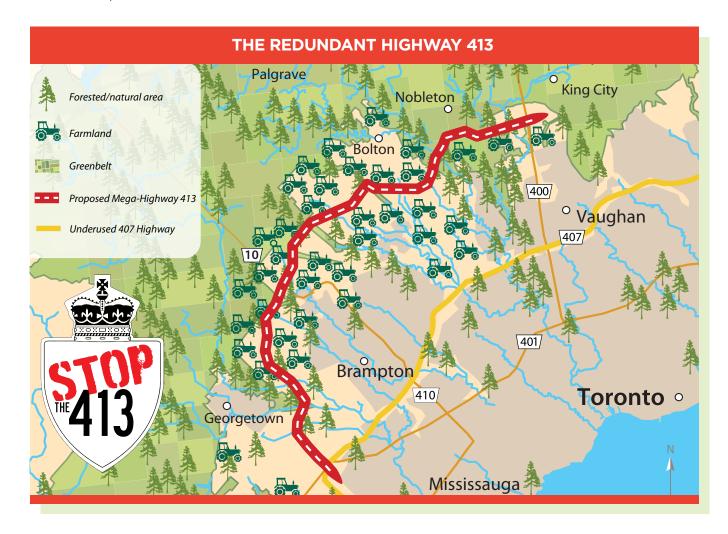
The alternatives included:

- » Expanding and extending existing highways
- » Charging congestion fees
- » Creating priority truck lanes on existing Highway 407
- » Integrating the planning of new buildings and new transit, thus reducing the long term need for highways



The panel determined that the highway would save only approximately one minute of travel time per vehicle trip. In addition to cutting through the Greenbelt, the proposed route would pave over thousands of acres of prime farmland and forests north and west of Brampton. Based on the report findings and public opposition to the \$5-6 billion project, the previous Ontario government cancelled the proposed highway.

The re-start of the approval process for this destructive mega highway shows that there is a disconnect between what province is doing and what we need in terms of a sustainable transportation solution.



Your health is affected by traffic, a good reason for more public transit and fewer highways.

According to Public Health Ontario, "Exposure to traffic related air pollution (TRAP) causes: asthma in children and is associated with cardiovascular disease, asthma in adults, respiratory decreased lung function in people of all ages and lung cancer. The more time commuters are on the road, the greater their exposure to TRAP. Being in a vehicle does not protect commuters from TRAP."57

4.0 SOLUTIONS FOR HEALTHY SUSTAINABLE GROWTH

Low-density sprawl is expensive and unsustainable. Building-up gently makes sense and it's better for us.⁵⁸ Municipal governments pay less for infrastructure and people use less energy. And smarter growth is a better way to grow as compact, transit-supportive communities create three times less greenhouse gases than low-density housing developments.⁵⁹ Also, less farmland is lost when we build-up gently, not out.

Intensification and infill typically has fewer hard costs because sewers, water infrastructure, sidewalks, schools, transit and community centres are often already in place. And people who walk more and drive less are healthier.⁶⁰

Building-up doesn't necessarily mean 10 storey buildings. In small towns without transit, 2-3 storey buildings with a store below and an apartment above can help provide more affordable housing options. In towns with a major transit station, mid-rise 4-8 stories might be the best fit. In cities around subways and rapid transit, 10 stories or more is common and an appropriate fit with infrastructure capacity.



Missing Middle Housing is a range of multi-unit or clustered housing types—compatible in scale with detached single-family homes—that help meet the growing demand for walkable urban living; Credit: Opticos Design Inc.⁶¹



4.1 THE CASE FOR "MISSING MIDDLE" HOUSING AND BETTER TRANSIT

Many communities in the Greater Golden Horseshoe are developing intensification strategies. Finding the Missing Middle in the GTHA, a report by Graham Haines and Brianna Aird at Ryerson's City Building Institute, found that mid-rise housing could provide 174,000 housing units within Peel's existing urban areas that would accommodate 435,000 residents (85 per cent of Peel Region's projected population growth to 2041). Such an approach would reduce the need for boundary expansions and reduce farmland loss.⁶²

Building this form of gentle density can provide the housing needed without extending expensive water and sewer pipes and other infrastructure and result in a more sustainable growth pattern. Filling the missing middle in Mississauga would make rapid transit more affordable, as the more people taking transit the more feasible it becomes. And providing transit to residents in Mississauga is a better option for our health, our climate and our economy. As noted in the report, if Mississauga adopted this approach, there would be no need for Brampton and Calendon, the other municipalities in Peel Region, to go ahead with a possible \$94 million sewer pipe extension that would be used to service future expansion of their urban settlement areas onto farmland.⁶³ There would also be no need for the proposed \$6 billion Highway 413 through the Greenbelt as future growth would be focused in existing urban areas.

Clearly investing in enabling the "missing middle" solution to our housing needs could result in lower GHG emissions, better ability for people to move around the region, less air pollution and could save taxpayers billions.



4.2 CASE STUDY: FROM KITCHEN TABLE TO COMMUNITY VISION

Many residents are increasingly supportive of redevelopment of existing under-used or abandoned areas in their cities and towns, especially if it is well-designed and they are consulted during the planning. Lakeview Village in Mississauga is an excellent example of citizens working with their city council to create a community vision. The award-winning original Lakeview design⁶⁴ was created at kitchen tables by local residents working with John Danahy, a Professor of Landscape Architecture at the University of Toronto.⁶⁵ To ensure the vision came to fruition one of the members of the ratepayer group, Jim Tovey ran for Council and was elected.66

The design emphasized the natural features of the site with low-rise (missing middle⁶⁷) buildings along the lake to optimize views, light and breezes. Mid-rise buildings were pushed back along Lakeshore Boulevard to be located close to transit and minimize shadowing. No high-rise buildings were located on the site in the original design.

Unfortunately, Councillor Tovey passed away before he was able to see the project through to completion. The former site of the "four sisters" coal plant was purchased by a developer who didn't support the community vision and pushed for higher densities closer to the water than the citizens' plan envisioned. Although citizens called on the City of Mississauga to keep Councillor Tovey's vision alive for a pedestrian-friendly community with meadows and trails, in the end the City sided with the developer and approved a higher density plan.68

The legacy of their efforts should not be overshadowed by the outcome. See the renderings of the citizen-lead vision and the current developer's plans on the following page.



The current site of Lakeview Village; Credit: urbantoronto.ca; Forum contributor: bangkok

2014 Inspiration Lakeview 5200

2019 Lakeview Village Partners Inc. Masterplan





Between 2005 and 2008, residents of Lakeview, Mississauga completed a sustainable legacy plan for a lakefront brownfield site that would double Lakeview's population. By 2014, they convinced the city and province to develop the 5200 unit Inspiration Lakeview Masterplan with mid-rise units, a few modest 15 storey towers, and generous lakefront parklands. This plan was used to determine the development parameters and land value for the provincial sale of the lands through competitive bids.

The purchasing developer ignored the Inspiration Lakeview Masterplan and pressed the city to double the density and height. The developer also moved additional, more profitable, higher-rise units to the waterfront, visually dominating the city's waterfront parklands. Afraid to fight at the Local Planning Appeal Tribunal (LPAT) to defend a decade of good faith planning and the millions of taxpayers planning dollars already spent, Mississauga agreed to approve 150 per cent more density and more high-rise condos at the waterfront than what was in the original Masterplan. And, these were all approved with no increased benefit to the city other than its normal share of development charges of approximately \$30K for each additional unit. However, up to ten times that amount will go into private pockets as extra profit above that accounted for in the provincial land sale agreement. Now, taxpayers will be required to fund the increased demands on infrastructure, transit, housing and parks. Is this a smart process for sustainable city building?

Lakeview Village Mississauga renderings and explainer text provided by John Danahy, Professor Emeritus and Associate Director, Centre for Landscape Research, John H. Daniels Faculty of Architecture, Landscape, and Design, University of Toronto.

4.3 CASE STUDY: INTEGRATING **GROWTH AND TRANSIT**

As part of its 2009 Regional Official Plan, Waterloo Region developed a bold strategy to bring light rail transit (LRT) into the downtown cores of its urban cities including Kitchener, Waterloo and Cambridge. In order to meet one of the Region's economic goals, "To be the most competitive location for new and expanding companies and institutions", the region set out, "To create the most efficient transportation system to meet the needs of a growing regional economy."69 Grand River Transit's ION,70 light rail transit system is now in place in Kitchener and Waterloo and is shaping growth to reduce environmental impacts, save farmland and bringing investment to its core areas. With \$3.1 billion invested in downtown commercial, industrial development to date and another \$1 billion recently announced, the plan is an example of how to build a more sustainable city.71

The economic renewal and transit plan was supported by citizens as part of a visionary effort to transform the Region by reducing sprawl, protecting Mennonite farms, farmer markets, important natural areas and ground water recharge areas, and to do this while helping to create dynamic urban areas with vibrant, thriving cores.

To spur investment along the transit corridor, each city created station area plans which included all lands within 800m of each proposed rapid transit station. To enable this effort, city-specific planning guidance was required. For example, the City of Kitchener created a document called Planning around Rapid Transit Stations.⁷² It detailed the plan for the station areas and provided clear directions to potential developers. As a result; Investment and revitalization is strong in Kitchener with multiple new developments bringing new housing, jobs and offices.⁷³ New provincial rules that require affordable housing around transit stations should help provide new housing for low-income people. This type of transit investment supports a more dense urban form, which in turn is needed to pay for the rapid transit itself and to reduce sprawl onto the countryside. When done right like in Kitchener-Waterloo, it can be a win, win situation.

It takes a community to make a vision become reality. Over the last 10 years, many community groups supported the Waterloo Region's strategy. One of the catalysts was Smart Growth Waterloo.74 They helped build collaboration among transit, trail, health and environmental groups who supported the community vision. Even the most progressive municipal councils need support. This can include letters to the editor printed in local newspapers, deputations, and attendance at public meetings. An informed and engaged community is necessary to support a shift towards sustainable communities.



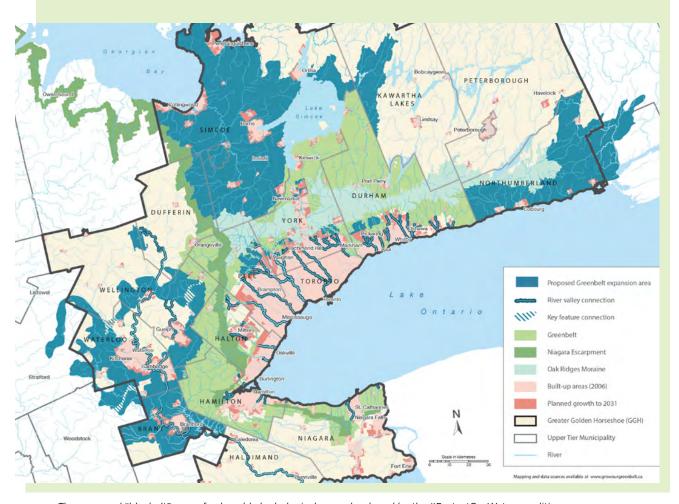
Grand River Transit, Light rail transit, ION; Credit: Kevin Thomason

4.4 GROWING THE GREENBELT: A RESILIENT SOLUTION TO FARMLAND LOSS, FLOODING AND SPRAWL

Growing the Greenbelt would protect more farmland, clean water, and nature and would put more lands off-limits to sprawl. With this in mind, in 2017, the province mapped natural heritage⁷⁵ and agricultural systems⁷⁶ throughout Greater Golden Horseshoe but stopped short of extending the Greenbelt to include them. Growing Greenbelt protection throughout the farms and natural heritage areas in Ontario is an important next step in protecting water, wildlife, and food production, and in limiting encroaching development and reducing flooding.

Let's grow the Greenbelt

The Greenbelt makes our region more resilient. Its forests and farms clean our air, and its wetlands, soils and gravel filter our water. We need to ask the provincial government to grow the Greenbelt.⁷⁷



The proposed "bluebelt" map of vulnerable hydrological areas developed by the #ProtectOurWaters coalition. The areas identified include threatened headwaters, moraines, groundwater recharge and discharge areas, wetlands, rivers and streams; Credit: protectourwaters.ca78

Agriculture and agri-food processing is the top economic driver in Ontario. Yet we continue to lose 175 acres a day, mainly to urbanization.⁷⁹ To stop the loss of farmland, the Greenbelt policies should be extended to all prime agricultural land in Ontario.

Between 2000 and 2011, we lost 6,152 hectares of wetlands in southern Ontario.80 Wetlands are valuable; they can reduce the financial costs of floods by up to 38 per cent and provide water and nutrient filtration services as well as critical wildlife habitat and recreational opportunities.⁸¹ The value of property protection from flooding is estimated to be \$224 million per year.82

The Greenbelt provides a wealth of resources with natural capital estimated at \$3.2 billion a year.83 The total value of carbon stored in the Greenbelt's forests, wetlands, and agriculture is estimated to be an astounding \$11.7 billion annually.84 The health benefit provided by air quality improvements resulting from the Greenbelt's forest cover is estimated to be \$18 million a year.85 Extending Greenbelt protection throughout southern Ontario would protect our valuable natural assets like clean water and provide the certainty and predictability that agri-businesses need to thrive.



One area in particular that needs Greenbelt protection is the Paris Galt Moraine. The Waterloo, Paris/Galt and Orangeville moraines were created by the retreat of glaciers 10,000 years ago which left behind porous deposits of sand, gravel and soil that are 120m thick in some places. The moraines act as natural "rain barrels", filtering and storing rainwater and snowmelt in underground aquifers in a process known as "groundwater recharge" filtering and cleaning the water and making it pure for drinking.86 Protecting it from sprawl

The Waterloo, Paris/Galt and Orangeville moraines account for 80 per cent of the Grand River watershed's total groundwater recharge capacity, despite covering just 30 per cent of the land area. Almost 800,000 people in Guelph, Kitchener, Waterloo, Cambridge, Brantford, and other towns along the Grand River watershed rely on moraine aquifers and groundwater for clean drinking water. The moraines also contain a number of other significant natural habitats, including kettle lakes and wetlands, extensive forests, and provincially rare prairie/savanna and peatland communities. These will become increasingly important as migratory corridors for certain species of wildlife as climate change causes their ranges to shift.87

Community support for protection of the Paris-Galt Moraine has led to an effort to see it permanently protected in a fashion similar to the Oak Ridges Moraine. To that end, a private members bill was introduced into the Ontario Legislature in spring 2019 and as of this writing, in late fall, is waiting to be debated and reviewed by a Legislative Committee.

makes sense.

5.0 WHAT YOU CAN DO

Community and municipal leaders are essential to create the livable towns and cities we need. Here are a few ways you can make a difference.

5.1 LEARN FROM THE PAST: THE BATTLE FOR THE OAK RIDGES MORAINE

In the 1990s, citizens and regional and municipal leaders pressured the province to protect the Oak Ridges Moraine which lies north and above the city of Toronto. It provides drinking water for 250,000 people and is the source of 80 rivers and streams including the Rouge, Don, and Humber rivers. At the time, there were a number of citizen-led efforts opposing more of the sprawl that was being proposed across the region, facilitated by the expansion of the York Durham Sewer System (YDSS).88 By 2000, an Ontario Municipal Board (OMB) hearing on a controversial subdivision in Richmond Hill garnered significant media attention when the City of Toronto demanded to make a presentation to the Tribunal.89 Water affects us all, and when the municipality downstream - that represents millions of citizens - wants to have a say, the Ontario government must listen.

Across the Moraine, The Save the Oak Ridges Moraine Coalition mobilized thousands of citizens who demanded their regional and provincial governments protect water sources across the entire moraine.⁹⁰ In the background, regional planners in York, Durham and Peel worked on a landscape conservation plan to protect the Oak Ridges Moraine, a landform first identified by citizen scientists and confirmed by the Geological Survey of Canada.91 By the time the province held consultations across the Moraine, the public pressure was overwhelming and the Ontario government voted to protect it in law. The Oak Ridges Moraine Conservation plan was born.



Oak Ridges, Richmond Hill, Ontario. Credit; Flickr: Greying_Geezer

5.2 COMMUNITY LEADERSHIP NEEDED

You can make a difference. Our leaders need to be challenged to make good decisions, to take action on climate change, to stop sprawl and build the healthy livable communities we need.

Here are a few actions you can take to make a difference:

- » Join the Ontario Greenbelt Alliance, 92 an alliance of community groups across the Greater Golden Horseshoe that collaborate and share best practices on protecting and expanding the Greenbelt and work towards sustainable communities. Visit greenbeltalliance.ca to find out more.
- » Join or start a group in your community, hold local awareness building events, and support local leaders to help your community on its journey to sustainable growth.
- » Build a relationship with your local town or city councilor and Member of Provincial Parliment (MPP) and talk about the advantages of sustainable communities.
- » Write a letter to the editor of your local newspaper about your vision for your community.

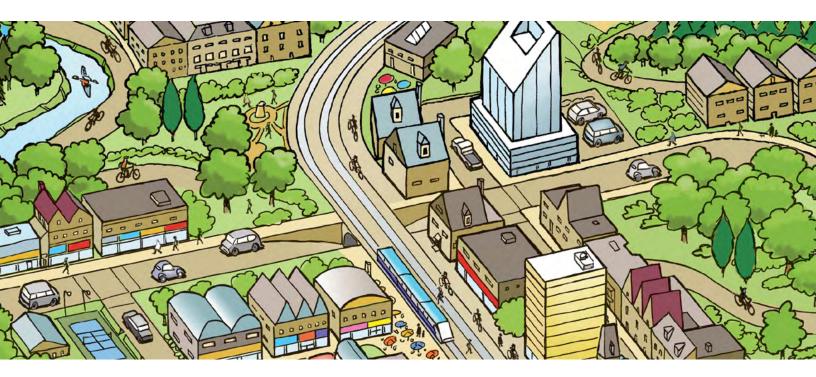
Community involvement is essential to a working, healthy democracy and sustainable communities. Community members need to ask questions of municipal leaders and support them to make better decisions.



5.3 MUNICIPAL ACTIONS NEEDED

Municipal Councilors and Mayors are in a great position to lead their communities in the effort to make them more sustainable and prosperous. You can:

- » Plan for greater density within your town to provide all the benefits that such an approach can bring
- » Declare a climate emergency and a plan to address climate change in your community93
- » Join Municipal Leaders for the Greenbelt greenbeltleaders.org94
- » Protect significant cultural heritage resources
- » Go beyond provincial density and intensification targets
- » Conduct a study on the cost of growth and make it publicly available (like the City of Oakville)95
- » Incorporate provincial natural heritage mapping in your Official Plan and ensure that
- » Incorporate provincial agricultural systems mapping in your Official Plan and ensure that these areas are protected and maintained
- » Develop and implement an active transportation master plan to connect transit, parks, shopping and community facilities by walking and cycling (like the City of Waterloo)%
- » Implement Asset Management Plans⁹⁷ and full cost of infrastructure analysis⁹⁸



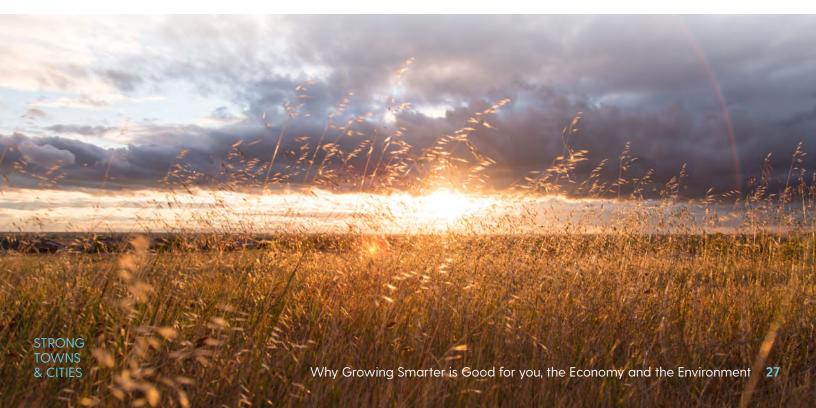
6.0 CONCLUSION

We hope that this overview of some key tools for moving toward sustainable communities is informative and timely. Let's have another look at the principles outlined at the beginning of this document.

Six principles for Complete Communities:

- 1. Maintain our existing urban boundaries to stop loss of farmland and natural areas
- 2. Encourage transit investment (motorized and human powered) over building new or expanded highways
- 3. Saying NO to new one-storey buildings in most areas; instead build-up in towns and city centres where even 3-4 stories can substantially improve walkability, reduce carbon emissions and provide much needed housing
- 4. Keep property taxes low by building more densely and making sure new development pays for new services
- 5. Support decisions that create mixed and low income housing, green buildings, and cycling/walking paths within our cities
- Conserve and connect greenspaces, enhance wetlands and river systems to reduce flooding and improving the ability of these natural areas to absorb the rainfall of more frequent and intense storms

Evidence and history tells us that pursuing these principles can lead to a higher quality of life, more money in people's pockets and greater protection for the environment. The challenge for all of us is to create the public and political awareness needed to ensure that they are applied, as we make collective decisions about the future of our towns, cities and countryside in the coming years.



7.0 COMMUNITY AND MUNICIPAL RESOURCES

- » Baumeister, Mia. IMFG Paper on Municipal Finance and Governance, Development Charges across Canada, an underutilized development tool. https://munkschool.utoronto.ca/imfg/uploads/201/imfg_no.9_online_june25.pdf
- » Blais, Pamela. Perverse Cities: Hidden subsidies, Wonky policies, Urban sprawl, Vancouver: UBC Press, 2010. https://www.ubcpress.ca/perverse-cities
- » Environmental Defence, Smart Growth Toolkit. https://environmentaldefence.ca/smart-growth-toolkit/
- » Municipal Natural Assets Initiative. https://mnai.ca/
- » Neptis Foundation, Intensification, what it is and what it promises. https://www.neptis.org/publications/implementing-residential-intensificationtargets/chapters/intensification-what-it-and
- » Ryerson City Building Institute. https://www.citybuildinginstitute.ca/
- » Smart Prosperity Institute, Creating Complete Compact and Efficient Communities in B.C. https://institute.smartprosperity.ca/sites/default/files/publications/files/BC_report.pdf
- » University of Toronto Munk School, Institute for Municipal Finance and Governance, https://munkschool.utoronto.ca/imfg/

8.0 REFERENCES

- Niagara Escarpment Plan, 2017, Ministry of Municipal Affairs and Housing, https://www. escarpment.org/resource/dm/105919249512923338.pdf?n=NEP+Consolidation+-+December+21+2018+-+FINAL.pdf
- ² Oak Ridges Moraine Conservation Plan, 2017, Ministry of Municipal Affairs and Housing. https://www.ontario.ca/page/oak-ridges-moraine-conservation-plan-2017
- ³ Greenbelt Plan, 2017, Ministry of Municipal Affairs and Housing. https://www.ontario.ca/ document/greenbelt-plan-2017
- ⁴ The High Costs of Sprawl: Why Building More Sustainable Communities Will Save Us Time and Money, 2013, Environmental Defence Canada. https://environmentaldefence.ca/report/ report-the-high-costs-of-spraw/
- ⁵ Submission to the Ontario Growth Secretariat, May 7, 2018, Ontario Federation of Agriculture. https://ofa.on.ca/wp-content/uploads/2018/05/OFA-submission-regarding-thedraft-quidance-to-support-implementation-of-the-Growth-Plan-for-the-Greater-Golden-Horseshoe.pdf
- Southern Ontario Wetland Conversion Analysis, 2010, Ducks Unlimited Canada. https:// www.ducks.ca/assets/2010/10/duc_ontariowca_optimized.pdf
- Street Needs Assessment, 2018, City of Toronto. https://www.toronto.ca/wp-content/ uploads/2018/11/99be-2018-SNA-Results-Report.pdf
- 8 Costs of Pollution in Canada: Measuring the impacts on families, businesses and governments, 2017, International Institute for Sustainable Development (IISD). https://www.iisd.org/ library/cost-pollution-canada
- ⁹ Eastern Canada Spring Flooding Caused Close to \$208 million in Insured Damage, July 3, 2019, Insurance Bureau of Canada. http://www.ibc.ca/on/resources/media-centre/ media-releases/eastern-canada-spring-flooding-caused-close-to-208-million-in-insureddamage
- ¹⁰ Growth Plan, 2019, Municipal Affairs and Housing. https://www.ontario.ca/page/growthplan-greater-golden-horseshoe-2019-order-council-6412019
- ¹¹ An update on the total land supply: Even more land available for homes and jobs in the Greater Golden Horseshoe, 2017, Neptis Foundation. https://www.un.org/development/ desa/en/news/population/2018-revision-of-world-urbanization-prospects.html
- ¹² York Region Housing Supply, 2016, Council of The Regional Municipality of York. https://www.york.ca/wps/wcm/connect/yorkpublic/88c32857-5865-466a-9b42-7a2b-6749f9bb/may+18+housing+ex.pdf?MOD=AJPERES

- ¹³ Toronto Fact Sheet: Parks and Recreation, May 24, 2019. City of Toronto. https://www. toronto.ca/wp-content/uploads/2019/05/8f7a-Toronto-Fact-Sheet-parks-and-recreation-2019-05-24.pdf
- ¹⁴ Regressive Tax, March 26, 2019, Investopedia. https://www.investopedia.com/terms/r/ regressivetax.asp
- ¹⁵ Finding the Missing Middle in the GTHA: An Intensification Case Study of Mississauga, 2018, Ryerson City Building Institute. https://www.citybuildinginstitute.ca/2018/10/01/found-themissing-middle/
- ¹⁶ Traffic Related Air Pollution, 2011, Public Health Ontario. https://www.publichealthontario. ca/-/media/documents/ohp-trap.pdf?la=en
- ¹⁷ Growth Plan, 2019, Ministry of Municipal Affairs and Housing. https://www.placestogrow.ca/
- ¹⁸ Suburban Sprawl: Exposing Hidden Costs, Identifying Innovations, 2013, Smart Prosperity Institute. https://institute.smartprosperity.ca/content/cost-sprawl
- ¹⁹ Implementing Residential Intensification Targets, 2010, Neptis Foundation. https://www. neptis.org/sites/default/files/growth_plan_2013/implementing_web_20100302.pdf
- ²⁰ Dealing with Congestion, 2015, Strong Towns. https://www.strongtowns.org/journal/2015/10/18/dealing-with-congestion
- ²¹ Development Charges Act, 1997, Ministry of Municipal Affairs and Housing. https://www. ontario.ca/laws/statute/97d27
- ²² Development Charges across Canada: An Underutilized Growth Management Tool? 2012, University of Toronto, Munk School of Global Affairs, Institute on Municipal Finance and Governance. https://munkschool.utoronto.ca/imfg/uploads/201/imfg_no.9_online_june25. pdf
- ²³ Municipal Performance Measurement Program (MPMP) Reports, (no date), Province of Ontario. https://efis.fma.csc.gov.on.ca/fir/MPMP%20Multi%20Year.htm
- ²⁴ BMA Management Consultants, (no date). https://www.bmaconsult.com/about
- ²⁵ Municipal Performance Measurement Program Results, April 20, 2017. York Region. https:// www.york.ca/wps/wcm/connect/yorkpublic/ebcfa897-160f-4f06-9b7e-3e7751f62b32/ apr+20+Hughes+pres.pdf?MOD=AJPERES
- ²⁶ Slack, Enid, 2002, C.D. Howe Institute, Municipal Finance and the True Cost of Urban Growth. http://www.urbancenter.utoronto.ca/pdfs/elibrary/Slack_Mun-Finance-Urb-Growt.pdf
- ²⁷ Central Area Community Improvement Plan, 2010, City of Brampton. https://www.brampton. ca/en/Business/planning-development/central-area/Pages/central-area-community-improvement-plan.aspx

- ²⁸ Letter to Municipal Finance Policy Branch, Ministry of Municipal Affairs and Housing, May 29, 2019, Watson & Associates Economists Ltd. http://www.watsonecon.ca/insights/opinions/ letter-to-province-re-bill-108-may-29-2019.pdf
- ²⁹ Water and Wastewater Servicing Plan, 2013, Region of Peel. http://www.peelregion.ca/ planning-maps/presentations/Water_and_Wastewater_June_13,2013_Council.pdf
- 30 Suburban Sprawl: Exposing Hidden Costs, Identifying Innovations, 2013, Smart Prosperity Institute. https://institute.smartprosperity.ca/content/cost-sprawl
- ³¹ The Characteristics, Causes, and Consequences of Sprawling Development Patterns in the United States, 2013, Nature Education Knowledge. https://www.nature.com/scitable/ knowledge/library/the-characteristics-causes-and-consequences-of-sprawling-103014747/
- 32 Thriving amid turbulence: Imagining the cities of the future, October 2018, McKinsey & Company. https://www.mckinsey.com/industries/public-sector/our-insights/thrivingamid-turbulence-imagining-the-cities-of-the-future?cid=other-eml-alt-mgi-mck-oth-1810&hlkid=97a996b0190549cc83bf9ae1538fbf5e&hctky=2452050&hdpid=79766a74-9e94-4eba-865a-d431e1f3fff4
- 33 Toronto Fact Sheet: Parks and Recreation, 2019, City of Toronto. https://www.toronto.ca/ wp-content/uploads/2019/05/8f7a-Toronto-Fact-Sheet-parks-and-recreation-2019-05-24. pdf
- ³⁴ Park People, (no date). https://parkpeople.ca/
- ³⁵ Agriculture Matters: A Guide for Municipal Councillors and staff, September 2018, Ontario Federation of Agriculture. https://ofa.on.ca/wp-content/uploads/2018/09/Agriculture-Matters-A-Guide-for-Municipal-Councillors-and-Staff.pdf
- ³⁶ Farmland at risk: Why land-use planning needs improvements for a healthy agricultural future in the Greater Golden Horseshoe, 2015, Ontario Federation of Agriculture and Environmental Defence. https://environmentaldefence.ca/report/report-farmland-at-risk/
- ³⁷ Growth Plan, 2019, Ministry of Municipal Affairs and Housing. https://www.placestogrow.ca/
- 38 Agriculture Matters: A Guide for Municipal Councillors and staff, September 2018, Ontario Federation of Agriculture. https://ofa.on.ca/wp-content/uploads/2018/09/Agriculture-Matters-A-Guide-for-Municipal-Councillors-and-Staff.pdf
- ³⁹ Cost of Community Services Studies, 2016, Farmland Information Center (FIC). https:// www.farmlandinfo.org/sites/default/files/Cost_of_Community_Services_Studies_AFT_ FIC_201609.pdf

- ⁴⁰ OFA Today, 2015, Ontario Federation of Agriculture. https://ofa.on.ca/wp-content/up- loads/2017/12/OFA-Today-2015.pdf
- ⁴¹ London Free Press, "Farm Group pushes Counties for relief from farmers share of taxes" by Jonathan Juha, January 11, 2019. https://lfpress.com/news/local-news/farm-group-pushescounties-for-relief-from-farmers-share-of-taxes
- ⁴² A Note about the Whitebelt, 2013, Neptis Foundation, http://www.neptis.org/publications/ story-so-far/chapters/note-about-whitebelt
- ⁴³ Huge Boundary Expansion, July 12, 2017, Hamilton Catch. http://www.hamiltoncatch.org/ view_article.php?id=1493
- 44 Elfrida Growth Area study, 2018. https://www.hamilton.ca/city-planning/planning-community/elfrida-growth-area-study
- ⁴⁵ Global News, "Hamilton LRT contract now likely to be awarded in late 2020" by Ken Mann, May 15, 2019. https://globalnews.ca/news/5280172/hamilton-lrt-contract-2020/
- ⁴⁶ Census Profile, 2016 Census, Hamilton, Statistics Canada. https://www12.statcan.gc.ca/cen- sus-recensement/2016/dp-pd/prof/details/page.cfm?Lang=E&Geo1=CSD&Code1=3525005&-Geo2=CD&Code2=3525&Data=Count&SearchText=Hamilton&SearchType=Begins&Search-PR=01&B1=AII&TABID=1
- ⁴⁷ Elfrida Growth Area Study, 2018, City of Hamilton. https://www.hamilton.ca/city-planning/ planning-community/elfrida-growth-area-study
- ⁴⁸ Ontario is making sprawl developer dreams come true, May 9, 2019, Environmental Defence. https://environmentaldefence.ca/2019/05/09/ontarios-sprawl-developers-dream/
- ⁴⁹ Bill 108 Policy update, June 6, 2019, Association of Municipalities of Ontario. https://www. amo.on.ca/AMO-Content/Policy-Updates/2019/Bill108
- ⁵⁰ City Lab University: Induced Demand, September 6, 2018, City Lab. https://www.citylab. com/transportation/2018/09/citylab-university-induced-demand/569455/
- ⁵¹ The 2041 Regional Transportation Plan, 2018, Metrolinx. http://www.metrolinx.com/en/ regionalplanning/rtp/
- ⁵² Greater Golden Horseshoe Transportation Plan 2051, 2017, Ministry of Transportation. https://www.gahtransport2051.ca/
- 53 Planning for Prosperity, 2015, Neptis Foundation. https://www.neptis.org/publications/ planning-prosperity
- ⁵⁴ Scan of GTA West Corridor Advisory Panel Report, uploaded 2019, Ontario Not for Sale. https://ontarionotforsale.ca/wp-content/uploads/2019/11/Scan-of-GTAW-Panel-report-1.pdf

- ⁵⁵ City TV, Province resumes Environmental Assessment for Greater Toronto Area West highway, June 19, 2019. https://toronto.citynews.ca/2019/06/19/greater-toronto-area-west-corri-
- ⁵⁶ Scan of GTA West Corridor Advisory Panel Report, uploaded 2019, Ontario Not for Sale. https://ontarionotforsale.ca/wp-content/uploads/2019/11/Scan-of-GTAW-Panel-report-1.pdf
- ⁵⁷ Traffic Related Air Pollution, 2011, Public Health Ontario, https://www.publichealthontario. ca/-/media/documents/ohp-trap.pdf?la=en
- ⁵⁸ VOX. "Making cities more dense always sparks resistance. Here's how to overcome it" by David Roberts, January 30, 2019. https://www.vox.com/2017/6/20/15815490/toderian-nimbys
- ⁵⁹ A Spatial Analysis of Residential Greenhouse Gas Emissions in the Toronto Census Metropolitan Area, April 2007, Journal of Industrial Ecology. https://www.researchgate. net/publication/227627148_A_Spatial_Analysis_of_Residential_Greenhouse_Gas_Emissions_in_the_Toronto_Census_Metropolitan_Area
- 60 Harvard Health Publishing, "Walking your steps to health," July 18, 2018. https://www.health. harvard.edu/staying-healthy/walking-your-steps-to-health
- ⁶¹ Opticos Design. Missing Middle Housing. 2015. https://missingmiddlehousing.com/
- ⁶² Finding the Missing Middle, An Intensification Case Study of Mississauga, 2018, Ryerson City Building Institute. https://www.citybuildinginstitute.ca/portfolio/missing-middle/
- 63 ibid
- ⁶⁴ Mississauga News," Mississauga remakes Lakeview's long-lost waterfront" by May Warren, October 27, 2015. https://www.mississauga.com/community-story/6047437-mississauga-remakes-lakeview-s-long-lost-waterfront/
- 65 Mississauga News, "Rising from the Ashes," June 23, 2008. https://www.mississauga.com/ news-story/3137650-rising-from-the-ashes/
- ⁶⁶ Jim Tovey Lakeview Conservation Area, (no date). https://cvc.ca/jimtoveylakeviewca/
- ⁶⁷ Opticos Design. Missing Middle Housing. 2015. https://missingmiddlehousing.com/
- ⁶⁸ Mississauga News, "Lakeview village set to transform Mississauga's waterfront" by Marta Marychuck, April 11, 2018. https://www.mississauga.com/community-story/8387496-lakeview-village-set-to-transform-mississauga-s-waterfront/
- ⁶⁹ Waterloo Region Economic Development Strategy, December 2014, Malone Given Parsons Ltd. https://www.regionofwaterloo.ca/en/resources/waterloo-region-economic-development-strategy-access.pdf

- ⁷⁰ The ION Story, Region of Waterloo, (no date). https://rapidtransit.regionofwaterloo.ca/en/ resourcesGeneral/TheIONStory.pdf
- ⁷¹ Waterloo Record, "As light rail launches, Waterloo Region wins" by Luisa D'Amato, June 21, 2019. https://www.therecord.com/opinion-story/9448373-d-amato-as-light-rail-launcheswaterloo-region-wins/
- ⁷² Planning around rapid transit (PARTS), 2015, City of Kitchener. https://www.kitchener.ca/en/ city-services/planning-around-rapid-transit-parts.aspx
- ⁷³ The Globe and Mail, "Refreshed Walper Hotel a symbol of downtown Kitchener's resurgence" by David McPherson, Published: April 23, 2019, Updated: August 26, 2019. https://www. theglobeandmail.com/business/industry-news/property-report/article-refreshed-walper-hotel-a-symbol-of-downtown-kitcheners-resurgence/
- ⁷⁴ Smart Growth Waterloo, (no date). http://smartgrowthwaterloo.ca/
- ⁷⁵ Ontario Ministry of Natural Resources and Forestry, 2018, The Regional Natural Heritage System for the Growth Plan for the Greater Golden Horseshoe - technical report on criteria, rationale and methods. Natural Heritage Section, Ontario Ministry of Natural Resources and Forestry. https://www.sse.gov.on.ca/sites/MNR-PublicDocs/EN/CMID/GrowthPlan_NaturalHer-<u>itageSystem_TechnicalReport.pdf</u>
- ⁷⁶ Agricultural System for the Greater Golden Horseshoe (GGH), (no date), Ontario Ministry of Agriculture, Food and Rural Affairs. http://www.omafra.gov.on.ca/english/landuse/agsys-ggh. htm
- ⁷⁷ Ontario's Good Fortune: Appreciating the Greenbelt's Natural Capital, October 2016, Prepared for the Friends of the Greenbelt Foundation by Green Analytics. https://www.greenbelt.ca/ ontarios_good_fortune_greenbelt_natural_capital
- ⁷⁸ Protect Our Waters, (no date). http://www.protectourwaters.ca/maps
- ⁷⁹ OFA Consolidated Agricultural Land Use Policy, June 5, 2019, Ontario Federation of Agriculture. https://ofa.on.ca/resources/ofa-consolidated-land-use-policy/
- 80 Extent of Wetland Cover and Wetland Loss, Updated in June 2015, State of Ontario's Biodiversity. http://sobr.ca/indicator/loss-of-wetlands/
- ⁸¹ When the Big Storms Hit, July 2017, Intact Centre on Climate Adaptation. https://www.intactcentreclimateadaptation.ca/wp-content/uploads/2017/07/When-the-Big-Storms-Hit.pdf

- 82 Ontario's Good Fortune: Appreciating the Greenbelt's Natural Capital, October 2016, Prepared for the Friends of the Greenbelt Foundation by Green Analytics. https://www. greenbelt.ca/ontarios_good_fortune_greenbelt_natural_capital
- 83 Ibid
- 84 Ibid
- 85 Ibid
- 86 The Community Proposal to Grow the Greenbelt, (no date), Friends of the Greenbelt Foundation. https://www.greenbelt.ca/bluebelt
- 87 Ibid
- 88 The Globe and Mail, "York Region's royal flush" by JAMES RUSK, Published: October 29, 2005, Updated: April 22, 2018 https://www.theglobeandmail.com/news/national/york-regionsroyal-flush/article18251364/
- 89 The Globe and Mail, "City fights to attend Oak Ridges hearing" by Wallace Immen, Published: May 20, 2000, Updated: March 29, 2018. https://www.theglobeandmail.com/news/ national/city-fights-to-attend-oak-ridges-hearing/article4164017/
- 90 Oak Ridges Moraine Land Trust, (no date). http://oakridgesmoraine.org/oldsite/storm.html
- ⁹¹ Geological Survey of Canada, (no date), Natural Resources Canada, https://www.nrcan. gc.ca/science-data/research-centres-labs/geological-survey-canada/17100
- 92 Ontario Greenbelt Alliance, (no date). http://www.greenbeltalliance.ca/
- 93 Climate Emergency Declaration, (no date). https://climateemergencydeclaration.org/
- 94 Municipal Leaders for the Greenbelt, (no date). https://www.greenbeltleaders.org/
- 95 Town of Oakville Residential Growth Analysis Study Technical Report, May 4, 2017, Watson & Associates Economists Inc. https://securepwa.oakville.ca/sirepub/cache/107/tgukzhfzbfvqdemsjpqouq45/42310111212019104155959.PDF
- ⁹⁶ City of Waterloo Trails, (no date). https://www.waterloo.ca/en/living/trails.aspx-#Iron-Horse-Trail
- ⁹⁷ Municipal Asset Management Program, (no date), Federation of Canadian Municipalities. https://fcm.ca/en/programs/municipal-asset-management-program
- 98 Ontario's Asset Management Honour Roll, 2012, Municipal Finance Officers' Association of Ontario. https://www.mfoa.on.ca/MFOA/WebDocs/1a_Asset_Management_Honour_Roll. <u>pdf</u>